



PRICE LIST

GENERAL

01 / 2014



LAT N° 124

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
Signatory of EA, IAF and ILAC Mutual Recognition Agreements



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INTRODUCTION Any commercial/business relation between Delta Ohm S.r.l. and the customer is exclusively governed by the following conditions of sale which replace and supersede any other agreement.

LIABILITY Delta Ohm S.r.l. shall not be liable for any direct or indirect damages arising from late or non delivery of the product, nor for the non-correspondence of the goods to the specifications published in the catalogue or for any other event.

TECHNICAL INFORMATION We reserve the right to change without notice the technical specifications and dimensions to fit the product's requirement.

MINIMUM AMOUNT The minimum amount per invoice, less the discount, is **EUR 260**. For orders of lower amounts, **EUR 40 NET** will be charged as costs of invoicing management.

ORDERS Only written orders received by e-mail or fax are accepted. Orders will be processed according to the customer's requirements, production plan permitting.

PRICES The prices here reported are meant "**NET**", VAT excluded, where expected, EX-WORKS, Incoterms 2010. Delta Ohm S.r.l. reserves the right to make any change without prior notice.

SHIPMENT AND DELIVERY Our Prices **DO NOT include** shipping charges, which are borne by the customer. Upon specific requests, shipping charges can be quoted and reported in the invoice, if agreed and accepted in writing. The late delivery of our products does not create any right or remedies to the customer.

CERTIFICATES ISO9001 Calibration Reports and ACCREDIA Certificates are upon payment and are not included in the price of the instrument, therefore they **have to be requested when ordering**, otherwise the instrument must be returned to our factory to be calibrated or certified. Once Certificates or Reports are issued, **it is not allowed to change the name of the addressee unless a new certification is performed upon payment**. If not required, the calibration points are at the discretion of the laboratory. Original certificates are included in the parcel with the instrument and in no case it will be possible to send them by e-mail or fax.

PAYMENTS In case of delayed payment, Delta Ohm Srl reserves the right to charge default interests of 5% above the "Prime Rate", in force at the date of billing.

RISK AND PROPERTY For goods shipped, the risk passes to the customer upon delivery to the carrier. The customer is responsible for procuring insurance. It is advisable to check the integrity of the parcel at receipt of the goods.

RIGHT OF WITHDRAWAL As required by the Legislative Decree 15 January 1992, n.50, the customer has the right to terminate the contract. The Customer wishing to exercise the "right of withdrawal" must send a written notice within 7 days from receipt of the goods by registered mail with return receipt to: Delta Ohm Srl, Via Marconi No. 5, 35030 Caselle di Selvazzano (PD), Italy. For the application of the right to withdraw, the integrity of products and packaging is essential. The cost of return shipment shall be borne by the customer. Delta Ohm S.r.l. returns the sum, except for any costs which are charged to the customer. **Goods shipped by unauthorized carriage forward will be rejected.**

REQUEST TO RETURN OF GOODS The request for return of goods must be sent to Delta Ohm Srl within 7 days from receipt of the goods by specifying the reason and quoting the Commercial Invoice. Delta Ohm Srl reserves the right to **charge EUR 40.00 (EUR 60.00 for sound level meters, vibration meters, instruments for the environmental analysis)** for inspection and re-packaging. In any case, it is necessary to wait for the Return Merchandise Authorization (RMA) number from Delta OHM, which must also appear on the shipping documents. The goods must be shipped prepaid within one week of notification of the RMA number and must be intact, in its original packaging and complete with accessories. **Goods without any of the above requirements will be rejected.**

CHANGES AND CANCELLATIONS We will accept changes or cancellations of orders in progress after the written request by the customer and written confirmation from Delta Ohm Srl, which reserves the right to charge the Customer the costs incurred in preparation of the instruments, normally equal to the 20% of the amount reported on the order or the invoice.

COMPLAINTS Any shipping errors or omissions of material should be reported promptly to Delta Ohm S.r.l., quoting the invoice number, within **7 days** from receipt.

WARRANTY Delta Ohm Srl is required to respond to the "factory warranty" only in cases provided by Presidential Decree May 24, 1988 224. Each instrument is sold after rigorous inspections, if any manufacturing defect is found, it is necessary to contact the distributor where the instrument was purchased. During the warranty period (24 months from date of invoice), all manufacturing defects found will be repaired free of charge. **Misuse, wear, neglect, theft and damage during transport are excluded.** **Solutions, probes, electrodes and microphones are not guaranteed** as the improper use, even for a few minutes, may cause irreparable damages. Delta Ohm Srl will repair those products that show technical defects of construction according to the terms and conditions of the warranty card included in the manual of the product. Warranty is not applied if changes, tampering or unauthorized repairs are found on the product, or for a use different from the one described in the technical documentation, or for lack or inefficient maintenance.

OUT OF WARRANTY REPAIRS EUR 40.00 (EUR 60.00 for sound level meters, vibration meters, instruments for environmental analysis) is charged for **technical inspection** of instruments sent for repair and not covered by warranty and for **request for quote or repair on instruments that do not show any anomaly.**

ORIGIN CERTIFICATE, consular visa, are not included, will be charged at cost

COMPETENCE For any dispute, refer to Padua jurisdiction. The Italian law is applied, according to the Vienna Convention (1980).

DATA TREATMENT INFORMATION Under art.13 of Lgs. Decree 30 June 2003, n.196, concerning "Personal data protection", Delta Ohm S.r.l., with headquarters in Via Marconi 5, Caselle di Selvazzano, 35030 Padova, informs you, as "Owner" of the data treatment, of the following: personal data are collected and processed with the only aim of answering to your requests. Data supplied are recorded on protected data media and on paper forms. Personal data will not be disclosed, they will be communicated to the banks for the execution of the payment. Please take note that Delta Ohm Srl will not be able to process the order if required data are not supplied. Responsible for the processing of personal data is Mr. Masut (info@deltaohm.com).

MODEL	Pt100 SENSOR PORTABLE THERMOMETERS	EURO
HD 2307.0	Thermometer, Pt100 sensor with one input for probes equipped with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto-power-off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries, the probes have to be ordered separately. TP47...series probes are suitable.	120
HD 2107.1	Centesimal thermometer in the range +/-199.99°C, decimal outside, one input for Pt100 probes with SICRAM module measuring range -200°C +650°C. Storage of maximum, minimum, average value, RS232 output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The probes and cables for data download have to be ordered separately. TP47... series probes are suitable.	142
HD 2107.2	Centesimal thermometer in the range +/-199.99°C, decimal outside, one input for Pt100 probes with SICRAM module , measuring range -200°C +650°C. Data logger which stores maximum, minimum, average value, and can store up to 80,000 samples. RS232/USB output for real time data transfer to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The probes and cables for data download have to be ordered separately. TP47... series probes are suitable.	315
HD 2127.1	Centesimal thermometer in the range +/-199.99°C, decimal outside, 2 inputs for Pt100 probes with SICRAM module , large display, measuring range -200°C +650°C. Storage of maximum, minimum, average value and the difference between the two inputs, RS232 output for real time data transfer to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The probes and cables for data download have to be ordered separately. TP47... series probes are suitable.	214
HD 2127.2	Centesimal thermometer in the range +/-199.99°C, decimal outside, 2 inputs for Pt100 probes with SICRAM module , large display, measuring range -200°C +650°C. Data logger which stores maximum, minimum, average and can store up to 32,000 couple of samples. RS232 C/USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The probes and cables for data download have to be ordered separately. TP47... series probes are suitable.	425
HD 2178.1	Thermometer with two inputs, the first for Pt100 probes equipped with SICRAM module, the second input for thermocouple type K, J, T, E, N, large display. Storage of maximum, minimum, average value, RS232 output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The probes and cables for data download have to be ordered separately. TP47... series probes are suitable and K,J,T,E,N type thermocouple probes with miniature connector.	257
HD 2178.2	Thermometer with two inputs, the first for Pt100 sensor for input of probes equipped with SICRAM module, and the second input for thermocouple type K, J, T, E, N, large display. Datalogger which stores maximum, minimum, average value, and can stored up to 36,000 couples of samples. RS232/USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The probes and cables for data download have to be ordered separately. TP47... series probes are suitable and K,J,T,E,N type thermocouple probes with miniature connector.	396
DELTALOG 9	Further copy of CD-ROM with software DeltaLog 9 for downloading and PC data management for Windows® operating systems for instruments HD2107.1, HD2107.2, HD2127.1, HD2127.2, HD2178.1, HD2178.2	85
C.206	Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instruments HD2107.1, HD2127.1 e HD2178.1 directly to the PC USB port.	70
HD 2110 CSNM	MiniDin 8 poles – 9 poles sub D female connecting cable per RS232C for instruments HD2107.1, HD2107.2, HD2127.1, HD2127.2, HD2178.1, HD2178.2 .	42
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side. For instruments HD2107.2, HD2127.2, HD2178.2 .	21
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option.	265
BAT-40	Spare battery pack for HD40.1 printer with built-in temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44
For the probes to be used with these instruments see Pt100 PROBES from page 8		
ACCESSORIES FOR Pt100 SENSOR PORTABLE THERMOMETERS		
HD 2047	Simulates 24 fixed values of a Pt100 sensor in the range -100°C .. +500 °C. Displays ohm, mA or mV. Reading and measuring range: mV is ±20Vdc, mA is 0..22 mA. Designed to test the transmitters for use on the field and to calibrate the configurable temperature transmitters.	295



MODEL	CONFIGURABLE 4...20mA TEMPERATURE TRANSMITTERS FOR Pt100 SENSORS	EURO								
HD 788 TR1	Configurable temperature transmitter with 4...20mA output. Measuring range -200°C +650°C, minimum range 25°C . Standard configuration 0..100°C. 2 or 3 wires Pt100 sensor. Assembled in a round container with dimensions and connections in accordance with DIN 43760, Ø 43 x h. 22.5 mm. Minimum quantity: 5 pcs per order.	52								
HD 788 TR1.I	Configurable opto insulated temperature transmitter with 4...20mA output. Measuring range -200°C +650°C, minimum range 25°C . Standard configuration 0..100°C. 2 or 3 wires Pt100 sensor. Assembled in a round container with dimensions and connections in accordance with DIN 43760, Ø 43 x h. 22.5 mm. Minimum quantity: 5 pcs per order.	56								
HD 988 TR1	Configurable temperature transmitter with 4...20mA output. Measuring range -200°C +650°C, minimum range 25°C . Standard configuration 0..100°C. 2 or 3 wires Pt100 sensor. Case for DIN rail 35 mm, 1 module (17.5mm). Minimum quantity: 5 pcs per order.	52								
HD 988 TR1.I	Configurable temperature transmitter with 4...20mA output. Measuring range -200°C +650°C, minimum range 25°C . Standard configuration 0..100°C. 2 or 3 wires Pt100 sensor. Case for DIN rail 35 mm, 1 module (17.5mm). Minimum quantity: 5 pcs per order.	56								
HD 988 TR2	Configurable temperature transmitter with a 3½ digit display (figure height 10mm), output 4...20mA. Measuring range: -200°C +650°C, minimum range 25°C . Standard configuration 0..100°C. 2 or 3 wires Pt100 sensor. Case for DIN rail 35 mm, 2 modules (35 mm).	100								
HD 786 TR1	Configurable temperature transmitter with output 4...20mA. Measuring range -50°C...+200°C, minimum range 25°C . Standard configuration 0..100°C. Container 65x58x35mm. Wall mounting, complete with Pt100 probe Ø 14 L=90mm .	121								
HD 786 TR2	Configurable temperature transmitter with output 4...20mA. Measuring range -50°C...+200°C, minimum range 25°C . Standard configuration 0..100°C. Container 65x58x35mm. Wall mounting, complete with Pt100 probe Ø 3 L=55mm .	121								
HD 688 T	Temperature transmitter 4...20mA, 0...20mA, 0...10Vdc for Pt100 sensor with 3-way galvanic separation 3000V. Power supply 12...24Vdc/ac. DIN 2 modules container (35 mm) with rail attachment 35 mm. Five working ranges may be configured by means of a jumper: (-50°C..+50°C); (0°C..+50°C); (0°C..+100°C); (0°C..+200°C); (0°C..+400°C).	146								
For the probes to be used with these instruments see TEMPERATURE PROBES FOR PANEL INSTRUMENTS on page 20										
ACTIVE AND PASSIVE TEMPERATURE TRANSMITTERS										
	<p>Active (HD48...) or passive (HD49...) temperature transmitters. HD48... is available with active 4÷20mA or 0÷10V analog output, or with RS485 MODBUS-RTU output only. HD49... is available with passive 4÷20mA Analog output. Models with horizontal probe for duct mounting (TO), with vertical probe for wall mounting (TV) and with probe with 2 or 5 m cable (TC). Two probe temperature ranges are possible: standard -20...+80°C and extended -40...+150°C (option E). Also available with LCD display (option L). Electronics working temperature: -5°C...+60°C. Power supply: 16 ÷ 40 Vdc or 24 Vac for HD48... models, 12 ÷ 40 Vdc for HD49... models. On request, HD48... is available with power supply 90 ÷ 240 Vac only in housing 80 x 120mm, height 56mm, without display.</p>									
	OUTPUT	VERSIONS						OPTIONS		
TV		TO1	TO2	TC1.2 2 m cable	TC1.5 5 m cable	TC2.2 2 m cable	TC2.5 5 m cable	E	L	
Stainless steel stem								Exten. range	LCD	
EURO	EURO	EURO	EURO	EURO	EURO	EURO	EURO	EURO		
HD 4807...	4 ÷ 20 mA active	122	145	155	180	195	205	220	46	55
HD 48V07...	0 ÷ 10 V									
HD 48S07...	RS485 MODBUS									
HD 4907...	4 ÷ 20 mA passive									
<img alt="Diagram showing probe types: TV (vertical probe), TO										

MODEL	OPTO INSULATED SIGNAL CONVERTERS	EURO
HD 588	Analog interface module with 3-way galvanic separation 3000V. Input and output may be selected 0...10Vdc, 0...20mA, 4...20mA. Power supply 12...24Vdc/dc. Case for 2 module DIN rail 35 mm.	148
HD 978 TR3	Configurable converter signal amplifier with 4÷20mA (20÷4mA). Input measuring range -10 ...+60mVdc. Standard configuration 0÷20mVdc. Minimum measuring range 2mVdc. Configurable with HD778 TCAL. DIN 2 modules container (35 mm) with rail attachment 35 mm.	133
HD 978 TR5	Configurable converter signal amplifier with 4÷20mA (20÷4mA). Input measuring range -10 ..+60mVdc. Standard configuration 0÷20mVdc. Minimum measuring range 2mVdc. Configurable with HD778 TCAL. DIN 2 modules container (35 mm). Wall mount attachment.	145
HD 978 TR4	Configurable converter signal amplifier with 0÷10Vdc (10÷0Vdc). Input measuring range -10 ...+60mVdc. Standard configuration 0÷20mVdc. Minimum measuring range 2mVdc Configurable with HD778 TCAL. DIN 2 modules container (35 mm) with rail attachment 35 mm.	133
HD 978 TR6	Configurable converter signal amplifier with 0÷10Vdc (10÷0Vdc). Input measuring range -10 ..+60mVdc. Standard configuration 0÷20mVdc. Minimum measuring range 2mVdc Configurable with HD778 TCAL. DIN 2 modules container (35 mm) . Wall mount attachment.	145
HD 778 TCAL	Power generator in the range -60mV...+60mV, regulated by PC through RS232C serial port, DELTALOG 7 software for setting K, J, T , N thermocouple transmitters and HD 978TR3, HD 978TR4 converters.	210
	PANEL MOUNTING INDICATORS AND REGULATORS WITH CURRENT OR VOLTAGE INPUT	
HD 9022	Microprocessor panel indicator and regulator 48x96, with thresholds that can be programmed and configured by the user. Resolution of the A/D converter: 0.1mV/digit - 2µA/digit. Input 0...20mA, 4...20mA, 0...1V, 0...10V, 4-wire Pt100 input. One relay for output 1, one relay for output 2, one maximum and minimum alarm relay. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	178
DO 9404	Dual microprocessor panel indicator and regulator 96x96 with thresholds that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mV/digit - 2µA/digit. Dual input 0...20mA, 4...20mA, 0...1Vdc, 0...10Vdc. Two relays for input 1, two relays for input 2, one maximum and minimum alarm relays. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	243

	THERMOMETERS AND THERMOSTATS FOR PANEL MOUNTING AND DIN RAIL ATTACHMENT Pt100 OR KTY81 SENSOR	
HD 4034	Digital LED ON/OFF temperature regulator 48x78. 3-wire Pt100 sensor. Measuring range -50°C...+150°C. Resolution 0.1°C. Hysteresis 0.6...6°C. Relay 5A 220V resistive. Power supply 24Vac/dc, on request 110....230Vac/dc. Without probe.	
HD 4044	Digital LED ON/OFF temperature regulator 48x78. 2-wire KTY81 sensor. Measuring range -50°C +150°C. Resolution 0.1°C. Hysteresis 0.6...6°C. Interchangeable probes within ±0.8°C. Relay 5A 220V. Power supply 24Vac/dc, on request 110....230Vac/dc. Without probe.	
HD 4045	Digital LED ON/OFF temperature regulator 48x78. 3-wire Pt100 sensor. Measuring range -50°C +600°C. Resolution 1°C. Hysteresis 1...20°C. Relay 5A 220V resistive. Power supply 24Vac/dc, on request 110....230Vac/dc. Without probe.	

**For the probes to be used with these instruments see
TEMPERATURE PROBES FOR PANEL INSTRUMENTS on page 20**

THESE MODELS ARE OUT OF PRODUCTION

MODEL	THERMOCOUPLE SENSOR PORTABLE THERMOMETERS	EURO
HD 2328.0	Thermocouple thermometer for probes type K, J, T, E. Two inputs for miniature thermocouple connectors. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries, the probes have to be ordered separately . All the thermocouples type K available in this price-list at page 14 can be connected.	143
HD 2108.1	Thermocouple thermometer with one input for K, J, T, R, N, S, B, E type probes with miniature connector. Storage of maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The probes and cables for data download have to be ordered separately . All the thermocouples type K available in this price-list at page 14 can be connected.	150
HD 2108.2	Thermocouple thermometer with one input for probes type K, J, T, R, N, S, B, E with miniature connector. Data logger which stores maximum, minimum, average value, and can store up to 76,000 samples. RS232 C/USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, software DeltaLog 9. The probes and cables for data download have to be ordered separately . All the thermocouples type K available in this price-list at page 14 can be connected.	270
HD 2128.1	Thermocouple thermometer for probes type K, J, T, R, N, S, B, E, two inputs . Storage of maximum, minimum, average value and the difference between the two inputs, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, software DeltaLog 9. The probes and cables for data download have to be ordered separately . All the thermocouples type K available in this price-list at page 14 can be connected.	188
HD 2128.2	Thermocouple thermometer for probes type K, J, T, R, N, S, B, E, two inputs . Data logger which stores maximum, minimum, average value, it can store up to 38,000 couples of samples. RS232C/USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, software DeltaLog 9. The probes and cables for data download have to be ordered separately . All the thermocouples type K available in this price-list at page 14 can be connected.	398
HD 2178.1	Thermometer with two inputs , the first Pt100 probes with SICRAM module, the second input for thermocouple type K, J, T, E, N. Storage of maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, software DeltaLog 9. The probes and cables for data download have to be ordered separately . TP47... series temperature probes and thermocouple probes type K,J,T,E,N are suitable. All the thermocouples type K available in this price-list at page 14 can be connected.	257
HD 2178.2	Thermometer with two inputs , the first for Pt100 probes with SICRAM module, the second input for thermocouple type K, J, T, E, N, large display. Data logger which stores maximum, minimum, average value and can store up to 36,000 couples of samples. RS232 C/USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, software DeltaLog 9. The probes and cables for data download have to be ordered separately . TP47... series temperature probes and thermocouple probes type K,J,T,E,N are suitable. All the thermocouples type K available in this price-list at page 14 can be connected.	396
DELTALOG 9	Further copy of CD-ROM with software DeltaLog 9 for downloading and PC data management for Windows® operating systems for instruments HD2108.1, HD2108.2, HD2128.1, HD2128.2, HD2178.1, HD2178.2	85
C.206	Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instruments HD2108.1, HD2128.1 e HD2178.1 directly to the USB port of the PC.	70
HD 2110 CSNM	MiniDin 8 poles – 9 poles sub D female connecting cable for RS232C for instruments HD2108.1, HD2108.2, HD2128.1, HD2128.2, HD2178.1, HD2178.2	42
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side. For instruments HD2108.2, HD2128.2, HD2178.2 .	21
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option.	265
BAT-40	Spare battery pack for HD40.1 printer with built-in temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44

MODEL	CONFIGURABLE 4...20mA TEMPERATURE TRANSMITTERS WITH K – J – T – N THERMOCOUPLE SENSOR	EURO
HD 778 TR1	Configurable 4...20mA/20...4mA 2-wire temperature transmitter for K, J, T, N thermocouples, minimum amplitude range 50°C, in a container for DIN B 43760 heads. Standard configuration 0...1000°C, thermocouple type K. Configurable with HD778TCAL. Minimum quantity: 5 pcs per order.	60
HD 978 TR1	Configurable 4...20mA/20...4mA 2-wire temperature transmitter for K, J, T, N thermocouples, minimum amplitude range 50°C, in a container for 35 mm DIN rail connection, dimension 1 module. Standard configuration 0...1000°C, thermocouple type K. Configurable with HD778TCAL. Minimum quantity: 5 pcs per order.	60
HD 978 TR2	Configurable 4...20mA/20...4mA 2-wire temperature transmitter for K, J, T, N thermocouples, amplitude range 50°C, in a container for 35 mm DIN rail connection, dimension 2 modules, with 3 ½ digit display, figure height 10mm, Standard configuration 0...1000°C, thermocouple type K. Configurable with HD778TCAL.	103
HD 778 TCAL	Power generator in the range -60mV...+60mV, regulated by PC through RS232C serial port, DELTALOG 7 software for setting K, J, T and N thermocouple transmitters.	210
	PANEL MOUNTING INDICATORS AND REGULATORS WITH CURRENT OR VOLTAGE INPUT	
HD 9022	Microprocessor panel indicator and regulator 48x96 with thresholds that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Input 0...20mA, 4...20mA, 0...1V, 0...10V, input 4-wire Pt100. One relay for output 1, one relay for output 2, one maximum and minimum alarm relay. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	178
DO 9404	Dual microprocessor panel indicator and regulator 96x96 with thresholds that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Dual input 0...20mA, 4...20mA, 0...1V, 0...10V. Two relays for input 1, two relays for input 2, one maximum and minimum alarm relays. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	243

Pt100 SENSOR PROBES $\alpha=0.00385\text{ }^{\circ}\text{C}^{-1}$, $R_0 = 100\text{ }\Omega$

Depending on the manufacturing technology of the Platinum sensing element, there are two categories of Pt100 sensor probes:

- **WIRE WOUND** probes : identified by the letter **I** in the ordering code;
- **THIN FILM** probes : identified by the number **0** in the ordering code.

The best performances are obtained by using the wire wound probes, characterized by a very low long-term drift compared to the thin film probes. **The measuring uncertainty of the probes with SICRAM module can be improved with a calibration Report or an ACCREDIA calibration certificate.**

TOLERANCE CLASSES

Reference standards:

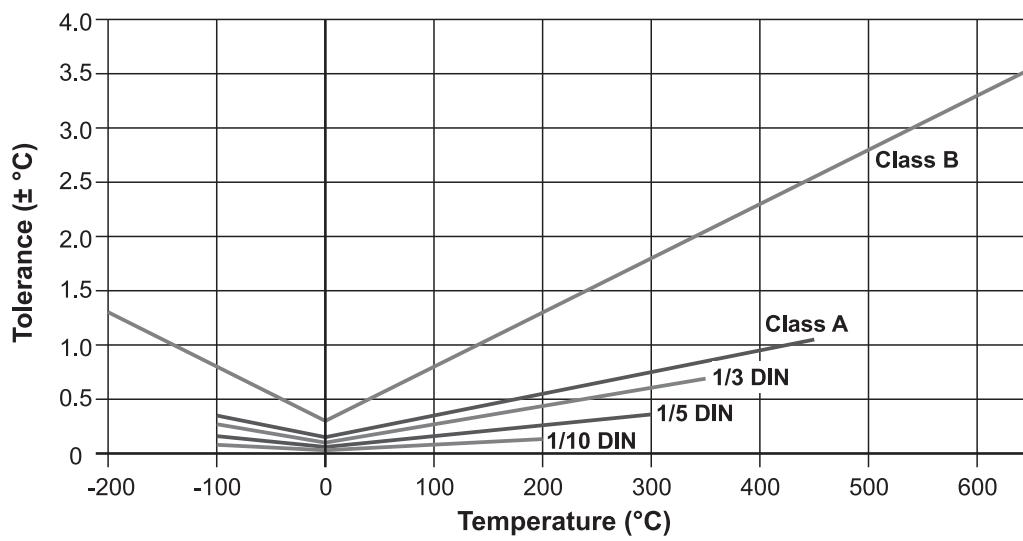
- DIN 43760 : 1980
- IEC 60751 : 2008
- BS EN 60751 : 2008

IEC nomenclature	DIN nomenclature	Temperature range of validity of the tolerance class		Tolerance at 0 °C
		WIRE WOUND sensor	THIN FILM sensor	
W0.03 (*)	1/10 DIN	Not defined by the standard	Not defined by the standard	± 0.03 °C
W0.06 (*)	1/5 DIN	Not defined by the standard	Not defined by the standard	± 0.06 °C
W0.1	1/3 DIN	-100...+350 °C	0...+150 °C	± 0.1 °C
W0.15	Class A (1/2 DIN)	-100...+450 °C	-30...+300 °C	± 0.15 °C
W0.3	Class B (DIN)	-196...+660 °C	-50...+600 °C	± 0.3 °C

(*) Note: the tolerance classes W0.03 and W0.06 are not included in the IEC 60751 standard.

TOLERANCE AS A FUNCTION OF TEMPERATURE (the temperature range refers to the platinum wire wound probes)

Temperature (°C)	Tolerance (°C)				
	W0.3 Class B (DIN)	W0.15 Class A (1/2 DIN)	W0.1 1/3 DIN	W0.06 1/5 DIN	W0.03 1/10 DIN
-200	± 1.3	---	---	---	---
-100	± 0.8	± 0.35	± 0.27	± 0.16	± 0.08
0	± 0.3	± 0.15	± 0.10	± 0.06	± 0.03
100	± 0.8	± 0.35	± 0.27	± 0.16	± 0.08
200	± 1.3	± 0.55	± 0.44	± 0.26	± 0.13
300	± 1.8	± 0.75	± 0.60	± 0.36	---
350	± 2.1	± 0.85	± 0.69	---	---
400	± 2.3	± 0.95	---	---	---
450	± 2.6	± 1.05	---	---	---
500	± 2.8	---	---	---	---
600	± 3.3	---	---	---	---
650	± 3.6	---	---	---	---

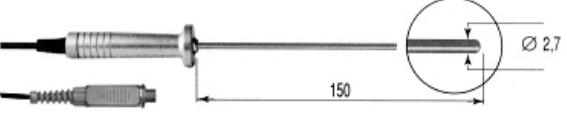
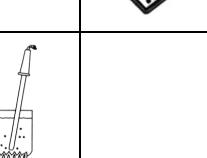
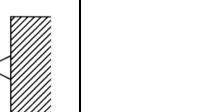
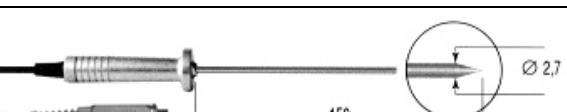
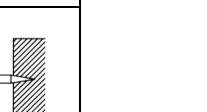
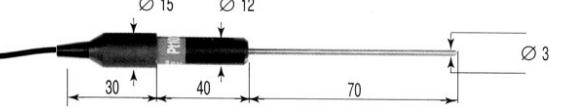
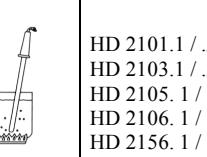
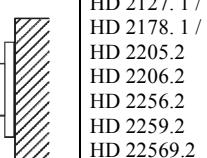
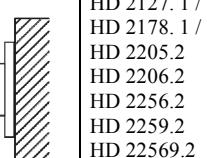
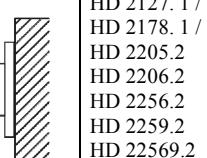
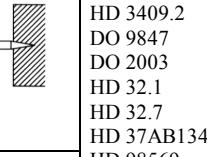
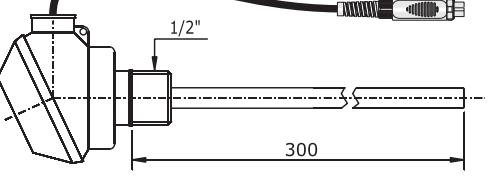
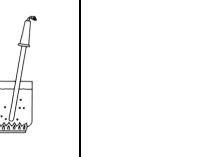
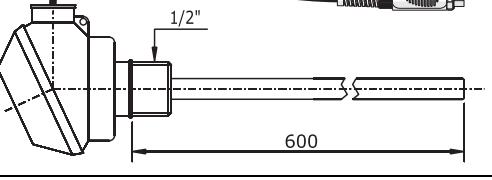
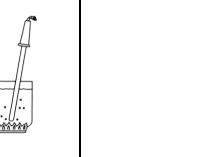


COD.	TEMPERATURE PROBE FOR METROLOGICAL LABORATORY	EURO
TP MSN 140 340	<p>Thermometer with a Pt100 Platinum resistance $\alpha=0.00385^{\circ}\text{C}^{-1}$ for metrological temperature laboratory. External diameter 3.2mm, length 400mm under the head, 4-wire extension cable L=2000mm, range -200°C... +400°C, recommended -80...+400°C. Stainless steel sheath AISI 316 SS. Stability/repeatability: ±0.01°C/400 hours. Supplied with carrying case.</p>	450

Pt100 PROBES FOR PORTABLE INSTRUMENTS WITH SICRAM MODULE

CODE	°C max	τ s	DIMENSIONS	USE	EURO
TP 472 I	-196 +500	3s			130
TP 472 I.0 1/3 DIN Thin Film	-50 +300	3s			83 HD 2101.1 / .2 HD 2103.1 / .2 HD 2105.1 / .2 HD 2106.1 / .2 HD 2156.1 / .2 HD 2107.1 / .2 HD 2109.1 / .2 HD 2114.0 / .2 HD 2134.0 / .2 HD 2164.0 / .2 HD 2114B.0 / .2 HD 2124.1 / .2 HD 2127.1 / .2 HD 2178.1 / .2
TP 473 P.I	-50 +400	5s			136
TP 473 P.0 1/3 DIN Thin Film	-50 +300				95 HD 2105.2 HD 2206.2 HD 2256.2 HD 2259.2 HD 22569.2 HD 2301.0 HD 2303.0 HD 2304.0 HD 2305.0 HD 2306.0 HD 2307.0
TP 474 C.I	-50 +400	5s			131 HD 3405.2 HD 3406.2 HD 3456.2 HD 3409.2 DO 9847 DO 2003 HD 32.1 HD 32.7 HD 37AB1347 HD 98569
TP 474 C.0 1/3 DIN Thin Film	-50 +300				96 HD 3405.2 HD 3406.2 HD 3456.2 HD 3409.2 DO 9847 DO 2003 HD 32.1 HD 32.7 HD 37AB1347 HD 98569
TP 475 A.0 1/3 DIN Thin Film	-50 +250	12s			94 HD 3405.2 HD 3406.2 HD 3456.2 HD 3409.2 DO 9847 DO 2003 HD 32.1 HD 32.7 HD 37AB1347 HD 98569
TP 472 I.5	-50 +400	3s			181
TP 472 I.10	-50 +400	3s			198

Pt100 PROBES FOR PORTABLE INSTRUMENTS WITH SICRAM MODULE

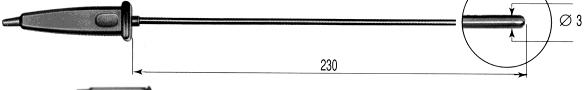
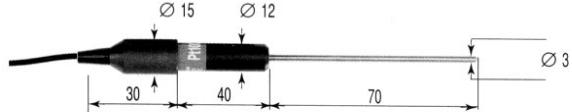
CODE	°C max	τ s	DIMENSIONS	USE		EURO
TP 49 A.0 Class A Thin Film	-70 +250	3,5s				86
TP 49 AC.0 Class A Thin Film	-70 +250	5,5s				90
TP 49 AP.0 Class A Thin Film	-70 +250	4s				89
TP 87.0 1/3 DIN Thin Film	-50 +200	3s	 Cable L = 1m		HD 2101.1 / .2 HD 2103.1 / .2 HD 2105.1 / .2 HD 2106.1 / .2 HD 2156.1 / .2 HD 2107.1 / .2 HD 2109.1 / .2 HD 2114.0 / .2 HD 2134.0 / .2 HD 2164.0 / .2 HD 2114B.0 / .2 HD 2124.1 / .2 HD 2127.1 / .2 HD 2178.1 / .2 HD 2205.2 HD 2206.2 HD 2256.2 HD 2259.2 HD 22569.2 HD 2301.0 HD 2303.0 HD 2304.0 HD 2305.0 HD 2306.0 HD 2307.0 HD 3405.2 HD 3406.2 HD 3456.2 HD 3409.2 DO 9847 DO 2003 HD 32.1 HD 32.7 HD 37AB1347 HD 98569	75
TP 878.0 1/3 DIN Thin Film	0 +85	60s	Contact probe for solar panels, with SICRAM module Cable L = 2m.			88
TP 878.1.0 1/3 DIN Thin Film	0 +85	60s	Contact probe for solar panels, with SICRAM module Cable L = 5m.			96
TP 878.1SS.0 1/3 DIN Thin Film	0 +85	60s	Contact probe for solar panels, without SICRAM module Cable L = 5m.			77
TP 879.0 1/3 DIN Thin Film	-20 +120	60s	Penetration probe for compost, with SICRAM module Cable L = 5m.			260
TP 880/300.I	-50 +450	60s	Mignon head, Cable L = 2m 			165
TP 880/600.I	-50 +450	60s	Mignon head, Cable L = 2m 			185

Pt100 PROBES FOR PORTABLE INSTRUMENTS WITH SICRAM MODULE

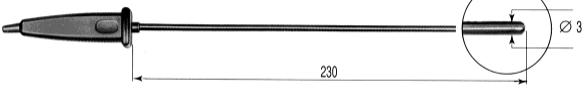
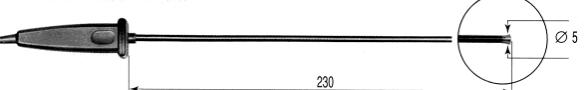
CODE	°C max	τ s	DIMENSIONS	USE	EURO
TP 875.I	-30 +120	15'	Globe-thermometer probe for measurement of radiant heat with Ø 150mm. Accuracy according to ISO 7243 ISO 7726. Pt100 sensor, 4-wire cable L=2m. Supplied with SICRAM module.		HD 2101.1 / .2 HD 2103.1 / .2 HD 2107.1 / .2 HD 2127.1 / .2 HD 2178.1 / .2 HD 2301.0 HD 2303.0 HD 2307.0 HD 37AB1347 DO 2003 DO 9847
TP 876.I	-30 +120	15'	Globe-thermometer probe for measurement of radiant heat with Ø 50mm. Accuracy according to ISO 7243 ISO 7726. Pt100 sensor, 4-wire cable L=2m. Supplied with SICRAM module.		370
					342

2

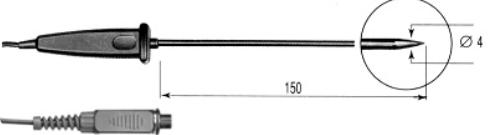
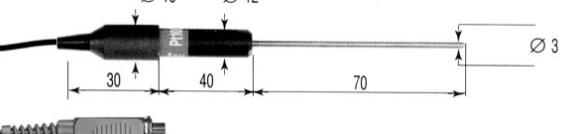
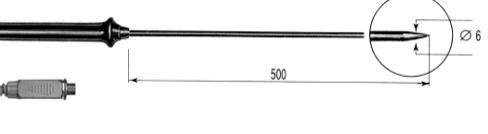
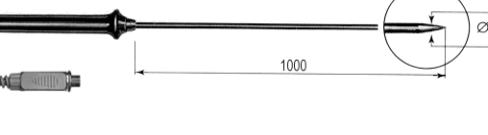
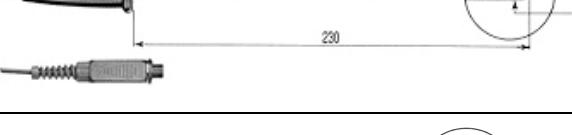
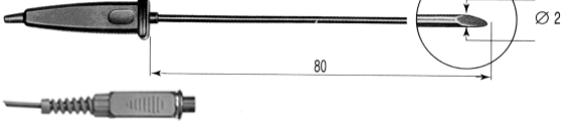
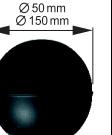
Pt100/Pt1000 SENSOR PROBES

CODE	°C max	τ s	DIMENSIONS	USE	EURO
WITH MODULE TP 47					
TP 47.100.0 (Pt100) 1/3 DIN Thin Film	-50	3s		HD 2101.1 / .2 HD 2103.1 / .2 HD 2105.1 / .2 HD 2106.1 / .2 HD 2156.1 / .2 HD 2107.1 / .2 HD 2109.1 / .2 HD 2114.0 / .2 HD 2134.0 / .2 HD 2164.0 / .2 HD 2114B.0 / .2	75
TP 47.1000.0 (Pt1000) 1/3 DIN Thin Film	+250			HD 2124.1 / .2 HD 2127.1 / .2 HD 2178.1 / .2 HD 2205.2 HD 2206.2 HD 2256.2 HD 2259.2 HD 22569.2 HD 2301.0 HD 2303.0 HD 2304.0 HD 2305.0	
TP 87.100.0 (Pt100) 1/3 DIN Thin Film	-50	3s	 Cable L = 1m	HD 2206.0 HD 2307.0 HD 3405.2 HD 3406.2 HD 3456.2 HD 3409.2 DO 2003	75
TP 87.1000.0 (Pt1000) 1/3 DIN Thin Film	+200				
TP 47	Connector for the connection of probes without SICRAM module: 4-wire direct Pt100, 2-wire Pt1000			HD 2306.0 HD 2307.0 HD 3405.2 HD 3406.2 HD 3456.2 HD 3409.2 DO 2003	36

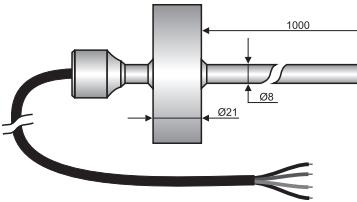
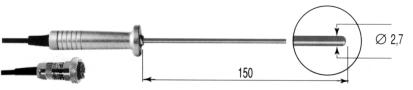
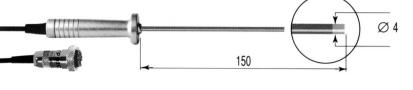
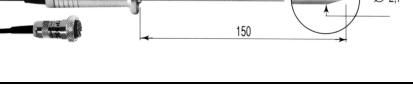
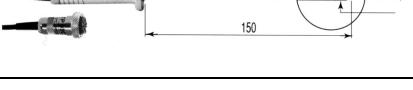
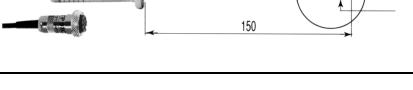
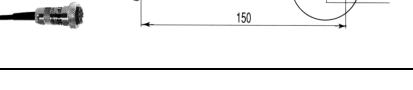
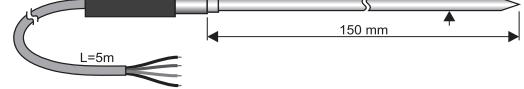
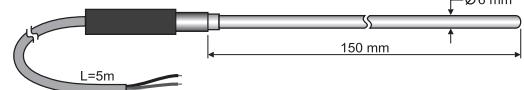
Pt100 SENSOR PROBES

CODE	°C max	τ s	DIMENSIONS	USE	EURO
TP 870.0 1/3 DIN Thin Film	-50 +250	3s		HD 9010 HD 8602 HD 8705 HD 8706 HD 8804 HD 8901 HD 9117	72
TP 870 C.0 1/3 DIN Thin Film	-50 +250	5s		HD 9021 DO 9406 DO 9505 DO 9417 DO 9704 DO 9709 DO 9721	83

Pt100 SENSOR PROBES

CODE	°C max	τ s	DIMENSIONS	USE		EURO
TP 870 P.0 1/3 DIN Thin Film	-50 +250	5s				83
TP 870 A.0 1/3 DIN Thin Film	-50 +250	12s				83
TP 871.0 1/3 DIN Thin Film	-50 +200	3s	 Cable L = 1 m		HD 9010 HD 8602 HD 8705 HD 8706 HD 8804 HD 8901 HD 9117 HD 9021 DO 9406 DO 9505 DO 9417 DO 9704 DO 9709 DO 9721	75
TP 872/500.I	-50 +400	10s				178
TP 872/1000.I						195
TP 873.I	-50 +400	6s				130
TP 874.I	-30 +200	3s				95
TP 875.1.I	-30 +120	15'	Globe-thermometer probe for measurement of radiant heat with \varnothing 150mm. Accuracy according to ISO 7243 ISO 7726. Pt100 sensor, 4-wire cable L=2m .			320
TP 876.1.I	-30 +120	15'	Globe-thermometer probe for measurement of radiant heat with \varnothing 50mm. Accuracy according to ISO 7243 ISO 7726. Pt100 sensor, 4-wire cable L=2m.			290

Pt100 SENSOR PROBES

CODE	°C max	τ s	DIMENSIONS	USE		EURO
TP 877.I	-200 +400	3s			HD 9010 HD 8602 HD 8705 HD 8706 HD 8804 HD 8901 HD 9117 HD 9021 DO 9406 DO 9505 DO 9417 DO 9704 DO 9709 DO 9721	130
TP 879.1.0 1/3 DIN Thin Film	-20 +120	60s	Penetration probe for compost, 4-wire cable L = 5 m 			230
TP 9 A.0	-70 +250	3,5s	CLASS A Thin Film 			70
TP 9 AC.0	-70 +250	5,5s	CLASS A Thin Film 			81
TP 9 AP.0	-70 +250	4s	CLASS A Thin Film 			73
TP 93.I	-70 +400	3,5s	1/3 DIN Thin Film 		HD 9212 HD 9213 HD 9214 HD 9215 HD 9216 HD 9219 HD 9220	84
TP 93 C.I	-70 +400	5,5s	1/3 DIN Thin Film 			89
TP 93 P.I	-70 +400	4s	1/3 DIN Thin Film 			88
TP 32MT.1P.I 1/3 DIN	-40 +100	40s				105
TP 32MT.2.I 1/3 DIN	-40 +100	60s				90

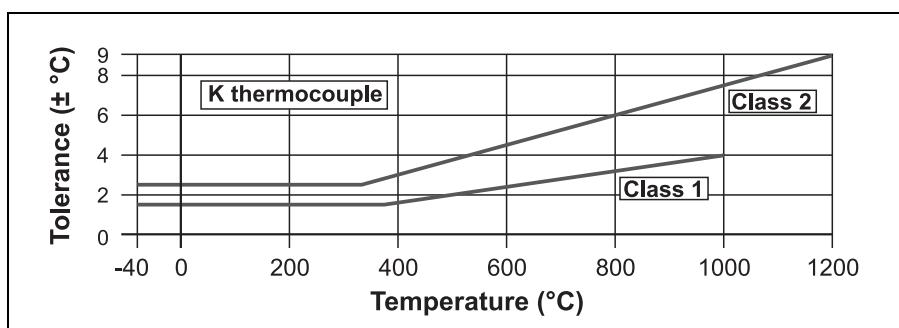
TOLERANCE CLASSES OF THERMOCOUPLES

Tolerances according to IEC 60584-2 standard. The values refer to thermocouples with reference junction at 0 °C.

	Tolerance class 1		Tolerance class 2		Tolerance class 3	
Type of thermocouple	Temperature range (°C)	Tolerance (°C)	Temperature range (°C)	Tolerance (°C)	Temperature range (°C)	Tolerance (°C)
B	---	---	+600...+1700	$\pm 0,0025 \cdot t$	+600...+800	± 4
	---	---	---	---	+800...+1700	$\pm 0,005 \cdot t$
E	-40...+375	$\pm 1,5$	-40...+333	$\pm 2,5$	-167...+40	$\pm 2,5$
	+375...+800	$\pm 0,004 \cdot t$	+333...+900	$\pm 0,0075 \cdot t$	-200...-167	$\pm 0,015 \cdot t$
J	-40...+375	$\pm 1,5$	-40...+333	$\pm 2,5$	---	---
	+375...+750	$\pm 0,004 \cdot t$	+333...+750	$\pm 0,0075 \cdot t$	---	---
K, N	-40...+375	$\pm 1,5$	-40...+333	$\pm 2,5$	-167...+40	$\pm 2,5$
	+375...+1000	$\pm 0,004 \cdot t$	+333...+1200	$\pm 0,0075 \cdot t$	-200...-167	$\pm 0,015 \cdot t$
R, S	0...+1100	± 1	0...+600	$\pm 1,5$	---	---
	+1100...+1600	$\pm [1+0,003 \cdot (t-1100)]$	+600...+1600	$\pm 0,0025 \cdot t$	---	---
T	-40...+125	$\pm 0,5$	-40...+133	± 1	-67...+40	± 1
	+125...+350	$\pm 0,004 \cdot t$	+133...+350	$\pm 0,0075 \cdot t$	-200...-67	$\pm 0,015 \cdot t$

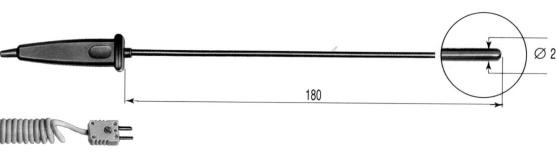
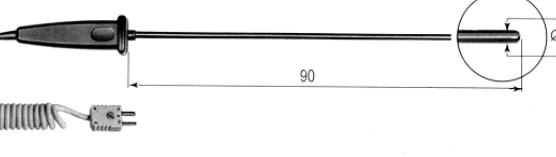
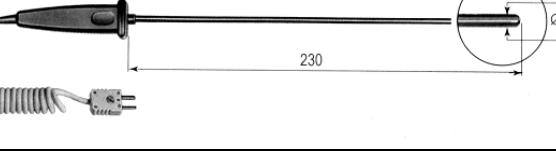
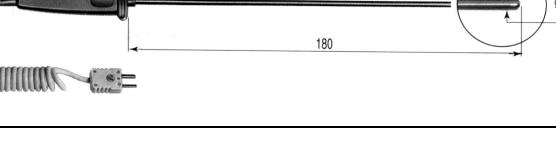
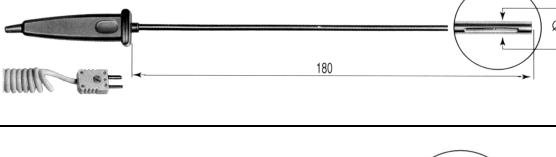
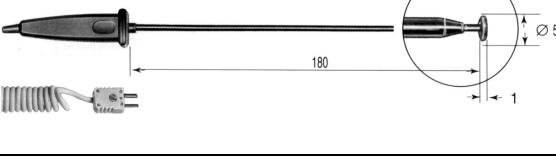
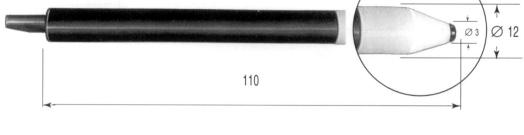
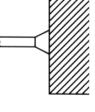
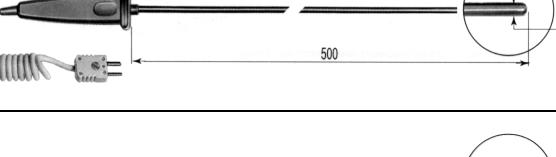
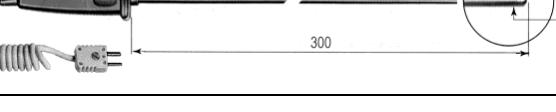
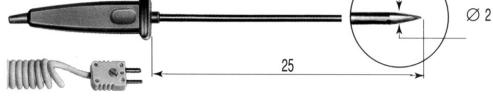
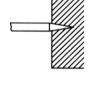
Note: t = temperature of measurement junction in °C.

The K type thermocouple probes supplied by Delta OHM have tolerance class 1 in the operating temperature range, that depends on the thermoelements diameter.

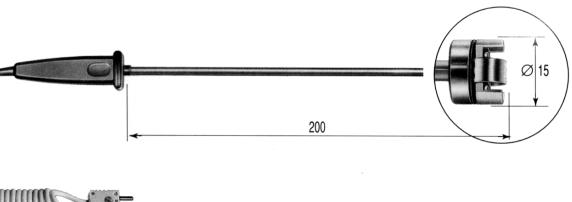
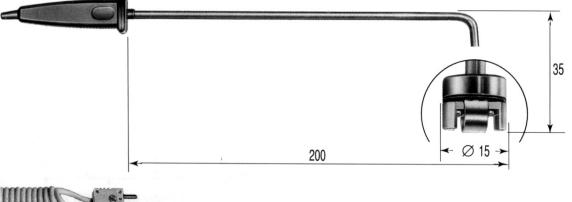
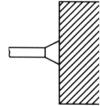
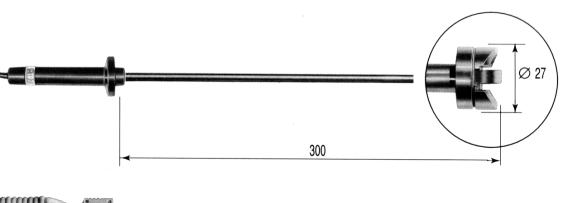
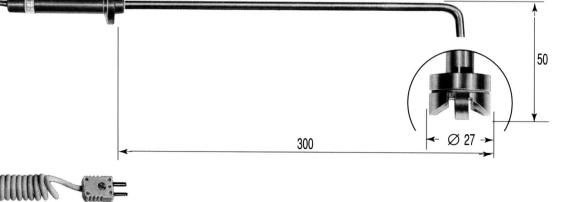
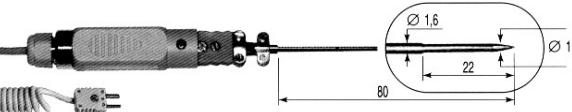
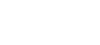
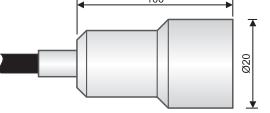
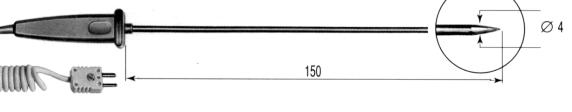
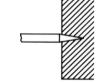
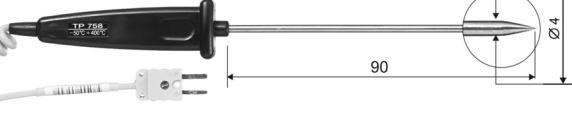
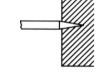

"K" TYPE (CHROMEL - ALUMEL) THERMOCOUPLE PROBES WITH GROUNDED HOT JUNCTION

CODE	°C max	τ s	DIMENSIONS	USE		EURO
TP 741	800	2s				HD 8802 HD 8704 HD 9016 HD 9218 DO 9416 DO 9847 HD 2328 HD 2108.1 HD 2108.2 HD 2128.1 HD 2128.2 HD 2178.1 HD 2178.2 HD 2114P.0 HD 2114P.2 HD 2134P.0 HD 2134P.2 HD 32.8
TP 741/1	400	2s				67
TP 741/2	800	2s				67

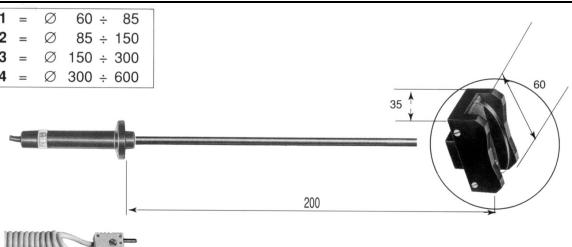
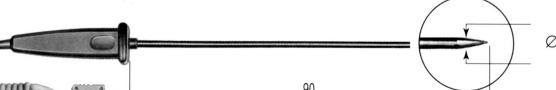
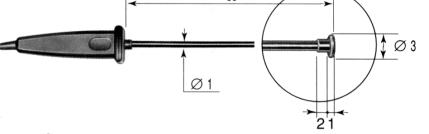
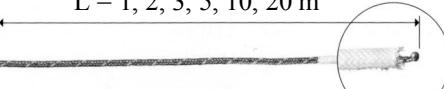
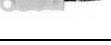
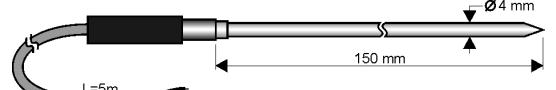
"K" TYPE (CHROMEL - ALUMEL) THERMOCOUPLE PROBES WITH GROUNDED HOT JUNCTION

CODE	°C max	τ s	DIMENSIONS	USE		EURO
TP 742	800	2s				63
TP 742/1	400	2s				67
TP 742/2	800	2s				67
TP 743	800	3s				65
TP 744	400	4s				62
TP 745	500	5s				72
TP 746	250	2s				88
TP 750	-196 +1000	3s				75
TP 750.0	-196 +800	3s				75
TP 751	200	2s				62

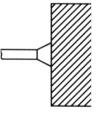
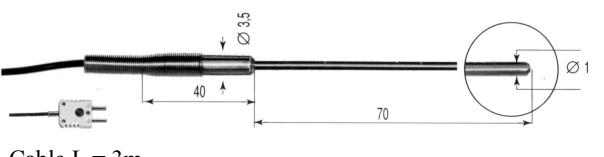
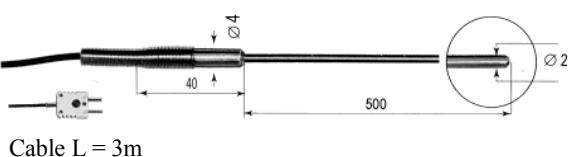
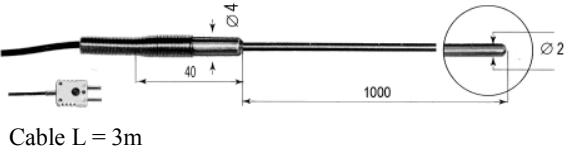
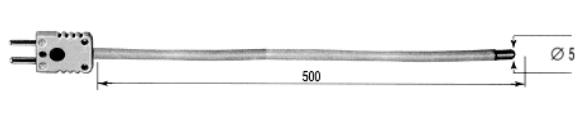
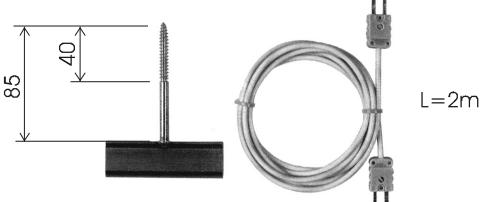
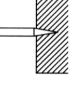
"K" TYPE (CHROMEL - ALUMEL) THERMOCOUPLE PROBES WITH GROUNDED HOT JUNCTION

CODE	°C max	τ s	DIMENSIONS	USE		EURO
TP 754	500	2s				118
TP 754/9	500	2s				134
TP 755	800	2s				144
TP 755/9	800	2s				157
TP 756	200	2s				88
TP 757	180	30s	MAGNETIC PROBE FOR CONTACT MEASUREMENTS ON MAGNETIC METAL SURFACES 			190
TP 758	400	4s				69
TP 758.1	400	4s				69

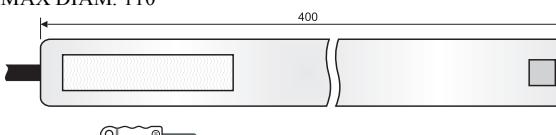
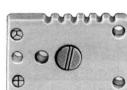
"K" TYPE (CHROMEL - ALUMEL) THERMOCOUPLE PROBES WITH GROUNDED HOT JUNCTION

CODE	°C max	τ s	DIMENSIONS	USE		EURO
TP 772	400	3s				41
TP 774	250	2s				212
TP 776	200	2s			HD 8802 HD 8704 HD 9016 HD 9218 DO 9416 DO 9847 HD 2328 HD 2108.1 HD 2108.2 HD 2128.1 HD 2128.2 HD 2178.1 HD 2178.2 HD 2114P.0	74
TP 777	200	3s			HD 2114P.2 HD 2134P.0 HD 2134P.2 HD 32.8	67
TP 647	300	2s	ACCREDIA calibration up to max. 300°C.			28
TP 647/2	300	2s				31
TP 647/3	300	2s				35
TP 647/5	300	2s				42
TP 647/10	300	2s				62
TP 647/20	300	2s				76
TP 651	1200	6s				134
TP 652	1200	6s				120
TP 32MT.11P	-40 +100	60s	 Isolated hot junction			85
TP 32MT.12	-40 +100	60s	 Isolated hot junction			90

"K" TYPE (CHROMEL - ALUMEL) THERMOCOUPLE PROBES WITH GROUNDED HOT JUNCTION

CODE	°C max	τ s	DIMENSIONS	USE	Image	EURO
TP 655	180	2s	 Cable L = 2m			90
TP 656	200	1s	 Cable L = 3m			66
TP 656/1	1000	1s	 Cable L = 3m			75
TP 656/2	1000	1s	 Cable L = 3m			83
TP 657/1	100	5s	 Flexible			50
TP 659	400	3s				69
TP 660	400	4s				69
TP 661	-60 +50	30s	 L=2m			130

"K" TYPE (CHROMEL - ALUMEL) THERMOCOUPLE PROBES WITH GROUNDED HOT JUNCTION

CODE	°C max	τ s	DIMENSIONS	USE	EURO
TP 662	110	120s	<p>STRAP PROBE WITH VELCRO TO MEASURE TUBES WITH MAX DIAM. 110</p>  <p>Certifiable up to 58°C</p>	 HD 8802 HD 8704 HD 9016 HD 9218 DO 9416 DO 9847 HD 2328 HD 2108.1 HD 2108.2 HD 2128.1 HD 2128.2 HD 2178.1 HD 2178.2 HD 2114P.0 HD 2114P.2 HD 2134P.0 HD 2134P.2 HD 32.8	82
CM	"K"				7
CS	"K"		 CS	CM	7
PW	"K"			L = 2m L = 5m L = 10m L = 15m L = 20m	31 40 58 77 95

Response time for a 63% variation (τ 0.63)

The response time τ s is the reaction time of the sensor to a temperature variation, with a signal variation when measuring that corresponds to a given percentage (63%) of the variation.

Response time is referred:

For immersion probes in water at 100°C

For surface probes in contact with metals surface at 200°C

For air probes at an air temperature of 100°C

At temperature above 400°C avoid hard knocks or thermal shocks which could cause irremediable damage RTD Sensor.

CODE	DESCRIPTION	EURO	CODE	DESCRIPTION	EURO
HD 882/EK KTY81 SENSOR -40...+150 °C		34	HD 882/GK KTY81 SENSOR -50...+100°C		57
HD 882/E/100 Pt100 SENSOR -50...+300 °C		55	HD 882/G100 Pt100 SENSOR -50...+100°C		60
PS1		12	HD 882/L104 0...+250°C Pt100 SENSOR		68
PS3		15	HD 882/L106 0...+250°C Pt100 SENSOR		68
TP 471		68	HD 882 M100/300 -50...+450 °C Pt100 SENSOR Miniature Head		95
	SICRAM electronic module for PRT sensors. Platinum temperature probes (Pt100Ω or Pt500Ω) can be connected to the 4-wire input module.		HD 882 DM100/300 -50...+450 °C Pt100 SENSOR DIN B Head		114
			HD 882 M100/600 -50...+450 °C Pt100 SENSOR Miniature Head		110
			HD 882 DM100/600 -50...+450 °C Pt100 SENSOR DIN B Head		128

MODEL	PORTABLE THERMO HYGROMETERS	EURO
HD 2301.0	Thermo hygrometer, instrument measuring range for temperature -200°C +650°C with probe TP47..., for humidity 0.0...100.0%RH. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries. The combined humidity and temperature probes complete with SICRAM module HP... series have to be ordered separately. TP47...series temperature probes can be connected.	153
HD 2101.1	Thermo hygrometer, instrument measuring range for temperature -200°C +650°C with probe TP47..., for humidity 0.0...100.0%RH. Storage of maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, software DeltaLog 9. The combined humidity and temperature probes complete with SICRAM module HP... series have to be ordered separately. TP47...series temperature probes can be connected.	230
HD 2101.2	Thermo hygrometer, instrument measuring range for temperature -200°C +650°C with probe TP47..., for humidity 0.0...100.0%RH. Data logger , stores the maximum, minimum, average value and can store up to 38,000 samples. RS232 C/USB output for data transfer in real time to a PC or a printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, software DeltaLog 9. The combined humidity and temperature probes complete with SICRAM module HP... series have to be ordered separately. TP47...series temperature probes can be connected.	432
RELATIVE HUMIDITY AND TEMPERATURE COMBINED PROBES		
(*) For temperatures up to 150 °C, we recommend the use of probes with stainless steel stem and filter P7. Extra charge €		
HP 472 ACR	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C , 0...100%RH.	32 160
HP 572 ACR	%RH and K thermocouple temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	166
HP 473 ACR (*)	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C , 0...100%RH.	166
HP 474 ACR (*)	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH.	170
HP 475 ACR	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Stainless steel probe stem. Tip dimensions Ø 14 x 75 mm. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity in grains)	310
HP 475AC1R	%RH and Pt100 temperature combined probe, complete with SICRAM module. Stainless steel probe stem, stainless steel 20µ sintered filter. 2m connecting cable. Working range: -40...+180°C, 0...100%RH.	315
HP 477 DCR	%RH and Pt100 temperature combined sword probe complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity on paper)	290
HP 478 ACR	%RH and Pt100 temperature combined probe complete with SICRAM module. 5m connecting cable. Working range: -40...+150°C, 0...100%RH.	190
HP 480	Probes for the measurement of air humidity in pipes . It measures relative humidity and temperature or Dew Point . Equipped with SICRAM module. 2m connecting cable. Measuring range: -40...+60°C, -40...+60°C DP. Three 1/4" quick couplings. Working pressure up to 16 bar. AISI 304 measuring chamber.	410
The combined humidity and temperature probes with last letter of the code R are compatible with the instruments having serial number from:		
09003560 (rev. 1-11 dated 23/04/2009) for HD 2101.1 and HD 2101.2		
09003525 (rev. R dated 24/04/2009) for HD 2301.0		

MODEL	ACCESSORIES AND PROTECTIONS FOR PORTABLE THERMO HYGROMETERS	EURO
DELTALOG 9	Further copy of CD-ROM with software DeltaLog 9 for downloading and PC data management for Windows® operating systems for instruments HD 2101.1, HD 2101.2	85
C.206	Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument HD2101.1 directly to the USB port of the PC.	70
HD 2110 CSNM	MiniDin 8 poles – 9 poles sub D female connecting cable for RS232C for instrument HD 2101.1, HD2101.2 .	42
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side. For the instrument HD2101.2 .	21
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option.	265
BAT-40	Spare battery pack for HD40.1 printer with built-in temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44
P1	200µm stainless steel grid protection for probes diam. 26, thread M24x1.5	15
P2	20µm PE sintered polythene protection for probes diam. 26, thread M24x1.5	18
P3	20µm sintered bronze protection for probes diam. 26, thread M24x1.5	23
P4	20µm sintered PE complete cap for probes diam. 26, thread M24x1.5	18
P6	10µm sintered stainless steel protection for probes diam. 14, thread M12x1	28
P7	20µm PTFE protection for probes diam. 14, thread M12x1	28
P8	20µm stainless steel grid and Pocan protection for probes diam. 14, thread M12x1	16
HD 75	75%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12×1 thread.	78
HD 33	33%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12×1 thread.	78
For the temperature probes to be used with these instruments see Pt100 SENSOR PROBES from page 8.		

MODEL	INSTRUMENTS FOR AIR QUALITY MEASUREMENTS FOR INDOOR	EURO
HD 21AB17	Datalogger for indoor air quality analysis (IAQ). The instrument measures the quantities: CO₂ (Carbon Dioxide), CO (Carbon Monoxide), temperature, relative humidity and atmospheric pressure . Memory capacity of 67,600 records. Logging interval from 15 seconds to 1 hour. Power supply: 4 x 1.2V NiMH rechargeable batteries. The power supply/battery charger SWD10 is optional. The kit includes: HD21AB17 instrument, 4 x 1.2V NiMH rechargeable batteries, DeltaLog 10 software from 0.1.5.3 version , instruction manual and carrying case. The cables have to be ordered separately.	650
HD 21AB	Datalogger for indoor air quality analysis (IAQ). The instrument measures the quantities: CO₂ (Carbon Dioxide), CO (Carbon Monoxide) and atmospheric pressure . Memory capacity of 67,600 records. Logging interval from 15 seconds to 1 hour. Power supply: 4 x 1.2V NiMH rechargeable batteries. The power supply/battery charger SWD10 is optional. The kit includes: HD21AB instrument, 4 x 1.2V NiMH rechargeable batteries, DeltaLog 10 software from 0.1.5.3 version , instruction manual and carrying case. The cables have to be ordered separately.	480
ACCESSORIES		
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage.	44
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side.	21
BAT-40	Spare battery pack with built-in temperature sensor.	27
ACCESSORIES FOR THE CO AND CO₂ SENSORS		
MINICAN.12A	Nitrogen can for CO and CO ₂ calibration at 0ppm. 20 litres volume. With regulating valve. Note: the cylinder can not be shipped by air.	180
MINICAN.12A1	Nitrogen can for CO and CO ₂ calibration at 0ppm. 20 litres volume. Without regulating valve. Note: the cylinder can not be shipped by air.	90
ECO-SURE-2E CO	CO spare sensor.	48
HD 37.36	Connection tube kit between instrument and MINICAN.12A for CO calibration.	20
HD 37.37	Connection tube kit between instrument and MINICAN.12A for CO ₂ calibration.	25
ACCESSORIES FOR THE HUMIDITY SENSOR		
HD 75	75%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12×1 thread.	78
HD 33	33%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12×1 thread.	78
P6	10µm sintered stainless steel protection for probes diam. 14, thread M12x1.	28
P7	20µm PTFE protection for probes diam. 14, thread M12x1.	28
P8	20µm stainless steel grid and Pocan protection for probes diam. 14, thread M12x1.	16

MODEL	ACTIVE TRANSMITTERS FOR TEMPERATURE, RELATIVE HUMIDITY, RELATIVE HUMIDITY AND TEMPERATURE, DEW POINT AND TEMPERATURE HD48...T...SERIES									
	4÷20mA or 0÷10V analog output active transmitters for humidity and temperature measurements, or with RS485 MODBUS-RTU serial output only. Models with horizontal probe for duct mounting (TO), with vertical probe for wall mounting (TV), with probe connected to the instrument through a cable of different lengths (TC) and for the measurement of compressed air in pipes (T480) are available. Two probe temperature ranges are possible: standard -20...+80°C (-40...+60°C for T480 version) and extended -40...+150°C (option E). All models can be supplied with LCD display (option L). Sensors working temperature: -20°C...+100°C (-40°C...+150°C for E versions). Electronics working temperature: -5°C...+60°C. Power supply: 16÷40 Vdc or 24 Vac.									
	Power supply 90÷240 Vac only in housing 80 x 120mm, height 56mm. It is not supplied the version with display.									
DESCRIPTION	VERSIONS						OPTIONS			
	TV	TO1	TO2	TC1	TC2	T480	E		L	
		Stainless steel stem - P8 filter						Exten. range	LCD	
HD 4807T... Output 4 ÷ 20mA	EURO	EURO	EURO	EURO	EURO	EURO	EURO	EURO	EURO	EURO
Temperature transmitter. Temperature measuring range: -20°C...+80°C 4...20mA = -20...+80°C	122	145	155	TC1.2 Cable 2m 180	TC2.2 Cable 2m 205	---	46	55		
HD 48V07T... Output 0 ÷ 10Vdc				TC1.5 Cable 5m 195	TC2.5 Cable 5m 220					
HD 48S07T... Only output RS485 MODBUS-RTU										
HD 4801T... Output 4 ÷ 20mA	185			TC1.2 Cable 2m 226	TC2.2 Cable 2m 242		46	55		
Relative humidity transmitter. R.H. measuring range: 0 ÷ 100 % R.H. 4...20mA = 0...100 %R.H.		200	216	TC1.5 Cable 5m 247	TC2.5 Cable 5m 262					
HD 48V01T... Output 0 ÷ 10Vdc				TC1.10 Cable 10m 288	TC2.10 Cable 10m 303					
HD 48S01T... Only output RS485 MODBUS-RTU										
HD 4817T... Double output 4 ÷ 20mA	216			TC1.2 Cable 2m 257	TC2.2 Cable 2m 272					
Dual relative humidity and temperature transmitter. R.H. measuring range: 0 ÷ 100 % R.H. 4...20mA = 0...100 %R.H. and -20...+80°C		231	247	TC1.5 Cable 5m 278	TC2.5 Cable 5m 293		46	55		
HD 48V17T... Double output 0 ÷ 10Vdc				TC1.10 Cable 10m 320	TC2.10 Cable 10m 334					
HD 48S17T... Only output RS485 MODBUS-RTU										
HD 4877T... Double output 4 ÷ 20mA	---			TC1.2 Cable 2m 267	TC2.2 Cable 2m 282		T480.1 Cable 2m 610			
Dual dew point and temperature transmitter. R.H. measuring range: 0 ÷ 100 % R.H. 4...20mA = -20...+80°C D.P. and -20...+80°C (-40...+60°C D.P. and -40...+60°C for T480)		240	257	TC1.5 Cable 5m 288	TC2.5 Cable 5m 304		For com- pressed air Max 16bar ¼" quick coupling Italian standard AISI 304 measuring chamber	---	55	
HD 48V77T... Double output 0 ÷ 10Vdc				TC1.10 Cable 10m 330	TC2.10 Cable 10m 345					
HD 48S77T... Only output RS485 MODBUS-RTU										
HD48	L = with LCD display									
Blank = analog output 4...20mA V = analog output 0...10Vdc S = RS485 MODBUS-RTU output only	Cable length (only for TC models) 2 = 2m 5 = 5m 10 = 10m									
<i>Note:</i> the models with analog output have an output for each measured quantity.	<i>Note:</i> The T480 version is available with 2m cable only									
07 = Temperature 01 = Relative Humidity 17 = Temperature and Relative Humidity 77 = Temperature and Dew Point	Probe length TO1 = 135mm TC2 = 335 mm TO2 = 335mm T480 = for compressed air TC1 = 135mm TV = vertical wall mounting									
	Blank = standard range -20...+80°C (-40...+60°C for T480 version) E = extended range -40...+150°C (except TV models)									

MODEL	PASSIVE TRANSMITTERS FOR TEMPERATURE, RELATIVE HUMIDITY, RELATIVE HUMIDITY AND TEMPERATURE, DEW POINT AND TEMPERATURE HD49...T...SERIES									
	4÷20mA analog output passive transmitters for humidity and temperature measurements. Models with horizontal probe for duct mounting (TO), with vertical probe for wall mounting (TV), with probe connected to the instrument by a cable of different lengths (TC) and for compressed air measurement in pipes (T480) are available. Two probe temperature ranges are possible: standard -20...+80°C (-40...+60°C for T480 version) and extended -40...+150°C (option E). Models with LCD display (option L) are available. Power supply: 12÷40 Vdc. Sensors working temperature: -20°C...+100°C (-40°C...+150°C for E versions). Electronics working temperature: -5°C...+60°C.									
DESCRIPTION	VERSIONS						OPTIONS			
	TV	TO1	TO2	TC1	TC2	T480	E	L		
		Stainless steel stem - P8 filter						Exten. range	LCD	
	EURO	EURO	EURO	EURO	EURO		EURO	EURO	EURO	
HD 4907T... Output 4 ÷ 20 mA	Temperature transmitter. Temperature measuring range: -20°C +80°C 4...20mA = -20...+80°C	122	145	155	TC1.2 Cable 2m 180 TC1.5 Cable 5m 195	TC2.2 Cable 2m 205 TC2.5 Cable 5m 215	---	46	55	
HD 4901T... Output 4 ÷ 20 mA	Relative humidity transmitter R.H measuring range : 0 ÷ 100 % R.H. 4...20mA = 0...100 %R.H.	185	200	216	TC1.2 Cable 2m 220 TC1.5 Cable 5m 240 TC1.10 Cable 10m 280	TC2.2 Cable 2m 232 TC2.5 Cable 5m 252 TC2.10 Cable 10m 295	---	46	55	
HD 4917T... Double output 4 ÷ 20 mA	Dual relative humidity and temperature transmitter. Measuring range in R.H. 0 ÷ 100 % R.H. 4...20mA = 0...100 %R.H. and -20...+80°C (-40...+60°C D.P. and -40...+60°C for T480)	216	231	247	TC1.2 Cable 2m 250 TC1.5 Cable 5m 270 TC1.10 Cable 10m 310	TC2.2 Cable 2m 265 TC2.5 Cable 5m 285 TC2.10 Cable 10m 325	---	46	55	
HD 4977T... Double output 4 ÷ 20 mA	Dual dew point and temperature transmitter. Measuring range in R.H. 0 ÷ 100 % R.H. 4...20mA = -20...+80°C D.P. and -20...+80°C (-40...+60°C D.P. and -40...+60°C for T480)	---	240	270	TC1.2 Cable 2m 260 TC1.5 Cable 5m 280 TC1.10 Cable 10m 320	TC2.2 Cable 2m 275 TC2.5 Cable 5m 295 TC2.10 Cable 10m 335	T480.1 Cable 2m 610 For compressed air Max 16bar ¼" quick coupling Italian standard AISI 304 measuring chamber	---	55	

HD49**T****L**

L = with LCD display

07 = Temperature
 01 = Relative Humidity
 17 = Temperature and Relative Humidity
 77 = Temperature and Dew Point

Blank = standard range -20...+80°C
 (-40...+60°C for T480 version)

E = extended range -40...+150°C (except TV models)

Cable length (only for TC models)

2 = 2m

5 = 5m

10 = 10m

Note: The **T480** version is available with 2m cable only

Probe length

TO1 = 135mm

TO2 = 335mm

TC1 = 135mm

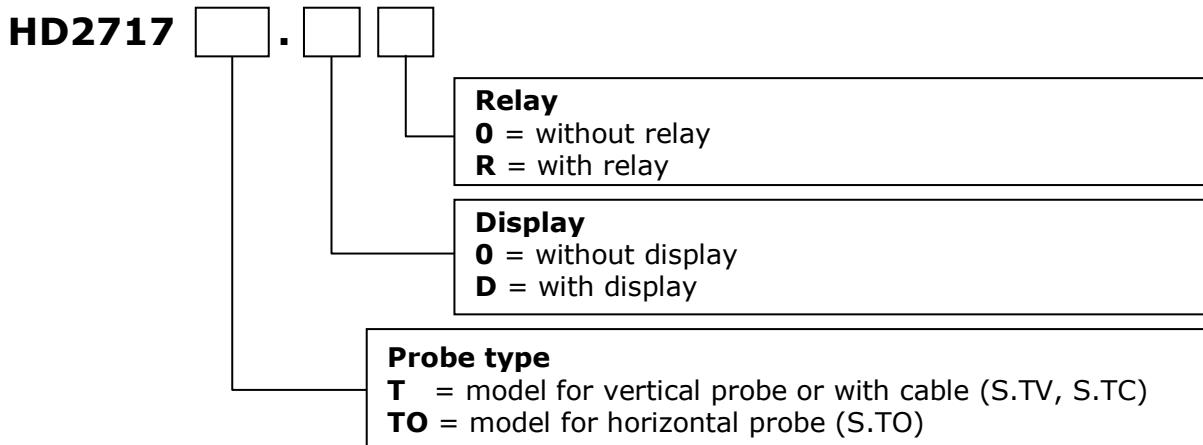
TC2 = 335mm

TV = vertical wall mounting

T480 = for compressed air

	ACCESSORIES FOR THE HD 48... AND HD 49... SERIES	EURO
CP 27	Serial connection cable with USB connector for PC and 3-pole connector for COM AUX port. The cable has a built-in USB/RS232 converter and connects the models with analog output directly to the USB port of the PC.	50
HD 48TCAL	The kit includes the CP27 serial connection cable and the CD-ROM HD4817CAL for Windows® operating systems, for the relative humidity probe calibration and the configuration. The cable has USB connector for PC and 3-pole connector for transmitter COM AUX port. The kit is for the models with analog output only.	65
RS 48	Cable for RS485 connection with built-in USB/RS485 converter. The cable has USB connector for PC and 3 separate wires for the instruments. This cable is for the models with RS485 Modbus output only.	50
HD 48STCAL	The kit includes the RS48 cable and the CD-ROM HD4817CAL for Windows® operating systems, for the relative humidity probe calibration and the configuration. The CD also includes a software for the Modbus connection. The cable has USB connector for PC and 3 separate wires for the instruments. The kit is for the models with RS485 Modbus output only.	65
HD 4817CAL	Further copy of the CD-ROM with the software HD4817CAL for transmitter configuration and relative humidity probe calibration. For Windows® operating systems.	85

MODEL	ACTIVE TRANSMITTERS, HUMIDITY AND TEMPERATURE REGULATORS WITH INTERCHANGEABLE SICRAM2 PROBE	EURO
HD 2717T...	HD2717T... SERIES Transmitter, indicator, ON/OFF regulator with Custom LCD display, data logger for temperature and humidity, 9000 samples. Equipped with two analog outputs, current (0÷20mA and 4÷20mA) or voltage (0÷10Vdc and 2÷10Vdc) outputs. RS232/RS485 serial outputs for PC connection. Interchangeable SICRAM2 probes with microprocessor for calibration data storage. 24Vac/dc or universal 90...240Vac power supply (to be specified when placing the order) . Software DeltaLog 12 and instruction manual are included. (cable RS27 is included for transmitters without display only) Model, power supply, type of probe (S.TV – S.TCx.xx – S.TOx) and accessories have to be specified when placing the order. Models for vertical probe (S.TV) and remote probe with cable (S.TC)	
HD2717T.00	Model without display and without relay.	168
HD2717T.0R	Model without display, with two working relays and one alarm relay, configurable.	196
HD2717T.D0	Model with custom display, without relay.	202
HD2717T.DR	Model with custom display, with two working relays and one alarm relay, configurable.	232
	Models for duct horizontal probe (S.TO)	
HD2717TO.00	Model without display and without relay.	163
HD2717TO.0R	Model without display, with two working relays and one alarm relay, configurable.	191
HD2717TO.D0	Model with custom display, without relay.	196
HD2717TO.DR	Model with custom display, with two working relays and one alarm relay, configurable.	230



	Interchangeable temperature and humidity probes with SICRAM 2 module, vertical version S.TV or with cable S.TC	EURO	
S.TV	Vertical probe. Stem length 130mm. Inox Probes for temperatures up to 180°C surcharge of 20 EURO.	148	
S.TC1.2	Probe with cable. Stem length 135mm, cable length 2m. AISI 304 made.	165	
S.TC1.2P	Probe with cable. Stem length 135mm, cable length 2m. POCAN made.	160	
S.TC1.5	Probe with cable. Stem length 135mm, cable length 5m. AISI 304 made.	196	
S.TC1.5P	Probe with cable. Stem length 135mm, cable length 5m. POCAN made.	190	
S.TC1.10	Probe with cable. Stem length 135mm, cable length 10m. AISI 304 made.	237	
S.TC1.10P	Probe with cable. Stem length 135mm, cable length 10m. POCAN made.	232	
S.TC2.2	Probe with cable. Stem length 335mm, cable length 2m. AISI 304 made.	180	
S.TC2.2P	Probe with cable. Stem length 335mm, cable length 2m. POCAN made.	175	
S.TC2.5	Probe with cable. Stem length 335mm, cable length 5m. AISI 304 made.	211	
S.TC2.5P	Probe with cable. Stem length 335mm, cable length 5m. POCAN made.	206	

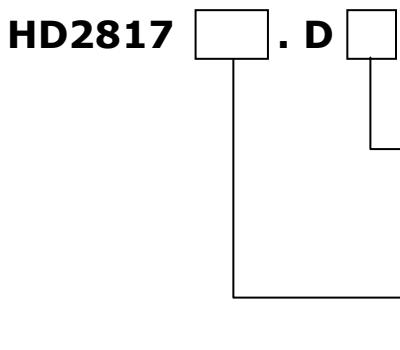
MODEL	Interchangeable temperature and humidity probes with SICRAM 2 module, vertical version S.TV or with cable S.TC	EURO
S.TC2.10	Probe with cable. Stem length 335mm, cable length 10m. AISI 304 made.	268
S.TC2.10P	Probe with cable. Stem length 335mm, cable length 10m. POCAN made.	258
S.TC2.480.2	Probe with cable for the measurement of air humidity in pipes. Cable length 2m. Measuring range: -40...+60°C, -40...+60°C DP. 1/4" quick coupling Italian standard. Working pressure up to 16 bar. AISI 304 measuring chamber.	420
	Interchangeable temperature and humidity probes with SICRAM 2 module, horizontal version S.TO	
S.TO1	Horizontal probe for instrument HD2717TO.xx. Stem length 135mm.	193
S.TO2	Horizontal probe for instrument HD2717TO.00. Stem length 335mm.	214
	ACCESSORIES	
RS 27	Cable for null-modem RS232 serial connection with 9 poles sub-D connector for PC and 3-pole connector for COM AUX port (included with transmitters without display).	35
CP 27	Serial connection cable with USB connector for PC and 3-pole connector for COM AUX port. The cable has a built-in USB/RS232 converter and connects the instrument directly to the USB port of the PC.	50
DELTALOG 12	Further copy of CD-ROM with software DeltaLog 12 for PC connection, for data downloading, for instrument setup, for instrument network management. Suitable for Windows® operating systems.	85
HD 75	75%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm and Ø 26mm.	78
HD 33	33%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm and Ø 26mm.	78
HD 9008.21.1	Flange with support, hole Ø 26mm for installation of S.TC probes in vertical position, distance from the wall 250mm. The adapter HD9008.26/14 from Ø 26mm to Ø 14mm is requested for S.TC series probes.	48
HD 9008.21.2	Flange with support, hole Ø 26mm for installation of S.TC probes in vertical position, distance from the wall 125mm. The adapter HD9008.26/14 from Ø 26mm to Ø 14mm is requested for S.TC series probes.	45
HD 9008.26/14	Adapter from Ø26mm to Ø14mm for supports HD9008.21.1 and HD9008.21.2 for S.TC series probes.	17
HD 9008.31	Wall flange with cable gland to fix the probes Ø 14mm.	35
PG16	Cable gland made of AISI 304 PG16 for probes Ø 14mm.	28
P6	10µm sintered stainless steel protection, for probes diam. 14, thread M12x1	28
P7	20µm PTFE protection for probes diam. 14, thread M12x1	28
P8	20µm stainless steel grid and Pocan protection for probes diam. 14, thread M12x1	16

SUMMARY HD2717T... WITH PROBE

(*) P = Pocan - For temperatures up to 150 °C, we recommend the use of probes with stainless steel stem and filter P7. Extra charge 32€

PROBE VERSION	PROBE	Instrument version 2717T.00... €	Instrument version 2717T.0R... €168 + € probe	Instrument version 2717T.D0... €196 + € probe	Instrument version 2717T.DR... €202 + € probe
HD2717Txx.TC...					
S.TC1.2	165	333	361	367	397
S.TC1.2P*	160	328	356	362	392
S.TC1.5	196	364	392	398	428
S.TC1.5P*	190	358	386	392	422
S.TC1.10	237	405	433	439	469
S.TC1.10P*	232	400	428	434	464
S.TC2.2	180	348	376	382	412
S.TC2.2P*	175	343	371	377	407
S.TC2.5	211	379	407	413	443
S.TC2.5P*	206	374	402	408	438
S.TC2.10	268	436	464	470	500
S.TC2.10P*	258	426	454	460	490
S.TC2.480.2	420	588	616	622	652
HD2717Txx.TV					
S.TV	148	316	344	350	380
HD2717Txx.TOx					
		€163 + € probe	€191 + € probe	€196 + € probe	€230 + € probe
S.TO1	193	356	384	389	423
S.TO2	214	377	405	410	444

MODEL	ACTIVE TRANSMITTERS AND REGULATORS FOR TEMPERATURE AND HUMIDITY WITH INTERCHANGEABLE SICRAM2 PROBE	EURO
HD 2817T...	HD2817T... SERIES Transmitter, indicator and ON/OFF regulator with data logger function for temperature and humidity, 9000 samples. Equipped with three analog outputs in current (0÷20mA and 4÷20mA) or voltage (0÷10Vdc and 2÷10Vdc). RS232/RS485 serial outputs for PC connection. Uses interchangeable SICRAM2 probes with microprocessor for the storage of the calibration data. Displays the data on a large back lighted graphic display. Power supply can be 24Vac/dc or universal 90...240Vac (to be specified when placing the order). Software DeltaLog 12 and instruction manual are included. Model, power supply, type of probe and accessories have to be specified when placing the order. Models for vertical probe (S.TV) and remote probe with cable (S.TC)	
HD2817T.D0	Model without relay.	256
HD2817T.DR	Model with 2 control relays and 1 alarm relay (configurable).	300
HD2817TO.D0	Models for horizontal duct probes (S.TO) Model without relay.	266
HD2817TO.DR	Model with 2 control relays and 1 alarm relay (configurable).	306



Relay
0 = without relay
R = with relay

Probe type
T = model for vertical probe or with cable (S.TV, S.TC)
TO = model for horizontal probe (S.TO)

	Interchangeable temperature and humidity probe with SICRAM2 module vertical S.TV or remote with cable S.TC	
S.TV	Vertical probe. Length of stem 130mm. Inox Probes for temperatures up to 180°C surcharge of 20 EURO.	148
S.TC1.2	Probe with cable. Length of stem 135mm, length of the cable 2m. AISI 304 made.	165
S.TC1.2P	Probe with cable. Length of stem 135mm, length of the cable 2m. POCAN made.	160
S.TC1.5	Probe with cable. Length of stem 135mm, length of the cable 5m. AISI 304 made.	196
S.TC1.5P	Probe with cable. Length of stem 135mm, length of the cable 5m. POCAN made.	190
S.TC1.10	Probe with cable. Length of stem 135mm, length of the cable 10m. AISI 304 made.	237
S.TC1.10P	Probe with cable. Length of stem 135mm, length of the cable 10m. POCAN made.	232
S.TC2.2	Probe with cable. Length of stem 335mm, length of the cable 2m. AISI 304 made.	180
S.TC2.2P	Probe with cable. Length of stem 335mm, length of the cable 2m. POCAN made.	175
S.TC2.5	Probe with cable. Length of stem 335mm, length of the cable 5m. AISI 304 made.	211
S.TC2.5P	Probe with cable. Length of stem 335mm, length of the cable 5m. POCAN made.	206
S.TC2.10	Probe with cable. Length of stem 335mm, length of the cable 10m. AISI 304 made.	268
S.TC2.10P	Probe with cable. Length of stem 335mm, length of the cable 10m. POCAN made.	258
S.TC2.480.2	Probe with cable for the measurement of air humidity in pipes. Cable length 2m. Measuring range: -40...+60°C, -40...+60°C DP. 1/4" quick coupling Italian standard. Working pressure up to 16 bar. AISI 304 measuring chamber.	420

MODEL	Interchangeable probes with SICRAM2 module for temperature and humidity, horizontal S.TO probe	EURO
S.TO1	Horizontal probe for HD2717TO.xx., length of stem 135mm.	193
S.TO2	Horizontal probe for HD2717TO.xx , length of stem 335mm.	214
ACCESSORIES		
RS 27	RS232 null-modem serial connection cable with 9 poles sub-D 9 female connector and 3-pole connector for COM AUX port (included with the instruments without display).	35
CP 27	Serial connection cable with USB connector for PC and 3-pole connector for COM AUX port. The cable has a built-in USB/RS232 converter and connects the instrument directly to the USB port of the PC.	50
DELTALOG 12	Further copy of CD-ROM with software DeltaLog 12 for PC connection, data download, instrument setup, and management of an instrument network. For Windows® operating systems.	85
HD 75	75%RH saturated solution for checking the relative humidity sensor, complete with thread for probes with Ø 14mm and Ø 26mm.	78
HD 33	33%RH saturated solution for checking the relative humidity sensor, complete with thread for probes with Ø 14mm and Ø 26mm.	78
HD 9008.21.1	Flange with support, Ø 26mm hole for the installation of S.TC probes in vertical position, 250mm distance from the wall. The probes of the series S.TC require the adapter HD9008.26/14 from Ø 26mm to Ø 14mm.	48
HD 9008.21.2	Flange with support, Ø 26mm hole for the installation of S.TC in vertical position, 125mm distance from the wall. The probes of the series S.TC require the adapter HD9008.26/14 from Ø 26mm to Ø 14mm.	45
HD 9008.26/14	Adapter from Ø26mm to Ø14mm for the supports HD9008.21.1 and HD9008.21.2, for probes of the series S.TC.	17
HD 9008.31	Wall flange with cable outlet to fix probes with Ø 14mm.	35
PG16	Stainless steel gland (AISI304) for probes with Ø 14mm.	28
P6	10µm sintered stainless steel protection for probes Ø 14mm.	28
P7	20µm PTFE protection for probes Ø 14mm.	28
P8	20µm stainless steel grid and Pocan protection for probes Ø 14mm.	16

SUMMARY HD2817T... WITH PROBE

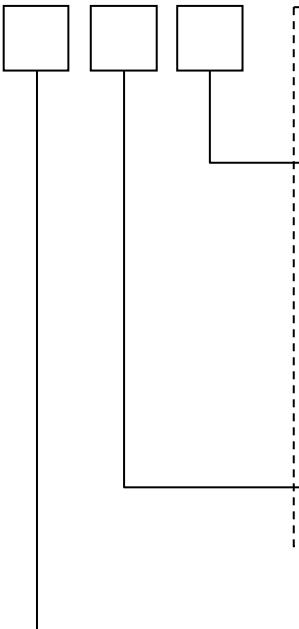
(*) P = Pocan - For temperatures up to 150 °C, we recommend the use of probes with stainless steel stem and filter P7. Extra charge 32€

PROBE VERSION	PROBE €	Instrument Version 2817TD0 €256 + € probe	Instrument Version 2817TDR €300 + € probe
HD2817Txx.TC...			
S.TC1.2	165	421	465
S.TC1.2P*	160	416	460
S.TC1.5	196	452	496
S.TC1.5P*	190	446	490
S.TC1.10	237	493	537
S.TC1.10P*	232	488	532
S.TC2.2	180	436	480
S.TC2.2P*	175	431	475
S.TC2.5	211	467	511
S.TC2.5P*	206	462	506
S.TC2.10	268	524	568
S.TC2.10P*	258	514	558
S.TC2.480.2	420	676	720
HD2817Txx.TV			
S.TV	148	404	448
HD2817Txx.TO...			
		€266 + € probe	€306 + € probe
S.TO1	193	459	499
S.TO2	214	480	520



MODEL	DESCRIPTION	HUMIDITY, TEMPERATURE AND CO ₂ TRANSMITTERS AND REGULATORS HD45... SERIES						
		VERSIONS						OPTIONS
		R Output: Relay	V Output: 0÷10Vdc	A Output: 4÷20mA	S Output: RS485	VR , AR Output: 0÷10Vdc or 4÷20mA + Relay	SR Output: RS485 + Relay	
		EURO	EURO	EURO	EURO	EURO	EURO	EURO
HD 45 B...	CO ₂ transmitter and/or regulator. CO ₂ measuring range: 0 ÷ 5000 ppm CO ₂ sensor working temperature: -5 ÷ +50 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	187	192	192	200	220	225	55
HD 45 17...	Humidity and temperature transmitter and/or regulator. R.H. measuring range: 0 ÷ 100 % Dew Point measuring range: -40 ÷ +85 °C Temperature measuring range: -30 ÷ +85 °C R.H. sensor working temperature: -40 ÷ +80 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	192	197	197	205	225	230	55
HD 45 7B...	Temperature and CO ₂ transmitter and/or regulator. Temperature measuring range: -30 ÷ +85 °C CO ₂ measuring range: 0 ÷ 5000 ppm CO ₂ sensor working temperature: -5 ÷ +50 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	222	227	227	235	255	260	55

HD45



AVAILABLE OPTIONS

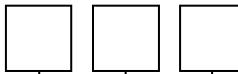
V = 0÷10Vdc analog output
A = 4÷20mA analog output
S = RS485 MODBUS-RTU output
R = Relay output
VR = 0÷10Vdc analog output and relay output
AR = 4÷20mA analog output and relay output
SR = RS485 MODBUS-RTU and relay output
<ul style="list-style-type: none"> If there is the analog output, there cannot be the RS485 output and vice versa. With the V and A options there is an analog output for each measured quantity. With the R and SR options there is only one relay output, assignable to one of the measured quantities.
D = With display
Blank = Without display

Sensors

17 = Humidity and Temperature
7B = Temperature and CO ₂
B = CO ₂

	ACCESSORIES	EURO
DELTALOG 14	CD-ROM with DeltaLog 14 software for the connection to a PC through the serial output with mini-USB connector, for the instrument setup and for the memory data download. For Windows® operating systems.	85
RS 45	Serial connection cable, not isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is powered directly by the USB port of the PC.	50
RS 45 I	Serial connection cable, galvanically isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is not powered by the USB port of the PC.	75
HD 45TCAL	Kit including the RS45 serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	110
HD 45TCAL I	Kit including the galvanically isolated RS45 I serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	140

MODEL	DESCRIPTION	HUMIDITY, TEMPERATURE AND CO ₂ TRANSMITTERS AND REGULATORS HD46... SERIES						
		VERSIONS					OPTIONS	
		R Output: Relay	V Output: 0÷10Vdc	A Output: 4÷20mA	S Output: RS485	SR Output: RS485 + Relay	D Display	DT Display + Keyboard
		EURO	EURO	EURO	EURO	EURO	EURO	EURO
HD 46 17...	Humidity and temperature transmitter and/or regulator. R.H. measuring range: 0 ÷ 100 % Dew Point measuring range: -40 ÷ +85 °C Temperature measuring range: -30 ÷ +85 °C R.H. sensor working temperature: -40 ÷ +80 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	248	228	228	235	285	50	76
HD 46 17B...	Humidity, temperature and CO ₂ transmitter and/or regulator. R.H. measuring range: 0 ÷ 100 % Dew Point measuring range: -40 ÷ +85 °C Temperature measuring range: -30 ÷ +85 °C CO ₂ measuring range: 0 ÷ 5000 ppm R.H. sensor working temperature: -40 ÷ +80 °C CO ₂ sensor working temperature: -5 ÷ +50 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	358	333	333	340	390	50	76

HD46**AVAILABLE OPTIONS****V** = 0÷10Vdc analog output**A** = 4÷20mA analog output**S** = RS485 MODBUS-RTU output**R** = Relay output**SR** = RS485 MODBUS-RTU and relay output

- It is not possible to have the analog output if there is the RS485 and/or relay output, and vice versa.
- With the V and A options there is an analog output for each measured quantity.
- With the R and SR options there is a relay output for each measured quantity.

D = With display**DT** = With display and keyboard**Blank** = Without display

- The DT option is available only together with the R or SR option
- The D option is available only together with the V or S option

Sensors**17** = Humidity and Temperature**17B** = Humidity, Temperature and CO₂

	ACCESSORIES	EURO
DELTALOG 14	CD-ROM with DeltaLog 14 software for the connection to a PC through the serial output with mini-USB connector, for the instrument setup and for the memory data download. For Windows® operating systems. The CD also includes a software for the Modbus connection.	85
RS 45	Serial connection cable, not isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is powered directly by the USB port of the PC.	50
RS 45 I	Serial connection cable, galvanically isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is not powered by the USB port of the PC.	75
HD 45TCAL	Kit including the RS45 serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	110
HD 45TCAL I	Kit including the galvanically isolated RS45 I serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	140
HDM46	Calibrated relative humidity and temperature module.	120

MODEL	RELATIVE HUMIDITY TRANSMITTER/HYGROSTAT WITH DISPLAY				
	Description	VERSIONS			
		TV1 EURO	TO EURO	TC1 EURO	TC2 EURO
HD 2017T... Output 0 ÷ 20 mA 4 ÷ 20 mA 0 ÷ 1 V 0 ÷ 10 V Active	Relative humidity transmitter. Measuring range 5 ÷ 98 % R.H. 4 mA = 0 %R.H., 20 mA = 100 %R.H. Working temperature range of sensor: -40 °C +150 °C Electronics working temperature: -5°C +60 °C 3½ digits LCD and relay Functions: Humidification, Dehumidification	284	TO1 284	TC1.2 Cable 2 m 298	TC2.5 Cable 5 m 327 TC2.10 Cable 10 m 376

THESE MODELS WILL GO OUT OF PRODUCTION DURING THE YEAR

	ACTIVE AND PASSIVE RELATIVE HUMIDITY AND TEMPERATURE TRANSMITTERS WITH DISPLAY				
		TV1 EURO	TO2 EURO	TC1.2 Cable 2 m 395	TC2.5 Cable 5 m 425 TC2.10 Cable 10 m 505
DO 9861T... Dual Output 4 ÷ 20 mA Active Passive	Relative humidity and temperature transmitter. Measuring range 5 ÷ 98 % R.H. Dew point: -25 +100 °C Working temperature range of sensors: -40 °C +150 °C Electronics working temperature: -5°C +60 °C Power Supply: 10 ÷ 35 Vdc passive, 24 Vac active, on request 230 Vac Two Relays Dual 3½ digit LCD	375	TO2 380	TC1.2 Cable 2 m 395	TC2.5 Cable 5 m 425 TC2.10 Cable 10 m 505

THESE MODELS WILL GO OUT OF PRODUCTION DURING THE YEAR

	RELATIVE HUMIDITY, TEMPERATURE, BAROMETRIC PRESSURE AND AIR SPEED TRANSMITTERS WITH DISPLAY				
	Description	VERSIONS			
		TV1 EURO	TO2 EURO	TO3 EURO	TC1 EURO
HD 2001 Output RS232 – RS485	Relative humidity, temperature and barometric pressure indicator. RS232C, RS485 and open collector output. Measuring range 0 ÷ 100 % R.H. Working temperature range of sensors: -20 + 80°C Electronics working temperature: -5°C +60 °C Power supply: 24 Vac or 230 Vac (to be specified when ordering). Dual 3½ digits LCD.	430	---	---	---
HD 2001.1 Output RS232 – RS485 0 ÷ 20 mA 4 ÷ 20 mA 0 ÷ 10 Vdc	Relative humidity, temperature and barometric pressure indicator and transmitter. RS232C, RS485 and open collector output. Measuring range 0 ÷ 100 % R.H. Working temperature range of sensors: -20 + 80°C Electronics working temperature: -5°C +60 °C Power supply: 24 Vac or 230 Vac (to be specified when ordering). Dual 3½ digits LCD.	480	---	---	TC1.2 Cable 2 m 495 TC1.5 Cable 5 m 510 TC1.10 Cable 10 m 540
HD 2001.2 Output RS232 – RS485	Relative humidity, temperature, barometric pressure and air speed active indicator. RS232C, RS485 and open collector output. Measuring range 0 ÷ 100 % R.H. Working temperature range of sensors: -20 + 80°C Electronics working temperature: -5°C +60 °C Power supply: 24 Vac or 230 Vac (to be specified when ordering). Dual 3½ digits LCD.	630	---	---	---
HD 2001.3 Output 0 ÷ 20 mA 4 ÷ 20 mA 0 ÷ 10 Vdc	Relative humidity and temperature indicator and transmitter. Measuring range 0 ÷ 100 % R.H. Working temperature range of sensors: -20 + 80°C Electronics working temperature: -5°C +60 °C Power supply: 24 Vac or 230 Vac (to be specified when ordering). Dual 3½ digits LCD.	415	430	430	TC2.2 Cable 2 m 445 TC2.5 Cable 5 m 460 TC2.10 Cable 10 m 485
HD 2001.2.30	Wall fixing bracket for HD2001.2				74

MODEL	METEOROLOGICAL HUMIDITY AND TEMPERATURE TRANSMITTERS	EURO
HD 9008 TRR	Dual meteorological temperature and relative humidity passive transmitter with 4...20mA outputs. Measuring range: configurable temperature -40°C...+80°C, relative humidity 0...100% R.H., 4mA correspond to -40°C and 0% R.H., 20mA correspond to +80°C and 100%R.H. Probe Ø 26 mm, L = 185 mm. Power supply 10...40Vdc. Standard configuration -40...+80°C, 0...100% RH.	225
HD 9008 TR.2	Meteorological temperature and relative humidity transmitter. It measures the temperature with 4-wire Pt100 sensor. Measuring range: relative humidity 0...100%R.H., 4mA correspond to 0%R.H., 20mA correspond to 100%R.H. Power supply 10...40Vdc. Probe Ø 26 mm L= 185 mm.	216
HD 9008 T7S <i>New</i>	Meteorological temperature transmitter. It measures the temperature with 1/3 DIN Pt100 sensor. Measuring range: -40°C...+80°C. Power supply 5...30Vdc, signal output RS485 MODBUS-RTU. Probe Ø 26 mm, L= 185 mm.	140
HD 9008 T7AC <i>New</i>	Meteorological temperature transmitter. It measures the temperature with 1/3 DIN Pt100 sensor. Measuring range: -40°C...+80°C. Output signal 4...20mA, 4mA corresponds to -40°C, 20mA corresponds to +80°C. Power supply 10...40Vdc. Probe Ø 26 mm, L = 185 mm.	132
HD 9009 TRR	Dual meteorological temperature and relative humidity transmitter with 0...1Vdc outputs. Measuring range: configurable temperature -40°C...+80°C, relative humidity 0...100% R.H., 0Vdc correspond to -40°C and 0% R.H., 1Vdc correspond to +80°C and 100%R.H. Probe Ø 26 mm, L = 185 mm. Power supply 5...35Vdc, 2mA. Standard configuration -40 +80°C, 0...100% RH.	225
HD 9009 TR.1	Meteorological temperature and relative humidity transmitter. It measures the temperature with 2-wire Pt100 sensor. Measuring range: relative humidity 0...100%R.H., 0Vdc correspond to 0%R.H., 1Vdc correspond to 100%R.H. Power supply 5...35Vdc, 2mA. Probe Ø 26 mm L= 185 mm.	216
HD 9009 TR.2	Meteorological temperature and relative humidity transmitter. It measures the temperature with 4-wire Pt100 sensor. Working range: relative humidity 0...100%R.H., 0Vdc correspond to 0%R.H., 1Vdc correspond to 100%R.H. Power supply 5...35Vdc, 2mA. Probe Ø 26 mm L= 185 mm.	216
HD 9817T1R	Dual temperature and relative humidity transmitter. 1/3 DIN Pt100 temperature sensor. Measuring range for relative humidity: 0...100%RH, for temperature: -40...+60°C. Double output signal 0...1Vdc. Power supply 5...35Vdc. Housing made of AISI 304, dimensions Ø 14mm, L= 138mm. Standard configuration 0...100%RH = 0...1Vdc, -40...+60°C = 0...1Vdc. 7-wire cable with shield L = 1.5m. Supplied with HD9817TC software with basic and calibration management functions.	210
HD 9817T2R	Dual temperature and relative humidity transmitter. Pt100 1/3 DIN temperature sensor. Measuring range for relative humidity: 0...100%RH, for temperature: -40...+60°C. RS232C output. Non-isolated power supply: power supply comes from RS232C PC output. Housing made of AISI 304, dimensions Ø 14mm, L=138mm. Standard configuration 0...100%RH for relative humidity and -40...+60°C for temperature. Output cable with DB9 female connector, L=2m. Baud rate 2400. Supplied with HD9817TC software with basic and calibration management functions.	236
HD 9817T3R	Dual temperature and relative humidity transmitter. Pt100 1/3 DIN temperature sensor. Measuring range for relative humidity: 0...100%RH, for temperature: -40...+60°C. USB output isolated type 1.1 – 2.0. Power supply comes from USB PC output. Housing made of AISI 304, dimensions Ø 14mm, L=138mm. Standard configuration 0...100%RH for relative humidity and -40...+60°C for temperature. Output cable with USB B type connector, L = 2m. Supplied with HD9817TC software with basic and calibration management functions.	236
HD 9817T1 CAL	Calibration device for HD9817T1 and HD9817T1.1. USB cable to connect a PC and CD with the software to perform the calibration.	75
HD 9817TVS	Dual humidity and temperature transmitter, Pt100 sensor. 0...1 Vdc analog outputs and RS485 MODBUS-RTU output. Temperature measuring range -40...+60 °C. Power supply 5...30 Vdc. AISI 304 housing. IP 65 probe protection degree. Dimensions Ø14 x 155 mm. Output with 8-pole M12 male connector. Supplied with CP9817.3 cable, length 3 m.	310
HD 9007T26.2	Fitting for Ø 14 mm transmitters for the protections from solar radiations HD9007A-1 and HD9007A-2.	39
CP 24	PC connecting cable for the MODBUS parameters configuration of the HD9817TVS transmitter. With built-in RS485/USB converter. 8-pole M12 connector on instrument side and A-type USB connector on PC side. Supplied with a CD-ROM including the USB drivers and a software for the Modbus connection to PC.	85
CP 9817.3	Spare cable for HD9817TVS transmitter, with 8-pole M12 female connector on one side, open wires on the other side. Length 3 m.	43

MODEL	ABSOLUTE HUMIDITY AND TEMPERATURE TRANSMITTERS HD3817T...	EURO
	Outputs: 4÷20mA	
HD 3817T120	Dual transmitter for absolute humidity and temperature with 4÷20mA output. Standard configuration: 0 ÷ 60g/m ³ in absolute humidity, 0 ÷ 200°C in temperature . Probe L=127mm, cable L=2m. Power supply 24Vac, on request 230Vac.	316
HD 3817T150	Dual transmitter for absolute humidity and temperature with 4÷20mA output. Standard configuration: 0 ÷ 60g/m ³ in absolute humidity, 0 ÷ 200°C in temperature . Probe L=127mm, cable L=5m. Power supply 24Vac, on request 230Vac.	341
HD 3817T220	Dual transmitter for absolute humidity and temperature with 4÷20mA output . Standard configuration: 0 ÷ 60g/m ³ in absolute humidity, 0 ÷ 200°C in temperature . Probe L=227mm, cable L=2m. Power supply 24Vac, on request 230Vac.	326
HD 3817T250	Dual transmitter for absolute humidity and temperature with 4÷20mA output. Standard configuration: 0 ÷ 60g/m ³ in absolute humidity , 0 ÷ 200°C in temperature . Probe L=227mm, cable L=5m. Power supply 24Vac, on request 230Vac.	351
	Outputs: 0÷10V	
HD 38V17T120	Dual transmitter for absolute humidity and temperature with 0÷10V output, sensor Pt100. Standard configuration: 0 ÷ 60g/m ³ in absolute humidity, 0 ÷ 200°C in temperature. Probe L= 127mm, cable L= 2m. Power supply 24Vac, on request 230Vac.	321
HD 38V17T150	Dual transmitter for absolute humidity and temperature with 0÷10V output, sensor Pt100. Standard configuration: 0 ÷ 60g/m ³ in absolute humidity, 0 ÷ 200°C in temperature. Probe L= 127mm, cable L= 5m. Power supply 24Vac, on request 230Vac.	347
HD 38V17T220	Dual transmitter for absolute humidity and temperature with 0÷10V output, sensor Pt100. Standard configuration: 0 ÷ 60g/m ³ in absolute humidity, 0 ÷ 200°C in temperature. Probe L= 227mm, cable L= 2m. Power supply 24Vac, on request 230Vac.	332
HD 38V17T250	Dual transmitter for absolute humidity and temperature with 0÷10V output , sensor Pt100. Standard configuration: 0 ÷ 60g/m ³ in absolute humidity, 0 ÷ 200°C in temperature. Probe L= 227mm, cable L= 5m. Power supply 24Vac, on request 230Vac.	357
	ACCESSORIES AND PROTECTIONS FOR HUMIDITY AND TEMPERATURE TRANSMITTERS	
P1	200µm stainless steel grid protection for probes diam. 26, thread M24x1.5	15
P2	20µm PE sintered polyethylene protection for probes diam. 26, thread M24x1.5	18
P3	20µm sintered bronze protection for probes diam. 26, thread M24x1.5	23
P4	20µm sintered PE complete cap for probes diam. 26, thread M24x1.5	18
P6	10µm sintered stainless steel protection for probes diam. 14, thread M12x1	28
P7	20µm PTFE protection for probes diam. 14, thread M12x1	28
P8	20µm stainless steel grid and Pocan protection for probes diam. 14, thread M12x1	16
HD 9007A-1	12-ring protection from solar radiations. Supplied with mounting bracket.	129
HD 9007A-2	16-ring protection from solar radiations. Supplied with mounting bracket.	140
HD 9007T26.2	Fitting for Ø 14 mm transmitters for the protections from solar radiations HD9007A-1 and HD9007A-2.	39
HD 9008.21.1	Flange with support , Ø 26mm hole for vertical probes, 250mm distance from the wall (for HD9008/ HD9008TR / HD9009). An adapter from Ø 26mm to Ø 14mm for probes of the series TC of temperature and relative humidity transmitters is requested.	48
HD 9008.21.2	Flange with support , Ø 26mm hole for vertical probes, 125mm distance from the wall (for HD9008/ HD9008TR / HD9009). An adapter from Ø 26mm to Ø 14mm for probes of the series TC of temperature and relative humidity transmitters is requested.	45
HD 9008.26/14	Adapter from Ø 26 to Ø 14 mm for probes of the series TC of temperature and relative humidity.	17
HD 9008.31	Wall flange with cable outlet for Ø 14 to fix all combined °C and R.H. probes of the series TO and TC.	35
HD	Saturated solutions for calibrating RELATIVE HUMIDITY probes HD33 - HD75 Probe fixing adapter diam.14, M12x1, thread M12x1 included.	each 78

MODEL	OPTOINSULATED SIGNAL CONVERTER DIN RAIL ATTACHMENT	EURO
HD 588	Analog interface module with 3-way galvanic separation 3000V. Input and output may be selected 0...10Vdc, 0...20mA, 4...20mA. Power supply 12...24Vdc/ac. DIN 2 modules container for rail attachment 35 mm.	148
	INDICATORS AND REGULATORS FOR PANEL MOUNTING WITH CURRENT OR VOLTAGE INPUT	
HD 9022	Microprocessor panel indicator and regulator 48x96 with thresholds that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Input 0...20mA, 4...20mA, 0...1Vdc, 0...10Vdc, Pt100 4-wire input. One relay for output 1, one relay for output 2, one minimum and maximum alarm relay. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	178
DO 9404	Dual microprocessor panel indicator and regulator 96x96 with threshold that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Dual input 0...20mA, 4...20mA, 0...1V, 0...10V. Two relays for input 1, two relays for input 2, one maximum and minimum alarm relay. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	243

MODEL	PORTABLE MANOMETERS	EURO
HD 2304.0	Manometer-Thermometer with one input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries. The SICRAM module PP471, pressure probes and temperature probes have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	168
HD 2124.1	Manometer-Thermometer with two inputs for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value and the difference between the two inputs, output RS232 C for data transfer in real time to a PC or printer. Peak function detects the presence of pressure peaks, other functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The SICRAM module PP471, pressure probes, temperature probes and cables for downloading have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	238
HD 2124.2	Manometer-Thermometer with two inputs for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module measuring range -200°C +650°C. Datalogger which stores the maximum, minimum, average value and can store up to 32,000 couples of samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD, PEAK and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The SICRAM module PP471, pressure probes, temperature probes and cables for downloading have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	368
HD 2114.0	Micromanometer-Thermometer with 20mbar built-in sensor, input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value. Functions: REL, HOLD, PEAK (with probes TP704 or TP705) and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, 4 batteries. The SICRAM module PP471, pressure probes and temperature probes have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	300
HD 2114.2	Micromanometer-Thermometer with 20mbar built-in sensor, input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Datalogger which stores the maximum, minimum, average value and can store up to 36,000 couples of samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD, PEAK (with probes TP704 or TP705), auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The SICRAM module PP471, pressure probes, temperature probes and cables for downloading have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	404
HD 2134.0	Micromanometer-Thermometer with 200mbar built-in sensor, input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value. Functions: REL, HOLD, PEAK (with probes TP704 or TP705) and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, 4 batteries. The SICRAM module PP471, pressure probes and temperature probes have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	300
HD 2134.2	Micromanometer-Thermometer with 200mbar built-in sensor, input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value and can store up to 36,000 couples of samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD, PEAK (with probes TP704 or TP705), auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The SICRAM module PP471, pressure probes, temperature probes and cables for downloading have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	404
HD 2164.0	Micromanometer-Thermometer with 2000mbar built-in sensor, input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value. Functions: REL, HOLD, PEAK (with probes TP704 or TP705) and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, 4 batteries. The SICRAM module PP471, pressure probes and temperature probes have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	300
HD 2164.2	Micromanometer-Thermometer with 2000mbar built-in sensor, input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value. Datalogger which stores the maximum, minimum, average value and can store up to 36,000 couples of samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD, PEAK (with probes TP704 or TP705) auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The SICRAM module PP471, pressure probes, temperature probes and cables for downloading have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	404

MODEL	PORTABLE MANOMETERS	EURO														
HD 2114B.0	Barometer-Manometer-Thermometer with built-in barometric sensor (800...1100 mbar), input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Storage of maximum, minimum, average value. Functions: REL, HOLD, PEAK (with probes TP704 or TP705) and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, 4 batteries. The SICRAM module PP471, pressure probes and temperature probes have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	334														
HD 2114B.2	Barometer-Manometer-Thermometer with built-in barometric sensor (800...1100 mbar), input for SICRAM module PP471 to connect probes TP704 and TP705 series. Temperature measurement with Pt100 probe complete with SICRAM module, measuring range -200°C +650°C. Datalogger which stores the maximum, minimum, average value and can store up to 36,000 couples of samples. RS232 C/USB output for data transfer to a PC or printer. Functions: REL, HOLD, PEAK (with probes TP704 or TP705) auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The SICRAM module PP471, pressure probes, temperature probes and cables for downloading (RS232/USB) have to be ordered separately. TP704 and TP705 series pressure probes and TP47... series temperature probes are suitable.	415														
DO 9704	Datalogger for pressure, flow rate and temperature measurements with 2 inputs, memory 512 KB, storage of maximum, minimum and average value. RS232 C output. Kit composed of instrument DO9704, software DELTALOG 1 , 9V battery, carrying case and instruction manual. CPA cable, cable for data downloading (9CPRS232 or C 205) , pressure probes series TP704, TP705 , temperature probes, fittings and gaskets have to be ordered separately.	546														
	Pressure measurement probes for instruments HD 2304.0, HD 2124.1, HD 2124.2, HD 2114.0, HD 2114.2, HD 2134.0, HD 2134.2, HD 2164.0, HD 2164.2, HD 2114B.0, HD 2114B.2, DO9704 fitted with male 1/4 BSPP, 8 poles DIN 45326 connector															
TP 704/ ... ↑	<p>Surface in contact with the fluid: AISI 316, VITON O-Ring, AISI 304 housing</p> <p>RELATIVE WITH RESPECT TO ATMOSPHERE.</p> <table border="1"> <tr> <td>full-scale ranges available:</td> <td>100MBGI</td> <td>200MBGI</td> <td>400MBGI</td> <td>600MBGI</td> <td>1BGI</td> </tr> <tr> <td></td> <td>100mbar</td> <td>200mbar</td> <td>400mbar</td> <td>600mbar</td> <td>1bar</td> </tr> </table>	full-scale ranges available:	100MBGI	200MBGI	400MBGI	600MBGI	1BGI		100mbar	200mbar	400mbar	600mbar	1bar	158		
full-scale ranges available:	100MBGI	200MBGI	400MBGI	600MBGI	1BGI											
	100mbar	200mbar	400mbar	600mbar	1bar											
TP 704/ ... ↑	<p>Surface in contact with the fluid: Alumina, VITON O-Ring, AISI 304 housing</p> <table border="1"> <tr> <td>full-scale ranges available:</td> <td>TP704 ...BGI</td> <td>2–5–10–20–50–100–200–500 bar RELATIVE PROBES</td> </tr> <tr> <td></td> <td>TP704 -.BAI</td> <td>1–2–5–10–20–50 bar ABSOLUTE PROBES</td> </tr> <tr> <td></td> <td></td> <td>100–200–500 bar ABSOLUTE PROBES</td> </tr> </table>	full-scale ranges available:	TP704 ...BGI	2–5–10–20–50–100–200–500 bar RELATIVE PROBES		TP704 -.BAI	1–2–5–10–20–50 bar ABSOLUTE PROBES			100–200–500 bar ABSOLUTE PROBES	120 120 128					
full-scale ranges available:	TP704 ...BGI	2–5–10–20–50–100–200–500 bar RELATIVE PROBES														
	TP704 -.BAI	1–2–5–10–20–50 bar ABSOLUTE PROBES														
		100–200–500 bar ABSOLUTE PROBES														
TP 705/ ... ↑	<p>RELATIVE WITH RESPECT TO ATMOSPHERE</p> <p>Suitable for measuring the low pressure of non-corrosive gases or dry air</p> <p>full-scale ranges available:</p> <table border="1"> <tr> <td>10MBD *</td> <td>20MBD *</td> <td>50MBD</td> <td>100MBD</td> <td>200MBD</td> <td>500MBD</td> <td>1BD</td> </tr> <tr> <td>10mbar</td> <td>20mbar</td> <td>50mbar</td> <td>100mbar</td> <td>200mbar</td> <td>500mbar</td> <td>1bar</td> </tr> </table> <p>(*) For ACCREDIA certification of these probes, please refer to pg. 94.</p>	10MBD *	20MBD *	50MBD	100MBD	200MBD	500MBD	1BD	10mbar	20mbar	50mbar	100mbar	200mbar	500mbar	1bar	105
10MBD *	20MBD *	50MBD	100MBD	200MBD	500MBD	1BD										
10mbar	20mbar	50mbar	100mbar	200mbar	500mbar	1bar										
TP 705-BARO	Probe for barometric measurements in the range 800...1100 mbar.	116														
ACCESSORIES FOR PORTABLE MANOMETERS																
PP 471	SICRAM module to connect SICRAM input instruments to the pressure probes TP704, TP705 series, cable L=1.5m.	66														
CPA	Cable length 1.5 m for connecting the probe to the instrument DO9704.	40														
KIT 2104	Set of ¼ BSPP fittings and gaskets for TP704 series probes	85														
DELTALOG 1	Further copy of CD-ROM with software DeltaLog 1 for downloading and PC data management for instrument DO 9704 .	85														
DELTALOG 9	Further copy of CD-ROM with software DeltaLog 9 for downloading and PC data management for Windows® operating systems for instruments HD 2124.1 HD 2124.2 HD 2114.2 HD 2134.2 HD 2164.2 HD 2114B.2	85														
C.205	Serial connection cable with USB connector for PC and Sub-D 9-pole connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument DO9704 directly to the USB port of the PC.	70														
C.206	Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument HD2124.1 directly to the USB port of the PC.	70														
HD 2110 CSNM	MiniDin 8 poles – 9 poles sub D female connecting cable for RS232C for instrument HD 2124.1, HD 2124.2, HD 2114.2, HD 2134.2, HD 2164.2, HD 2114B.2	42														
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side. For instruments HD 2124.2, HD 2114.2, HD 2134.2, HD 2164.2, HD 2114B.2	21														
9CPRS232	Sub D 9-pole Female/Female RS232 null-modem cable (for DO 9704).	42														
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option. Not suitable for DO9704.	265														
BAT-40	Spare battery pack for HD40.1 printer with built-in temperature sensor.	27														
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7														
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44														
For the temperature probes to be used with these instruments see Pt100 SENSOR PROBES from page 8																

PRESSURE TRANSMITTERS

	CONVERSION FACTORS											
	kPa	Mpa	bar	mbar	mmH ₂ O	Torr mmHg	at Kg / cm ²	Atm	Inch H ₂ O	Inch Hg	Psi Ipf / in ²	
1	$1 \cdot 10^{-3}$	$1 \cdot 10^{-2}$	10	102.0	7.501	$10.20 \cdot 10^{-3}$	$9.869 \cdot 10^{-3}$	4.016	0.2953	0.14505		
$1 \cdot 10^1$	1	10	$1 \cdot 10^4$	$102.0 \cdot 10^3$	7501	10.20	9.869	4016	295.3	145.05		
100	0.1	1	$1 \cdot 10^3$	$10.20 \cdot 10^3$	750.1	1.020	0.9869	401.6	29.53	14.505		
0,1	$1 \cdot 10^{-4}$	$1 \cdot 10^{-3}$	1	10.20	0.7501	$1.020 \cdot 10^{-3}$	$0.9869 \cdot 10^{-3}$	0.4016	$29.53 \cdot 10^{-3}$	$14.505 \cdot 10^{-3}$		
$9.807 \cdot 10^3$	$9.807 \cdot 10^4$	$98.07 \cdot 10^6$	$98.07 \cdot 10^3$	1	$73.56 \cdot 10^3$	$1 \cdot 10^{-4}$	$96.78 \cdot 10^{-6}$	0.03937	$2.896 \cdot 10^{-3}$	$1.4224 \cdot 10^{-3}$		
0.13332	$133.32 \cdot 10^6$	$1.333 \cdot 10^3$	1.333	13.59	1	$1.359 \cdot 10^{-3}$	$1.316 \cdot 10^{-3}$	0.5351	$3.937 \cdot 10^{-2}$	0.01934		
98.07	$98.07 \cdot 10^3$	0.9807	980.7	$1 \cdot 10^4$	735.6	1	0.9678	393.7	28.96	14.224		
101.3	0.1013	1.013	1013	$10.33 \cdot 10^3$	760	1.033	1	406.7	29.92	14.68		
0.2491	$0.2491 \cdot 10^3$	2.491	2.491	25.4	1.8684	$2.54 \cdot 10^{-3}$	$2.458 \cdot 10^{-3}$	1	$7.355 \cdot 10^{-2}$	$36.126 \cdot 10^{-3}$		
3.386	$3.386 \cdot 10^3$	$3.386 \cdot 10^2$	33.86	345.3	25.4	$3.453 \cdot 10^{-2}$	$3.342 \cdot 10^{-2}$	13.60	1	0.4912		
6.8948	$6.8948 \cdot 10^3$	$6.8948 \cdot 10^2$	68.948	703.1	51.715	$70.31 \cdot 10^{-3}$	$68.948 \cdot 10^{-3}$	27.68	2.036	1		

MODEL	PRESSURE TRANSMITTERS HD3604T...,HD36V4T... Pressure transmitters with DIN 43650 A connector Male threaded fitting : 1/4" BSP	EURO
4÷20mA output, 10...30Vdc power supply, 3 poles DIN 43650 connector		
HD 3604 T ... BG	Contact surface 17- 4 PH, Viton O-Ring, AISI 304 housing RELATIVE (GAUGE) transmitter with respect to the atmosphere 10...30Vdc power supply. Working temperature : -40...+125°C. Full scale ranges available: 4 – 6 – 10 – 16 – 25 – 40 – 60 – 100 – 160 – 250 – 400 – 600 bar.	137
HD 3604 T ... MBG	Contact surface AISI 316, Viton O-Ring, AISI 304 housing RELATIVE (GAUGE) transmitter with respect to the atmosphere , 10...30Vdc power supply. Working temperature: -20...+80 °C for f.s. 100 and 200 mbar, -40...+125 °C for the other models. Full scale ranges available: 100 – 200 – 400 – 600mbar, 1 – 2,5 bar	153
0÷10Vdc output, 15...30Vdc power supply, 4 poles DIN 43650 connector		
HD 36V4 T ... BG	Contact surface 17- 4 PH, Viton O-Ring, AISI 304 housing RELATIVE (GAUGE) transmitter with respect to the atmosphere, 15...30Vdc power supply. Working temperature: -40...+125°C. Full scale ranges available: 4 – 6 – 10 – 16 – 25 – 40 – 60 – 100 – 160 – 250 – 400 – 600bar. On request for at least 5 pieces: 0...5Vdc; 1...5Vdc output.	142
HD 36V4 T ... MBG	Contact surface AISI 316, Viton O-Ring, AISI 304 housing RELATIVE (GAUGE) transmitters with respect to the atmosphere, 15...30Vdc power supply. Working temperature: -20...+80 °C for f.s. 100 and 200 mbar, -40...+125 °C for the other models. Full scale ranges available: 100 – 200 – 400 – 600mbar, 1 – 2,5 bar On request for at least 5 pieces: 0...5Vdc; 1...5Vdc output.	158

MODEL	PRESSURE TRANSMITTERS DIN 43650 A connector 4...20mA 2-wire output, Power supply 10...30 Vdc 0...10 Vdc voltage output, Power supply 15...30 Vdc male threaded fitting: 1/4" BSP	EURO
HD 2004 T ... BG	ALUMINA CONTACT SURFACE – VITON O-Ring – AISI 304 housing 4...20mA standard output, 10...30Vdc power supply	
HD 2004 T ... BA	RELATIVE (GAUGE) transmitters with respect to atmosphere Working temperature: -30...+80°C. Full scale ranges available: 200 – 400 – 600 mbar 1 – 2,5 – 4 – 6 – 10 – 16 – 25 – 40 – 60 bar	154 131 131
HD 20V4 T ... BG ...	ABSOLUTE transmitters, working temperature: -30...+80°C. Full scale ranges available: 1 – 2,5 – 4 – 6 – 10 – 16 – 25 – 40 – 60 – 100 – 160 – 250 – 400 – 600 bar	
HD 20V4 T ... BA ...	Standard output 0...10Vdc, power supply 15...30Vdc On request, for quantities, 0...5Vdc, 1...5Vdc output, power supply 10...30Vdc	
HD 20V4 T ... BG ...	RELATIVE transmitters with respect to atmosphere Working temperature: -30...+80°C Output voltages: 3=0...10Vdc. On request, for at least 5 pieces: 1=0...5Vdc, 2=1...5Vdc Full scale ranges available: 200 – 400 – 600 mbar 1 – 2,5 – 4 – 6 – 10 – 16 – 25 – 40 – 60 bar	158 142
HD 20V4 T ... BA ...	ABSOLUTE transmitters Working temperature: -30...+80°C. Output voltages: 3=0...10Vdc. On request, for at least 5 pieces: 1=0...5Vdc, 2=1...5Vdc Full scale ranges available: 1 – 2,5 – 4 – 6 – 10 – 16 – 25 – 40 – 60 – 100 – 160 – 250 – 400 – 600bar	142

THESE MODELS WILL GO OUT OF PRODUCTION DURING THE YEAR

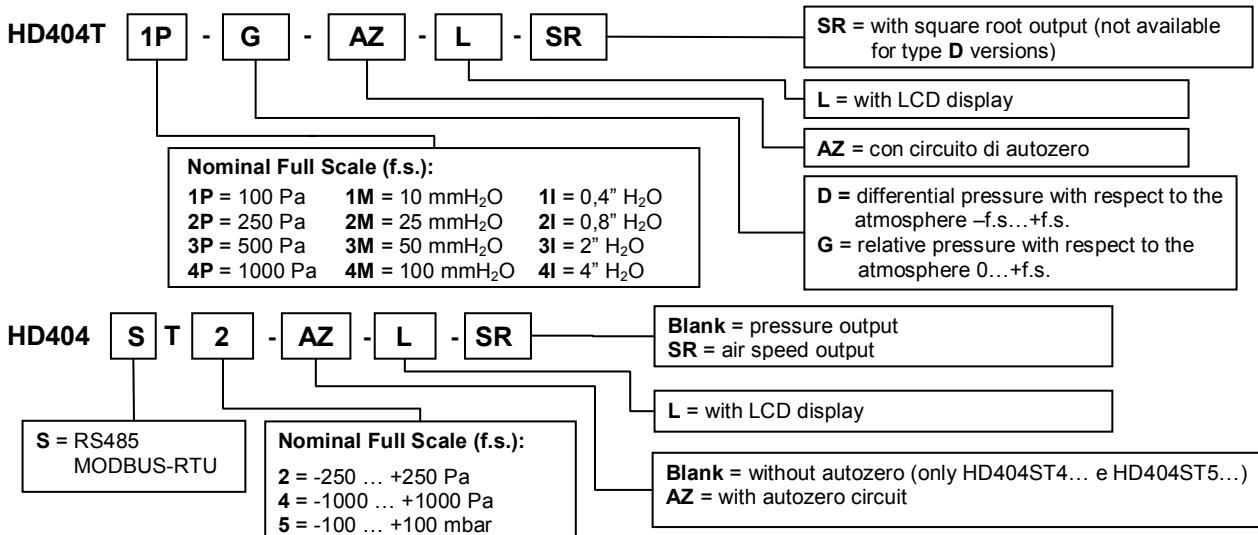
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MODEL	PRESSURE TRANSMITTERS connection for tube type diam. 5 mm	EURO
HD 408 T-...	Transmitters of relative pressure or differential pressure with respect to atmosphere. Working range -20...+60°C. Suitable for measuring non-corrosive gases or dry air. Tube type connection for diam. 5 mm flexible tube.	
HD 4V8 T-...	8...30Vdc power supply with 4...20mA output. Minimum quantity: 5pcs per order	120
HD 4V8 T-...	16...40Vdc or 24Vac power supply with 0...10Vdc output, 10...40Vdc or 24Vac power supply with 0...5Vdc or 1...5Vdc output. Minimum quantity: 5pcs per order	125

RANGE	MODEL				
	OUTPUT 4...20 mA	OUTPUT 0..10 Vdc	OUTPUT 0...5Vdc	OUTPUT 1...5Vdc	
RELATIVE PRESSURE	0...10mbar	HD 408T-10MBG *	HD 4V8T-10MBG3*	HD 4V8T-10MBG1 *	HD 4V8T-10MBG2 *
	0...20mbar	HD 408T-20MBG *	HD 4V8T-20MBG3*	HD 4V8T-20MBG1 *	HD 4V8T-20MBG2 *
	0...50mbar	HD 408T-50MBG	HD 4V8T-50MBG3	HD 4V8T-50MBG1	HD 4V8T-50MBG2
	0...100mbar	HD 408T-100MBG	HD 4V8T-100MBG3	HD 4V8T-100MBG1	HD 4V8T-100MBG2
	0...200mbar	HD 408T-200MBG	HD 4V8T-200MBG3	HD 4V8T-200MBG1	HD 4V8T-200MBG2
	0...500mbar	HD 408T-500MBG	HD 4V8T-500MBG3	HD 4V8T-500MBG1	HD 4V8T-500MBG2 *
	0...1000mbar	HD 408T-1BG	HD 4V8T-1BG3	HD 4V8T-1BG1	HD 4V8T-1BG2
	0...2000mbar	HD 408T-2BG	HD 4V8T-2BG3	HD 4V8T-2BG1	HD 4V8T-2BG2
EURO	120	125	125	125	
DIFFERENTIAL PRESSURE	-10...10mbar	HD 408T-10MBD *	HD 4V8T-10MBD3*	HD 4V8T-10MBD1 *	HD 4V8T-10MBD2 *
	-20...20mbar	HD 408T-20MBD *	HD 4V8T-20MBD3*	HD 4V8T-20MBD1 *	HD 4V8T-20MBD2 *
	-50...50mbar	HD 408T-50MBD	HD 4V8T-50MBD3	HD 4V8T-50MBD1	HD 4V8T-50MBD2
	-100...100mbar	HD 408T-100MBD	HD 4V8T-100MBD3	HD 4V8T-100MBD1	HD 4V8T-100MBD2
	-200...200mbar	HD 408T-200MBD	HD 4V8T-200MBD3	HD 4V8T-200MBD1	HD 4V8T-200MBD2
	-500...500mbar	HD 408T-500MBD	HD 4V8T-500MBD3	HD 4V8T-500MBD1	HD 4V8T-500MBD2
	-1000...1000mbar	HD 408T-1BD	HD 4V8T-1BD3	HD 4V8T-1BD1	HD 4V8T-1BD2
	-2000...2000mbar	HD 408T-2BD	HD 4V8T-2BD3	HD 4V8T-2BD1	HD 4V8T-2BD2
EURO	120	125	125	125	

(*) For calibration reports of these probes, please refer to pg. 86.

MODEL	LOW PRESSURE TRANSMITTERS DIFFERENTIAL OR RELATIVE TO THE ATMOSPHERE connection for tube type diam. 5 mm
HD 404 T...	Transmitters of relative pressure or differential pressure with respect to atmosphere. Working range -10...+60°C (-5...+50°C for models with option AZ). Suitable for measuring non-corrosive gases or dry air. Tube type connection for diam. 5 mm flexible tube. Power supply 24Vac or 16...40Vdc. Dual analog output: 4 ... 20mA and 0 ... 10V.
HD 404 ST...	Transmitters of relative pressure or differential pressure with respect to atmosphere. RS485 MODBUS-RTU output.



CODES	Range 1	Range 2	EURO	OPTIONS		
				AUTO ZERO	SPEED Calibration	DISPLAY
	Pa	Pa		EURO	EURO	EURO
HD404T1PGAZ(SR)	0 ÷ 50	0 ÷ 100	150	-		
HD404T2PGAZ(SR)	0 ÷ 100	0 ÷ 250	150	-	280	50
HD404T3PG(SR)	0 ÷ 250	0 ÷ 500	134	18		
HD404T4PG(SR)	0 ÷ 500	0 ÷ 1000	134	18		
HD404T1PDAZ	-50 ÷ 50	-100 ÷ 100	150	-		
HD404T2PDAZ	-100 ÷ 100	-250 ÷ 250	150	-		
HD404T3PD	-250 ÷ 250	-500 ÷ 500	134	18		
HD404T4PD	-500 ÷ 500	-1000 ÷ 1000	134	18		
mmH₂O						
HD404T1MGAZ(SR)	0 ÷ 5	0 ÷ 10	150	-		
HD404T2MGAZ(SR)	0 ÷ 10	0 ÷ 25	150	-	280	50
HD404T3MG(SR)	0 ÷ 25	0 ÷ 50	134	18		
HD404T4MG(SR)	0 ÷ 50	0 ÷ 100	134	18		
HD404T1MDAZ	-5 ÷ 5	-10 ÷ 10	150	-		
HD404T2MDAZ	-10 ÷ 10	-25 ÷ 25	150	-		
HD404T3MD	-25 ÷ 25	-50 ÷ 50	134	18		
HD404T4MD	-50 ÷ 50	-100 ÷ 100	134	18		
inchH₂O						
HD404T1IGAZ(SR)	0 ÷ 0,2	0 ÷ 0,4	150	-		
HD404T2IGAZ(SR)	0 ÷ 0,4	0 ÷ 0,8	150	-	280	50
HD404T3IG(SR)	0 ÷ 1	0 ÷ 2	134	18		
HD404T4IG(SR)	0 ÷ 2	0 ÷ 4	134	18		
HD404T1IDAZ	-0,2 ÷ 0,2	-0,4 ÷ 0,4	150	-		
HD404T2IDAZ	-0,4 ÷ 0,4	-1 ÷ 1	150	-		
HD404T3ID	-1 ÷ 1	-2 ÷ 2	134	18		
HD404T4ID	-2 ÷ 2	-4 ÷ 4	134	18		

RS485 MODBUS-RTU OUTPUT

HD404ST2AZ(SR)	-250 Pa ÷ 250 Pa	170	-	280	50
HD404ST4(SR)	-1000 Pa ÷ 1000 Pa	154	18	280	50
HD404ST5(SR)	-100 mbar ÷ 100 mbar	154	18	280	50

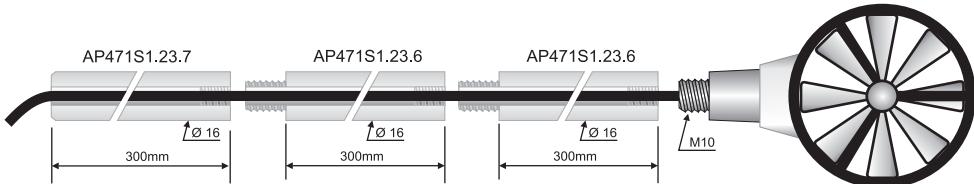
MODEL	ACCESSORIES FOR LOW PRESSURE TRANSMITTERS DIFFERENTIAL OR RELATIVE TO THE ATMOSPHERE HD404T... AND HD404ST...	EURO
HD 434T.5	Plastic fittings, two pieces	18
AP 3719	Square or cylindrical duct flow port. Two pieces of tube Ø 3,2 / Ø 6,4 mm, length 1 m.	130
AP 3721	Cylindrical duct flow port, plastic material. Two pieces of tube Ø 3,2 / Ø 6,4 mm, length 1 m.	80
RS 27	RS232 null-modem serial connection cable with 9 poles sub-D 9 female and 3-pole connectors for COM AUX port.	35
CP 27	Serial connection cable with USB connector for PC and 3-pole connector for COM AUX port. The cable has a built-in USB/RS232 converter and connects the instrument directly to the USB port of the PC.	50

MODEL	LOW PRESSURE TRANSMITTERS DIFFERENTIAL OR RELATIVE TO THE ATMOSPHERE	EURO
HD 402 T... <i>New</i>	Low relative or differential pressure transmitters with respect to atmosphere in the range 50 Pa ... 200 kPa. Working temperature -10...+65 °C. Suitable for measuring non-corrosive gases or dry air. Tube type connection for diam. 5 mm flexible tube. Power supply 24 Vac or 16...40 Vdc. Analogue output: 4...20mA current and 0...10Vdc voltage. Dip switch for selecting the intermediate scales and analog output. Range 50 Pa ... 200 kPa: Available full scale: HD 402 T1: 50/100/250 Pa HD 402 T2: 250/500/1000 Pa HD 402 T3: 2.5/5/10 kPa HD 402 T4: 25/50/100 kPa HD 402 T5: 50/100/200 kPa	132
HD 402 ST...	HD 402 T... transmitters with RS485 MODBUS-RTU output.	150
HD 402 T...-L	LCD display option for HD 402 T... and HD 402 ST... transmitters.	50
AP 3719	Square or cylindrical duct flow port. Two pieces of tube Ø 3.2 / Ø 6.4 mm, length 1 m.	130
AP 3721	Cylindrical duct flow port, plastic material. Two pieces of tube Ø 3.2 / Ø 6.4 mm, length 1 m.	80
RS 27	RS232 null-modem serial connection cable with 9 poles sub-D 9 female and 3-pole connectors for COM AUX port.	35
CP 27	Serial connection cable with USB connector for PC and 3-pole connector for COM AUX port. The cable has a built-in USB/RS232 converter and connects the instrument directly to the USB port of the PC.	50

MODEL	BAROMETRIC TRANSMITTERS	EURO
HD 9408.3B.1 <i>New</i>	Precision barometric transmitter. Measuring range 500 ... 1200 mbar. Working temperature -40 ... +85 °C. Configurable analog voltage output 0...5V or 1...5V. Digital output RS232, RS422 or RS485. Standard protocols MODBUS-RTU and NMEA. Power supply 10... 30Vdc. IP 67. The cable CP18.2 (L = 2m) or CP18.5 (L = 5m) with 8-pin M12 female connector must be ordered separately.	1245
HD 9408.3B.2 <i>New</i>	Precision barometric transmitter. Measuring range 500 ... 1200 mbar. Working temperature -40 ... +85 °C. Configurable analog current output 0...20mA or 4...20mA. Digital output RS232, RS422 or RS485. Standard protocols MODBUS-RTU and NMEA. Power supply 10... 30Vdc. IP 67. The cable CP18.2 (L = 2m) or CP18.5 (L = 5m) with 8-pin M12 female connector must be ordered separately.	1245
HD 9408.3B.3 <i>New</i>	Precision barometric transmitter. Measuring range 500 ... 1200 mbar. Working temperature -40 ... +85 °C. Digital output SDI-12. Power supply 10... 30Vdc. IP 67. The cable CP18.2 (L = 2m) or CP18.5 (L = 5m) with 8-pin M12 female connector must be ordered separately.	1245
RS48	Cable for RS485 connection with built-in USB/RS485 converter. The cable has USB connector for PC and 3 separate wires for the instruments. This cable is for the models with RS485 Modbus output only.	50
RS52	Cable for RS232 serial connection with built-in USB/RS232 converter. The cable has USB connector for PC and screw terminals on the instrument side.	125
HD 9408 T BARO	Barometric transmitter output 0...1Vdc, measuring range 800...1100mbar. Power supply 8...35Vdc , working temperature -30°C...+60°C. On request , output: 0...5 Vdc, 1...5 Vdc, 1...6 Vdc, 0...10 Vdc or 4...20 mA.	190
HD 9408 TR BARO	Barometric transmitter output 0...1Vdc, measuring range 800...1100mbar. Power supply 12...35Vdc , working temperature -40°C...+60°C, integrated heater . Typical consumption at 20°C: 20mA. On request , output: 0...5 Vdc, 1...5 Vdc, 1...6 Vdc or 0...10 Vdc.	210
HD 9908 T BARO	Digital barometric transmitter with LCD display, 3½ digit, minimum and maximum relay. Power supply 24Vac (on request 230Vac) , working temperature -20°C...+60°C. Outputs: 0...20mA, 4...20mA, 0...1Vdc, 0...5Vdc. On request , output 0...10 Vdc.	252
HD 4V8 T BARO	Barometric transmitter to wall mount for indoor use, with 0...1 Vdc analog output. Measuring range 600...1100mbar. Power supply 10...40 Vdc . Working temperature -30°C... 60°C. Housing dimensions 58 x 64 x 35 mm.	185
HD 9408 PS50	Static port for barometric pressure measurement.	84
HD 9408 PS56	Support bracket for the static port HD9408PS50 and barometric transmitter.	59
HV 55	UV and temperature resistant silicone tube, internal diameter 3mm, external diameter 6mm, length 400mm.	20
OPTOINSULATED SIGNAL CONVERTERS		
HD 588	Analog interface module with 3-way galvanic separation 3000V. Input and output may be selected: 0...10Vdc, 0...20mA, 4...20mA. Power supply 12...24Vdc/ac. DIN 2 modules container for rail attachment 35mm.	148
PANEL MOUNTING INDICATORS AND REGULATORS WITH CURRENT OR VOLTAGE INPUT		
HD 2601V.1	Configurable sandwich dual LED indicator, plug-on, for transmitters with DIN43650 connectors with 4...20 mA output.	105
HD 9022	Microprocessor panel indicator and regulator 48x96 with thresholds that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Input 0...20mA, 4...20mA, 0...1Vdc, 0...10Vdc, 4-wire Pt100 input. One relay for output 1, one relay for output 2, one minimum and maximum relay alarm. Serial output RS232C. Power supply 24Vac/dc, on request 110...230Vac/dc.	178
DO 9404	Dual microprocessor panel indicator and regulator 96x96 with threshold that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Dual input 0...20mA, 4...20mA, 0...1Vdc, 0...10Vdc. Two relays for input 1, two relays for input 2, one maximum and minimum alarm relay. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	243

MODEL	AIR SPEED – FLOW RATE - TEMPERATURE	EURO
HD 2303.0	Anemometer-Thermometer for air speed measurement which use hot-wire or vane probes, for temperature Pt100 sensor with SICRAM module. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries. The air speed probes and the temperature probes have to be ordered separately. TP47... series temperature probes are suitable.	228
HD 2103.1	Anemometer-Thermometer for air speed measurement which use hot-wire or vane probes, for temperature Pt100 sensor with SICRAM module. Storage of maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The air speed probes, the temperature probes, cable for data downloading have to be ordered separately. TP47... series temperature probes are suitable.	295
HD 2103.2	Anemometer-Thermometer for air speed measurement which use hot-wire or vane probes, for temperature Pt100 sensor with SICRAM module. Datalogger which stores the maximum, minimum, average value and can store up to 38,000 samples. RS232C/USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. The air speed probes, the temperature probes, cable for data downloading have to be ordered separately. TP47... series temperature probes are suitable.	396
HD 2114P.0	Micromanometer-Thermometer for air speed and flow rate measurement by means of Pitot tubes, full scale 20mbar for speed measurements from 2...55m/s. Temperature measurement by K type thermocouple . Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries. Pitot tubes, PW cable and K type thermocouple probes have to be ordered separately.	350
HD 2114P.2	Micromanometer-Thermometer for air speed and flow rate measurement by means of Pitot tubes, full scale 20mbar for speed measurements from 2...55m/s. Temperature measurement by K type thermocouple . Datalogger which stores the maximum, minimum, average value and can store up to 36,000 couples of samples. RS232C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, software DELTALOG 9 , 4 batteries. Pitot tubes, PW cable, K type thermocouple probes, cable for data downloading have to be ordered separately.	471
HD 2134P.0	Micromanometer-Thermometer for air speed and flow rate measurement by means of Pitot tubes, full scale 200mbar for speed measurements from 2...180m/s. Temperature measurement by K type thermocouple . Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries. Pitot tubes, PW cable and K type thermocouple probes have to be ordered separately.	350
HD 2134P.2	Micromanometer-Thermometer for air speed and flow rate measurement by means of Pitot tubes, full scale 200mbar for speed measurement from 2...180m/s. Datalogger which stores the maximum, minimum, average value and can store up to 36,000 couples of samples. RS232C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, software DELTALOG 9 , 4 batteries. Pitot tubes, PW cable, cable for data downloading and K type thermocouple probes have to be ordered separately.	471
DO 2003	HVACR Datalogger to measure: air speed and flow rate with the hot wire probes, vane probes, Pitot tube probes, Pt100 temperature probes for immersion, pointed and for surface, combined temperature/relative humidity probes. Pressure up to 2000 mbar and barometric pressure. Max-Min-Med, Rel measurements. Storage up to 12,000 readings. Serial output RS232C. Configurable storing and printing interval. The kit is provided with the instrument DO2003, carrying case, instruction manual, 4 batteries, Software DeltaLog 3. The air speed probes, Pitot tubes, temperature probes, temperature and humidity probes, pressure probes and cables for data download (9CPRS232 or C 205) have to be ordered separately.	580
DELTALOG 3	Further copy of CD-ROM with software DeltaLog 3 for downloading and PC data management for DO 2003 .	110
9CPRS232	Sub D 9-pole Female/Female RS232 null-modem cable (for DO 2003).	42
DELTALOG 9	Further copy of CD-ROM with software DeltaLog 9 for downloading and PC data management for Windows® operating systems for instruments HD 2103.1, HD2103.2, HD2114P.2, HD2134P.2	85
C.205	Serial connection cable with USB connector for PC and Sub-D 9-pole connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument DO 2003 directly to the USB port of the PC.	70
C.206	Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument HD2103.1 directly to the USB port of the PC.	70
HD 2110 CSNM	MiniDin 8 poles – 9 poles sub D female connecting cable for RS232C for instrument HD2103.1, HD2103.2, HD2114P.2, HD2134P.2	42
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side. For instruments HD2107.2, HD2127.2, HD2178.2 .	21
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option. Not suitable for DO2003.	265
BAT-40	Spare battery pack for HD40.1 printer with built-in temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage.	44

MODEL	PROBES FOR HD2303.0 HD2103.1 HD2103.2 DO 2003	EURO
HOTWIRE PROBES COMPLETE WITH SICRAM MODULE		
AP 471 S1	Directional hotwire probe to measure air speed in the range 0.1...40m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft: minimum length 360 mm, maximum length 1060 mm. Cable length with fully closed telescopic shaft 1800 mm. Probe complete with SICRAM module.	380
AP 471 S2	Omni-directional hotwire probe to measure air speed in the range 0.1...5m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft: minimum length 360 mm, maximum length 1060 mm. Cable length with fully closed telescopic shaft 1800 mm. Probe complete with SICRAM module.	410
AP 471 S3	Directional hotwire probe, 180°C articulated tip for easy positioning, to measure air speed in the range 0.1...40m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft, minimum length 450 mm, maximum length 1140 mm. Cable length with fully closed telescopic shaft 1660 mm. Probe complete with SICRAM module.	430
AP 471 S4	Omni-directional hotwire probe with telescopic shaft and table base. Maximum height 760 mm, minimum height 380mm. Measurement of air speed in the range 0.1...5m/s and of air temperature in the range 0°C...+80°C. Wire protection spherical cage diam. 100mm. 2m cable. Probe complete with SICRAM module.	470
VANE PROBES COMPLETE WITH SICRAM MODULE		
AP 472 S1	Vane probe with K type thermocouple Ø 100 mm to measure air speed in the range 0.6...25m/s and air temperature in the range -25°C ... +80°C. Probe complete with handle, telescopic shaft available on request . Minimum length of shaft with handle 360 mm, maximum length with handle 1025 mm. 2 m cable. Probe complete with SICRAM module.	370
AP 472 S2	Vane probe diam. 60 mm with handle to measure air speed in the range 0.5...20m/s. Telescopic shaft available on request . Minimum length of shaft with handle 360 mm, maximum length with handle 1025 mm. 2 m cable. Probe complete with SICRAM module.	340
AST.1	Telescopic shaft (minimum length 210 mm, maximum length 870 mm) for AP472S1 and AP472S2 vane probes.	86
AP 471S1.23.6	Fixed extension shaft Ø 16 x 300 mm, M10 male thread on a side, female on the other. For vane probes AP472S1, AP472S2.	34
AP 471S1.23.7	Fixed extension shaft Ø 16 x 300 mm, M10 female thread on a side only. For vane probes AP472S1, AP472S2.	30



MODEL	RELATIVE HUMIDITY AND TEMPERATURE PROBES COMPLETE WITH SICRAM MODULE FOR DO2003	EURO
	(*) For temperatures up to 150 °C, we recommend the use of probes with stainless steel stem and filter P7. Extra charge €	
HP 472 ACR	Combined Pt100 temperature and %RH probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	32 160
HP 572 ACR	Combined K thermocouple temperature and %RH probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	166
HP 473 ACR (*)	Combined Pt100 temperature and %RH probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	166
HP 474 ACR (*)	Combined Pt100 temperature and %RH probe, complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH.	170
HP 475 ACR	Combined Pt100 temperature and %RH probe, complete with SICRAM module. 2m connecting cable. Stainless steel probe stem. Probe tip Ø 14 x 75 mm. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity in grains)	310
HP 475AC1R	Combined Pt100 temperature and %RH probe, complete with SICRAM module. Stainless steel probe stem, stainless steel 20µ sintered filter. 2m connecting cable. Working range: -40...+180°C, 0...100%RH.	315
HP 477 DCR	Combined Pt100 temperature and %RH sword probe, complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity on paper.)	290
HP 478 ACR	Combined Pt100 temperature and %RH probe, complete with SICRAM module. 5m connecting cable. Working range: -40...+150°C, 0...100%RH.	190
HP 480	Probes for the measurement of air humidity in pipes . It measures relative humidity and temperature or Dew Point . Equipped with SICRAM module. 2m connecting cable. Measuring range: -40...+60°C, -40...+60°C DP. Three 1/4" quick couplings. Working pressure up to 16 bar. AISI 304 measuring chamber.	410
	The combined humidity and temperature probes with last letter of the code R are compatible with the DO 2003 instruments having serial number from 09011630 (rev. 2.0 dated 03/07/2009).	
	Different protections for humidity and temperature probes	
P1	200µm stainless steel grid protection for probes diam. 26, thread M24x1.5	15
P2	20µm PE sintered polythene protection for probes diam. 26, thread M24x1.5	18
P3	20µm sintered bronze protection for probes diam. 26, thread M24x1.5	23
P4	20µm sintered PE complete cap for probes diam. 26, thread M24x1.5	18
P6	10µm sintered steel protection for probes diam. 14, thread M12x1	28
P7	20µm PTFE protection for probes diam. 14, thread M12x1	28
P8	20µm stainless steel grid and Pocan protection for probes diam. 14, thread M12x1	16
HD 75	75%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12x1 thread.	78
HD 33	33%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12x1 thread.	78

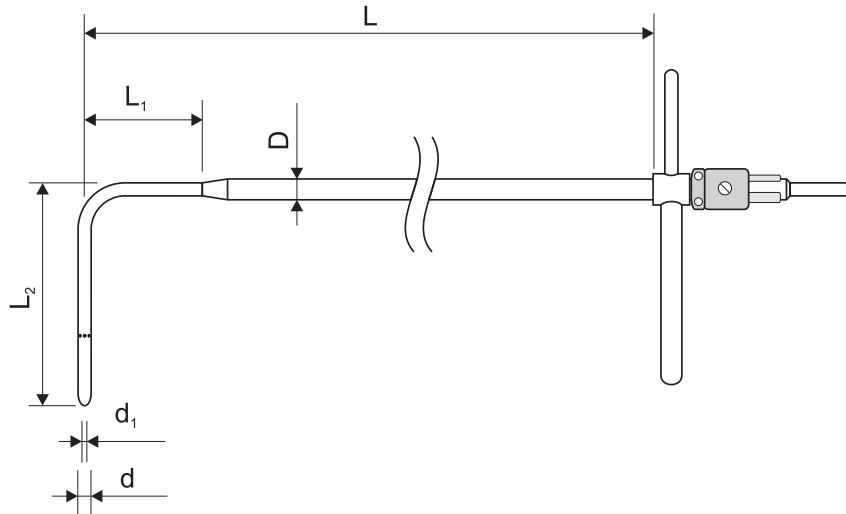
MODEL	BAROMETRIC PROBE COMPLETE WITH SICRAM MODULE	EURO
PP 472	Barometric probe complete with SICRAM module. Working range: 800...1100mbar, only on request 600...1100 mbar.	178
DIFFERENTIAL PRESSURE PROBES WITH SICRAM MODULE FOR DO2003		
PP 473 - ...	Differential pressure probes complete with SICRAM module to measure pressure in the range 10, ..., 2000 mbar. Temperature working range: -10°C...+50°C. Connecting tube Ø 5mm. To be used only with dry air, dry and non-corrosive gases.	138
	S1 * S2 * S3 S4 S5 S6 S7 S8	
	Working range 0...10mbar 0...20mbar 0...50mbar 0...100mbar 0...200mbar 0...500mbar 0...1bar 0...2bar	
	Max over-pressure 200mbar 200mbar 200mbar 300mbar 1bar 1bar 3bar 6bar	

(*) For ACCREDIA certification of these probes, please refer to pg. 94.

MODEL	SICRAM MODULE FOR AIR SPEED MEASUREMENT BY PITOT TUBE	EURO
AP 473 S1	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 10mbar , air speed from 2 to 40 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	138
AP 473 S2	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 20mbar , air speed from 2 to 55 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	138
AP 473 S3	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 50mbar , air speed from 2 to 90 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	143
AP 473 S4	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 100mbar , air speed from 2 to 130 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	143
PW	K thermocouple extension cable. Length 2m, miniature connector.	31

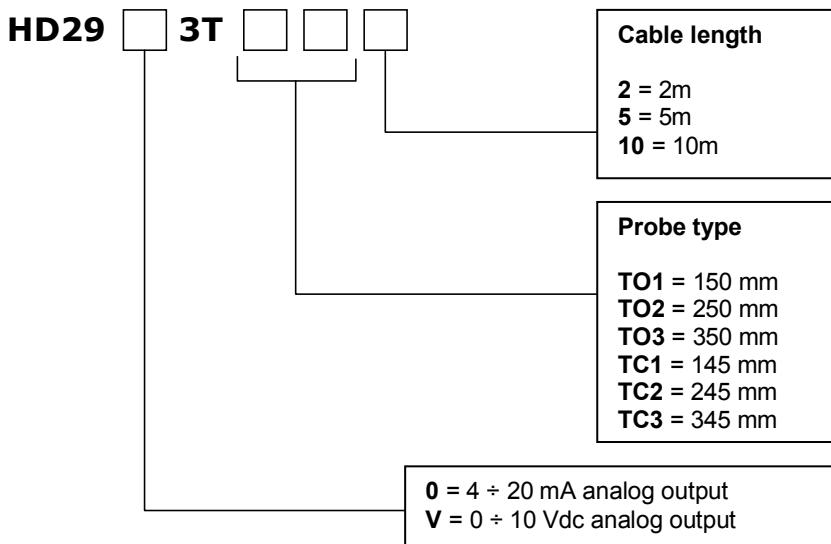
PITOT TUBES

Stainless steel Pitot tubes to measure air speed and temperature, for models provided with 'K' thermocouple, equipped with silicon tube with 6mm external diam., 4mm internal diam. and length 2m. **PW cable has to be ordered separately.**



	d mm	d ₁ mm	D mm	L mm	L ₁ mm	L ₂ mm	Temp. °C	K Thermocouple	Made of	
T1-300	3	1	6	300	30	72	0...600°C	---	AISI 316	180
T2-400	5	2	8	400	45	120		---		180
T2-600	5	2	8	600	45	120		---		196
T3-500	8	3.2	8	500	---	192		---		191
T3-800	8	3.2	8	800	---	192		---		196
T3-800TC	8	3.2	8	800	---	192		TC		290
T4-500	10	4.0	10	500	---	240		---		191
T4-800	10	4.0	10	800	---	240		---		201
T4-800TC	10	4.0	10	800	---	240		TC		297
T4-1000	10	4.0	10	1000	---	240		---		212
T4-1000TC	10	4.0	10	1000	---	240		TC		306

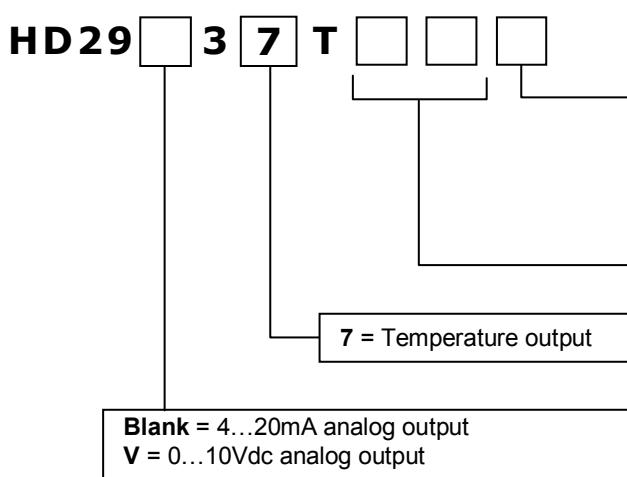
MODEL	TRANSMITTERS OF: AIR SPEED, AIR SPEED AND TEMPERATURE, AIR SPEED, TEMPERATURE AND RELATIVE HUMIDITY	EURO
AIR SPEED TRANSMITTERS		
HD 2903T...	<p>Active air speed transmitter for ducts, output 4...20mA. AISI 304 steel probe, diameter 12mm, monobloc version HD2903TO... with probe directly connected to the housing with electronics, version HD2903TC... with probe connected to the electronics by a cable. Air speed range 0.05...1 m/s – 0.1...2m/s – 0.2...10m/s – 0.2...20m/s to select by jumper. Power supply 16...40Vdc or 12...24Vac. Probe working temperature range -10°C...+80°C. Probe working humidity 5...75%R.H.</p>	See table on the bottom of this page
HD 29V3T...	<p>Active air speed transmitter for ducts, output 0...10Vdc. AISI 304 steel probe, diameter 12mm, monobloc version HD2903TO... with probe directly connected to the housing with electronics, version HD2903TC... with probe connected to the electronics by a cable. Air speed range 0.05...1 m/s – 0.1...2m/s – 0.2...10m/s – 0.2...20m/s to select by jumper. Power supply 16...40Vdc or 12...24Vac. Probe working temperature range -10°C...+80°C. Probe working humidity 5...75%R.H.</p>	See table on the bottom of this page



ACCESSORIES FOR AIR SPEED TRANSMITTERS		
HD 9008.31.12	Wall flange with gland to fix the air speed and temperature probes Ø12mm. HD2903T... HD2937T... series.	35
PG16.12	Metal gland PG16 for probes Ø 12mm.	28

MODEL	EURO	MODEL	EURO
OUTPUT 4...20mA		OUTPUT 0...10Vdc	
HD 2903 TO1	220	HD 29V3 TO1	223
HD 2903 TO2	229	HD 29V3 TO2	234
HD 2903 TO3	236	HD 29V3 TO3	243
HD 2903 TC12	252	HD 29V3 TC12	257
HD 2903 TC15	264	HD 29V3 TC15	269
HD 2903 TC110	284	HD 29V3 TC110	290
HD 2903 TC22	260	HD 29V3 TC22	265
HD 2903 TC25	272	HD 29V3 TC25	277
HD 2903 TC210	292	HD 29V3 TC210	298
HD 2903 TC32	268	HD 29V3 TC32	273
HD 2903 TC35	281	HD 29V3 TC35	280
HD 2903 TC310	300	HD 29V3 TC310	305

MODEL	AIR SPEED AND TEMPERATURE TRANSMITTERS	EURO
HD 2937T...	Active transmitter for duct air speed and temperature, output 4...20mA. AISI 304 steel probe diameter 12mm, monobloc version HD2937TO... with probe directly connected to the housing with electronics, version HD2937TC... with probe connected to the electronics by a cable. Air speed range 0.05...1m/s - 0.1...2m/s - 0.2...10m/s - 0.2...20m/s to select by jumper, fixed temperature range -10...+60°C. Power supply 16...40Vdc or 12...24Vac. Probe working temperature -10°C...+80°C. Probe working humidity 5...75%R.H.	See table on the bottom of this page
HD 29V37T...	Active transmitter for duct air speed and temperature, output 0...10Vdc. AISI 304 steel probe diameter 12mm, monobloc version HD29V37TO... with probe directly connected to the housing with electronics, version HD29V37TC... with probe connected to the electronics by a cable. Air speed range 0.05...1m/s - 0.1...2m/s - 0.2...10m/s - 0.2...20m/s to select by jumper, fixed temperature range -10...+60°C. Power supply 16...40Vdc or 12...24Vac. Probe working temperature -10°C...+80°C. Probe working humidity 5...75%R.H.	See table on the bottom of this page



Cable length

2 = 2m

5 = 5m

10 = 10m

Probe type

TO1 = 180 mm

TO2 = 275 mm

TO3 = 375 mm

TC1 = 175 mm

TC2 = 275 mm

TC3 = 375 mm

ACCESSORIES FOR AIR SPEED TRANSMITTERS

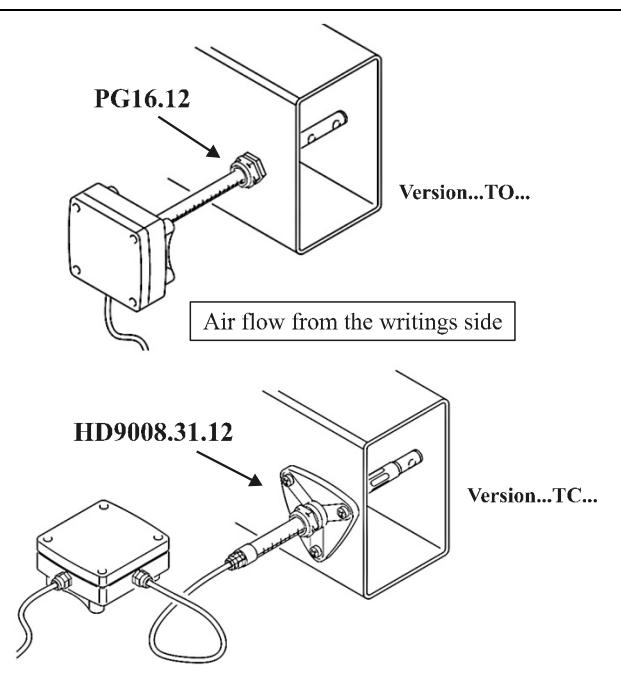
HD 9008.31.12 Wall flange with gland to fix the air speed and temperature probes Ø12mm. HD2903T... HD2937T series.

35

PG16.12 Metal gland PG16 for probes Ø 12mm

28

MODEL	EURO	MODEL	EURO
OUTPUT 4...20mA		OUTPUT 0...10Vdc	
HD 2937 TO1	265	HD 29V37 TO1	273
HD 2937 TO2	274	HD 29V37 TO2	281
HD 2937 TO3	282	HD 29V37 TO3	289
HD 2937 TC12	295	HD 29V37 TC12	303
HD 2937 TC15	309	HD 29V37 TC15	315
HD 2937 TC110	327	HD 29V37 TC110	335
HD 2937 TC22	303	HD 29V37 TC22	311
HD 2937 TC25	315	HD 29V37 TC25	323
HD 2937 TC210	335	HD 29V37 TC210	343
HD 2937 TC32	311	HD 29V37 TC32	320
HD 2937 TC35	323	HD 29V37 TC35	331
HD 2937 TC310	343	HD 29V37 TC310	351



MODEL	AIR SPEED, TEMPERATURE AND RELATIVE HUMIDITY TRANSMITTERS	EURO
HD 29371T...	Active transmitter for duct air speed, temperature and relative humidity, output 4...20mA. AISI 304 steel probe diameter 14mm, monobloc version HD29371TO... with probe directly connected to the housing with electronics, version HD29371TC... with probe connected to the electronics by a cable. Air speed range 0.05...1m/s - 0.1...2m/s - 0.2...10m/s - 0.2...20m/s to select by jumper, fixed temperature range -10...+60°C, relative humidity range 0...100%RH. Power supply 16...40Vdc or 12...24Vac. Probe air probe working temperature -10°C...+80°C. Probe working humidity 5...75%R.H.	See table on the bottom of this page
HD 29V371T...	Active transmitter for duct air speed, temperature and relative humidity, output 0...10Vdc. AISI 304 steel probe diameter 14mm, monobloc version HD29V371TO... with probe directly connected to the housing with electronics, version HD29V371TC... with probe connected to the electronics by a cable. Air speed range 0.05...1m/s - 0.1...2m/s - 0.2...10m/s - 0.2...20m/s to select by jumper, fixed temperature range -10...+60°C, relative humidity range 0...100%RH. Power supply 16...40Vdc or 12...24Vac. Probe air probe working temperature -10°C...+80°C. Probe working humidity 5...75%R.H.	See table on the bottom of this page
<p>HD29 [] 3 [] 7 [] 1 T [] [] []</p> <p>Probe length 2 = 2m 5 = 5m 10 = 10m</p> <p>Probe type TO1 = 215 mm TO2 = 415 mm TO3 = 565 mm TC1 = 215 mm TC2 = 415 mm TC3 = 570 mm</p> <p>Blank = 4...20mA analog output V = 0...10Vdc analog output</p>		
ACCESSORIES FOR AIR SPEED TRANSMITTERS		
HD 9008.31	Wall flange with gland to fix the air speed and temperature probes Ø14mm. Series HD29371T... HD29V371T.	35
PG16	Metal gland PG16 for probes Ø 14mm	28

MODEL	EURO	MODEL	EURO
OUTPUT 4...20mA		OUTPUT 0...10Vdc	
HD 29371 TO1	380	HD 29V371 TO1	388
HD 29371 TO2	390	HD 29V371 TO2	398
HD 29371 TO3	400	HD 29V371 TO3	408
HD 29371 TC12	410	HD 29V371 TC12	418
HD 29371 TC15	422	HD 29V371 TC15	430
HD 29371 TC110	442	HD 29V371 TC110	450
HD 29371 TC22	420	HD 29V371 TC22	428
HD 29371 TC25	432	HD 29V371 TC25	440
HD 29371 TC210	452	HD 29V371 TC210	460
HD 29371 TC32	430	HD 29V371 TC32	438
HD 29371 TC35	442	HD 29V371 TC35	450
HD 29371 TC310	462	HD 29V371 TC310	470

Version...TO...

PG16

Air flow from the writings side

Version...TC...

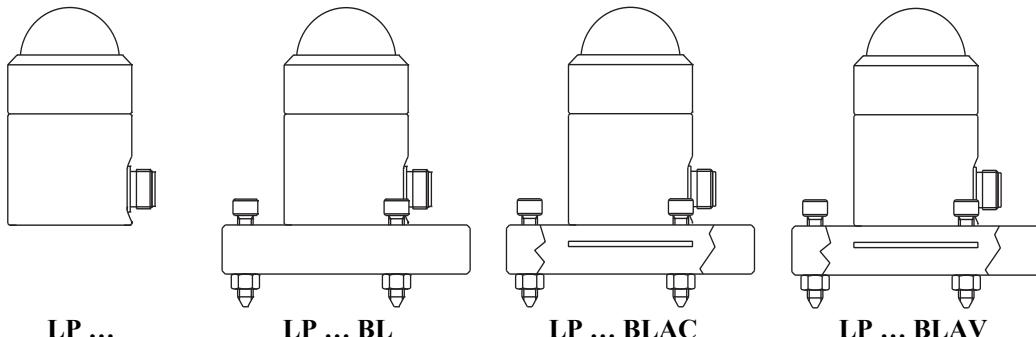
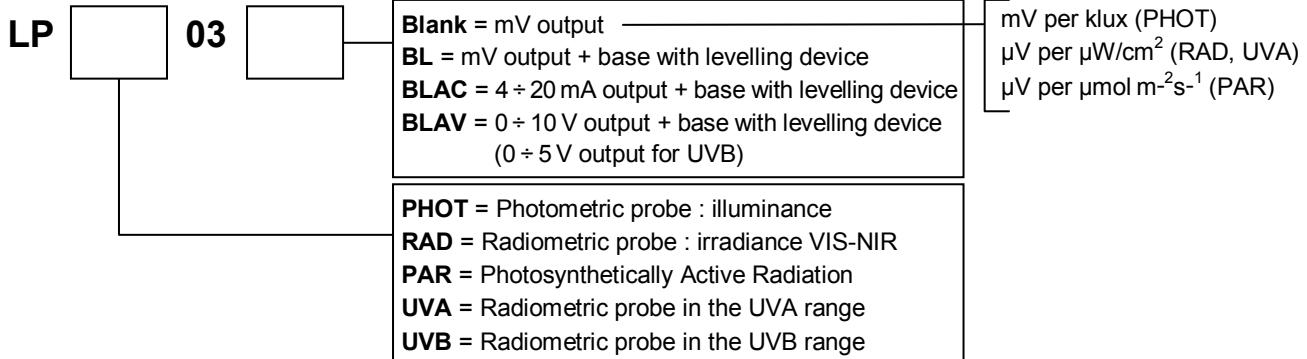
HD9008.31

MODEL	HOTWIRE AIR SPEED TRANSMITTERS	EURO
HD 403TS1	Active hotwire air speed transmitter with output 4...20mA. Range 0.20...40m/s. Directional probe Ø=8mm, 2m cable. Power supply 12...40Vdc or 24Vac. Probe working humidity 5...75%R.H.	237
HD 4V3TS1	Active hotwire air speed transmitter with output 0...10Vdc. Range 0.20...40m/s. Directional probe Ø=8mm, 2m cable. Power supply 16...40Vdc or 24Vac. Probe working humidity 5...75%R.H.	243
HD 403TS2	Active hotwire air speed transmitter with output 4...20mA. Range 0.1...5.00m/s. Omnidirectional probe Ø=8mm, 2m cable. Power supply 12...40Vdc or 24Vac. Probe working humidity 5...75%R.H.	295
HD 4V3TS2	Active hotwire air speed transmitter with output 0...10Vdc. Range 0.1...5.00m/s. Omnidirectional probe Ø=8mm, 2m cable. Power supply 16...40Vdc or 24Vac. Probe working humidity 5...75%R.H.	300
HD 403TS3	Active hotwire air speed transmitter with output 4...20mA. Range 0.20...40m/s. Directional flexible probe, Ø=8mm, cable L=2m. Power supply 12...40Vdc or 24Vac. Probe working humidity 5...75%R.H.	310
HD 4V3TS3	Active hotwire air speed transmitter with output 0...10Vdc. Range 0.20...40m/s. Directional flexible probe, Ø=8mm, cable L=2m. Power supply 16...40Vdc or 24Vac. Probe working humidity 5...75%R.H.	315
HD 403TS4	Active hotwire air speed transmitter with output 4...20mA. Range 0.1...5.00m/s. Omnidirectional probe with protection cage Ø=80mm. Power supply 12...40Vdc or 24Vac. Supplied with VTRAP20 tripod. Probe working humidity 5...75%R.H.	465
HD 4V3TS4	Active hotwire air speed transmitter with output 0...10Vdc. Range 0.1...5.00m/s. Omnidirectional probe with protection cage Ø=80mm. Power supply 16...40Vdc or 24Vac. Supplied with VTRAP20 tripod. Probe working humidity 5...75%R.H.	467
AIR SPEED AND TEMPERATURE TRANSMITTER		
HD 103T.0	Active air speed transmitter with hotwire sensor. Probe with 5m cable. Speed 0.1...5m/s. Output selectable by a jumper: 0...20mA, 4...20mA, 0...5V, 0...10V. Power supply 24 Vac (230 Vac on request). Working temperature 0...80°C. Probe working humidity 5...75%R.H.	450

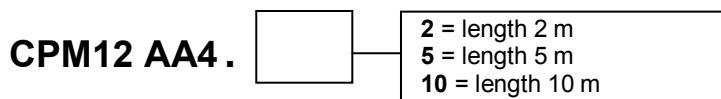
MODEL	PORTABLE LUXMETERS	EURO
HD 2302.0	Device for measuring illuminance, luminance, PAR, irradiance. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries. LP471 series probes with SICRAM module are suitable. The probes have to be ordered separately.	236
HD 2102.1	Device for measuring illuminance, luminance, PAR, irradiance. Storage of maximum, minimum, average value and the integral Q(t), RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 65 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. LP471.. series probes with SICRAM module are suitable. The probes and cables for data download have to be ordered separately.	355
HD 2102.2	Device for measuring illuminance, luminance, PAR, irradiance. Datalogger which stores the maximum, minimum, average value and the integral Q(t), it can store up to 80,000 samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 65 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. LP471.. series probes with SICRAM module are suitable. The probes and cables for data download have to be ordered separately.	427
DO 9721	Datalogger Photo-radiometer Thermometer which performs photometric, radiometric, PAR, temperature measurements. Two inputs. Function as datalogger: 30,000 samples, REL, Record, Q (integration), RS232C serial output. Supplied with instrument, carrying case, instruction manual, 9V battery, Software DeltaLog 1. LP9021.. series probes with electronics are suitable. The probes and cables for data download (9CPRS232 or C 205) have to be ordered separately.	550
	PROBES	
LP 471 PHOT	Photometric probe for measuring the ILLUMINANCE , spectral response according to the photopic curve, class B according to CIE N° 69 , cosine correction diffuser. Measuring range: 0.1 lux ... 200·10 ³ lux.	160
LP 471 RAD	Radiometric probe for measuring the IRRADIANCE in the spectral range 400nm...1050nm, cosine correction diffuser. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	180
LP 471 PAR	Quantum-radiometric probe for measuring the PHOTONS FLOW in the chlorophyll field PAR (photosynthetically Active Radiation 400nm...700 nm), μmol m ⁻² s ⁻¹ measure, cosine correction diffuser. Measuring range 0.01 μmol m ⁻² s ⁻¹ ...10·10 ³ μmol m ⁻² s ⁻¹	210
LP 471 UVA	Radiometric probe for measuring the IRRADIANCE in the UVA spectral range 315nm...400nm, peak at 360nm, quartz diffuser for cosine correction. For non-destructive testing ISO 3059:2001, EN 571-1, ASTM E1417. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	252
LP 471 UVB	Radiometric probe for measuring the IRRADIANCE in the UVB spectral range 280nm...315nm, peak at 305nm, quartz diffuser for cosine correction. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	259
LP 471 UVC	Radiometric probe for measuring the IRRADIANCE in the UVC spectral range 220nm...280nm, peak at 260nm, quartz diffuser for cosine correction. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	318
LP 471 LUM 2	Photometric probe for measuring the LUMINANCE , spectral response according to the photopic curve, angular field 2°. Measuring range: 0.1 cd/m ² ... 2000·10 ³ cd/m ² . 2m cable.	303
LP 471 BLUE	Radiometric probe for EFFECTIVE IRRADIANCE measurement in the spectral range of Blue light complete with SICRAM module. Spectral range 380nm...550nm, diffuser for cosine correction. Measurement range: 0.0001 W/m ² ...2000 W/m ² .	260
LP 471 P-A	Combined probe for measuring the ILLUMINANCE (lux), with standard photopic spectral response, and for measuring the IRRADIANCE (W/m ²) in the UVA spectral range (315-400 nm, with peak at 365 nm). Both sensors are equipped with diffuser for the correction according to the cosine law. Illuminance measuring range: 0.3 lux ... 200·10 ³ lux. Irradiance measuring range: 0.1 mW/m ² ...2000 W/m ² . The probe provides the ratio of the UVA irradiance and the illuminance in μW/lumen (quantity of interest in the museums field). CIE 157. Supplied with SICRAM module and 2 m cable. The probe works with the instruments DO9847 (from rev. R.1) , HD2302.0 (from rev. 01) , HD2102.1 (from rev. 11) and HD2102.2 (from rev. 21) .	390
LP 471 A-UVEff	Combined probe for measuring the TOTAL EFFECTIVE IRRADIANCE according to the weighting curve UV. The two sensors are used to correctly measure the total effective irradiance in the range 250-400 nm. Both sensors are equipped with diffuser for the correction according to the cosine law. The probe provides the total effective irradiance (E_{eff}), the effective irradiance in the range UV-CB and the UVA irradiance. Total effective irradiance measuring range: 0.001 W/m ² ...20 W/m ² . B_C effective irradiance measuring range: 0.001 W/m ² ...20 W/m ² . UVA irradiance measuring range: 0.1 W/m ² ...2000 W/m ² . Supplied with SICRAM module and 2 m cable. The probe works with the instruments DO9847 (from rev. R.1) , HD2302.0 (from rev. 01) , HD2102.1 (from rev. 11) and HD2102.2 (from rev. 21) .	628
LP 471 SILICON-PYRA	Pyranometer with silicon photodiode to measure the GLOBAL SOLAR IRRADIANCE , diffuser for cosine correction. Spectral range: 400...1100 nm. Measuring range: 0...2000 W/m ² . Fixed cable 5m long, with SICRAM module. The probe can be connected to the instruments DO9847 , HD2302.0 , HD2102.1 and HD2102.2	295
LP 471 PYRA 03.5	Probe consisting of a second class pyranometer LP PYRA 03 and a 5m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included. The probe can be connected to the instruments DO9847 , HD2302.0 , HD2102.1 and HD2102.2	425
LP 471 PYRA 03.10	Probe consisting of a second class pyranometer LP PYRA 03 and a 10m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included. The probe can be connected to the instruments DO9847 , HD2302.0 , HD2102.1 and HD2102.2	458
LP 471 PYRA 02.5	Probe consisting of a first class pyranometer LP PYRA 02 and a 5m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included. The probe can be connected to the instruments DO9847 , HD2302.0 , HD2102.1 and HD2102.2	950
LP 471 PYRA 02.10	Probe consisting of a first class pyranometer LP PYRA 02 and a 10m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included. The probe can be connected to the instruments DO9847 , HD2302.0 , HD2102.1 and HD2102.2	985

MODEL	PROBES	EURO	
LP 471 PYRA 10.5	Probe consisting of a "secondary standard" according to ISO 9060 pyranometer LP PYRA 02 and a 5m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included. The probe can be connected to the instruments DO9847, HD2302.0, HD2102.1 and HD2102.2	1734	
LP 471 PYRA 10.10	Probe consisting of a "secondary standard" according to ISO 9060 pyranometer LP PYRA 10 and a 10m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included. The probe can be connected to the instruments DO9847, HD2302.0, HD2102.1 and HD2102.2	1763	
ACCESSORIES			
LP RING 02		Base with levelling device and adjustable holder for mounting the LP PYRA 02 and LP PYRA 10 pyranometers in an inclined position.	230
LP RING 03		Base with levelling device and adjustable holder for mounting the LP PYRA 03 pyranometer in an inclined position.	240
LP BL		Base with levelling device. On request for assembly with the probes when placing the order (not available for LUM probes) .	84
LP BL3		Adjustable wall support for Ø 30 mm photometric and radiometric probes.	95
DELTALOG 1		Further copy of CD-ROM with software DeltaLog 1 for downloading and PC data management of DO 9721	85
DELTALOG 9		Further copy of CD-ROM with software DeltaLog 9 for downloading and PC data management for Windows® operating systems for instruments HD 2102.1 HD2102.2	85
C.205		Serial connection cable with USB connector for PC and Sub-D 9-pole connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument DO 9721 directly to the USB port of the PC.	70
C.206		Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument HD2102.1 directly to the USB port of the PC.	70
HD 2110 CSNM		MiniDin 8 poles – 9 poles sub D female connecting cable per RS232C for instruments HD2102.1, HD 2102.2	42
CP 23		PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side. For instrument HD 2102.2 .	21
9CPRS232		Sub D 9-pole Female/Female RS232 null-modem cable for DO 9721	42
HD 40.1		24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option. Not suitable for DO9721.	265
BAT-40		Spare battery pack for HD40.1 printer with built-in temperature sensor.	27
RCT		The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7
SWD10		Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44
SPARE PROBES FOR DO 9721 AND FOR DISCONTINUED INSTRUMENTS			
LP 8366 PHOT		Photometric probe for measuring ILLUMINANCE (spare for HD8366), photopic correction filter in accordance with CIE, diffuser for cosine correction.	160
LP 9021 PHOT		Photometric probe for measuring ILLUMINANCE , photopic filter in accordance with CIE, diffuser for cosine correction. Range 0...200.000 lux.	160
LP 9021 RAD		Radiometric probe for measuring IRRADIANCE , radiometric filter, diffuser for cosine correction. Range 450...1050nm.	185
LP 9021 PAR		Radiometric probe for measuring PHOTONS FLOW in the field of photosynthesis of chlorophyll PAR (Photosynthetically Active Radiation 400...700nm), reading in $\mu\text{mol m}^{-2}\text{s}^{-1}$, diffuser for cosine correction.	215
LP 9021 UVA		Radiometric probe for measuring IRRADIANCE in the wavelength UVA 315...400nm, peak at 365nm. Quartz diffuser for the cosine correction.	257
LP 9021 UVB		Radiometric probe for measuring IRRADIANCE in the wavelength UVB 280...315nm, peak at 312nm. Quartz diffuser for the cosine correction.	265
LP 9021 UVC		Radiometric probe for measuring IRRADIANCE in the wavelength UVC 220...280nm, peak at 250nm. Quartz diffuser for the cosine correction.	324
LP 9021 LUM2		Probe for measuring the LUMINANCE , angle 2°, reading in candles/m ²	295
LP 9021 ERY		Radiometric probe for measuring effective IRRADIANCE according to UV action curve (Erythema – CEI EN60335-2-27)	530
LIGHT PROBES WITH mV OUTPUT FOR INDOOR			
LP PHOT 01		Photometric probe for measuring ILLUMINANCE , CIE photopic filter, diffuser for cosine correction. Output in mV per klux, cable L=5m.	202
LP PHOT 01S		Transmitter with RS485 MODBUS-RTU output for the LP PHTO 01 illuminance probe. Measuring range: 0...10,000 lux with 1 lux resolution or 0...200,000 lux with 10 lux resolution. Connections via screw terminals. Wall mount casing. Power supply 5...30 Vdc. Supplied with LP PHOT 01 illuminance probe.	365
LP RAD 01		Radiometric probe for measuring IRRADIANCE , diffuser for cosine correction. Output in mV per W/cm ² , cable L=5m.	214
LP PAR 01		Radiometric probe for measuring PHOTONS FLOW (light flow in the field of photosynthesis of chlorophyll). Cosine correction. Output in mV/ $\mu\text{mol m}^{-2}\text{s}^{-1}$, cable L=5m.	262
LP UVA 01		Radiometric probe for measuring IRRADIANCE in the UVA (315...400nm). Output in $\mu\text{V}/\mu\text{Wcm}^{-2}$, 5m cable	276
LP UVB 01		Radiometric probe for measuring IRRADIANCE in the UVB (280...315nm). Output in $\mu\text{V}/\mu\text{Wcm}^{-2}$, 5m cable	288
LP UVC 01		Radiometric probe for measuring IRRADIANCE in the UVC (220...280nm). Output in $\mu\text{V}/\mu\text{Wcm}^{-2}$, 5m cable	334
LP BL		Base with levelling device. On request for assembly with the probes when placing the order.	84

MODEL	LIGHT PROBES WITH M12 CONNECTOR FOR OUTDOOR				
	Description	VERSIONS			
		LP...03	LP...03 BL	LP...03 BLAC	LP...03 BLAV
		EURO	EURO	EURO	EURO
LP PHOT 03	Photometric probe for measuring illuminance, for outdoor use, CIE photopic filter, diffuser for cosine correction, dome in K5 . Output according to the chosen configuration in mV per klux or normalized 4 ÷ 20 mA or 0 ÷ 10 Vdc. Working temperature -20 ÷ +60 °C. M12 Male 4-pole connector. On request, cable 2, 5 or 10 m long with female connector.	290	374	435	435
LP RAD 03	Radiometric probe for measuring irradiance, for outdoor use, CIE photopic filter, diffuser for cosine correction, dome in K5 . Spectrum range 400 ÷ 1050 nm. Output according to the chosen configuration in mVdc per W/cm² or normalized 4 ÷ 20 mA or 0 ÷ 10 Vdc. Working temperature -20 ÷ +60 °C. M12 Male 4-pole connector. On request, cable 2, 5 or 10 m long with female connector.	300	384	445	445
LP PAR 03	Radiometric probe for measuring photons flow in the field of photosynthesis of chlorophyll PAR, for outdoor use, diffuser for cosine correction, dome in K5 . Spectrum range 400 ÷ 700 nm. Output according to the chosen configuration in µV per µmol m⁻²s⁻¹ or normalized 4 ÷ 20 mA or 0 ÷ 10 Vdc. Working temperature -20 ÷ +60 °C. M12 Male 4-pole connector. On request, cable 2, 5 or 10 m long with female connector.	310	394	455	455
LP UVA 03	Radiometric probe for measuring irradiance in the UVA, for outdoor use, diffuser for cosine correction, dome in K5 . Spectrum range 315 ÷ 400 nm peak 365 nm. Output according to the chosen configuration in µV per µW/cm² or normalized 4 ÷ 20 mA or 0 ÷ 10 Vdc. Working temperature -20 ÷ +60 °C. M12 Male 4-pole connector. On request, cable 2, 5 or 10 m long with female connector.	340	424	485	485
LP UVB 03	Radiometric probe for measuring irradiance in the UVB, for outdoor use, diffuser for cosine correction, dome in Quartz . Spectrum range 280 ÷ 315 nm peak 304 nm. 0 ÷ 5 Vdc normalized output. Working temperature -20 ÷ +60 °C. M12 Male 4-pole connector. On request, cable 2, 5 or 10 m long with female connector.	---	---	---	790

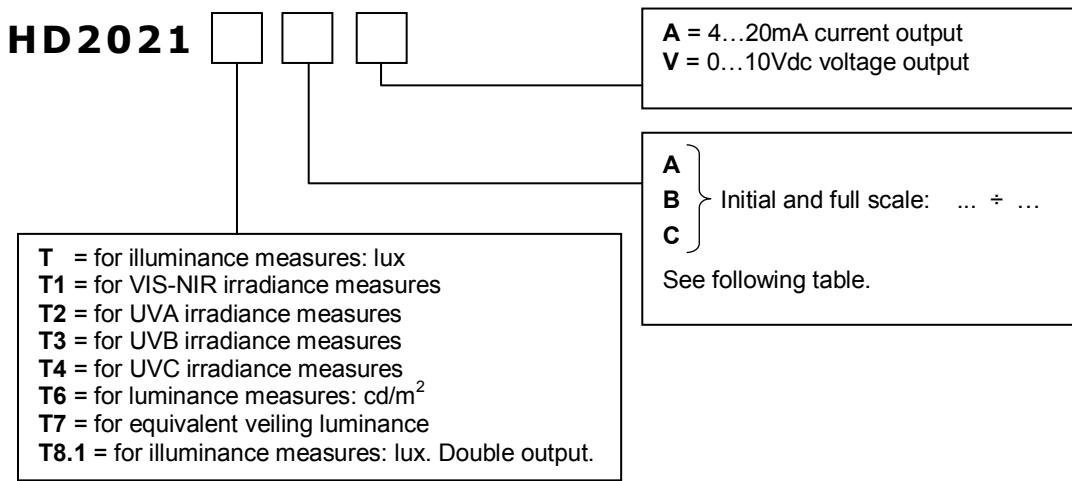


	CABLES	EURO
CPM12 AA4.2	4-pole cable. Length 2 m. Connector M12 4-pole on one side, open wires on the other side	32
CPM12 AA4.5	4-pole cable. Length 5 m. Connector M12 4-pole on one side, open wires on the other side	43
CPM12 AA4.10	4-pole cable. Length 10 m. Connector M12 4-pole on one side, open wires on the other side	68



MODEL	OPTO INSULATED SIGNAL CONVERTERS	EURO
HD 978 TR3	Configurable converter signal amplifier with 4÷20mA (20÷4mA). Input measuring range -10 ...+60mVdc. Standard configuration 0÷20mVdc . Minimum measuring range 2mVdc. Configurable with HD778 TCAL . DIN 2 modules container (35 mm) with rail attachment 35 mm .	133
HD 978 TR5	Configurable converter signal amplifier with 4÷20mA (20÷4mA). Input measuring range -10 ...+60mVdc. Standard configuration 0÷20mVdc . Minimum measuring range 2mVdc. Configurable with HD778 TCAL . DIN 2 modules container (35 mm). Wall mount attachment .	145
HD 978 TR4	Configurable converter signal amplifier with 0÷10Vdc (10÷0Vdc). Input measuring range -10 ...+60mVdc. Standard configuration 0÷20mVdc . Minimum measuring range 2mVdc. Configurable with HD778 TCAL . DIN 2 modules container (35 mm) with rail attachment 35 mm .	133
HD 978 TR6	Configurable converter signal amplifier with 0÷10Vdc (10÷0Vdc). Input measuring range -10 ...+60mVdc. Standard configuration 0÷20mVdc . Minimum measuring range 2mVdc. Configurable with HD778 TCAL . DIN 2 modules container (35 mm). Wall mount attachment .	145
HD 778 TCAL	Power generator in the range -60mV...+60mV, regulated by PC through RS232C serial port. DeltaLog-7 software to configure type K, J, T and N thermocouple transmitters and HD978TR3 and HD978TR4 converters.	210

	PHOTOMETRIC RADIOMETRIC TRANSMITTERS	
HD 2021 T.xx	Transmitter for measuring the ILLUMINANCE , full scale according to the following table, power supply 16...40Vdc or 24Vac. Amplified with output 4...20mA or 0...10Vdc according to the choice.	172
HD 2021 T1.xx	Transmitter for measuring the IRRADIANCE , in the wavelength VIS-NIR , full scale according to the following table, power supply 16...40Vdc or 24Vac. Amplified with output 4...20mA or 0...10Vdc according to the choice.	178
HD 2021 T2.xx	Transmitter for measuring the IRRADIANCE in the wavelength UVA , full scale according to the following table, power supply 16...40Vdc or 24Vac. Amplified with output 4...20mA or 0...10Vdc according to the choice.	366
HD 2021 T3.xx	Transmitter for measuring the IRRADIANCE in the wavelength UVB , full scale according to the following table, power supply 16...40Vdc or 24Vac. Amplified with output 4...20mA or 0...10Vdc according to the choice.	378
HD 2021 T4.xx	Transmitter for measuring the IRRADIANCE in the wavelength UVC , full scale according to the following table, power supply 16...40Vdc or 24Vac. Amplified with output 4...20mA or 0...10Vdc according to the choice.	398
HD 2021 T6.xx	Transmitter for measuring the LUMINANCE , full scale according to the following table, power supply 16...40Vdc or 24Vac. Amplified with output 4...20mA or 0...10Vdc according to the choice.	216
HD 2021 T7.xx	Transmitter for measuring the LUMINANCE of equivalent veiling, full scale according to the following table, power supply 16...40Vdc or 24Vac. Amplified with output 4...20mA or 0...10Vdc according to the choice.	420
HD 2021 T8.1	Transmitter for measuring the ILLUMINANCE , two outputs 0...10Vdc, 10.000 and 100.000 lux full scale. Power supply 16...40Vdc or 24Vac. IP 65.	310



VERSION	A	B	C
HD 2021T	0.02 -2 klux	0.2-20 klux	2-200klux
HD 2021 T1	0.2-20 W/m ²	2-200 W/m ²	20-2000 W/m ²
HD 2021 T2	0.2-20 W/m ²	2-200 W/m ²	20-2000 W/m ²
HD 2021 T3	2-200 W/m ²	20-2000 W/m ²	
HD 2021 T4	2-200 W/m ²	20-2000 W/m ²	
HD 2021 T6	20-2000 cd/m ²	0.2- 20 kcd/m ²	2-200 kcd/m ²
HD 2021 T7	20-2000 cd/m ²	0.2- 20 kcd/m ²	

Other ranges on request for at least 5 pcs per order.

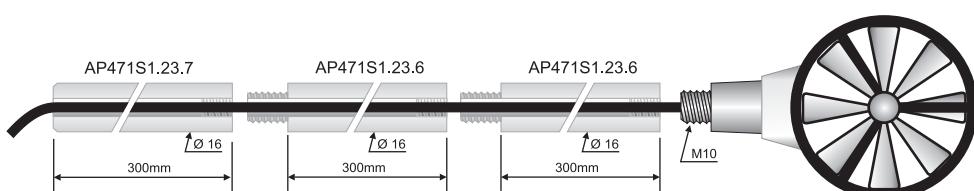
MODEL	PORTABLE SOUND LEVEL METERS	EURO
HD 8701	Digital sound level meter type 2 according to IEC 60651, temporal weighting FAST, SLOW and frequency weighting A. Maximum level display. Supplied with pre-amplifier with ½ " microphone and carrying case.	398
ACCESSORIES AND SPARE PARTS FOR HD8701		
HD 8701S	Spare probe for HD 8701.	165
HD SAV	Wind screen for ½ " microphones.	30
VTRAP	Tripod, max height 1550mm.	130

For HD 2010UC and HD 2110L sound level meters, HD 2030 and HD 2070 vibration analyzers, calibrators and equipments for building acoustics please request the quotation to Delta OHM.

MODEL	INSTRUMENTS FOR AIR QUALITY – CO – CO ₂ MEASUREMENTS FOR INDOOR	EURO
HD 37AB1347	Datalogger for indoor air quality analysis (IAQ). The instrument measures the quantities: temperature, relative humidity, atmospheric pressure, CO ₂ (Carbon Dioxide) and CO (Carbon Monoxide, only with P37AB147 probe). The SICRAM hotwire air speed probes, vane air speed probes, temperature probes, relative humidity and temperature combined probes can also be connected to the instrument. Memory capacity of 67,600 records for each of the two inputs. Logging interval from 15 seconds to 1 hour. Power supply: 4 x 1.2V NiMH rechargeable batteries AA type. The power supply/battery charger SWD10 is optional. The kit includes: HD37AB1347 instrument, 4 x 1.2V NiMH rechargeable batteries AA type, DeltaLog 10 software from 0.1.5.0 version , instruction manual and carrying case. The probes and the cables have to be ordered separately.	790
PROBES FOR HD37AB1347		
AIR QUALITY PROBES WITH SICRAM MODULE		
P37AB147	Temperature, relative humidity, atmospheric pressure, CO ₂ (Carbon Dioxide) and CO (Carbon Monoxide) combined probe. Complete with SICRAM module. Probe Dimensions 275mm x 45mm x 40mm. Connection cable length 2 m.	510
P37B147	Temperature, relative humidity, atmospheric pressure and CO ₂ (Carbon Dioxide) combined probe. Complete with SICRAM module. Probe Dimensions 275mm x 45mm x 40mm. Connection cable length 2 m.	475
RELATIVE HUMIDITY AND TEMPERATURE COMBINED PROBES WITH SICRAM MODULE		
(*) For temperatures up to 150 °C, we recommend the use of probes with stainless steel stem and filter P7. Extra charge € 32		
HP 472 ACR	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	160
HP 572 ACR	%RH and K thermocouple temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	166
HP 473 ACR (*)	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	166
HP 474 ACR (*)	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH.	170
HP 475 ACR	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Stainless steel probe stem. Tip dimensions Ø 14 x 75 mm. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity in grains)	310
HP 475AC1R	%RH and Pt100 temperature combined probe, complete with SICRAM module. Stainless steel probe stem, stainless steel 20µ sintered filter. 2m connecting cable. Working range: -40...+180°C, 0...100%RH.	315
HP 477 DCR	%RH and Pt100 temperature combined sword probe complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity on paper)	290
HP 478 ACR	%RH and Pt100 temperature combined probe complete with SICRAM module. 5m connecting cable. Working range: -40...+150°C, 0...100%RH.	190
ACCESSORIES FOR TEMPERATURE AND HUMIDITY PROBES		
HD 75	Saturated solution for verifying RELATIVE HUMIDITY probes at 75% RH, complete with fixing adapter for probes diam. 14 thread M12×1.	78
HD 33	Saturated solution for verifying RELATIVE HUMIDITY probes at 33% RH, complete with fixing adapter for probes diam. 14 thread M12×1.	78
P6	10µm sintered stainless steel protection for probes diam.14, thread M12×1.	28
P7	20µm PTFE protection for probes diam.14, thread M12×1.	28
P8	20µm stainless steel grid and Pocan protection for probes diam.14, thread M12×1.	16

MODEL	TEMPERATURE PROBES WITH SICRAM MODULE	EURO
TP 472 I	Immersion probe, Pt100 sensor. Stem Ø 3 mm, length 300 mm. Cable length 2 meters.	130
TP 472 I.0	Immersion probe, Pt100 sensor. Stem Ø 3 mm, length 230 mm. Cable length 2 meters.	83
TP 473 P.I	Penetration probe, Pt100 sensor. Stem Ø 4 mm, length 150 mm. Cable length 2 meters.	136
TP 473 P.0	Penetration probe, Pt100 sensor. Stem Ø 4 mm, length 150 mm. Cable length 2 meters.	95
TP 474 C.I	Contact probe, Pt100 sensor. Stem Ø 4 mm, length 230 mm. Contact surface Ø 5 mm. Cable length 2 meters.	131
TP 474 C.0	Contact probe, Pt100 sensor. Stem Ø 4 mm, length 230 mm. Contact surface Ø 5 mm. Cable length 2 meters.	96
TP 475 A.0	Air probe, Pt100 sensor. Stem Ø 4 mm, length 230 mm. Cable length 2 meters.	94
TP 472 I.5	Penetration probe, Pt100 sensor. Stem Ø 6 mm, length 500 mm. Cable length 2 meters.	181
TP 472 I.10	Penetration probe, Pt100 sensor. Stem Ø 6 mm, length 1000 mm. Cable length 2 meters.	198
TP 49 A.O	Immersion probe, Pt100 sensor. Stem Ø 2.7 mm, length 150 mm. Cable length 2 meters. Aluminium handle.	86
TP 49 AC.O	Contact probe, Pt100 sensor. Stem Ø 4 mm, length 150 mm. Cable length 2 meters. Aluminium handle.	90
TP 49 AP.O	Penetration probe, Pt100 sensor. Stem Ø 2.7 mm, length 150 mm. Cable length 2 meters. Aluminium handle.	89
TP 87.0	Immersion probe, Pt100 sensor. Stem Ø 3 mm, length 70 mm. Cable length 1 meter. With handle.	75
TP 875.I	Globe thermometer Ø 150 mm, Pt100 sensor. Cable length 2 meters. With handle.	370
TP 876.I	Globe thermometer Ø 50 mm, Pt100 sensor. Cable length 2 meters. With handle.	342
TP 878.O	Contact probe for solar panels. Cable length 2 meters.	88
TP 878.1.O	Contact probe for solar panels. Cable length 5 meters.	96
TP 879.O	Compost penetration probe. Stem Ø 8 mm, length 1 meter. Cable length 2 meters.	260
HOTWIRE AIR SPEED PROBES WITH SICRAM MODULE		
AP 471 S1	Directional hotwire probe to measure air speed in the range 0.1...40m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft: minimum length 360 mm, maximum length 1060 mm. Cable length with fully closed telescopic shaft 1800 mm. Probe complete with SICRAM module.	380
AP 471 S2	Omni-directional hotwire probe to measure air speed in the range 0.1...5m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft: minimum length 360 mm, maximum length 1060 mm. Cable length with fully closed telescopic shaft 1800 mm. Probe complete with SICRAM module.	410
AP 471 S3	Directional hotwire probe, 180°C articulated tip for easy positioning, to measure air speed in the range 0.1...40m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft, minimum length 450 mm, maximum length 1140 mm. Cable length with fully closed telescopic shaft 1660 mm. Probe complete with SICRAM module.	430
AP 471 S4	Omni-directional hotwire probe with telescopic shaft and table base. Maximum height 760 mm, minimum height 380mm. Measurement of air speed in the range 0.1...5m/s and of air temperature in the range 0°C...+80°C. Wire protection spherical cage diam. 100mm. 2m cable. Probe complete with SICRAM module.	470

MODEL	VANE AIR SPEED PROBES WITH SICRAM MODULE	EURO
AP 472 S1	Vane probe with K type thermocouple Ø 100 mm to measure air speed in the range 0.6...25m/s and air temperature in the range -25°C ... +80°C. Probe complete with handle, telescopic shaft available on request . Minimum length of shaft with handle 360 mm, maximum length with handle 1025 mm. 2 m cable. Probe complete with SICRAM module.	370
AP 472 S2	Vane probe diam. 60 mm with handle to measure air speed in the range 0.5...20m/s. Telescopic shaft available on request . Minimum length of shaft with handle 360 mm, maximum length with handle 1025 mm. 2 m cable. Probe complete with SICRAM module.	340
ACCESSORIES		
SWD10	100-240Vac/12Vdc-1A stabilized mains power supply.	44
VTRAP20	Tripod to be fixed to the instrument, max height 270 mm.	52
HD 2110 RS	Connecting cable with M12 connector on instrument side and with 9 poles SubD female connector for RS232C on PC side.	42
HD 2110 USB	Connecting cable with M12 connector on instrument side and USB 2.0 connector on PC side.	42
DELTALOG 10	Further copy of CD-ROM with software DeltaLog 10 for PC data download and management. For Windows® operating systems.	85
HD 40.1	Printer (HD2110/RS cable is requested).	265
BAT-40	Spare battery pack for HD40.1 printer with built-in temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls, wide 57mm, diameter 32mm.	7
ACCESSORIES FOR P37AB147 AND P37B147 PROBES		
MINICAN.12A	Nitrogen can for CO and CO ₂ calibration at 0ppm. 20 litres volume. With regulating valve . Note: the cylinder can not be shipped by air .	180
MINICAN.12A1	Nitrogen can for CO and CO ₂ calibration at 0ppm. 20 litres volume. Without regulating valve . Note: the cylinder can not be shipped by air .	90
ECO-SURE-2E CO	CO spare sensor (P37AB147 only).	48
HD 37.36	Connection tube kit between instrument and MINICAN.12A for CO calibration (P37AB147 only).	20
HD 37.37	Connection tube kit between instrument and MINICAN.12A for CO ₂ calibration.	25
ACCESSORIES FOR AIR SPEED PROBES		
AST.1	Telescopic shaft (minimum length 210 mm, maximum length 870 mm) for AP472S1 and AP472S2 vane probes.	86
AP 471S1.23.6	Fixed extension shaft Ø 16 x 300 mm, M10 male thread on a side, female on the other. For vane probes AP472S1, AP472S2.	34
AP 471S1.23.7	Fixed extension shaft Ø 16 x 300 mm, M10 female thread on a side only. For vane probes AP472S1, AP472S2.	30

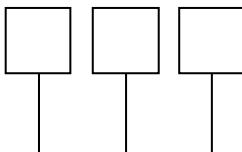


MODEL	INSTRUMENTS FOR AIR QUALITY – CO – CO ₂ MEASUREMENTS FOR INDOOR	EURO
HD 21AB17	Datalogger for indoor air quality analysis (IAQ). The instrument measures the quantities: CO ₂ (Carbon Dioxide), CO (Carbon Monoxide), temperature, relative humidity and atmospheric pressure. Memory capacity of 67,600 records. Logging interval from 15 seconds to 1 hour. Power supply: 4 x 1.2V NiMH rechargeable batteries. The power supply/battery charger SWD10 is optional. The kit includes: HD21AB17 instrument, 4 x 1.2V NiMH rechargeable batteries, DeltaLog 10 software from 0.1.5.3 version , instruction manual and carrying case. The cables have to be ordered separately.	650
HD 21AB	Datalogger for indoor air quality analysis (IAQ). The instrument measures the quantities: CO ₂ (Carbon Dioxide), CO (Carbon Monoxide) and atmospheric pressure. Memory capacity of 67,600 records. Logging interval from 15 seconds to 1 hour. Power supply: 4 x 1.2V NiMH rechargeable batteries. The power supply/battery charger SWD10 is optional. The kit includes: HD21AB instrument, 4 x 1.2V NiMH rechargeable batteries, DeltaLog 10 software from 0.1.5.3 version , instruction manual and carrying case. The cables have to be ordered separately.	480
ACCESSORIES		
SWD10	100-240 Vac/12 Vdc-1 A stabilized mains power supply.	44
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side.	21
DELTALOG 10	Further copy of CD-ROM with software DeltaLog 10 for PC data download and management. For Windows® operating systems.	85
BAT-40	Spare battery pack with built-in temperature sensor.	27
ACCESSORIES FOR THE CO AND CO₂ SENSORS		
MINICAN.12A	Nitrogen cylinder for CO and CO ₂ calibration at 0ppm. 20 litres volume. With regulating valve. Note: the cylinder can not be shipped by air.	180
MINICAN.12A1	Nitrogen cylinder for CO and CO ₂ calibration at 0ppm. 20 litres volume. Without regulating valve. Note: the cylinder can not be shipped by air.	90
ECO-SURE-2E CO	CO spare sensor.	48
HD 37.36	Connection tube kit between instrument and MINICAN.12A for CO calibration.	20
HD 37.37	Connection tube kit between instrument and MINICAN.12A for CO ₂ calibration.	25
ACCESSORIES FOR THE HUMIDITY SENSOR		
HD 75	75%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12×1 thread.	78
HD 33	33%RH saturated solution for checking the relative humidity sensor, complete with screw adaptor for probes Ø 14mm, M12×1 thread.	78
P6	10µm sintered stainless steel protection for probes diam. 14, thread M12x1.	28
P7	20µm PTFE protection for probes diam. 14, thread M12x1.	28
P8	20µm stainless steel grid and Pocan protection for probes diam. 14, thread M12x1.	16

MODEL	AIR QUALITY – CO – CO ₂ DATALOGGERS FOR INDOOR	EURO
HD 37AB17D	Datalogger for measuring: temperature, relative humidity, CO (Carbon Monoxide) and CO ₂ (Carbon Dioxide). Memory capacity of 20,000 records. Sampling interval from 3 seconds up to 5 minutes. The kit is composed of: instrument HD37AB17D, USB cable CP22 for PC connection, 6 Vdc power supply SWD06, BAT-20 battery pack, software DeltaLog 13, instruction manual and carrying case.	880
HD 37B17D	Datalogger for measuring: temperature, relative humidity, CO ₂ (Carbon Dioxide). Memory capacity of 20,000 records. Sampling interval from 3 seconds up to 5 minutes. The kit is composed of: instrument HD37B17D, USB cable CP22 for PC connection, 6 Vdc power supply SWD06, BAT-20 battery pack, software DeltaLog 13, instruction manual and carrying case.	780
ACCESSORIES FOR HD37AB17D AND HD37B17D		
VTRAP20	Tripod to be fixed to the instrument, max height 270 mm.	52
DELTALOG 13	Further copy of CD-ROM with software DeltaLog 13 for PC data download and management. For Windows® operating systems.	85
SWD06	100-240Vac/6Vdc-1A stabilized mains power supply.	45
BAT-20	Spare battery packet for the instruments HD37AB17D and HD37B17D with built-in temperature sensor.	32
CP 22	USB cable for PC connection.	42
P6	10µm sintered stainless steel protection for probes diam.14, thread M12×1.	28
P7	20µm PTFE protection for probes diam.14, thread M12×1.	28
P8	20µm stainless steel grid and Pocan protection for probes diam.14, thread M12×1.	16
HD 75	Saturated solution for verifying RELATIVE HUMIDITY probes at 75% RH, complete with fixing adapter for probes diam. 14 thread M12×1.	78
HD 33	Saturated solution for verifying RELATIVE HUMIDITY probes at 33% RH, complete with fixing adapter for probes diam. 14 thread M12×1.	78
MINICAN.12A	Nitrogen cylinder for CO and CO ₂ calibration at 0ppm. 20 litres volume. With regulating valve. Note: the cylinder can not be shipped by air.	180
MINICAN.12A1	Nitrogen cylinder for CO and CO ₂ calibration at 0ppm. 20 litres volume. Without regulating valve. Note: the cylinder can not be shipped by air.	90
ECO-SURE-2E CO	CO spare sensor.	48
HD 37.36	Connection tube kit between instrument and MINICAN.12A for CO calibration.	20
HD 37.37	Connection tube kit between instrument and MINICAN.12A for CO ₂ calibration.	25

MODEL	DESCRIPTION	HUMIDITY, TEMPERATURE AND CO ₂ TRANSMITTERS AND REGULATORS HD45... SERIES						
		VERSIONS						OPTIONS
		R Output: Relay	V Output: 0÷10Vdc	A Output: 4÷20mA	S Output: RS485	VR , AR Output: 0÷10Vdc or 4÷20mA + Relay	SR Output: RS485 + Relay	
		EURO	EURO	EURO	EURO	EURO	EURO	EURO
HD 45 B...	CO ₂ transmitter and/or regulator. CO ₂ measuring range: 0 ÷ 5000 ppm CO ₂ sensor working temperature: -5 ÷ +50 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	187	192	192	200	220	225	55
HD 45 17...	Humidity and temperature transmitter and/or regulator. R.H. measuring range: 0 ÷ 100 % Dew Point measuring range: -40 ÷ +85 °C Temperature measuring range: -30 ÷ +85 °C R.H. sensor working temperature: -40 ÷ +80 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	192	197	197	205	225	230	55
HD 45 7B...	Temperature and CO ₂ transmitter and/or regulator. Temperature measuring range: -30 ÷ +85 °C CO ₂ measuring range: 0 ÷ 5000 ppm CO ₂ sensor working temperature: -5 ÷ +50 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	222	227	227	235	255	260	55

HD45



AVAILABLE OPTIONS

V = 0÷10Vdc analog output

A = 4÷20mA analog output

S = RS485 MODBUS-RTU output

R = Relay output

VR = 0÷10Vdc analog output and relay output

AR = 4÷20mA analog output and relay output

SR = RS485 MODBUS-RTU and relay output

- If there is the analog output, there cannot be the RS485 output and vice versa.
- With the V and A options there is an analog output for each measured quantity.
- With the R and SR options there is only one relay output, assignable to one of the measured quantities.

D = With display

Blank = Without display

Sensors

17 = Humidity and Temperature

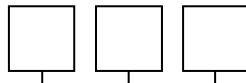
7B = Temperature and CO₂

B = CO₂

	ACCESSORIES	EURO
DELTALOG 14	CD-ROM with DeltaLog 14 software for the connection to a PC through the serial output with mini-USB connector, for the instrument setup and for the memory data download. For Windows® operating systems.	85
RS 45	Serial connection cable, not isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is powered directly by the USB port of the PC.	50
RS 45 I	Serial connection cable, galvanically isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is not powered by the USB port of the PC.	75
HD 45TCAL	Kit including the RS45 serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	110
HD 45TCAL I	Kit including the galvanically isolated RS45 I serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	140

MODEL	HUMIDITY, TEMPERATURE AND CO ₂ TRANSMITTERS AND REGULATORS HD46... SERIES							
	DESCRIPTION		VERSIONS				OPTIONS	
			R Output: Relay	V Output: 0÷10Vdc	A Output: 4÷20mA	S Output: RS485	SR Output: RS485 + Relay	D Display
			EURO	EURO	EURO	EURO	EURO	EURO
HD 46 17...	Humidity and temperature transmitter and/or regulator. R.H. measuring range: 0 ÷ 100 % Dew Point measuring range: -40 ÷ +85 °C Temperature measuring range: -30 ÷ +85 °C R.H. sensor working temperature: -40 ÷ +80 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	248	228	228	235	285	50	76
HD 46 17B...	Humidity, temperature and CO ₂ transmitter and/or regulator. R.H. measuring range: 0 ÷ 100 % Dew Point measuring range: -40 ÷ +85 °C Temperature measuring range: -30 ÷ +85 °C CO ₂ measuring range: 0 ÷ 5000 ppm R.H. sensor working temperature: -40 ÷ +80 °C CO ₂ sensor working temperature: -5 ÷ +50 °C Power supply: 15...35Vdc or 24Vac. The serial cable and the software have to be ordered separately.	358	333	333	340	390	50	76

HD46



AVAILABLE OPTIONS

V = 0÷10Vdc analog output

A = 4÷20mA analog output

S = RS485 MODBUS-RTU output

R = Relay output

SR = RS485 MODBUS-RTU and relay output

- It is not possible to have the analog output if there is the RS485 and/or relay output, and vice versa.
- With the V and A options there is an analog output for each measured quantity.
- With the R and SR options there is a relay output for each measured quantity.

D = With display

DT = With display and keyboard

Blank = Without display

- The DT option is available only together with the R or SR option
- The D option is available only together with the V or S option

Sensors

17 = Humidity and Temperature

17B = Humidity, Temperature and CO₂

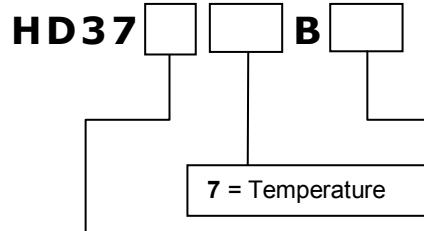
9

ACCESSORIES

EURO

DELTALOG 14	CD-ROM with DeltaLog 14 software for the connection to a PC through the serial output with mini-USB connector, for the instrument setup and for the memory data download. For Windows® operating systems. The CD also includes a software for the Modbus connection.	85
RS 45	Serial connection cable, not isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is powered directly by the USB port of the PC.	50
RS 45 I	Serial connection cable, galvanically isolated , with built-in USB adapter. USB connector for the PC and mini-USB connector for the instrument serial port. The instrument is not powered by the USB port of the PC.	75
HD 45TCAL	Kit including the RS45 serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	110
HD 45TCAL I	Kit including the galvanically isolated RS45 I serial connection cable and the CD-ROM with the DeltaLog 14 software for Windows® operating systems.	140
HDM46	Calibrated relative humidity and temperature module.	120

MODEL	DESCRIPTION	VERSIONS							
		TV EURO	TV.1 EURO	TO.1 EURO	TO.11 EURO	TO.2 EURO	TO.21 EURO	TC EURO	TC.1 EURO
HD 37BT... Output 4 ÷ 20 mA	CO ₂ active transmitter. Power supply 16...40Vdc or 24Vac. Working temperature -5°C...+50°C. Alarm digital output for CO ₂ levels > 1500ppm.	230	230	255	255	270	270	230	230
HD 37VBT... Output 0 ÷ 10 Vdc	CO ₂ active transmitter. Power supply 16...40Vdc or 24Vac. Working temperature -5°C...+50°C. Alarm digital output for CO ₂ levels > 1500ppm.	234	234	260	260	275	275	234	234
HD 377BT... Dual output 4 ÷ 20 mA	CO ₂ and temperature active transmitter. Temperature range 0...50°C unchangeable Power supply 16...40Vdc or 24Vac. Working range -5°C...+50°C. Alarm digital output for CO ₂ levels > 1500ppm.	250	250	250	270	285	285	---	---
HD 37V7BT... Dual output 0 ÷ 10 Vdc	CO ₂ and temperature active transmitter. Temperature range 0...50°C unchangeable . Power supply 16...40Vdc or 24Vac. Working temperature -5°C...+50°C. Alarm digital output for CO ₂ levels > 1500ppm.	254	254	274	274	290	290	---	---



Blank = 4...20mA current analog output
V = 0...10Vdc voltage analog output

VERSIONS

TV = vertical f.s. 2000 ppm

TV.1 = vertical f.s. 5000 ppm

TO.1 = horizontal L = 120 mm f.s. 2000 ppm

TO.11 = horizontal L = 120 mm f.s. 5000 ppm

TO.2 = horizontal L = 320 mm f.s. 2000 ppm

TO.21 = horizontal L = 320 mm f.s. 5000 ppm

TC = wall mounted with connection for
a single tube (not for 2000)

separated duct air port. f.s. 2000 ppm
Recommended tube length 1 m

TC 1 - wall-mounted with connection for Recommended tubes length 1m

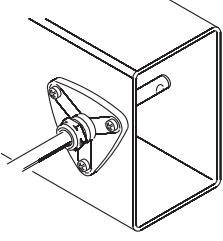
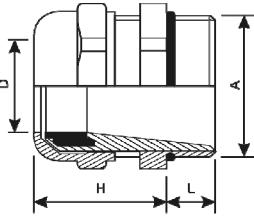
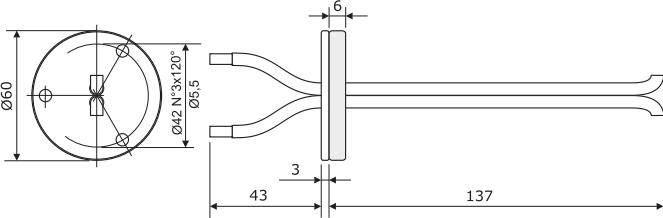
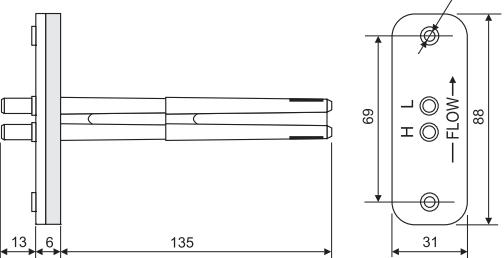
IC.1 = wall mounted with connection for separated duct air part, f.e. 5000 ppm

separated duct air port. f.s. 5000 ppm
Recommended tubes length 1m

Recommended tubes length mm

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MODEL	ACCESSORIES	EURO
HD 9008.31	Wall flange with cable gland to fix probes with Ø14mm. 	35
PG16	Metal cable gland PG16 for probes with Ø 14mm. 	28
HD 3719	Duct air port for flat surfaces. Two pieces of tube Ø 3.2 / Ø 6.4, 1m long. For models ...BTC and ...BTC.1. Recommended tubes length 1m. 	130
HD 3721	Circular duct air port made of plastic. Two pieces of tube: int. Ø 3.2 mm, ext. Ø 6.4 mm, 1m long. For models ...BTC and ...BTC.1. Recommended tubes length 1m. 	70
MINIFLOW	Regulating valve with flow direction.	70
MINICAN.20A	20 liter Nitrogen can for CO ₂ calibration at 0ppm without flow regulator. Note: the cylinder can not be shipped by air.	90
T37...m	PVC Cristal tube Ø int. 3.2 mm / Ø ext. 6.4 mm, price per meter.	7

MODEL	DATALOGGER MULTIFUNCTION INSTRUMENT TO MEASURE: TEMPERATURE, HUMIDITY, PRESSURE, AIR SPEED AND FLOW, LIGHT.	EURO
DO 9847	<p>Three channel multifunction data logger for probes complete with SICRAM module</p> <p>Sampling speed one per second each channel. Storage capacity 32,000 samples per channel. Functions: CLOCK, HOLD, RELATIVE , MINIMUM, MAXIMUM, MEAN MEASUREMENT. Simultaneous display of the measurements on three channels or two channels plus the difference between two channels. Calibration of the individual probes with permanent storage of the calibration data inside the probe, it is possible to change the probes without losing the calibration. The instrument allows the input of various types of probe of different physical magnitudes. The software can be updated via RS232C, to implement new physical magnitudes, starting from version 2.0.</p> <p>Platinum probes (25, 100, 500 Ω at 0°C), Thermocouples K, J, E, T, N, R, S, B probes, combined R.H. and temperature, pressure also barometric one, air velocity, light, mV and mA probes can be connected.</p> <p>Centesimal temperature measurements can be carried out by PRT sensors in the range -200...+350°C, and decimal in the range +350...+850 °C.</p> <p>Power supply: 4 penlight batteries AA, lifetime about 100 hours, socket for external power supply 9...16 Vdc.</p> <p>The KIT is composed of the instrument DO9847, 4 alkaline batteries, instruction manual and carrying case. The modules, the probes, software and cable for data download have to be ordered separately.</p>	970
9CPRS232	Sub D 9-pole Female/Female RS232 null-modem cable.	42
C.205	Serial connection cable with USB connector for PC and Sub-D 9-pole connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instrument DO9847 directly to the USB port of the PC.	70
DELATALOG 3	CD-ROM with software DeltaLog 3 for downloading and PC data management.	110
SICRAM MODULES FOR DO 9847		
TP 471	SICRAM electronic module for PRT sensors without probe . Platinum temperature probes (Pt25Ω, 100Ω, or 500Ω) can be connected to the 4-wire input module. The probe and the SICRAM module can be calibrated together. The probe Callendar – Van Dusen parameters can be stored and the probe can be calibrated	68
TP 471 D0	SICRAM electronic module for THERMOCOUPLE sensors, 1 input without compensation of cold joint, with 2-wire copper output cable, L=1.5m for connection with the thermocouple at 0°C inside ice. Thermocouples type K-J-E-T-N-R-S-B can be connected. The calibration data are stored.	80
TP 471 D	SICRAM electronic module for THERMOCOUPLE with one input MINIATURE connector. Thermocouples type K-J-E-T-N-R-S-B can be connected to the module. The probe and the SICRAM module can be calibrated together. Calibration data can be stored.	68
TP 471 D1	SICRAM electronic module for THERMOCOUPLE with a two-input MINIATURE connector. Two thermocouples type K-J-E-T-N-R-S-B same kind (even if the shapes are different) can be connected to the module. The probe and the SICRAM module can be calibrated together. Both probes calibration data can be stored.	78
VP 472	SICRAM electronic module for PYRANOMETERS and ALBEDOMETERS . The signal produced by the thermopile of pyranometer can be read in mV or W/m ² , the net radiation of the albedometer is read in W/m ² . The thermopile sensitivity can be set from 5 to 30μV/(Wm ²).	91
VP 473	SICRAM electronic module for reading and storing the CONTINUOUS VOLTAGE . Measuring range : ±20Vdc , input impedance: 1MΩ.	78
IP 472	SICRAM electronic module for reading and storing the CONTINUOUS CURRENT . Measuring range: 0...24mA , input impedance: 25Ω.	78
PP 471	SICRAM electronic module for reading PRESSURE with the probes of TP704 / TP705 series. The module is complete with 1.5m cable and 8-pole DIN 45326, female connector.	66

**The K type probes available from page 14 can be connected to
TP471D and TP471D1
SICRAM modules.**

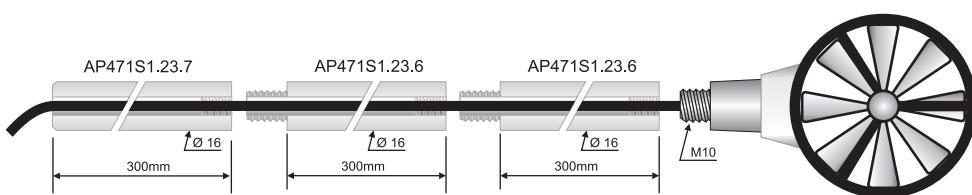
**Any probe of the TP704/TP705 series, listed at page 37 can be connected
to the PP471 SICRAM module.**

MODEL	Pt100 SENSOR PROBES COMPLETE WITH SICRAM MODULE	EURO
TP 472 I	Immersion probe for wire-wound Pt100 sensor, α 385. Probe stem Ø 3 mm, length 300 mm. Four wires connecting cable, length 2 m. Complete with SICRAM module. Working temperature: -196...+500 °C	130
TP 473 P.I	Pointed probe for wire-wound Pt100 sensor, α 385. Probe stem Ø 4 mm, length 150 mm. Four wires connecting cable, length 2 m. Complete with SICRAM module. Working temperature: -100...+400 °C.	136
TP 474 C.I	Pt100 thin film sensor contact probe, α 385. Probe stem Ø 4 mm, length 230 mm, silver contact surface Ø 5 mm. Four wires connecting cable, length 2 m. Complete with SICRAM module. Working temperature: -50...+400 °C	131
Temperature probes with SICRAM module on page 8 can be connected to the instrument.		
RELATIVE HUMIDITY AND TEMPERATURE PROBES WITH SICRAM MODULE		
	(*) For temperatures up to 150 °C, we recommend the use of probes with stainless steel stem and filter P7. Extra charge €	
HP 472 ACR	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	32 160
HP 572 ACR	%RH and K thermocouple temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	166
HP 473 ACR (*)	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -20...+80°C, 0...100%RH.	166
HP 474 ACR (*)	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH.	170
HP 475 ACR	%RH and Pt100 temperature combined probe, complete with SICRAM module. 2m connecting cable. Stainless steel probe stem. Tip dimensions Ø 14 x 75 mm. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity in grains)	310
HP 475AC1R	%RH and Pt100 temperature combined probe, complete with SICRAM module. Stainless steel probe stem, stainless steel 20 μ sintered filter. 2m connecting cable. Working range: -40...+180°C, 0...100%RH.	315
HP 477 DCR	%RH and Pt100 temperature combined sword probe complete with SICRAM module. 2m connecting cable. Working range: -40...+150°C, 0...100%RH. (Measurement of water activity on paper)	290
HP 478 ACR	%RH and Pt100 temperature combined probe complete with SICRAM module. 5m connecting cable. Working range: -40...+150°C, 0...100%RH.	190
HP 480	Probes for the measurement of air humidity in pipes . It measures relative humidity and temperature or Dew Point. Equipped with SICRAM module. 2m connecting cable. Measuring range: -40...+60°C, -40...+60°C DP. Three 1/4" quick couplings. Working pressure up to 16 bar. AISI 304 measuring chamber.	410
The combined humidity and temperature probes with last letter of the code R are compatible with the DO 9847 instruments having serial number from 09015586 (rev. 3.01 B240).		

MODEL	BAROMETRIC PROBE COMPLETE WITH SICRAM MODULE								EURO
PP 472	Barometric probe complete with SICRAM module. Working range: 800...1100mbar, only on request 600...1100 mbar.								178
	DIFFERENTIAL PRESSURE PROBES COMPLETE WITH SICRAM MODULE								
PP 473 - ...	Differential pressure probes complete with SICRAM module to measure pressure in the range 10, ..., 2000 mbar. Temperature working range: -10°C ... +50°C. Connecting tube Ø 5mm. To be used only with dry air, dry and non-corrosive gases. The probes are suitable for DO9847 rev. 2.0 and following ones.								
		S1 *	S2 *	S3	S4	S5	S6	S7	S8
	Working range	0...10mbar	0...20mbar	0...50mbar	0...100mbar	0...200mbar	0...500mbar	0...1bar	0...2bar
	Max over-pressure	200mbar	200mbar	200mbar	300mbar	1bar	1bar	3bar	6bar

(*) For ACCREDIA certification of these probes, please refer to pg. 94.

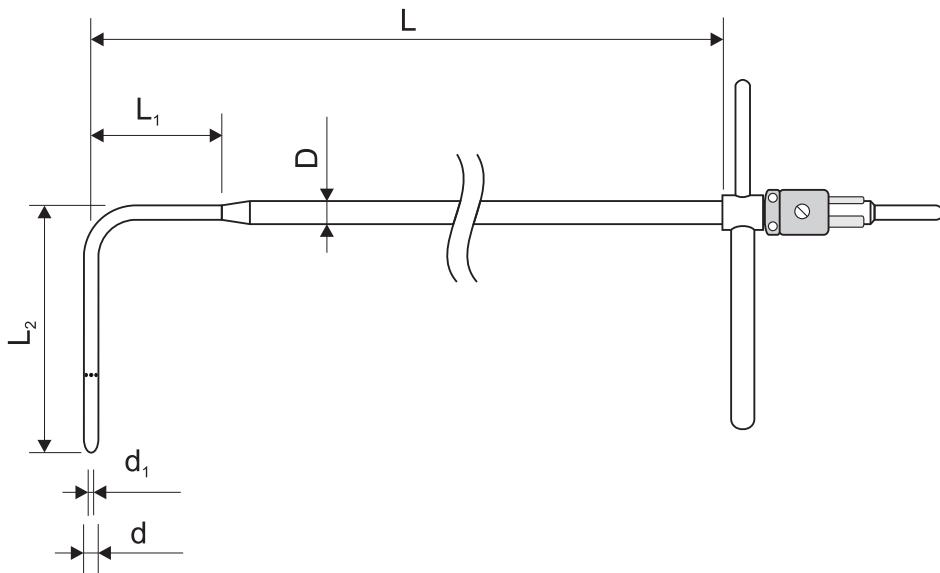
MODEL	HOTWIRE PROBES FOR AIR SPEED MEASUREMENT COMPLETE WITH SICRAM MODULE	EURO
AP 471 S1	Directional hotwire probe to measure air speed in the range 0.1...40m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft: minimum length 360 mm, maximum length 1060 mm. Cable length with fully closed telescopic shaft 1800 mm. Probe complete with SICRAM module.	380
AP 471 S2	Omni-directional hotwire probe to measure air speed in the range 0.1...5m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft: minimum length 360 mm, maximum length 1060 mm. Cable length with fully closed telescopic shaft 1800 mm. Probe complete with SICRAM module.	410
AP 471 S3	Directional hotwire probe, 180°C articulated tip for easy positioning, to measure air speed in the range 0.1...40m/s and air temperature in the range -25°C...+80°C. Temperature compensation from 0 to +80°C. Probe diameter (measurement area) 8mm. Probe complete with handle and telescopic shaft, minimum length 450 mm, maximum length 1140 mm. Cable length with fully closed telescopic shaft 1660 mm. Probe complete with SICRAM module.	430
AP 471 S4	Omni-directional hotwire probe with telescopic shaft and table base. Maximum height 760 mm, minimum height 380mm. Measurement of air speed in the range 0.1...5m/s and of air temperature in the range 0°C...+80°C. Wire protection spherical cage diam. 100mm. 2m cable. Probe complete with SICRAM module.	470
	VANE PROBES FOR AIR SPEED MEASUREMENT COMPLETE WITH SICRAM MODULE	
AP 472 S1	Vane probe with K type thermocouple Ø 100 mm to measure air speed in the range 0.6...25m/s and air temperature in the range -25°C ... +80°C. Probe complete with handle, telescopic shaft available on request . Minimum length of shaft with handle 360 mm, maximum length with handle 1025 mm. 2 m cable. Probe complete with SICRAM module.	370
AP 472 S2	Vane probe diam. 60 mm with handle to measure air speed in the range 0.5...20m/s. Telescopic shaft available on request . Minimum length of shaft with handle 360 mm, maximum length with handle 1025 mm. 2 m cable. Probe complete with SICRAM module.	340
AST.1	Telescopic shaft (minimum length 210 mm, maximum length 870 mm) for AP472S1 and AP472S2 vane probes.	86
AP 471S1.23.6	Fixed extension shaft Ø 16 x 300 mm, M10 male thread on a side, female on the other. For vane probes AP472S1, AP472S2.	34
AP 471S1.23.7	Fixed extension shaft Ø 16 x 300 mm, M10 female thread on a side only. For vane probes AP472S1, AP472S2.	30



MODEL	SICRAM MODULE FOR AIR SPEED MEASUREMENT BY PITOT TUBE	EURO
AP 473 S1	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 10mbar , air speed from 2 to 40 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	138
AP 473 S2	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 20mbar , air speed from 2 to 55 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	138
AP 473 S3	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 50mbar , air speed from 2 to 90 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	143
AP 473 S4	SICRAM module to connect the DO2003 and the Pitot tube. Differential pressure up to 100mbar , air speed from 2 to 130 m/s. Temperature working range with 'K' type thermocouple -200°C...+600°C (for tubes provided with thermocouple). Pitot tubes, cable PW and K type thermocouple probes have to be ordered separately.	143
PW	K thermocouple extension cable. Length 2m, miniature connector	31

PITOT TUBES

Stainless steel Pitot tubes to measure air speed and temperature, for models provided with 'K' thermocouple, equipped with silicon tube with 6mm external diam., 4mm internal diam. and length 2m. **PW cable has to be ordered separately.**



	d mm	d ₁ mm	D mm	L mm	L ₁ mm	L ₂ mm	Temp. °C	K Thermocouple	Made of	
T1-300	3	1	6	300	30	72	0...600°C	---	AISI 316	180
T2-400	5	2	8	400	45	120		---		180
T2-600	5	2	8	600	45	120		---		196
T3-500	8	3.2	8	500	---	192		---		191
T3-800	8	3.2	8	800	---	192		---		196
T3-800TC	8	3.2	8	800	---	192		TC		290
T4-500	10	4.0	10	500	---	240		---		191
T4-800	10	4.0	10	800	---	240		---		201
T4-800TC	10	4.0	10	800	---	240		TC		297
T4-1000	10	4.0	10	1000	---	240		---		212
T4-1000TC	10	4.0	10	1000	---	240		TC		306

MODEL	PHOTOMETRIC-RADIOMETRIC PROBES WITH SICRAM MODULE FOR LIGHT MEASUREMENT	EURO
LP 471 PHOT	Photometric probe for measuring the ILLUMINANCE , spectral response according to the photopic curve, class B according to CIE N° 69 , cosine correction diffuser. Measuring range: 0.1 lux ... 200·10 ³ lux.	160
LP 471 RAD	Radiometric probe for measuring the IRRADIANCE in the spectral range 400 nm ... 1050 nm, cosine correction diffuser. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	180
LP 471 PAR	Quantum-radiometric probe for measuring the PHOTONS FLOW in the chlorophyll field PAR (photosynthetically Active Radiation 400 nm ... 700 nm), μmol/m ² s measuring unit, cosine correction diffuser. Measuring range 0.01 μmol m ⁻² s ⁻¹ ... 10·10 ³ μmol m ⁻² s ⁻¹ .	210
LP 471 UVA	Radiometric probe for measuring the IRRADIANCE in the UVA spectral range 315 nm ... 400 nm, peak at 360 nm, quartz diffuser for cosine correction. For non-destructive testing ISO 3059:2001, EN 571-1, ASTM E1417. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	252
LP 471 UVB	Radiometric probe for measuring the IRRADIANCE in the UVB spectral range 280 nm ... 315 nm, peak at 305 nm, quartz diffuser for cosine correction. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	259
LP 471 UVC	Radiometric probe for measuring the IRRADIANCE in the UVC spectral range 220 nm ... 280 nm, peak at 260 nm, quartz diffuser for cosine correction. Measuring range: 0.1 mW/m ² ... 2000 W/m ² .	318
LP 471 LUM 2	Photometric probe for measuring the LUMINANCE , spectral response according to the photopic curve, angular field 2°. Measuring range: 0.1 cd/m ² ... 2000·10 ³ cd/m ² .	303
LP 471 BLUE	Radiometric probe for EFFECTIVE IRRADIANCE measurement in the spectral range of Blue light complete with SICRAM module. Spectral range 380nm...550nm, diffuser for cosine correction. Measurement range: 0.0001 W/m ² ... 2000 W/m ² .	260
LP 471 P-A	Combined probe for measuring the ILLUMINANCE (lux), with standard photopic spectral response, and for measuring the IRRADIANCE (W/m ²) in the UVA spectral range (315-400 nm, with peak at 365 nm). Both sensors are equipped with diffuser for the correction according to the cosine law. Illuminance measuring range: 0.3 lux ... 200·10 ³ lux. Irradiance measuring range: 0.1 mW/m ² ...2000 W/m ² . The probe provides the ratio of the UVA irradiance and the illuminance in μW/lumen (quantity of interest in the museums field). CIE 157. Supplied with SICRAM module and 2 m cable. The probe works with the instruments DO9847 from rev. R.1 .	390
LP 471 A-UVEff	Combined probe for measuring the TOTAL EFFECTIVE IRRADIANCE according to the weighting curve UV. The two sensors are used to correctly measure the total effective irradiance in the range 250-400 nm. Both sensors are equipped with diffuser for the correction according to the cosine law. The probe provides the total effective irradiance (E_{eff}), the effective irradiance in the range UV-CB and the UVA irradiance. Total effective irradiance measuring range: 0.001 W/m ² ...20 W/m ² . B_C effective irradiance measuring range: 0.001 W/m ² ...20 W/m ² . UVA irradiance measuring range: 0.1 W/m ² ...2000 W/m ² . Supplied with SICRAM module and 2 m cable. The probe works with the instruments DO9847 from rev. R.1 .	628
LP 471 SILICON-PYRA	Pyranometer with silicon photodiode to measure the GLOBAL SOLAR IRRADIANCE , diffuser for cosine correction. Spectral range: 400...1100 nm. Measuring range: 0...2000 W/m ² . Fixed cable 5m long, with SICRAM module.	295
LP 471 PYRA 03.5	Probe consisting of a second class pyranometer LP PYRA 03 and a 5m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included.	425
LP 471 PYRA 03.10	Probe consisting of a second class pyranometer LP PYRA 03 and a 10m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included.	458
LP 471 PYRA 02.5	Probe consisting of a first class pyranometer LP PYRA 02 and a 5m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included.	950
LP 471 PYRA 02.10	Probe consisting of a first class pyranometer LP PYRA 02 and a 10m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included.	985
LP 471 PYRA 10.5	Probe consisting of a "secondary standard" according to ISO 9060 pyranometer LP PYRA 02 and a 5m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included.	1734
LP 471 PYRA 10.10	Probe consisting of a "secondary standard" according to ISO 9060 pyranometer LP PYRA 02 and a 10m long cable complete with SICRAM module. The calibration report of the pyranometer connected to the cable with SICRAM module is included.	1763
LP BL	Base with levelling device. On request for assembly with the probes when placing the order (not suitable for LP471 LUM2 probe).	84
LP BL3	 Adjustable wall support for Ø 30 mm photometric and radiometric probes.	95
LP RING 02	 Base with levelling device and adjustable holder for mounting the LP PYRA 02 and LP PYRA 10 pyranometers in an inclined position.	230
LP RING 03	 Base with levelling device and adjustable holder for mounting the LP PYRA 03 pyranometer in an inclined position.	240

MODEL	8 INPUTS DATALOGGER FOR Pt100 PROBES COMPLETE WITH SICRAM MODULE	EURO
HD 32.7	<p>8 input datalogger instrument for Pt100 sensor temperature probes equipped with SICRAM module. Storage interval selectable between: 1s, 5s, 15s, 30s, 1min, 2min, 5min, 10min, 15min, 30min or 1 hour. Memory capacity: 96,000 samples, each one of all 8 channels. Functions: CLOCK, RELATIVE, MINIMUM, MAXIMUM, MEAN MEASUREMENT. Simultaneous display of measurements on all the eight inputs. RS232C and USB1.1-2.0 serial interface. The instrument firmware can be updated by PC. The instrument allows centesimal temperature measurements in the range: -199.99...+199.99°C and decimal in the range +200...+650°C. Power supply: four 1.5Vdc batteries type C, 12Vdc socket for external power supply.</p> <p>The KIT is composed of instrument HD32.7, four 1.5Vdc alkaline batteries type C, instruction manual, software DeltaLog 9 and support and transport strap. The probes, support, carrying case and cables have to be ordered separately.</p>	1100
DELタルOG 9	Further copy of CD-ROM with software DeltaLog 9 for PC data download and management. For Windows® operating systems.	85
PROBES AND ACCESSORIES FOR HD32.7		
9CPRS232	Sub D 9-pole Female/Female RS232 null-modem cable.	42
CP 22	USB 2.0 connection cable connector type A - type B.	42
BAG32.2	Carrying case for instrument HD32.7 and its accessories.	70
HD 32CS	Support and transport strap.	25
SWD10	100-240Vac/12Vdc-1A stabilized mains power supply.	44
VTRAP32	Tripod equipped with 6 input head and 5 probe holders code HD3218K.	335
HD 3218K	Clamp shaft for a further probe.	42
<p>The Pt100 probes complete with SICRAM module listed from page 8 can be connected to the instrument. Probes with different shape can be supplied on request.</p>		
8 OR 16 INPUTS DATALOGGER FOR K – J – T – N – R – S – B – E TYPE THERMOCOUPLE PROBES		
HD 32.8.8	<p>8 input datalogger instrument for temperature probes with K, J, T, N, R, S, B and E type thermocouple. Storage interval selectable between: 1s, 5s, 15s, 30s, 1min, 2min, 5min, 10min, 15min, 30min or 1 hour. Memory capacity 800,000 samples, to be divided among the channels having probes connected. Functions: CLOCK, RELATIVE, MINIMUM, MAXIMUM, MEAN MEASUREMENT. Simultaneous display of four inputs at a time. RS232C and USB1.1-2.0 serial interface. The instrument firmware can be updated by PC. Power supply: four 1.5Vdc batteries type C, 12Vdc socket for external power supply or PC USB port power supply.</p> <p>The KIT is composed of instrument HD32.8.8, four 1.5Vdc alkaline batteries type C, instruction manual, software DeltaLog 9 and transport strap. The probes, support, carrying case and cables have to be ordered separately.</p>	1250
HD 32.8.16	<p>16 input datalogger instrument for temperature probes with K, J, T, N, R, S, B and E type thermocouple. Storage interval selectable between: 1s, 5s, 15s, 30s, 1min, 2min, 5min, 10min, 15min, 30min or 1 hour. Memory capacity 800,000 samples, to be divided among the channels having probes connected. Functions: CLOCK, RELATIVE, MINIMUM, MAXIMUM, MEAN MEASUREMENT. Simultaneous display of four inputs at a time. RS232C and USB1.1-2.0 serial interface. The instrument firmware can be updated by PC. Power supply: four 1.5Vdc batteries type C, 12Vdc socket for mains voltage or PC USB port power supply.</p> <p>The KIT is composed of instrument HD32.8.16, four 1.5Vdc alkaline batteries type C, instruction manual, software DeltaLog 9 and transport strap. The probes, support, carrying case and cables have to be ordered separately.</p>	1500
DELタルOG 9	Further copy of CD-ROM with software DeltaLog 9 for PC data download and management. For Windows® operating systems.	85
PROBES AND ACCESSORIES FOR HD32.8.8 AND FOR HD32.8.16		
9CPRS232	Sub D 9-pole Female/Female RS232 null-modem cable.	42
CP 22	USB 2.0 connection cable connector type A - type B.	42
BAG32.2	Carrying case for instrument HD32.8 and its accessories.	70
HD 32CS	Support and transport strap.	25
SWD10	100-240Vac/12Vdc-1A stabilized mains power supply.	44
VTRAP32	Tripod equipped with 6 input head and 5 probe holders code HD3218K.	335
HD 3218K	Clamp shaft for a further probe.	42
<p>The thermocouple temperature probes with standard miniature connector listed from page 14 can be connected to the instrument. Probes with different shape can be supplied on request.</p>		

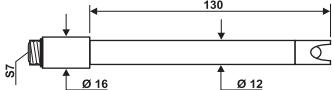
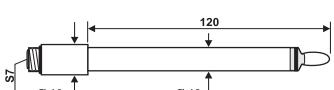
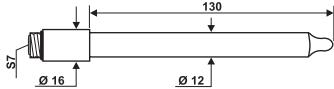
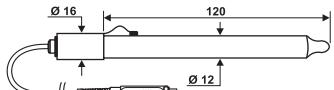
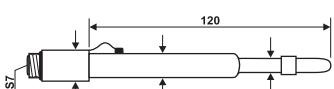
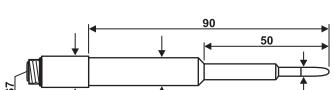
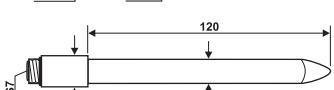
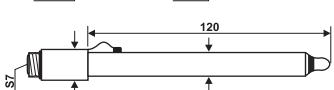
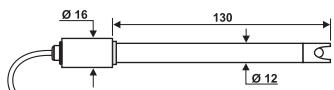
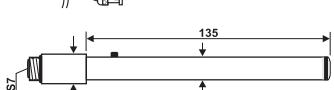
MODEL	MINI DATALOGGERS TEMPERATURE, TEMPERATURE AND RELATIVE HUMIDITY	EURO
VISUAL INDICATION TEMPERATURE AND RELATIVE HUMIDITY		
HD 206-1	TEMPERATURE and RELATIVE HUMIDITY mini data logger with display, ON BOARD SENSORS MOUNTED OUTSIDE THE INSTRUMENT . Working range: temperature -30°C...+80°C, R.H. 5...98%. Resolution 0.1°C; 0.1%R.H. Accuracy ±0.3°C (0...70°C), ±0.4°C outside; ±2.5%R.H. Selectable storage interval 1-5-10-15-30 sec/min, 1 hour. Storage of 120,000 reading per channel, 8mm 3 ½ digit LCD display. IP54 protection degree.	277
HD 206-2	TEMPERATURE and RELATIVE HUMIDITY mini data logger with display, EXTERNAL COMBINED PROBE WITH 1.5m CABLE (included) . Instrument working range: temperature -30°C...+80°C, probe HD206S1 -40°C...+105°C, relative humidity 5...98%. Resolution 0.1°C; 0.1%R.H. Accuracy ±0.3°C (0...70°C), ±0.4°C outside; ±2.5%R.H. Selectable storage interval 1-5-10-15-30 sec/min, 1 hour. Storage of 120,000 readings per channel, 8mm 3 ½ digit LCD display. IP67 protection degree for the instrument, IP54 for the probe. Kit is composed of: instrument, combined temperature/humidity probe HD206S1.	345
WITHOUT VISUAL INDICATION TEMPERATURE AND RELATIVE HUMIDITY		
HD 226-1	TEMPERATURE and RELATIVE HUMIDITY mini data logger, with LED indication, ON BOARD SENSORS MOUNTED OUTSIDE THE INSTRUMENT . Working range: temperature -30°C...+80°C, relative humidity 5...98%. Resolution 0.1°C; 0.1%R.H. Accuracy ±0.3°C (0...70°C), ±0.4°C outside; ±2.5%R.H. Selectable storage interval 1-5-10-15-30 sec/min, 1 hour. Storage of 240,000 readings. IP54 protection degree. External channel for wire temperature probes. Software compulsory.	221
HD 226-2	TEMPERATURE and RELATIVE HUMIDITY mini data logger, with LED indication, EXTERNAL COMBINED PROBE WITH 1.5m CABLE (included) . Internal temperature sensor. Temperature working range: instrument -30°C...+80°C, probe HD206S1 -40°C...+105°C. Relative humidity 5...98%. Resolution 0.1°C; 0.1%R.H. Accuracy ±0.3°C (0...70°C), ±0.4°C outside; ±2.5%R.H. Selectable storage interval 1-5-10-15-30sec/min, 1 hour. Storage of 240,000 readings. IP67 protection degree for the instrument, IP54 for the probe. Kit is composed of: instrument, combined temperature/humidity probe HD206S1. Software compulsory.	292
VISUAL INDICATION TEMPERATURE ONLY		
HD 207	TEMPERATURE mini data logger with display, SENSOR INSIDE THE INSTRUMENT . Temperature working range -30°C...+80°C. Resolution 0.1°C, accuracy ±0.3°C (0...70°C), ±0.4°C outside. Selectable storage interval 1-5-10-15-30 sec/min, 1 hour. Storage of up to 240,000 readings, 8mm 3 ½ digit LCD display. IP67 protection degree. Two channels: one internal and one external with optional wire probe.	211
HD 207-1	TEMPERATURE mini data logger with display, ON BOARD SENSOR MOUNTED OUTSIDE THE INSTRUMENT . Temperature working range -30°C...+80°C. Resolution 0.1°C. Accuracy ±0.3°C (0...70°C), ±0.4°C outside. Selectable storage interval 1-5-10-15-30 sec/min, 1 hour. Storage of up to 240,000 readings, 8mm 3 ½ digit LCD display. IP54 protection degree. Two channels: one internal and one external with optional wire probe.	211
WITHOUT VISUAL INDICATION TEMPERATURE ONLY		
HD 227	TEMPERATURE mini data logger, with LED indication, SENSOR INSIDE THE INSTRUMENT . Temperature working range -30°C...+80°C. Resolution 0.1°C. Accuracy ±0.3°C (0...70°C), ±0.4°C outside. Selectable storage interval 1-5-10-15-30 sec/min, 1 hour. Storage of 240,000 readings. IP67 protection degree. Two channels: one internal and one external with optional wire probe. Software compulsory.	147
HD 227-1	TEMPERATURE compact data logger, with LED indication, ON BOARD SENSOR MOUNTED OUTSIDE THE INSTRUMENT . Temperature working range -30°C...+80°C. Resolution 0.1°C. Accuracy ±0.3°C (0...70°C), ±0.4°C outside. Selectable storage interval 1-5-10-15-30 sec/min, 1 hour. Storage of 240,000 readings. IP54 protection degree. Two channels: one internal and one external with optional wire probe. Software compulsory.	147
EXTERNAL PROBES WITH CABLE		
TP 207	Immersion temperature probe. Working range -40°C...+105°C. 1.5m cable.	56
TP 207 P	Pointed temperature probe. Working range -40°C...+105°C. 1.5m cable.	76
TP 207 A	Air temperature probe. Working range -40°C...+105°C. 1.5m cable.	76
For substantial quantities other probes can be supplied		
ACCESSORIES		
HD 206S1	Spare temperature and relative humidity combined probe, with 1.5m cable. The probe replacement requires the recalibration of the minidatalogger with the new probe.	155
DELTALOG 2	Software DeltaLog 2 for PC data download and management with Windows® operating system for the mini data loggers series HD206/226 – HD207/227 complete with serial cable HD206/54 to connect the mini data loggers to the PC. Mini DIN 8-pole male and Sub D 9-pole female connector. 1.5 m cable.	100
C.206	Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the mini-dataloggers HD 206, HD 226, HD 207 and HD 227 series directly to the USB port of the PC.	70
HD 206/54	Serial cable L= 1.5 m for connecting to the mini data loggers. Mini DIN 8-pole male / SubD 9-pole female.	33
BL.1	Li-SoCl ₂ 3.6V 1Ah spare battery.	13

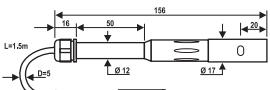
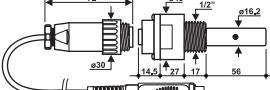
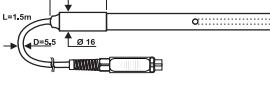
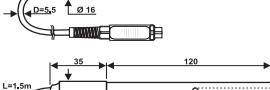
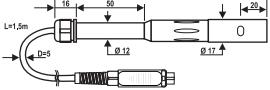
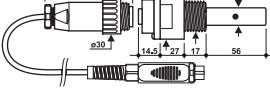
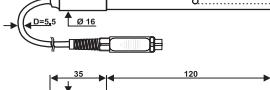
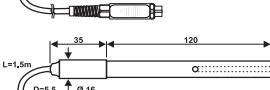
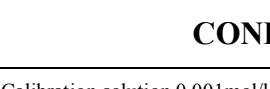
MODELS WITH LCD DISPLAY	MODELS WITHOUT LCD DISPLAY
<p>HD206-1 Relative Humidity and Temperature sensor placed under the front cover</p>	<p>HD226-1 Relative Humidity and Temperature sensor placed under the front cover</p>
<p>HD206-2 Relative Humidity and Temperature probe</p>	<p>HD226-2 External wire combined Temp/Humidity probe Internal Temperature sensor</p>
<p>HD207 Internal Temperature sensor</p>	<p>HD227 Internal Temperature sensor</p>
<p>HD207-1 Temperature sensor placed under the front cover</p>	<p>HD227-1 Temperature sensor placed under the front cover</p>

The mini data loggers equipped with external probe with cable can be ACCREDIA certified within the whole temperature range of the coupled external probe. The ACCREDIA certification for the models with sensor placed under the front cover is limited to the interval 4°C...60°C. All the models equipped with R.H. sensor can be ACCREDIA certified.

MODEL	PORTABLE INSTRUMENTS FOR pH - ORP - µS - mS – TDS - O ₂	EURO
pH METERS		
HD 2305.0	pHmeter-Thermometer which measures pH, mV and temperature. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries. Electrodes, calibrating solutions and TP87 and TP47... series temperature probes with SICRAM module have to be ordered separately.	242
HD 2105.1	pHmeter-Thermometer which measures pH, mV and temperature. Storage of maximum, minimum, average value, RS232 C output for data transfer to a PC or a printer in real time. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, 4 batteries, Software DeltaLog 9. Electrodes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	250
HD 2105.2	pHmeter-Thermometer which measures pH, mV and temperature. Datalogger which stores the maximum, minimum, average value and can store up to 34,000 samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, Software DeltaLog 9. Electrodes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	350
HD 9609 K	pH/mV simulator kit composed of instrument HD9609, adapter cables CP 9509/T, CP 9509/BNC and carrying case.	422
CONDUCTIVITY METERS		
HD 2306.0	Conductivity-Thermometer measures conductivity, liquid resistivity, total dissolved solids, salinity and temperature. Storage of maximum, minimum, average value. Functions: REL, HOLD and auto power off which can be disabled, IP 67 protection degree. Supplied with carrying case, instruction manual, 3 batteries. Conductivity probes, calibrating solutions and TP47... series temperature probes with SICRAM module have to be ordered separately.	222
HD 2106.1	Conductivity-Thermometer measures conductivity, liquid resistivity, total dissolved solids, salinity and temperature. Storage of maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, 4 batteries, instruction manual, Software DeltaLog 9. Conductivity probes, calibrating solutions, TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	250
HD 2106.2	Conductivity-Thermometer measures conductivity, liquid resistivity, total dissolved solids, salinity and temperature. Datalogger which can store the maximum, minimum, average value and can store up to 36,000 samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, Software DeltaLog 9. Conductivity probes, calibrating solutions, TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	361
MULTIPARAMETERS: pH AND CONDUCTIVITY		
HD 2156.1	pHmeter-Conductivity-Thermometer measures pH, mV, conductivity, liquid resistivity, total dissolved solids, salinity and temperature. Storage of maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, 4 batteries, instruction manual, Software DeltaLog 9. Electrodes, conductivity probes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	344
HD 2156.2	pHmeter-Conductivity-Thermometer measures pH, mV, conductivity, liquid resistivity, total dissolved solids, salinity and temperature. Datalogger , stores the maximum, minimum, average value and can store up to 20,000 sets of three measurements. USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, Software DeltaLog 9. Electrodes, conductivity probes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	443

MODEL	PORTABLE INSTRUMENTS FOR pH - ORP - μ S - mS – TDS - O ₂	EURO
OXYGEN METERS		
HD 2109.1	Oxygen meter-Thermometer measures dissolved oxygen, saturation index and temperature. Storage of maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, 4 batteries, instruction manual, calibrator DO9709/20 (polarographic probe) o DO9709/21 (galvanic probe), Software DeltaLog 9. The oxygen probes, TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	330
HD 2109.2	Oxygen meter-Thermometer measures dissolved oxygen, saturation index and temperature. Datalogger which stores the maximum, minimum, average value and can store up to 18,000 samples. RS232 C/ USB output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled, IP 66 protection degree. Supplied with carrying case, instruction manual, calibrator DO9709/20 (polarographic probe) o DO9709/21 (galvanic probe), Software DeltaLog 9. The oxygen probes, TP47... series temperature probes with SICRAM module and cables for data download have to be ordered separately.	446
MULTIPARAMETER pH, OPR, CONDUCTIVITY, TDS, DISSOLVED OXYGEN		
HD 98569	The instrument can measure three electrochemical quantities at the same time: pH or ORP, conductivity, TDS or salinity, dissolved oxygen and temperature. Three optoisolated inputs. Input 1: pH, ORP or temperature. Input 2: dissolved oxygen or temperature. Input 3: conductivity, total dissolved solids, salinity or temperature. It can measure, store or download the readings through the multistandard RS232C/USB2.0 serial port. The instrument is equipped with four 1.5V batteries, instruction manual, software DeltaLog 11, carrying case and SICRAM module pH471 with 1m cable. Connection and data download cables, calibration solutions, electrodes and probes have to be ordered separately.	880
COMMON ACCESSORIES FOR PORTABLE INSTRUMENTS		
DELTALOG 9	Further copy of CD-ROM with software Deltalog 9 for PC data management and download for Windows® operating systems (from 98) for instruments HD2105.1, HD2105.2, HD2106.1, HD2106.2, HD2156.1, HD2156.2, HD2109.1, HD2109.2	85
DELTALOG 11	Further copy of CD-ROM with software Deltalog 11 for PC data management and download for Windows® operating systems (from 98) for instrument HD98569	85
C.206	Serial connection cable with USB connector for PC and 8-pole MiniDin male connector for the instrument. The cable has a built-in USB/RS232 converter and connects the instruments HD2105.1, HD2106.1, HD2156.1, HD2109.1 directly to the USB port of the PC.	70
HD 2110 CSNM	MiniDin 8 poles – 9 poles sub D female connecting cable for RS232C for instruments HD2105.1, HD2105.2, HD2106.1, HD2106.2, HD2156.1, HD2156.2, HD2109.1, HD2109.2, HD98569	42
HD 2101/USB	USB 2.0 connecting cable, type A, MiniDin 8-pole connection for instrument HD98569	42
CP 23	PC connecting cable with male mini-USB connector on instrument side and male A type USB connector on PC side. For instruments HD2105.2, HD2106.2, HD2156.2, HD2109.2	21
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option.	265
HD 40.2	24-column portable thermal printer, Bluetooth and serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable HD 2110 CSNM as option. For the instrument HD98569	345
BAT-40	Spare battery pack for HD40.1 and HD40.2 printers with built-in temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm diameter.	7
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44
HD 22BT	Bluetooth module for remote data download without wire connection between instrument and PC or printer with Bluetooth input. For the instrument HD98569. This module has to be requested when placing the order and it is provided only by Delta Ohm.	102

MODEL	ELECTRODES AND ACCESSORIES FOR pH METERS HD2305.0 - HD2105.1 - HD2105.2 - HD2156.1 - HD2156.2 - HD98569	EURO
KP 20		Gel pH combined electrode, with S7 screw connector, epoxy body. 67
KP 30		Gel pH combined electrode, 1m cable with BNC, epoxy body (not suitable for HD98569). 72
KP 50		Gel pH combined electrode, porous Teflon ring junction, suitable for very polluted samples, with S7 screw connector, glass body. 113
KP 61		3 diaphragm liquid filled pH combined electrode for wine, milk, cream, etc., S7 screw connector, liquid internal reference solution, refillable, glass body. 95
KP 62		1 diaphragm gel pH combined electrode for general use, S7 screw connector, glass body. 95
KP 63		1 diaphragm pH combined electrode for general use, 1m cable with BNC, liquid internal reference solution, refillable, glass body, Ag/AgCl sat KCl 3M (not suitable for HD98569). 98
KP 63TS		1 diaphragm pH combined electrode with built-in Pt100 sensor, complete with SICRAM module, for general use, 1m cable, liquid internal reference solution, refillable, glass body, Ag/AgCl sat KCl 3M (Only for HD98569). 180
KP 64		pH combined electrode, Teflon ring diaphragm, for wine, S7 screw connector, liquid internal reference solution, refillable, glass body. 98
KP 70		Pointed gel combined pH microelectrode diam. 6 x L=70 mm., with S7 screw connector, for cheese, meat, epoxy body, glass tip, open junction. 115
KP 80		Pointed gel pH combined electrode, with S7 screw connector, glass body, for cream, milk, viscous material, open junction. 108
KP 90		REDOX PLATINUM liquid filled electrode with S7 screw connector, glass body. 98
KP 91		Gel REDOX PLATINUM electrode, 1m cable with BNC, epoxy body (not suitable for HD98569). 87
KP 100		Flat membrane gel combined pH electrode with S7 screw connector, glass body, for skin, leather, paper. 108
BNC	Female BNC for electrode extension	11
CP 9509/BNC	Adapter cable L=1 m, male BNC on both the sides for HD9609	42
CP 9509/S7	Adapter cable L=1 m, male BNC on one side, S7 on the other side for HD9609	42
CP 9509 T	Adapter cable L=1 m, male BNC on one side only for HD9609	27
CP	1.5m extension cable with BNC/S7 connector for electrode without cable, thread S7.	32
CP 5	5m extension cable with BNC/S7 connector for electrode without cable, thread S7.	58
CP 10	10m extension cable with BNC/S7 connector for electrode without cable, thread S7.	78
CP 15	15m extension cable with BNC/S7 connector for electrode without cable, thread S7.	100
CE	S7 screw connector for pH electrode.	15
pH471.1	SICRAM module for pH electrodes with S7 connector, cable L=1m. For the instrument HD98569	75
pH471.2	SICRAM module for pH electrode with S7 connector, cable L=2m. For the instrument HD98569	80
pH471.5	SICRAM module for pH electrode with S7 connector, cable L=5m. For the instrument HD98569	96
	pH/Redox electrodes of other manufacturers can be connected to SICRAM modules pH471.1, pH471.2 and pH471.5 by means of S7 connector.	

MODEL	STANDARD pH / ORP SOLUTIONS	EURO
HD 8642	Buffer solution pH 4.01 – 200 cc.	14
HD 8672	Buffer solution pH 6.86 – 200 cc.	14
HD 8692	Buffer solution pH 9.18 – 200 cc.	14
HD R220	Buffer solution ORP 220mV – 500 cc.	28
HD R468	Buffer solution ORP 468mV – 500 cc.	28
KCL3M	Ready to use solution for electrode refilling – 100 cc	14
HD 62PT	Diaphragm cleaning solution (HCl tiourea) – 500 cc.	38
HD 62PP	Protein cleaning solution (HCl pepsin) – 500 cc.	38
HD 62RF	Solution for electrodes regeneration (hydrofluoric acid) – 100 cc.	28
HD 62SC	Solution for electrode maintenance – 500 cc.	30
PROBES FOR CONDUCTIVITY METERS HD2306.0 - HD2106.1 - HD2106.2 - HD2156.1 - HD2156.2		
SP 06T		Conductivity and temperature combined probe. Cell constant 0.7. Probe measuring range 5µS...200mS, 0 ... 90°C max pressure 5bar.
SPT 401.001		Conductivity and temperature combined probe, 2-electrode cell made of AISI 316 stainless steel. Cell constant 0.01. (Not suitable for HD2306.0)
SPT 01G		Conductivity and temperature combined probe, glass body, 2 platinum wire electrodes, cell constant 0.1.
SPT 1G		Conductivity and temperature combined probe, glass body, 2 platinum wire electrodes, cell constant 1.
SPT 10G		Conductivity and temperature combined probe, glass body, 2 platinum wire electrodes, cell constant 10.
CONDUCTIVITY PROBES FOR HD98569		
SP 06TS		Combined conductivity and temperature probe with SICRAM module. Cell constant 0.7. Probe measuring range 5µS...200mS, 0 ... 90°C. Max pressure 5bar.
SPT 401.001S		Combined conductivity and temperature probe with SICRAM module, AISI 316 steel 2-electrode probe, cell constant 0.01. Probe measuring range 0.04...20µS, 0...120°C. With 2m cable. Max pressure 5bar. (Not suitable for HD2306.0) .
SPT 01GS		Combined conductivity and temperature probe with SICRAM module. Glass 2 platinum electrodes, cell constant 0.1. Probe measuring range 0.1...500µS, 0...80°C. Max pressure 5bar.
SPT 1GS		Combined conductivity and temperature probe with SICRAM module. Glass 2 platinum electrodes, cell constant 1. Probe measuring range 10µS...10mS, 0...80°C. Max pressure 5bar.
SPT 10GS		Combined conductivity and temperature probe with SICRAM module.. Glass 2 platinum electrodes, cell constant 10. Probe measuring range 500µS...200mS, 0...80°C. Max pressure 5bar.
CONDUCTIVITY STANDARD SOLUTIONS		
HD 8747	Calibration solution 0.001mol/l corresponding to 147 µS/cm at 25°C, 200 cc.	25
HD 8714	Calibration solution 0.01mol/l corresponding to 1413µS/cm at 25°C, 200 cc.	18
HD 8712	Calibration solution 0.1mol/l corresponding to 12880µS/cm at 25°C, 200 cc.	18
HD 87111	Calibration solution 1mol/l corresponding to 111800µS/cm at 25°C, 200 cc.	30

MODEL	PROBES AND ACCESSORIES FOR OXYGEN METERS HD2109.1 - HD2109.2 - DO9709 - HD98569	EURO
DO 9709 SS	Polarographic combined oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. 2m cable. The code includes: probe, 2 membranes, electrolyte solution and zero point solution.	378
DO 9709 SS.5	Polarographic combined oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. 5m cable. The code includes: probe, 2 membranes, electrolyte solution and zero point solution.	444
DO 9709 SS.1	Galvanic combined galvanic oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. Ø16mm tip with membrane. 2m cable. The code includes: probe, 2 membranes in total, electrolyte solution and zero point solution.	331
DO 9709 SS.5.1	Galvanic combined galvanic oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. Ø16mm tip with membrane. 5m cable. The code includes: probe, 2 membranes in total, electrolyte solution and zero point solution.	398
DO 9709/20	Calibrator for polarographic probes DO 9709SS and DO 9709SS.5	55
DO 9709/21	Calibrator for galvanic probes DO 9709SS.1 and DO 9709SS.5.1	55
DO 9709 SSK	Kit of accessories for probes DO 9709SS and DO 9709SS.5: 3 membranes, zero point solution and electrolyte.	215
DO 9709/21K	Kit of accessories for probes DO 9709SS.1 and DO 9709SS.5.1: 3 membranes, zero point solution and electrolyte.	215
DO 9700	Zero point solution.	26
DO 9701	Electrolyte solution for oxygen probes DO 9709SS and DO 9709SS.5	26
DO 9701.1	Electrolyte solution for oxygen probes DO 9709SS.1 and DO 9709SS.5.1	26
TEMPERATURE PROBES		
	For temperature probes to be used with the portable instruments see Pt100 PROBES on page 8. To the instrument HD98569 can be connected the Pt100 temperature probes complete with SICRAM module listed from page 8.	
ELECTRODE HOLDERS		
HD 22.2	Laboratory electrode holder composed of base plate with built-in magnetic stirrer, shaft and replaceable electrode holder. Suitable diameter 12mm. It holds up to 5 electrodes at the same time. Powered by power supplier SWD10 (optional).	190
HD 22.3	Laboratory electrode holder composed of base plate. Flexible arm for free positioning. Suitable for electrodes with diameter 12mm. It holds up to 5 electrodes at the same time.	94

MODEL	BENCH-TOP INSTRUMENTS FOR MEASUREMENTS OF pH - ORP - μ S - mS – TDS - O ₂ - TURBIDIMETER	EURO
HD 2205.2	Bench-top pHmeter-Thermometer with back-lighted display, with two BNC inputs, to measure pH, mV, ORP with pH, redox, separated reference electrodes, one input for a pH/temperature combined probe provided with SICRAM module. Datalogger of pH, mV, temperature. RS232 C or USB 2.0 serial output for data download to a PC or printer from memory or in real time. Input for Pt100 or Pt1000 temperature probes provided with SICRAM module. It is equipped with regulated power supply SWD10, instruction manual, software DELTALOG 11. Electrodes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for PC connection have to be ordered separately.	680
HD 2206.2	Bench-top conductivity meter-Thermometer with back-lighted display, with inputs for measurements of conductivity, liquid resistivity, total dissolved solids (TDS) and the salinity by conductivity and temperature combined probes with 2 or 4 electrodes with direct input or with SICRAM module. Datalogger of conductivity or resistivity or TDS and temperature. RS232 C or USB 2.0 serial output for data download to a PC or printer from memory or in real time. Input for Pt100 or Pt1000 temperature probes provided with SICRAM module. It is equipped with regulated power supply SWD10, instruction manual, software DELTALOG 11. Conductivity probes, buffer solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for PC connection have to be ordered separately.	712
HD 2256.2	Bench-top pHmeter-Conductivity meter-Thermometer with back-lighted display, to measure pH, mV, ORP by pH, redox, separated reference electrodes, one input for a pH/temperature combined probe, it measures conductivity, liquid resistivity, total dissolved solids (TDS) and salinity by combined conductivity and temperature probes with 2 or 4 electrodes with direct input or with SICRAM module. Datalogger for pH or mV, conductivity or resistivity or TDS and temperature. RS232 C serial output or USB 2.0 for data download to a PC or printer from memory or in real time. Input for Pt100 or Pt1000 temperature probes provided with SICRAM module. It is equipped with regulated power supply SWD10, instruction manual, software DELTALOG 11. Electrodes, conductivity probes, buffer solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for PC connection have to be ordered separately.	845
HD 2259.2	Bench-top pHmeter-Oxygen meter-Thermometer with back-lighted display to measure pH, mV, ORP, by pH, redox, or separated reference electrodes, the concentration of the dissolved oxygen of liquids, saturation index, by polarographic type combined SICRAM probes and integrated temperature sensor. Datalogger of pH, mV, dissolved oxygen concentration, saturation index and temperature. RS232 C serial output or USB 2.0 for data download to a PC or printer from memory or in real time. Input for Pt100 or Pt1000 temperature probes provided with SICRAM module. It is equipped with regulated power supply SWD10, calibrator DO9709/20 (polarographic probe) o DO9709/21 (galvanic probe), instruction manual, software DELTALOG 11. Electrodes, oxygen probes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module and cables for PC connection have to be ordered separately.	810
HD 22569.2	Bench-top pHmeter-Conductivity meter-Oxygen meter-Thermometer with back-lighted display to measure pH, mV, ORP, by pH, redox, or separated reference electrodes, conductivity, liquids resistivity, total dissolved solids (TDS) and salinity by combined conductivity and temperature 2 or 4 electrodes probes, dissolved oxygen concentration of liquids, saturation index, by polarographic combined SICRAM probes and integrated temperature sensor. Datalogger of pH, mV, conductivity or resistivity or TDS dissolved oxygen concentration, saturation index and temperature. RS232 C serial output, or USB 2.0 for data download to a PC or printer from memory or in real time. Input for Pt100 or Pt1000 temperature probes provided with SICRAM module. It is equipped with regulated power supply SWD10, calibrator DO9709/20 (polarographic probe) o DO9709/21 (galvanic probe), instruction manual, software DELTALOG 11. Electrodes, conductivity probes, oxygen probes, calibrating solutions, TP87 and TP47...series temperature probes with SICRAM module and cables for PC connection have to be ordered separately.	990
HD 3405.2	Bench-top pHmeter-Thermometer measures pH, mV, ORP values by pH, redox, or separated reference electrodes, temperature by Pt100 or Pt1000 probes. Datalogger which stores maximum, minimum, average value, RS232 C output for data transfer in real time to a PC or printer. Functions: REL, HOLD and auto power off which can be disabled. Battery power supply or mains power supply by SWD10 (optional). Supplied with carrying case, instruction manual. Software DeltaLog 9 suitable from version 2. Electrodes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module, cables for PC connection and outer power supplier have to be ordered separately.	415
HD 3406.2	Bench-top Conductivity meter-Thermometer measures conductivity, liquid resistivity, total dissolved solids (TDS) and salinity by 2 or 4 electrodes, combined conductivity probes and temperature by Pt100 or Pt1000 probes. Datalogger which stores maximum, minimum, average value, it can store up to 36,000 samples. RS232 C serial output or USB 2.0 for data download to a PC or printer from memory or in real time. Functions: REL, HOLD, auto power off which can be disabled., protection degree IP 66. Battery power supply or mains power supply by SWD10 (optional). Supplied with carrying case, instruction manual. Software DeltaLog 9 suitable from version 2. Conductivity probes, calibrating solutions, TP47...series temperature probes with SICRAM module, cables for PC connection and outer power supplier have to be ordered separately.	445
HD 3409.2	Bench-top Oxymeter-Thermometer measures dissolved oxygen, saturation index by polarographic type combined probes, temperature by Pt100 probes with SICRAM module . Datalogger which stores maximum, minimum, average value. RS232 C serial output or USB 2.0 for data download to a PC or printer from memory or in real time. Functions: REL, HOLD, auto power off which can be disabled, protection degree IP 66. Battery power supply or mains power supply by SWD10 (optional). Supplied with carrying case, instruction manual, calibrator DO9709/20 (polarographic probe) o DO9709/21 (galvanic probe). Software DeltaLog 9 suitable from version 2. Oxygen probes, zero and reference solutions, TP47...series temperature probes with SICRAM module, cables for PC connection and outer power supplier have to be ordered separately.	500
HD 3456.2	Bench-top pHmeter-Conductivity meter-Thermometer measures pH, mV, ORP values by pH, redox or separated reference electrodes, conductivity, liquids resistivity, total dissolved solids (TDS) and salinity by combined conductivity and temperature probes by Pt100 or Pt1000 probes. Datalogger which stores maximum, minimum, average value. RS232 C serial output or USB 2.0 for data download to a PC or printer from memory or in real time. Functions: REL, HOLD, auto power off which can be disabled, protection degree IP 66. Battery power supply or mains power supply by SWD10 (optional). Supplied with carrying case, instruction manual. Software DeltaLog 9 suitable from version 2. Electrodes, conductivity probes, calibrating solutions, TP87 and TP47... series temperature probes with SICRAM module, cable for PC connection and outer power supplier have to be ordered separately.	570

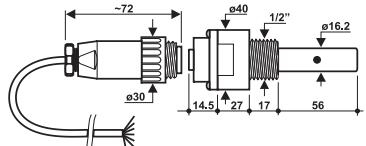
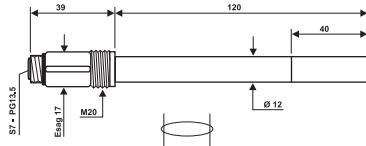
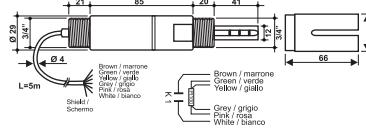
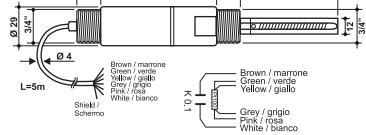
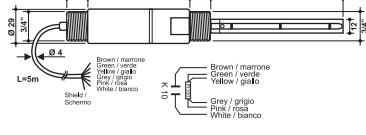
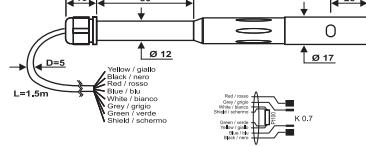
MODEL	COMMON ACCESSORIES FOR BENCH INSTRUMENTS	EURO
DELTALOG 9	Further copy of CD-ROM with Software DeltaLog 9 for PC data management and download. For Windows® operating systems. For instruments HD3405.2 - HD3406.2 - HD3409.2 - HD3456.2	85
DELTALOG 11	Further copy of CD-ROM with Software DeltaLog 11 for PC data management and download. For Windows® operating systems. For instruments HD2205.2 - HD2206.2 - HD2256.2 - HD2259.2 - HD22569.2	85
HD 2110 CSNM	8-pole MiniDin to 9-pole sub D female connecting cable for RS232C and printer HD40.1 for instruments HD3405.2 - HD3406.2 - HD3409.2 - HD3456.2	42
HD 2101/USB	USB 2.0 connecting cable, type A, MiniDin 8-pole connection for instruments HD3405.2 - HD3406.2 - HD3456.2 - HD3409.2	42
9CPRS232	Connecting cable from SubD female 9-pole to SUB D female 9-pole, for serial output RS232C and printer HD40.1 and HD40.2, for instruments HD2205.2 - HD2206.2 - HD2256.2 - HD2259.2 - HD22569.2	42
CP 22	Connecting cable USB 2.0 type A connector – type B connector for instruments HD2205.2 - HD2206.2 - HD2256.2 - HD2259.2 - HD22569.2	42
HD 22.2.1	Power supply cable for electrode holder HD 22.2 to connect to instrument HD22.. series.	20
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Cable HD 2110 CSNM for HD34xx.2 series, cable 9CPRS232 for HD22xx.2 series (optional).	265
HD 40.2	24-column portable thermal printer, Bluetooth and serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Cable HD 2110 CSNM for HD22xx.2 series (optional).	345
BAT-40	Spare battery pack for HD40.1 and HD40.2 printers with built-in temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7
HD 22.2	Laboratory electrode holder composed of base plate with built-in magnetic stirrer, shaft and replaceable electrode holder. Suitable diam. 12mm. Powered by bench instruments HD22... series by cable HD22.2.1 (optional), or by power supply SWD10 (optional).	190
HD 22.3	Laboratory electrode holder composed of base plate. Flexible arm for free positioning. Suitable for electrodes with diam. 12mm	94
HD 22BT	Bluetooth module for remote data download without wire connection between instrument and PC or printer with Bluetooth input. This module has to be requested when placing the order and it is provided exclusively by Delta Ohm. Available only for HD22...series instruments.	102
TP 47	Connector for instruments HD22..., HD34... series, and for Pt100 4-wire probes or Pt100 2-wire probes without amplification and linearization electronics.	36
ELECTRODES AND ACCESSORIES FOR pH METERS HD2205.2 -HD2256.2 - HD2259.2 - HD22569.2 - HD3405.2 - HD3456.2		
KP 20	Gel pH combined electrode, with screw connector S7, epoxy body.	67
KP 30	Gel pH combined electrode, 1m cable with BNC, epoxy body (not suitable for HD98569).	72
KP 50	Gel pH combined electrode, porous Teflon ring junction, for very polluted samples, screw S7connector, glass body.	113
KP 61	pH combined electrode with 3 diaphragms suitable for measuring milk, creams etc, screw S7connector, liquid internal reference solution, glass body.	95
KP 62	pH combined electrode with 1 diaphragm suitable for general use, with screw connector S7, Gel, glass body.	95
KP 63	pH combined electrode with 1 diaphragm suitable for general use, 1m cable with BNC, liquid internal reference solution, glass body, Ag/AgCl sat KCl 3M (not suitable for HD98569).	98
KP 63TS	pH combined electrode with built-in Pt100 sensor, complete with SICRAM module, 1 diaphragm, suitable for general use, 1m cable, liquid internal reference solution, glass body, Ag/AgCl sat KCl 3M (Only for HD22...series and HD98569).	180
KP 64	pH combined electrode with Teflon collar diaphragm, suitable for wine, with screw connector S7, liquid internal reference solution, glass body.	98
KP 70	Gel Micro pH combined electrode diam. 6 x L=70 mm. for penetration use, with screw connector S7, suitable for cheese, meat, epoxy body, glass tip, open junction.	115
KP 80	Pointed pH combined electrode, Gel, with screw connector S7, glass body, suitable for per creams, milk, viscous material, open junction.	108
KP 90	ORP PLATINUM electrode with screw connector S7, refillable, glass body.	98
KP 91	ORP PLATINUM electrode with 1m cable with BNC, Gel, epoxy body (not suitable for HD98569).	87
KP 100	pH combined electrode, flat membrane, Gel with screw S7 connector glass body, for skin, leather, paper.	108
For electrodes dimensions see page 74		
CP	1.5m extension cable with BNC/S7 connector for electrode without cable, thread S7.	32
CP 5	5m extension cable with BNC/S7 connector for electrode without cable, thread S7.	58
CP 10	10m extension cable with BNC/S7 connector for electrode without cable, thread S7.	78
CP 15	15m extension cable with BNC/S7 connector for electrode without cable, thread S7.	100
CE	S7 screw connector for pH electrode.	15

MODEL	ELECTRODES AND ACCESSORIES FOR pHMETERS HD2205.2 - HD2256.2 - HD2259.2 - HD22569.2 - HD3405.2 - HD3456.2	EURO
BNC	Female BNC for electrode extension	11
HD 8642	Buffer solution pH 4.01 – 200 cc.	14
HD 8672	Buffer solution pH 6.86 – 200 cc.	14
HD 8692	Buffer solution pH 9.18 – 200 cc.	14
HD R220	Buffer solution ORP 220mV – 500 cc.	28
HD R468	Buffer solution ORP 468mV – 500 cc.	28
KCL3M	Ready to use solution for electrode refilling – 100 cc	14
HD 62PT	Diaphragm cleaning solution (HCl tiourea) – 500 cc.	38
HD 62PP	Protein cleaning solution (HCl pepsin) – 500 cc.	38
HD 62RF	Solution for electrodes regeneration (hydrofluoric acid) – 100 cc.	28
HD 62SC	Solution for electrode maintenance – 500 cc.	30
PROBES AND ACCESSORIES FOR CONDUCTIVITY METERS HD2206.2 - HD2256.2 - HD22569.2 - HD3406.2 - HD3456.2		
SP 06T	Combined conductivity and temperature probe. Cell constant 0.7. Probe measuring range 5µS...200mS, 0 ... 90°C. Max pressure 5bar.	95
SP 06TS	Combined conductivity and temperature probe. Cell constant 0.7. Probe measuring range 5µS...200mS, 0 ... 90°C. Complete with SICRAM module. Max pressure 5bar. (Only for HD22... series)	138
SPT 401.001	Combined conductivity and temperature probe, AISI 316 steel 2-electrode probe, cell constant 0.01. Probe measuring range 0.04...20µS, 0 ... 120°C. Max pressure 5bar.	498
SPT 401.001S	Combined conductivity and temperature probe, AISI 316 steel 2-electrode probe, cell constant 0.01. Probe measuring range 0.04...20µS, 0 ... 120°C. Complete with SICRAM module. Max pressure 5bar. (Only for HD22... series)	541
SPT 01G	Combined conductivity and temperature probe, glass body, with 2 platinum electrodes, cell constant 0.1. Probe measuring range 0.1...500µS, 0 ... 80°C. Max pressure 5bar.	108
SPT 01GS	Combined conductivity and temperature probe, glass body, with 2 platinum electrodes, cell constant 0.1. Probe measuring range 0.1...500µS, 0 ... 80°C. Complete with SICRAM module. Max pressure 5bar. (Only for HD22... series)	148
SPT 1G	Combined conductivity and temperature probe, glass body, with 2 platinum electrodes, cell constant 1. Probe measuring range 10µS...10mS, 0 ... 80°C. Max pressure 5bar.	98
SPT 1GS	Combined conductivity and temperature probe, glass body, with 2 platinum electrodes, cell constant 1. Probe measuring range 10µS...10mS, 0 ... 80°C. Complete with SICRAM module. Max pressure 5bar. (Only for HD22... series)	148
SPT 10G	Combined conductivity and temperature probe, glass body, with 2 platinum electrodes, cell constant 10. Probe measuring range 500µS...200mS, 0 ... 80°C. Max pressure 5bar.	108
SPT 10GS	Combined conductivity and temperature probe, glass body, with 2 platinum electrodes, cell constant 10. Probe measuring range 500µS...200mS, 0 ... 80°C. Complete with SICRAM module. Max pressure 5bar. (Only for HD22... series)	148
For probe dimensions see page 75		
HD 8747	Calibration solution 0.001mol/l corresponding to 147 µS/cm at 25°C, 200 cc.	25
HD 8714	Calibration solution 0.01mol/l corresponding to 1413µS/cm at 25°C, 200 cc.	18
HD 8712	Calibration solution 0.1mol/l corresponding to 12880µS/cm at 25°C, 200 cc.	18
HD 87111	Calibration solution 1mol/l corresponding to 111800µS/cm at 25°C, 200 cc.	30
PROBES AND ACCESSORIES FOR OXYGEN METERS HD2259.2 - HD22569.2 - HD3409.2		
DO 9709 SS	Polarographic combined oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. 2m cable. The code includes: probe, 2 membranes, electrolyte solution and zero point solution.	378
DO 9709 SS.5	Polarographic combined oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. 5m cable. The code includes: probe, 2 membranes, electrolyte solution and zero point solution.	444
DO 9709 SS.1	Galvanic combined galvanic oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. Ø16mm tip with membrane. 2m cable. The code includes: probe, 2 membranes in total, electrolyte solution and zero point solution.	331
DO 9709 SS.5.1	Galvanic combined galvanic oxygen and temperature probe with possibility of membrane replacement. Ø12mm x 120mm. Ø16mm tip with membrane. 5m cable. The code includes: probe, 2 membranes in total, electrolyte solution and zero point solution.	398
DO 9709/20	Calibrator for polarographic probes DO 9709SS and DO 9709SS.5	55
DO 9709/21	Calibrator for galvanic probes DO 9709SS.1 and DO 9709SS.5.1	55
DO 9709 SSK	Kit of accessories for probes DO 9709SS and DO 9709SS.5: 3 membranes, zero point solution and electrolyte.	215
DO 9709/21K	Kit of accessories for probes DO 9709SS.1 and DO 9709SS.5.1: 3 membranes, zero point solution and electrolyte.	215
DO 9700	Zero point solution.	26
DO 9701	Electrolyte solution for oxygen probes DO 9709SS and DO 9709SS.5	26
DO 9701.1	Electrolyte solution for oxygen probes DO 9709SS.1 and DO 9709SS.5.1	26

For the temperature probes to be used with these instruments see Pt100 PROBES from page 8

MODEL	TURBIDITY METER	EURO
HD 25.2	Portable and bench turbidity meter equipped with 3 photodetectors and two light sources; it measures according to the standard EPA 180.1, ISO-NEPH (ISO 7027), EBC and ASBC . Automatic calibration, datalogger, data downloading to PC by RS232C or USB 2.0 through the software DeltaLog 11. The kit is composed of instrument, 4 empty cells, 5 calibration standards STCAL, rag for cells cleaning, 25cc silicone oil, 3 alkaline batteries 1.5 Vdc, instruction manual, carrying case and software DeltaLog 11. The cables for data download to a PC and power supplier have to be ordered separately.	980
9CPRS232	Sub D 9-pole Female/Female RS232 null-modem cable.	42
CP 22	Connecting cable USB 2.0 type A connector – type B connector	42
SWD10	Stabilized power supply 100-240 Vac/12Vdc-1A mains voltage	44
HD 40.1	24-column portable thermal printer, serial interface , 57mm paper width, four NiMH 1.2V rechargeable batteries, SWD10 power supply, instruction manual, 5 thermal paper rolls. Connection cable 9CPRS232 as option.	265
BAT-40	Spare battery pack for HD40.1 printer with in-built temperature sensor.	27
RCT	The kit includes 4 thermal paper rolls 57mm wide and 32mm in diameter.	7
PL	Rag for cell cleaning	7
OS1	25 cc silicon oil	10
KCV	4 empty sample cells diam. 24x68 mm	40
STCAL 1	Calibration standard with low turbidity formazin reference (0.05 NTU) - 20 cc. Traceability with NIST standard.	18
STCAL 2	Calibration standard with reference formazin 8 NTU - 20 cc. Traceability with NIST standard.	24
STCAL 3	Calibration standard with reference formazin 80 NTU - 20 cc. Traceability with NIST standard.	39
STCAL 4	Calibration standard with reference formazin 800 NTU - 20 cc. Traceability with NIST standard.	69
KS	Kit of 4 cells of calibration standards with reference formazin STCAL 1, STCAL 2, STCAL 3, STCAL 4	140

MODEL	ACTIVE AND PASSIVE pH TRANSMITTERS	EURO
DO 9403T-R1	pH or mV transmitter, completely configurable, for use on the field 80x120x56, output 4...20mA insulated with 2 wires passive or 4 wires active. Power supply in active mode 24Vac, on request 230Vac, in passive mode 10...35Vdc.	298
DO 9765 T	pH or mV completely configurable, for use on the field 122x120x57 with dual LCD (measurement + temperature), output 4...20mA insulated with 2 wires passive or 4 wires active. Power supply in active mode 24Vac, on request 230Vac, in passive mode 10...35Vdc.	335
DO 9785 T	Panel mounting pH or mV completely configurable, 96x96 with dual LCD (measurement + temperature), output 4...20mA insulated with 2 wires passive or with 4 wires active. Power supply in active mode 24Vac, on request 230Vac, in passive mode 10...35Vdc. <u>pH electrodes, temperature probes, connecting cables have to be ordered separately</u>	335
pH and ORP BUFFER SOLUTIONS		
HD 8642	Buffer solution pH 4.01 – 200 cc.	14
HD 8672	Buffer solution pH 6.86 – 200 cc.	14
HD 8692	Buffer solution pH 9.18 – 200 cc.	14
HD R220	Buffer solution ORP 220mV – 500 cc.	28
HD R468	Buffer solution ORP 468mV – 500 cc.	28
HD 62PT	Diaphragm cleaning solution (HCl tiourea) – 500 cc.	38
HD 62PP	Protein cleaning solution (HCl pepsin) – 500 cc.	38
HD 62RF	Solution for electrodes regeneration (hydrofluoric acid) – 100 cc.	28
HD 62SC	Solution for electrode maintenance – 500 cc.	30
pH and REDOX INDUSTRIAL ELECTRODES		
KP I 10		Combined industrial electrode, S7 PG13.5 connector, glass body, Ag/AgCl sat KCl Ø 12 x 120mm, temperature 0... 130°C.
KP I 11		Combined industrial electrode, S7 3/4" NPT connector, Rytron body, Ag/AgCl sat KCl, temperature 0... 100°C.
KP I 12		Platinum electrode for Redox measurement, connector S7 PG13.5 pressure 6 bar, glass body, Ag/AgCl sat KCl
KP I 13		Platinum electrode for Redox measurement, Rytron body, S7 3/4" NPT connector, Ag/AgCl sat KCl
CP 5T	5m extension cable for connecting the electrode to the DO9403T-R1 or DO9765 (S7 on one side, wires on the other side)	57
CP 5/10T	10m extension cable for connecting the electrode to the DO9403T or to the DO9765T (S7 on one side, wires on the other side)	88
CP 5	Extension cable for connecting the electrode to the DO9785 (BNC-S7) L= 5m.	58
CP 10	Extension cable for connecting the electrode to the DO9785 (BNC-S7) L= 10m.	78
CP 15	Extension cable for connecting the electrode to the DO9785 (BNC-S7) L= 15m.	100
For the temperature probes to be used with these instruments see TEMPERATURE PROBES FOR PANEL INSTRUMENTS on page 20		

MODEL	ACTIVE AND PASSIVE CONDUCTIVITY TRANSMITTERS	EURO
DO 9766 T-R1	Conductivity transmitter for use on the field in a 122x120x57 housing with dual LCD (measurement + temperature), output 4...20mA. The cell constant, the range and the temperature coefficient are completely configurable. 2-wire passive transmitter or 4-wire active transmitter. Power supply in active mode 24Vac, on request 230Vac, in passive mode 10...35Vdc.	346
DO 9786 T-R1	Panel mounting conductivity transmitter in a 96x96 housing with dual LCD (measurement + temperature), output 4...20mA. The cell constant, the range and the temperature coefficient are completely configurable. 2-wire passive transmitter or 4-wire active transmitter. Power supply in active mode 24Vac, on request 230Vac, in passive mode 10...35Vdc. <u>Conductivity and temperature probes, connecting cables have to be ordered separately</u>	346
CONDUCTIVITY STANDARD SOLUTIONS		
HD 8747	Calibration solution 0.001mol/l corresponding to 147 µS/cm at 25°C, 200 cc.	25
HD 8714	Calibration solution 0.01mol/l corresponding to 1413µS/cm at 25°C, 200 cc.	18
HD 8712	Calibration solution 0.1mol/l corresponding to 12880µS/cm at 25°C, 200 cc.	18
HD 87111	Calibration solution 1mol/l corresponding to 111800µS/cm at 25°C, 200 cc.	30
INDUSTRIAL CONDUCTIVITY PROBES		
SPT 401.001		Combined conductivity and temperature probe with 2 stainless steel AISI316 electrodes, cell constant 0.01. Probe measuring range 0.04...20µS, 0 ... 120°C.
SPT KI 10		Industrial conductivity probe in glass with 2 platinum electrodes, S7 - PG13.5 connector, cell constant K = 1, temperature working range 0 ... 100°C.
SPT KI 11		Combined industrial conductivity and temperature probe in Rytron with 2 platinum electrodes, 3/4" BSP connector, 5m cable , cell constant K = 1, 2-wire Pt100, temperature working range 0... 80°C.
SPT KI 12		Combined industrial conductivity and temperature probe in Rytron with 2 platinum electrodes, 3/4" BSP connector, 5m cable , cell constant K = 0.1, 4-wire Pt100, temperature working range 0... 80°C.
SPT KI 13		Combined industrial conductivity and temperature probe in Rytron with 2 platinum electrodes, 3/4" BSP connector, 5m cable , cell constant K = 10, 4-wire Pt100, temperature working range 0... 80°C.
SPT 86		4-electrode combined conductivity and temperature probe with Pt100 sensor for DO9786T-R1. Cell constant K= 0.7, 1.5 m cable, temperature working range 0...90°C.
CP 5T	Extension cable to connect the electrode SPT KI 10 to the transmitter, L=5m (S7 on one side, wires on the other side)	57
CP 5/10T	Extension cable to connect the electrode SPT KI 10 to the transmitter, L=10m (S7 on one side, wires on the other side)	88
CP 5/20T	Extension cable to connect the electrode SPT KI 10 to the transmitter, L=20m (S7 on one side, wires on the other side)	150

**For the temperature probes to be used with these instruments see
TEMPERATURE PROBES FOR PANEL INSTRUMENTS on page 20.**

MODEL	PANEL MOUNTING INDICATORS AND REGULATORS WITH CURRENT OR VOLTAGE INPUT	EURO
HD 9022	Microprocessor panel indicator and regulator 48x96 with thresholds that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Input 0...20mA, 4...20mA, 0...1Vdc, 0...10Vdc, 4-wire Pt100 input. One relay for output 1, one relay for output 2, one minimum and maximum alarm relay. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	178
DO 9404	Dual microprocessor panel indicator and regulator 96x96 with threshold that may be programmed and configured by the user. Resolution of the A/D converter: 0.1mVdc/digit - 2µA/digit. Dual input 0...20mA, 4...20mA, 0...1V, 0...10V. Two relays for input 1, two relays for input 2, one maximum and minimum alarm relay. Serial output RS232 C. Power supply 24Vac/dc, on request 110...230Vac/dc.	243
HD 2601V.1	Configurable sandwich dual LED indicator, plug-on, for transmitters with DIN43650 connectors with 4÷20mA output.	105

	THERMOMETERS AND THERMOSTATS FOR PANEL MOUNTING AND DIN RAIL ATTACHMENT	
HD 4034	Digital LED ON/OFF temperature regulator 48x78. 3-wire Pt100 sensor . Measuring range -50°C...+150°C. Resolution 0.1°C. Hysteresis 0.6...6°C. Relay 5A 220V resistive. Power supply 24Vac/dc, on request 110....230Vac/dc. Without probe.	
HD 4044	Digital LED ON/OFF temperature regulator 48x78. 2-wire KTY81 sensor . Measuring range -50°C +150°C. Resolution 0.1°C. Hysteresis 0.6...6°C. Interchangeable probes within ±0.8°C. Relay 5A 220V. Power supply 24Vac/dc, on request 110....230Vac/dc. Without probe.	
HD 4045	Digital LED ON/OFF temperature regulator 48x78. 3-wire Pt100 sensor . Measuring range -50°C +600°C. Resolution 1°C. Hysteresis 1...20°C. Relay 5A 220V resistive. Power supply 24Vac/dc, on request 110....230Vac/dc. Without probe.	
THESE MODELS ARE OUT OF PRODUCTION		



**CALIBRATION REPORTS
AND
ACCREDIA CERTIFICATES**

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	EURO
<u>Instrument in line with the probe</u>	
TEMPERATURE:	
If not expressly requested, the calibration points will be at the lab operator discretion.	
• Zero point (always carried out for immersion, contact, wire, air probes)	30
• A point between -40 °C and +350 °C	41
• A point between +350 °C and +600 °C	48
• A point below -41 °C up to -75 °C	58
• A point above 601 °C (max 1200 °C)	60
• 4 points between -10 °C and +100 °C	128
• 4 points between 0 °C and +200 °C	134
The calibration reports may be carried out compatibly with the size and shape of the probe. If necessary, the calibration of immersion, contact, wire and air probes is performed by immersion in temperature baths.	
Examples of calibration reports can be viewed in the Laboratory section of the web site www.deltaohm.com .	
RELATIVE HUMIDITY AND TEMPERATURE:	
If not expressly requested, the calibration points will be at the lab operator discretion.	
Combined relative humidity and temperature probe	
• VCERT-UR: Temperature: 4 fixed points between 4 °C and 60 °C Isotherm A at a temperature of 23 °C at the fixed points 25 – 45 – 65 – 85 – 45 %R.H.	408
• VCERT-UR1: Isotherm B at a temperature of 10 °C at the fixed points 25 – 45 – 65 – 85 – 45 %R.H.	336
• VCERT-UR2: Isotherm C at a temperature of 45 °C at the fixed points 25 – 45 – 65 – 85 – 45 %R.H.	398
• VCERT-UR3: Different Isotherms on request	420
Dew Point measurements for compressed air probes	
• VCERT-DP: 4 points between -20 °C DP and +20 °C DP.	440
• VCERT-DP1: 6 points between -20 °C DP and +60 °C DP.	520
• VCERT-DP2: 4 fixed points: -40 °C DP, -20 °C DP, +10 °C DP, +20 °C DP.	540
• VCERT-DP3: 5 fixed points: -40 °C DP, -20 °C DP, +10 °C DP, +30 °C DP, +60 °C DP.	600
Examples of calibration reports can be viewed in the Laboratory section of the web site www.deltaohm.com .	
PRESSURE:	
If not expressly requested, the calibration points will be at the lab operator discretion.	
Gas calibration:	
Digital manometers, dial or column manometers, barometers, transmitters	
• VCERT-P: Absolute pressure from 50 mbar to 69 bar	
• VCERT-P1: Relative pressure from 0 to 120 bar	
• VCERT-P2: Negative relative pressure from -900 mbar to 0 bar	
Liquid calibration:	
Digital manometers, dial manometers, barometers, transmitters	195
• VCERT-P3: Absolute pressure from 1 bar to 1000 bar (for barometric correction)	
• VCERT-P4: Relative pressure from 1 to 1000 bar	
• VCERT-P5: 5 rising points, 5 falling points, 1 cycle	
Examples of calibration reports can be viewed in the Laboratory section of the web site www.deltaohm.com .	

ISO 9001
CALIBRATION REPORTS

EURO

LIGHT:

If not expressly requested, the calibration points will be at the lab operator discretion.

- Calibration of luxmeters in one of the following ranges:

VCERT-L1: 2.5 lux ÷ 200 lux (7 points)	300
VCERT-L2: 50 lux ÷ 4000 lux (7 points)	260
VCERT-L3: 2.5 lux ÷ 4000 lux (11 points)	420
- **VCERT-L4:** Subsequent linearity verification of luxmeters in the range 4000 lux...130000 lux (**ACREDIA calibration up to the range 4000 lux is requested**). 230
- Calibration of luminance meters in one of the following ranges:

VCERT-L5: 0.1 cdm ⁻² ...100 cdm ⁻² (10 points)	260
VCERT-L6: 10 cdm ⁻² ...10000 cdm ⁻² (10 points)	260
VCERT-L7: 10000 cdm ⁻² ...30000 cdm ⁻² (5 points)	260
- **VCERT-L8:** Measurement of the Relative Spectral Sensitivity of: luminance meters, radiometers UVA, radiometers UVB and radiometers UVC. (Spectral Response Curve). 355
- Calibration of radiometers UVA in one of the following ranges:

VCERT-L9: 1 Wm ⁻² ÷ 10 Wm ⁻²	285
VCERT-L10: 10 Wm ⁻² ÷ 50 Wm ⁻²	285
VCERT-L11: 1 Wm ⁻² ÷ 50 Wm ⁻²	380
- **VCERT-L12:** Subsequent linearity verification of radiometers UVA in the range 50 Wm⁻²...1500 Wm⁻², carried out by monochromatic light at 365 nm. 230
- **VCERT-L13:** Calibration of radiometers UVB – UVC - ERY 290
- **VCERT-L14:** Calibration of sources in Spectral Irradiance (Wm⁻²nm⁻²) 660
- **VCERT-L15:** Calibration of radiometers and probes PAR and RAD suitable in the field of VIS-NIR. Calibration is carried out at 580 nm. 3 calibration points. 285
- **VCERT-L16:** Pyranometers calibration. 1 calibration point. 200
- **VCERT-L17:** Albedometers calibration. 400
- **VCERT-L18:** Radiometers calibration. 320
- **VCERT-L26:** Net irradiance meters calibration. 1 calibration point. 220

Measurements on LED or group of LEDs

- **VCERT-L19:** Luminous flux: **lumen** 210
- **VCERT-L20:** Average intensity: **cd**
Conditions A, B (CIE 127:2007) 220
- Spatial distribution: polar graph
VCERT-L21: 10° steps along 2 axes 250
VCERT-L22: 5° steps along 2 axes 350
- Spectral distribution:
VCERT-L23: Spectral flux: **W m⁻² nm⁻¹** 250
VCERT-L24: Peak wavelength: **nm** 180
VCERT-L25: Trichromatic coordinates: x, y 250

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

CO – CO₂:

- **VCERT-C:** Zero CO calibration report, ACCREDIA traceability 100
- **VCERT-C1:** 3 points CO₂ (0 – 980 – 2400 ppm) calibration report, ACCREDIA traceability 280

ISO 9001
CALIBRATION REPORTS

EURO

ACOUSTICS:

- **R.F3C:** Calibration report for sound level meter (IEC61672 or alternatively IEC60651 and IEC60804), filter bank (IEC61260) and calibrator (IEC60942). 320
- **R.FC:** Calibration report for sound level meter (IEC61672 or alternatively IEC60651 and IEC60804) and calibrator (IEC60942). 220
- **R.F:** Calibration report for sound level meter (IEC61672 or alternatively IEC60651 and IEC60804). 175
- **R.8:** Calibration report for octave filters (IEC61260). 110
- **R.3:** Calibration report for third octave filters (IEC61260). 140
- **R.C:** Calibration report for monofrequency calibrator (IEC60942). 90

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

AIR SPEED:

If not expressly requested, the calibration points will be at the lab operator discretion.

Fan, vane up to 60 mm diameter, hotwire probes:

- **VCERT-V1:** Low speed (0.2...2 m/s): 1 cycle at the points 0.2 – 0.35 – 0.5 – 0.75 – 1 – 2 m/s 290
- **VCERT-V2:** Medium speed (1...25 m/s): 1 cycle at the points 1 – 2.5 – 5 – 10 – 25 m/s 280
- **VCERT-V3:** High speed (30...60 m/s): 1 cycle at the points 30 – 35 – 40 – 50 – 60 m/s 320
- **VCERT-V4:** An additional point between 0.5 and 25 m/s 40
- **VCERT-V5:** An additional point between 25 and 60 m/s 55

Ultrasonic, Pitot or Darcy tube, cup, vane (with $\varnothing > 60$ mm) anemometers:

- **VCERT-V6:** Medium speed (1...25 m/s): 1 cycle at the points 1 – 2.5 – 5 – 10 – 25 m/s 280
- **VCERT-V7:** High speed (30...60 m/s): 1 cycle at the points 30 – 35 – 40 – 50 – 60 m/s 320
- **VCERT-V8:** Complete calibration 0.2...60 m/s: 1 cycle 610
- **VCERT-V9:** An additional point between 1 and 25 m/s 50
- **VCERT-V10:** An additional point between 25 and 60 m/s 60

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

VCERT-PL: VERIFICATION OF TIPPING BUCKET RAIN GAUGES IN 6 POINTS

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Signatory of EA, IAF and ILAC Mutual Recognition Agreements

ACCREDIA CALIBRATION CENTRE LAT N°124 TEMPERATURE

ACCREDITED CENTRE UNCERTAINTIES FOR TEMPERATURE MEASUREMENTS IN THE LABORATORY			
INSTRUMENTS TO BE CALIBRATED	MEASURING RANGE	UNCERTAINTY (*)	NOTE
Noble metal thermocouples	-50 °C...250 °C 250 °C...540 °C 540 °C...1100 °C 1100 °C...1250 °C	0.3 °C 0.4 °C 1.1 °C 2.0 °C	
Common metal thermocouples	Point at -196 °C, liquid nitrogen -80 °C...250 °C 250 °C...540 °C 540 °C...1100 °C 1100 °C...1250 °C	0.40 °C 0.40 °C 0.53 °C 1.5 °C 2.2 °C	
Thermoresistances	Point at -196 °C, liquid nitrogen -80 °C...0 °C 0 °C...100 °C 100 °C...250 °C 250 °C...600 °C	0.20 °C 0.15 °C 0.05 °C 0.10 °C 0.20 °C	
Thermometric chains Temperature indicators and transmitters Noble metal thermocouples	-50 °C...250 °C 250 °C...540 °C 540 °C...1100 °C 1100 °C...1250 °C	$2\sqrt{0.15^2 + u_{ris}^2}$ °C $2\sqrt{0.20^2 + u_{ris}^2}$ °C $2\sqrt{0.55^2 + u_{ris}^2}$ °C $2\sqrt{1.0^2 + u_{ris}^2}$ °C	1
Thermometric chains Temperature indicators and transmitters Common metal thermocouples	Point at -196 °C, liquid nitrogen -80 °C...250 °C 250 °C...540 °C 540 °C...1100 °C 1100 °C...1250 °C	$2\sqrt{0.20^2 + u_{ris}^2}$ °C $2\sqrt{0.20^2 + u_{ris}^2}$ °C $2\sqrt{0.26^2 + u_{ris}^2}$ °C $2\sqrt{0.75^2 + u_{ris}^2}$ °C $2\sqrt{1.1^2 + u_{ris}^2}$ °C	1
Thermometric chains Temperature indicators and transmitters Thermoresistances	Point at -196 °C, liquid nitrogen -80 °C...0 °C 0 °C...100 °C 100 °C...250 °C 250 °C...600 °C	$2\sqrt{0.10^2 + u_{ris}^2}$ °C $2\sqrt{0.075^2 + u_{ris}^2}$ °C $2\sqrt{0.025^2 + u_{ris}^2}$ °C $2\sqrt{0.050^2 + u_{ris}^2}$ °C $2\sqrt{0.10^2 + u_{ris}^2}$ °C	1
Calibrators-Simulators and Meters For thermoresistances	National and international standards for temperature sensors	$2\sqrt{0.025^2 + u_{ris}^2}$ °C	1
Calibrators-Simulators and Meters For thermocouples	National and international standards for temperature sensors	$2\sqrt{0.10^2 + u_{ris}^2}$ °C	1
Air temperature	0 °C...60 °C	0.1 °C	

(*) The measuring uncertainties are expressed as twice the standard deviation, corresponding, in the case of normal distribution, to a confidence level of about 95%.

1) u_{ris} is the uncertainty contribution due to the resolution of the instrument expressed in °C.

**ACCREDITED CENTRE UNCERTAINTIES FOR TEMPERATURE
IN OUTDOOR CALIBRATIONS**

INSTRUMENTS TO CALIBRATE	MEASURING RANGE	UNCERTAINTY^(*)	NOTE
Temperature Indicators - for thermoresistances - for noble metal thermocouples - for common metal thermocouples	National and international standards for temperature sensors	$2\sqrt{0,5^2 + u_{ris}^2} \text{ } ^\circ\text{C}$ $2\sqrt{0,75^2 + u_{ris}^2} \text{ } ^\circ\text{C}$ $2\sqrt{1,0^2 + u_{ris}^2} \text{ } ^\circ\text{C}$	1

^(*) The measuring uncertainties are expressed as twice the standard deviation, corresponding, in the case of normal distribution, to a confidence level of about 95%.

1) u_{ris} is the uncertainty contribution due to the resolution of the instrument expressed in $^\circ\text{C}$.

TABLE A : CERTIFICATION OF INDICATORS IN LINE WITH THE PROBE

If not expressly requested, the calibration points will be at the lab operator discretion.

THERMOMETRIC CHAINS	MEASURING RANGE Temperature		MINIMUM POINTS NUMBER (0°C point included)	PRICE Including certificate
	Minimum	Maximum		
Indicator in line with a Thermocouple probe	0 °C	250 °C	4	145
	-40 °C*	200 °C	4	160
	-40 °C*	560 °C	5	215
	0 °C	1063 °C	6	255
	0 °C	1200 °C	7	360
	-40 °C*	1200 °C	8	400
Indicator in line with a platinum resistance probe (Pt25, Pt100)	0 °C	250 °C	4	145
	-40 °C*	200 °C	4	160
	-40 °C*	560 °C	5	215
A) An additional point between -73 °C and -41 °C				65
B) An additional point between -40 °C and 0 °C				41
C) An additional point between 0 °C and 200 °C				38
D) An additional point between 200 °C and 560 °C				50
E) An additional point between 560 °C and 1200 °C (only thermocouples)				68
F) The LIQUID NITROGEN point -196 °C				145
G) Adjustment (reduction of the systematical error, when possible) only for Pt100				55
Note: The calibrating points have to be equidistant between the minimum and the maximum value of the requested calibration range.				
* In order to extend the calibration to negative range till -73 °C and -196 °C, two calibration points between -73 °C and -40 °C are necessary.				

NOTES:

- The instrumentation setup can be performed only on Delta Ohm instruments.
- The setup has to be authorized by the customer.
- The possibility of setting up instruments produced by other manufacturers has to be examined every time and depends on the conditions of the instrument and availability of relevant technical literature.

TABLE B : CERTIFICATION OF RTD AND TC PROBES ALONE

TC / TRP	MEASURING RANGE Temperature		MINIMUM POINTS NUMBER (0°C point included)	PRICE Including certificate
	Minimum	Maximum		
TC (Thermocouple)	-40 °C	560 °C	5	215
	-40 °C	1063 °C	6	260
	-73 °C*	1063 °C	8	400
	-40 °C	1200 °C	9	465
	-73 °C*	1200 °C	10	530
PRT (Platinum Resistance Thermometers)	0 °C	250 °C	5	200
	-40 °C	200 °C	5	220
	-40 °C	560 °C	6	275
	-73 °C*	250 °C	7	340
	-73 °C*	560 °C	8	420
A) Data tabulation in steps of 1°C (0 °C and 100 °C points are compulsory only for platinum resistance thermometers)				45
B) An additional point between 560 °C and 1200 °C (only thermocouples)				68
C) An additional point between -40 °C and 560 °C				55
D) An additional point between -73 °C and -41 °C				65
E) The LIQUID NITROGEN point -196 °C				145
Note: the calibrating points have to be equidistant between the minimum and the maximum value of the requested calibration range.				
* In order to extend the calibration to negative range till -73 °C, two calibration points between -73 °C and -40 °C are necessary. For extensions till 1200 °C it is necessary to calibrate 4 points between 1065 °C and 1200 °C.				

MAXIMUM OPERATIVE TEMPERATURE FOR ACCREDIA CALIBRATIONS DEPENDING ON THE LENGTH OF THE PROBE STEM

STEM LENGTH	TEMPERATURE RANGE
Longer than 150 mm	-80 °C ... 200 °C
Longer than 230 mm	-80 °C ... 250 °C
Longer than 250 mm	-196 °C ... 560 °C
Longer than 300 mm	-196 °C ... 1200 °C

NOTE: testing of probes for air, contact, pointed and wire probes is always carried out as though they were immersion probes.

TABLE C: CERTIFICATION OF CALIBRATORS, METERS/SIMULATORS

CALIBRATORS: METERS/SIMULATORS	MEASURING OR TESTING RANGE	PRICE Including certificate
		EURO
Calibrators simulators for thermocouples and resistance thermometers	N° 8 equidistant points in the measuring range for each probe requested (J,E,T,K,R,S,B,Pt100,etc.)	200
Calibrators meters for thermocouples and resistance thermometers	N° 8 equidistant points in the measuring range for each probe requested (J,E,T,K,R,S,B,Pt100,etc.)	225

TABLE D: ON-SITE ACCREDIA CALIBRATION SERVICE ACCORDING TO ACCREDITATION TABLE

The cost will be agreed from time to time, depending on to the entity of the task and employment of personnel and equipment.

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

ACCREDIA CALIBRATION CENTRE LAT N°124
HUMIDITY

ACCREDITED CENTRE UNCERTAINTIES FOR HUMIDITY			
MEASURE	INSTRUMENTS TO BE CALIBRATED	MEASURING RANGE	UNCERTAINTY (*)
Relative Humidity	Electric and mechanical hygrometers and thermo hygrometers	from 10 %R.H. to 92 %R.H (with air temperature from 0 °C to 60 °C)	from 0.5 %R.H. to 1.8 %R.H.
	Electric psychrometers	from 10 %R.H. to 92 %R.H (with air temperature from 0 °C to 60 °C)	from 0.5 %R.H. to 1.8 %R.H.
Relative Humidity	Saturated salt solutions	from 10 %R.H. to 90 %R.H (with air temperature from 20 °C to 25 °C)	1.4 %R.H.
Dew Point	Condensing mirror hygrometers	from -20 °C to 60 °C	0.16 °C

^(*) The measuring uncertainties are expressed as twice the standard deviation, corresponding, in the case of normal distribution, to a confidence level of about 95%.

If not expressly requested, the calibration points will be at the lab operator discretion.

ACCREDIA CERTIFICATES HUMIDITY	CALIBRATION OF HYGROMETERS, THERMOHYGROMETERS AND ELECTRIC PSYCHROMETERS PORTABLE INSTRUMENTS, INSTRUMENTS FOR FIXED INSTALLATION (panel mount, wall mount, etc.)	EURO
Isotherm A at temperature 23 °C at fixed points 25 – 45 – 65 – 85 – 45 %R.H.		360
Isotherm B at temperature 10 °C at fixed points of 25 – 45 – 65 – 85 – 45 % R.H.		390
Isotherm C at temperature 45 °C at fixed points of 25 – 45 – 65 – 85 – 45 %R.H.		430
An additional point of relative humidity at the temperature of 55 °C		200
Isotherm on 4 points selected by the customer between 10 and 90 % R.H. at the temperature of 23 °C		500
Mechanical hygrometers and termohygrographs (isotherm A)		420
Dry bulb / wet bulb psychrometers		430
Temperature calibration of combined probes and minidatalogger in 4 points: 4 °C, 23 °C, 40 °C, 58 °C		142
Temperature calibration of minidataloggers and transmitters with internal sensor in 4 fixed points: 4 °C, 23 °C, 35 °C, 48 °C		142
An additional temperature point in the range 4 °C...58 °C for sensors without electronics		40
Adjustment of instruments with condensing mirror hygrometer (reduction of systematical error)		370

NOTES:

- Isotherm is a relative humidity calibration with constant air temperature.
- The instrumentation setup can be performed only on Delta Ohm instruments. Net price 125 EURO, the calibration report is not included.
- The setup has to be authorized by the customer.
- The possibility of setting up instruments produced by other manufacturers has to be examined every time and depends on the conditions of the instrument and availability of relevant technical literature.

ACCREDIA CERTIFICATES HUMIDITY	CALIBRATION OF CONDENSING MIRROR HYGROMETERS	EURO
Dew point temperature: 4 equidistant points between -20 °C and 20 °C		500
Dew point temperature: 4 equidistant points between 0 °C and 60 °C		560
Dew point temperature: 5 equidistant points between -20 °C and 60 °C		640
1 additional point between -20 °C and 0 °C		75
1 additional point between 0 °C and 20 °C		65
1 additional point between 20 °C and 60 °C		75
Second additional point		60

Note: in case of dew point temperature over 20 °C the sensor of the condensing mirror hygrometer has to satisfy at least one of the following two requirements:

- 1) The air collecting line and the measuring end part have to be equipped with a heating system.
- 2) The end measuring part has to be suitable to enter in the measuring chamber (to clarify before placing the order).

ACCREDIA CERTIFICATES HUMIDITY	CALIBRATION OF SATURATED SALT SOLUTIONS	EURO
Calibration of saturated salt solution at 23 °C as relative humidity generator.		95

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

ACCREDIA CALIBRATION CENTRE LAT N°124
PRESSURE

ACCREDITED CENTRE UNCERTAINTIES FOR PRESSURE			
MEASURE	INSTRUMENTS TO BE CALIBRATED	MEASURING RANGE	UNCERTAINTY (*)
Pressure	Pressure transducers in liquid medium in relative mode	0.075...5 MPa (0.75...50 bar) 5...100 MPa (50...1000 bar)	$U(p) / \text{Pa} = 3.2 \cdot 10^{-5} \cdot p + 100$ $U(p) / \text{Pa} = 2.6 \cdot 10^{-5} \cdot p + 2.5 \cdot 10^3$
	Pressure transducers in gaseous medium in relative mode	1.4...170 kPa (0.014...1.7 bar) 0.17...7 MPa (1.7...70 bar) 7...12 MPa (70...120 bar)	$U(p) / \text{Pa} = 5.5 \cdot 10^{-5} \cdot p + 2.5$ $U(p) / \text{Pa} = 3.4 \cdot 10^{-5} \cdot p + 30$ $U(p) / \text{Pa} = 9.0 \cdot 10^{-5} \cdot p + 510$
	Pressure transducers in gaseous medium in negative relative mode	-100...-1.4 kPa (-1...-0.014 bar)	$U(p) / \text{Pa} = 5.5 \cdot 10^{-5} \cdot p + 3$
	Pressure transducers in gaseous medium in absolute mode	1.4...170 kPa (0.014...1.7 bar) 0.17...7 MPa (1.7...70 bar) 7...12 MPa (70...120 bar)	$U(p) / \text{Pa} = 5.5 \cdot 10^{-5} \cdot p + 3$ $U(p) / \text{Pa} = 3.4 \cdot 10^{-5} \cdot p + 31$ $U(p) / \text{Pa} = 9.0 \cdot 10^{-5} \cdot p + 510$

(*) The measuring uncertainties are expressed as twice the standard deviation, corresponding, in the case of normal distribution, to a confidence level of about 95%.

If not expressly requested, the calibration points will be at the lab operator discretion.

ACCREDIA CERTIFICATES PRESSURE	EURO
5 rising points, 5 falling points, 1 cycle	200
10 rising points, 10 falling points, 1 cycle (standard)	340
10 rising points 10 falling points, 3 cycles (complete).	520
10 rising points from -1 bar to 120 bar (3 negative points, 7 positive points). Minimum range: -50 mbar...+50 mbar	378
Relative or differential calibration in air or gas:	
5 rising and falling points between 0 and 120 bar. Minimum range: 50 mbar	210
10 rising and falling points between 0 and 120 bar. Minimum range: 50 mbar	378
Note: in the differential instruments the calibration is performed on the positive input, leaving the negative input open.	
Relative calibration in liquid:	
5 rising and falling points between 0 and 1000 bar. Minimum range: 10 bar	210
10 rising and falling points between 0 and 1000 bar. Minimum range: 10 bar	378
Note: it is possible to calibrate absolute pressure probes adjusting the initial reading of the instrument to the atmospheric pressure.	
Absolute calibration in gas:	
5 rising points from 50 mbar to 3 bar. Minimum range: 150 mbar	230
5 rising points from 400 mbar to 3 bar. Minimum range: 500 mbar	230
5 rising points from atmospheric pressure to 120 bar. Minimum range: 10 bar	210

ACCREDIA CERTIFICATES PRESSURE	EURO
Negative relative calibration in gas:	
5 rising points from -1 bar to atmospheric pressure. Minimum range: 50 mbar	230
10 rising points from -1 bar to atmospheric pressure. Minimum range: 50 mbar	388
5 rising points from -1 bar to 5 bar (2 negative points, 3 positive points). Minimum range: -50 mbar...+50 mbar	220
10 rising points from -1 bar to 5 bar (5 negative points, 5 positive points). Minimum range: -50 mbar...+50 mbar	388
5 rising points from -1 bar to 120 bar (1 negative point, 4 positive points). Minimum range: -50 mbar...+50 mbar	220
Adjustment (it has to be authorized by the customer)	50
Reduction of systematical error, if allowed by the meter. The possibility of adjusting instruments produced by other manufacturers has to be examined case by case after receiving the meter in the calibration laboratory.	

Note: ACCREDIA certificates can be issued for full scale greater than 50mbar.

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

ACCREDIA CALIBRATION CENTRE LAT N°124
PHOTOMETRY – RADIOMETRY

ACCREDITED CENTRE UNCERTAINTIES FOR
PHOTOMETRY – RADIOMETRY

MEASURE	INSTRUMENTS TO BE CALIBRATED	MEASURING RANGE	MEASURING CONDITION	UNCERTAINTY (*)
Illuminance Lux	Luxmeters	2.5 lux ÷ 4000 lux		2.0 %
Luminance cd m ⁻²	Luminance meters	1 cd m ⁻² ÷ 10000 cd m ⁻²		3.2 %
Luminous intensity cd	Incandescence lamps	1 cd ÷ 3000 cd		2.7 %
Correlated colour temperature K	Incandescence lamps	2200 K ÷ 3300 K		50 K
Irradiance UVA W/m ²	Radiometers UVA	1 W/m ² ÷ 50 W/m ²	365 nm	5.0 %
Irradiance UVB W/m ²	Radiometers UVB	1.2 W/m ²	311 nm	6.6 %
Irradiance UVC W/m ²	Radiometers UVC	1.5 W/m ²	254 nm	7.2 %
Spectral Sensitivity A/W	Photodiodes	(1·10 ⁻² ÷ 1·10 ¹) A W ⁻¹ (1·10 ⁻³ ÷ 1·10 ¹) A W ⁻¹ (1·10 ⁻⁴ ÷ 1·10 ¹) A W ⁻¹	200 nm ÷ 240 nm 240 nm ÷ 375 nm 375 nm ÷ 920 nm 920 nm ÷ 1000 nm 1000 nm ÷ 1100 nm 1100 nm ÷ 1550 nm 1550 nm ÷ 1650 nm	6.6 % 3.7 % 1.9 % 2.0 % 2.2 % 2.0 % 2.6 %
Spectral Irradiance W m ⁻² nm ⁻¹	Sources: Deuterium Lamps, Incandescence lamps	(1·10 ⁻⁵ ÷ 1·10 ⁰) W m ⁻² nm ⁻¹	200 nm ÷ 250 nm 250 nm ÷ 300 nm. 300 nm ÷ 350 nm 350 nm ÷ 400 nm 400 nm ÷ 700 nm 700 nm ÷ 800 nm	10 % 7.0 % 4.4 % 3.8 % 3.2 % 3.6 %
Spectral Radiance W m ⁻² nm ⁻¹ sr ⁻¹	Integrating spheres, Strip lamps	(4·10 ⁻⁵ ÷ 3·10 ⁰) W m ⁻² nm ⁻¹ sr ⁻¹	300 nm ÷ 400 nm 400 nm ÷ 800 nm	5 % 4.4 %
Solar Irradiance Sensitivity μ V/(W/m ²)	Pyranometers, Albedometers		Average Irradiance: 450 to 550 W/m ² Tilt: 0,0 degree (**)	2,6%

(*) The measuring uncertainties are expressed as twice the standard deviation, corresponding, in the case of normal distribution, to a confidence level of about 95%.

(**) Calibration performed in accordance with ISO 9847:1992 (method IIc)

ACCREDIA LAT N°124 CERTIFICATES
PHOTOMETRY – RADIOMETRY

If not expressly requested, the calibration points will be at the lab operator discretion.

MEASURE	RANGE	EURO
ILLUMINANCE Lux (Linearity test of luxmeter. Up to 150000 lux see calibration reports).	2.5 lux ÷ 200 lux (7 points)	335
	50 lux ÷ 4000 lux (7 points)	285
	2.5 lux ÷ 4000 lux (11 points)	495
LUMINANCE cd m⁻²	1 cd m ⁻² ÷ 500 cd m ⁻² (7 points)	285
	100 cd m ⁻² ÷ 10000 cd m ⁻² (7 points)	285
	1 cd m ⁻² ÷ 10000 cd m ⁻² (13 points)	495
LUMINOUS INTENSITY cd	1 cd ÷ 3000 cd	235
CORRELATED COLOUR TEMPERATURE K	2200 K ÷ 3300K	240
UVA IRRADIANCE Calibration with Xenon-Mercury lamp Filter at 365 nm	1 W m ⁻² ÷ 10 W m ⁻² (3 points)	350
	10 W m ⁻² ÷ 50 W m ⁻² (3 points)	350
	1 W m ⁻² ÷ 50 W m ⁻² (5 points)	490
UVB IRRADIANCE Calibration with Xenon-Mercury lamp Filter at 311 nm	1 W m ⁻²	340
UVC IRRADIANCE Calibration with Xenon-Mercury lamp Filter at 254 nm	1 W m ⁻²	340
SPECTRAL SENSITIVITY	200 nm ... 1100 nm 850 nm ... 1650 nm	500 Each spectral range
SPECTRAL IRRADIANCE W m⁻² nm⁻¹	200 nm ... 400 nm 300 nm ... 800 nm	For 10 nm steps 500 For 2 nm steps 750 Each spectral range
SPECTRAL RADIANCE W m⁻² nm⁻¹ sr⁻¹	300 nm ... 800 nm	For 10 nm steps 500 For 2 nm steps 750
SOLAR IRRADIANCE SENSITIVITY µV/(W/m²) <i>New</i>	450 W/m ² ...550 W/m ²	Pyranometers 250
		Albedometers 500
ADJUSTMENT		60

NOTES:

- The instrumentation setup can be performed only on Delta Ohm instruments.
- The setup has to be authorized by the customer.
- The possibility of setting up instruments produced by other manufacturers has to be examined every time and depends on the conditions of the instrument and availability of relevant technical literature.

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

ACCREDIA CALIBRATION CENTRE LAT N°124
ACOUSTICS

ACCREDITED CENTRE UNCERTAINTIES FOR ACOUSTICS

MEASURE	INSTRUMENTS TO BE CALIBRATED	MEASURING RANGE	FREQUENCY RANGE	UNCERTAINTY ^(*)	NOTES
Acoustics pressure level	Pistonphones	124dB	250Hz	0.10dB	
	½" Calibrators	from 94 to 114 dB	250 Hz and 1 kHz	0.11dB	
	Multifrequency calibrators	from 94 to 114 dB	31.5 Hz from 63 Hz to 2 kHz 4 kHz 8 kHz 12.5 and 16 kHz	0.15 dB 0.11 dB 0.12 dB 0.16 dB 0.25 dB	
	Sound level meter	from 94 to 124 dB	250 and 1000 Hz	0.19 dB	
	Adj. sensitivity	from 25 to 140 dB	from 31.5 Hz to 16 kHz	from 0.14 to 0.22 dB	1
	Electrical measures	from 25 to 140 dB	from 31.5 Hz to 16 kHz	from 0.40 to 0.80 dB	1
	Acoustic measures		31.5 ≤ fc ≤ 16000 Hz	from 0.10 to 0.80 dB	1,2
	Octave band filters		20 ≤ fc ≤ 20000 Hz	from 0.10 to 0.80 dB	1,2
	Third octave band filters				
Sensitivity to the acoustic pressure	1" Reference microphones	124 dB	250 Hz	0.10 dB	
	½" Reference microphones	124 dB	250 Hz	0.10 dB	
	½" WS microphones	94dB	from 31.5 Hz to 16 kHz	from 0.10 to 0.13 dB	1

^(*) The measuring uncertainties are expressed as twice the standard deviation, corresponding, in the case of normal distribution, to a confidence level of about 95%.

1) The uncertainty depends on the frequency.

2) **fc** is the midband frequency of filter operating band.

CODE	ACOUSTIC ACCREDIA LAT N°124 CERTIFICATES		EURO
DELTA OHM SOUND LEVEL METER KIT AND ACOUSTIC CALIBRATOR			
S.FI38C	Calibration of integrating sound level meter, calibrator and octave and third octave filters.		420
S.FI3C	Calibration of integrating sound level meter, calibrator and third octave filters.		390
S.FI8C	Calibration of integrating sound level meter, calibrator and octave filters.		360
S.FIC	Calibration of integrating sound level meter and calibrator.		260
OTHER BRANDS SOUND LEVEL METER KIT AND ACOUSTIC CALIBRATOR			
S.FC	Calibration of sound level meter and calibrator.		310
S.FIC	Calibration of integrating sound level meter and calibrator.		350
DELTA OHM SOUND LEVEL METER			
S.FI38	Calibration of integrating sound level meter and octave and third octave filters filters.		370
S.FI3	Calibration of integrating sound level meter and third octave filters.		340
S.FI8	Calibration of integrating sound level meter and octave filters.		310
S.FI	Calibration of integrating sound level meter.		210
OTHER BRANDS SOUND LEVEL METER			
S.F	Calibration of sound level meter.		260
S.FI	Calibration of integrating sound level meter.		300
DELTA OHM CALIBRATOR			
S.C	Calibration of mono-frequency calibrator for ½" microphones.		115
OTHER BRANDS CALIBRATOR			
S.OC	Calibration of mono-frequency calibrator for ½" microphones or pistonphone.		115
S.OCM	Calibration of multi-frequency calibrator B&K4226 .		350
MICROPHONE			
S.M	Calibration of ½" microphone.		115
DELTA OHM OCTAVE OR THIRD OCTAVE FILTER BANKS			
S.38	Calibration of octave and third octave filters.		200
S.3	Calibration of third octave filters.		170
S.8	Calibration of octave octave filters.		135
OTHER BRANDS OCTAVE OR THIRD OCTAVE FILTER BANKS			
S.O38	Calibration of octave and third octave filters.		On request
S.O3	Calibration of third octave filters.		On request
S.O8	Calibration of octave octave filters.		On request

Examples of calibration reports can be viewed in the **Laboratory** section of the web site www.deltaohm.com.

ACCREDIA CALIBRATION CENTRE LAT N°124
AIR SPEED

ACCREDITED CENTRE UNCERTAINTY FOR AIR SPEED					
MEASURE	INSTRUMENTS TO BE CALIBRATED	MEASURING RANGE	UNCERTAINTY (*)		NOTE
			①	②	
Air speed	Hotwire, Vane, Cup, Ultrasonic, Pitot tube, Darcy tube, anemometers.	0.1 m/s	13 %		
		0.15 m/s	9 %		
		0.2 m/s	6 %		
		0.3 m/s	4 %		
		0.5 m/s	2.8 %		
		0.7 m/s	2.8 %		
		1 m/s	2.4 %	4.2 %	
		2.5 m/s	2.4 %	2.7 %	
		5 m/s	2.0 %	2.6 %	
		7.5 m/s	2.0 %	1.5 %	---
		10 m/s	2.0 %	1.5 %	
		15 m/s	2.0 %	1.5 %	
		20 m/s	2.0 %	1.5 %	
		25 m/s	2.0 %	2.4 %	
		30 m/s	2.0 %	2.4 %	
		35 m/s	2.0 %	2.4 %	
		40 m/s		2.4 %	
		50 m/s		2.4 %	
		60 m/s		2.4 %	

(*) The measuring uncertainty is expressed with relation to the measure value and it is stated as extended uncertainty corresponding to the 95% confidence level.

① Kind of instrument: hotwire, vane (60 mm max diameter)

② Kind of instrument : cup, ultrasonic, Pitot tube, vane (diameter larger than 60 mm)

If not expressly requested, the calibration points will be at the lab operator discretion.

AIR SPEED ACCREDIA LAT N°124 CERTIFICATES		EURO
Fan or vane probes with 60 mm max diameter, hotwire probes		
5 rising points in the range 0.15 m/s...2 m/s		330
5 rising points in the range 0.15 m/s...5 m/s		330
5 rising points in the range 0.15 m/s...10 m/s		330
5 rising points in the range 0.15 m/s...20 m/s		330
5 rising points in the range 0.5 m/s...25 m/s		280
10 rising points in the range 0.5 m/s...40 m/s		440
5 rising and falling points in the range 0.5 m/s...25 m/s		400
5 rising points in the range 25 m/s...60 m/s		375
5 rising and falling points in the range 25 m/s...60 m/s		590
1 additional point		55
Fan or vane probes with diameter larger than 60 mm, cup anemometers, ultrasonic anemometers, Pitot or Darcy tubes		
5 rising points in the range 1m/s...25m/s		330
5 rising and falling points in the range 1m/s...25m/s		600
Additional point in the above mentioned ranges		65
5 rising points in the range 25m/s...60m/s		375
5 rising and falling points in the range 25m/s...60m/s		650
Additional point in the above mentioned ranges		65

NOTES:

- The instrumentation setup can be performed only on Delta Ohm instruments.
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Rev. 23/04/2014