Specification sheet

600T EN Series Pressure Transmitters

Model 611ED Differential (MWP 14 MPa)
Model 611EE Differential (MWP 25 MPa)
Model 611EH Differential (high vacuum)
Model 611EG Gauge
Model 611EA Absolute

- **Base accuracy : ± 0.15%**
- **Reliable inductive sensing system coupled with the very latest digital technologies**
  - ensures high performance at all process conditions
- **Wide selection of materials and choice of fill fluids including "process-inert"**
  - meet virtually all process requirements also protecting application integrity
- **HART 4-20 mA, Profibus PA, FF versions with plug-and-play electronics replacement**
  - provides interchangeability for upgrading transmitter
- **Local snap calibration and full management via hand terminal or PC-running software**
- **HART®, Profibus PA, FF communications**
  - allows integration with standard process bus
- **CoMeter display option**
  - offers HART Configuration capabilities combined with local indication
- **Ecoefficient life cycle**
  - ensures low environmental impact in compliance with LCA assessment to ISO 14040 standard

The all new 600T Series transmitter
The first choice pressure transmitter is now an even bigger choice

FUNCTIONAL SPECIFICATIONS

Range and span limits

Sensor code	Upper Range Limit (URL)	Lower Range Limit (LRL) 611ED Differential MWP 14 MPa	611EE Differential MWP 25 MPa	611EH Differential high vacuum	611EG Gauge	611EA Absolute	Turndown ratio (TD) 611ED, EE, EG Normal	Extended	Maximum	611EH, EA Normal	Extended	Maximum
A	2.5 kPa 25 mbar 10 inH2O	- 2.5 kPa - 25 mbar - 10 inH2O					10	20	30			
B	10 kPa 100 mbar 40.1 inH2O	- 10 kPa - 100 mbar - 40.1 inH2O		- 10 kPa - 100 mbar - 40.1 inH2O	- 10 kPa - 100 mbar - 40.1 inH2O	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	10	20	30	5	10	30
C	40 kPa 400 mbar 160 inH2O	- 40 kPa - 400 mbar - 160 inH2O		- 40 kPa - 400 mbar - 160 inH2O	- 40 kPa - 400 mbar - 160 inH2O	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
N	65 kPa 650 mbar 260 inH2O	- 65 kPa - 650 mbar - 260 inH2O	- 65 kPa - 650 mbar - 260 inH2O	- 65 kPa - 650 mbar - 260 inH2O	- 65 kPa - 650 mbar - 260 inH2O	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
D	160 kPa 1600 mbar 642 inH2O	- 160 kPa - 1600 mbar - 642 inH2O	- 160 kPa - 1600 mbar - 642 inH2O	- 160 kPa - 1600 mbar - 642 inH2O	1 kPa abs 10 mbar abs 0.15 psia	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
E	600 kPa 6 bar 87 psi	- 600 kPa - 6 bar - 87 psi	- 600 kPa - 6 bar - 87 psi		1 kPa abs 10 mbar abs 0.15 psia	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
F	2400 kPa 24 bar 348 psi	- 2400 kPa - 24 bar - 348 psi	- 2400 kPa - 24 bar - 348 psi		1 kPa abs 10 mbar abs 0.15 psia	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
W	8000 kPa 80 bar 1160 psi	- 8000 kPa - 80 bar - 1160 psi	- 8000 kPa - 80 bar - 1160 psi		1 kPa abs 10 mbar abs 0.15 psia	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60
U	16000 kPa 160 bar 2320 psi		- 16000 kPa - 160 bar - 2320 psi		1 kPa abs 10 mbar abs 0.15 psia	0.07 kPa abs 0.7 mbar abs 0.5 mmHg	15	60	100	10	20	60

Span limits

Maximum span = URL
(can be further adjusted up to ± URL (TD = 0.5) for differential models, within the range limits)
Minimum recommended span = URL/TD extended
(can be further turndown to URL/TD maximum at no stated performances)

Zero suppression and elevation

Zero and span can be adjusted to any value within the range limits detailed in the table as long as:
- calibrated span ≥ minimum span

Damping

Selectable time constant : 0, 0.25, 0.5, 1, 2, 4, 8 or 16 sec.

Volume of process chamber

9 cm^3 approx (0.55 in^3)

Volumetric displacement

< 0.020 cm^3 (0.0015 in^3) for max span.

Electromagnetic compatibility (EMC)

Comply with EN 50081-2 for emission and EN 50082-2 for immunity requirements and test; CE marking.

Turn on time

Operation within specification in less than 2 sec. with minimum damping.

Insulation resistance

> 100 MΩ @ 1000 Vdc (terminals to earth)

Temperature limits °C (°F) :

• Ambient (is the operating temperature)

Filling	Models 611ED, EE, EG Sensor C to U	Models 611ED, EE, EG Sensor A and B	Models 611EH, EA Sensor C to U	Models 611EH, EA Sensor code B
Silicone oil	-40 and +85 (-40 and +185)	-25 and +85 (-13 and +185)	-40 and +85 (-40 and +185)	-15 and +70 (+5 and +158)
Inert	-20 and +85 (-4 and +185)	-10 and +85 (+14 and +185)	-10 and +65 (+14 and +150)	
KTFILL-1	-40 and +85 (-40 and +185)	-10 and +85 (+14 and +185)	-10 and +85 (+14 and +185)	

Lower ambient limit for LCD indicators: -20°C (-4°F)
Upper ambient limit for CoMeter : +70°C (+158°F)

• Process (1)

Lower limit
- refer to lower ambient limits
- -20°C (-4°F) for Viton gaskets

Upper limit
- Silicone oil and KTFILL-1 filling : 120°C (248°F) (2)
- Inert fluid filling : 100°C (212°F) (3)

(1) Process temperature above 85°C (185 °F) requires derating the ambient limits by 1.5 : 1 ratio.
(2) 100°C (212°F) for application below atmospheric pressure
(3) 65°C (150°F) for application below atmospheric pressure

• Storage

Lower limit : -50°C (-58°F); -40°C (-40°F) for LCD indicators
Upper limit : +120°C (+248°F); +85°C (+185°F) for LCD indicators

Overpressure limits (without damage to the transmitter)

- Lower : 0.067 kPa abs, 0,67 mbar abs, 0.01 psia (0.13 kPa abs, 1.33 mbar abs, 0.02 psia for sensor code A). Double the lower limit with inert filling
- Upper
  - model 611ED, EG, EA
    sensor codes B to W : 14 MPa, 140 bar, 2030 psi
    sensor code A : 8 MPa, 80 bar, 1160 psi
    sensor code U : 25 MPa, 250 bar, 3620 psi
  - model 611EE :
    all sensor codes : 25 MPa, 250 bar, 3620 psi
  - model 611EH :
    all sensor codes :1 MPa, 10 bar, 145 psi

Static pressure

Transmitters for differential pressure operate within specifications between the following limits

- model 611ED
  - sensor codes B to W :
    1.3 kPa abs,13 mbar abs, 0.2 psia and 14 MPa, 140 bar, 2030 psi
  - sensor code A :
    2.5 kPa abs, 25 mbar abs, 0.4 psia and 8 MPa, 80 bar, 1160 psi
- model 611EE :
  all sensor codes :
  1.3 kPa abs, 13 mbar abs, 0.2 psia and 25 MPa, 250 bar, 3620 psi
- model 611EH:
  all sensor codes :
  0.067 kPa abs, 0.67 mbar abs, 0.01 psia and 1 MPa, 10 bar, 145 psi

Double the lower limit with inert filling

Proof pressure

The transmitter meets SAMA PMC 27.1 requirements and can be exposed without leaking to line pressure of up to 48 MPa, 480 bar, 6960 psi (up to 28 MPa, 280 bar, 4060 psi for 611EG, 611EA)

ELECTRICAL CHARACTERISTICS AND OPTIONS

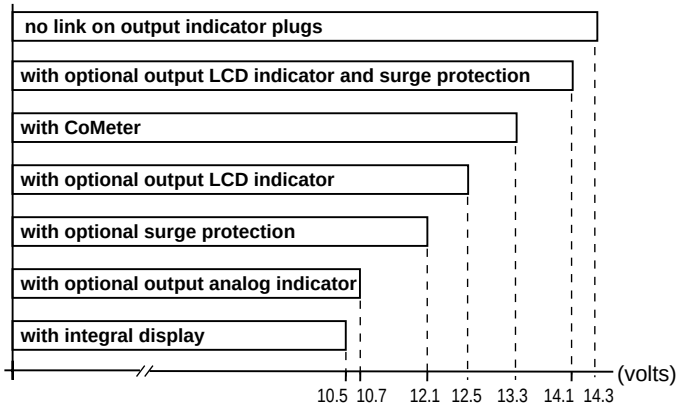
• HART digital communication and 4 to 20 mA output

Power Supply

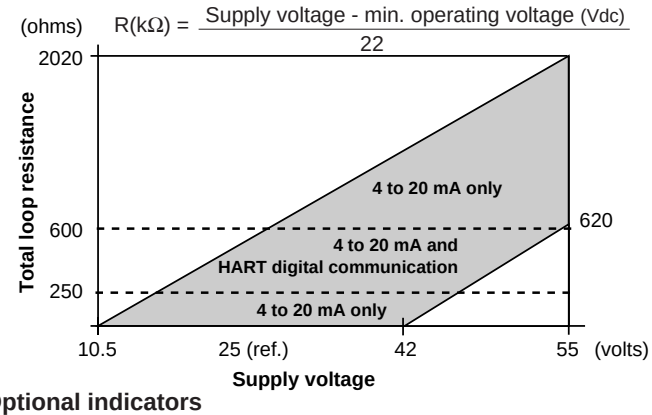
The transmitter operates from 10.5 to 42 Vdc with no load and is protected against reverse polarity connection (a load up to 620Ω allows operations up to 55 Vdc).

For EEx ia and intrinsically safe (FM, CSA and SAA) approval power supply must not exceed 30 Vdc.

MINIMUM OPERATING VOLTAGES



Load limitations - 4-20 mA and HART total loop resistance **:**



Optional indicators

- **Output meter (user adjustable)**
  - LCD : 3 1/2-digit with 10 mm (3/8 in) high, 7-segment characters. Engineering unit labels are provided. LCD output meter may be calibrated within the range -1999 to + 1999 with a span adjustable between 100 and 3998 units. (Display of decimal point, if required, is switch selectable)
  - analog : 36 mm (1.4 in) scale on 90°
- **Integral display**
  - LCD: 4-digit with 8 mm. (5/16 in) high, 9-segment alphanumeric characters.
    User-definable display mode with HART communication :
    - process variable in engineering units, or
    - percent of range, or
    - process variable in engineering units and percent of range alternating every 3 seconds, or
    - process variable in engineering units and digital output (4 to 20 mA) alternating every 3 seconds.

    Factory selectable display mode with 4 to 20 mA output :
    - percent of range
    - percent of range and 4 to 20 mA output alternating every 3 seconds

    Display also indicates diagnostic messages.
- **CoMeter**
  - 5-digit (±99999 counts) programmable with 7.6 mm. high (3 in), 7-segment numeric characters plus sign and digital point
  - 10-segment bargraph display (10% per segment)
  - 7-digit LCD with 6 mm. high (2.3 in), 14-segment alphanumeric characters.

Optional surge protection

Up to 2.5 kV (5 kA discharge current) of 8 µs rise time/20 µs decay.

Output signal

Two-wire 4 to 20 mA dc, user-selectable for linear or square root output, power of 3/2 or 5/2, 5th order or two 2nd order switching point selectable programmable polynomial output.

HART® communication provides digital process variable (%, mA or engineering units) superimposed on 4 to 20 mA signal, with protocol based on Bell 202 FSK standard.

Output current limits (to NAMUR standard)

Overload condition
- Lower limit : 3.8 mA dc
- Upper limit : 20.8 mA dc

Transmitter failure mode (to NAMUR standard)

The output signal can be user-selected to a value of 3.6 or 21.6 mA on gross transmitter failure condition, detected by self-diagnostics.

In case of CPU failure the output is driven <3.6 mA or >21.6 mA.

• ***Profibus PA output***

Power supply

The transmitter operates from 10.5 to 32 Vdc with no polarity. For EEx ia approval power supply must not exceed 15 Vdc. Intrinsic safety installation according to FISCO model.

Current consumption

- operating (quiescent) : 10.5 mA
- communicating : 20.5 mA
- fault current limiting : 16 mA max.

Output signal

Physical layer in compliance to IEC 1158-2/EN 61158-2 with transmission to Manchester II modulation, at 31.25 kbit/sec.

Output interface

Profibus PA communication according to Profibus DP50170 Part 2/DIN 19245 part 1-3 compliant to Profiles 3.0 Class A & B for pressure transmitter.

Optional indicator

Integral display

- LCD : 4 digit characters, displaying process variable in engineering units or as percentage value.

Display also indicates diagnostic messages.

Transmitter failure mode

On gross transmitter failure condition, detected by self-diagnostics, the output signal can be driven to defined conditions, selectable by the user as safe, last valid or calculated value.

• ***FOUNDATION fieldbus output***

Power supply

The transmitter operates from 10.5 to 32 Vdc with no polarity. For EEx ia approval power supply must not exceed 24 Vdc. Intrinsic safety installation according to FF application guide

Current consumption

- operating (quiescent) : 10.5 mA
- communicating : 20.5 mA
- fault current limiting : 16 mA max.

Output signal

Physical layer in compliance to IEC 1158-2/EN 61158-2 with transmission to Manchester II modulation, at 31.25 kbit/sec.

Output interface

FOUNDATION fieldbus digital communication protocol to standard H1, compliant to specification V. 1.4.

Optional indicator

Integral display

- LCD : 4 digit characters, displaying process variable in engineering units or as percentage value.

Display also indicates diagnostic messages.

Transmitter failure mode

The output signal is "frozen" to the last valid value on gross transmitter failure condition, detected by self-diagnostics which also indicate a BAD conditions.

If electronic failure or short circuit occur the transmitter consumption is electronically limited at a defined value (16 mA approx), for safety of the network.

PERFORMANCE SPECIFICATIONS

Stated at ambient temperature of 23°C ± 3K (75°F ± 5), relative humidity of 50% ±20%, atmospheric pressure, mounting position with vertical diaphragm and zero based range for transmitter with isolating diaphragms in AISI 316 L ss or Hastelloy and silicone oil fill or KTFILL-1 and HART digital trim values equal to 4-20 mA span end points, in linear mode.

Unless otherwise specified, errors are quoted as % of span.

Some performance data are affected by the actual turndown (TD) as ratio between Upper Range Limit (URL) and calibrated span.

IT IS RECOMMENDED TO SELECT THE TRANSMITTER SENSOR CODE PROVIDING THE TURNDOWN VALUE AS LOWEST AS POSSIBLE TO OPTIMIZE PERFORMANCE CHARACTERISTICS.

Accuracy rating

% of calibrated span, including combined effects of terminal based linearity, hysteresis and repeatability.

- **Models 611ED, EE, EG**
  - ± 0.15% for TD from 1:1 to 15:1
    (± 0.20% for sensor code U
    ± 0.20% for sensor codes A and B for TD from 1:1 to 10:1)
  - ± 0.01% x $\frac{URL}{Span}$ for TD from 15:1 to 60:1
    (± 0.0133% x $\frac{URL}{Span}$ for sensor code U;
    ± 0.02% x $\frac{URL}{Span}$ for sensor codes A and B for TD from 10:1 to 20:1)
- **Models 611EH, 611EA**
  - ± 0.15% for TD from 1:1 to 10:1
    (± 0.20% for sensor code U
    ± 0.20% for sensor code B for TD from 1:1 to 5:1)
  - ± 0.015% x $\frac{URL}{Span}$ for TD from 10:1 to 20:1
    (± 0.02% x $\frac{URL}{Span}$ for sensor code U;
    ± 0.04% x $\frac{URL}{Span}$ for sensor code B for TD from 5:1 to 10:1)

Optional indicators accuracy

- integral display (microprocessor driven) : no error
- analog output meter : ± 2% full scale deflection
- LCD output meter : ± 0.1% of calibrated span ± 1 unit
- CoMeter
  - digital : ± 0.10% of max span(16 mA) ± 1 digit
  - analog (bargraph) : 10%

Operating influences

Ambient temperature per 20 K (36°F) change between the limits of - 20°C to + 65°C (-4 to +150°F) :

Model	Sensor code	for TD up to	
611ED, EG	C to U	15:1	± (0.10% URL + 0.16% span)
	B	10:1	± (0.15% URL + 0.24% span)
	A	10:1	± (0.25% URL + 0.40% span)
611EE	N to U	15:1	± (0.15% URL + 0.25% span)
611EH, EA	C to U	10:1	± (0.20% URL + 0.32% span)
	B	5:1	± (0.30% URL + 0.48% span)

Multiply by 1.5 the above coefficients for 20 K (36°F) change between the limits of -40 to -20°C (-40 to -4°F) and of +65 to +85°C (+150 to 185°F)

Optional LCD output meter ambient temperature
per 1 K (1.8°F) change between the limits of -20 and +80°C (-4 and + 176°F)
Total effect : ± (0.0002 x span units + 0.1) of reading.

Optional CoMeter ambient temperature
Total reading error per 20K (36°F) change between the ambient limits of -20 and +70°C (-4 and +158°F) :
± 0.15% of max span (16 mA).

Static pressure (zero errors can be calibrated out at line pressure)
per 2 MPa, 20 bar or 290 psi (range A)
per 7 MPa, 70 bar or 1015 psi (ranges B to U)
- **Model 611ED**
  - zero error : ± 0.20% of URL
  - span error : ± 0.20% of reading
  Multiply by 1.5 the errors for sensor code B.
- **Model 611EE**
  - zero error : ± 0.22% of URL
  - span error : ± 0.22% of reading

per 1 MPa, 10 bar, 145 psi above atmosphere
per 0.1 MPa, 1 bar, 14.5 psi from atmosphere down to vacuum
- **Model 611EH**
  - zero error : ± 0.15% of URL
  - span error : ± 0.10 % of reading
  Multiply by 1.5 the errors for sensor code B.

Supply voltage
Within voltage/load specified limits the total effect is less than 0.005% of URL per volt.

Load
Within load/voltage specified limits the total effect is negligible.

Radio frequency interference
Total effect : less than 0.10% of span from 20 to 1000 MHz and for field strengths up to 30 V/m when tested with shielded conduit and grounding, with or without meter. Meets IEC 801.

Common mode interference
No effect from 100 V rms @ 50 Hz, or 50 Vdc.

Series mode interference
No effect from 1 V rms @ 50 Hz.

Mounting position
Rotations in plane of diaphragm have no effect. A tilt to 90° from vertical causes a zero shifts up to 0.5 kPa, 5 mbar or 2 inH_2O, which can be corrected with the zero adjustment**.** No span effect.

Stability
± 0.30% of URL over a thirty-six-month period

PHYSICAL SPECIFICATIONS

(Refer to ordering information sheets for variant availability related to specific model or versions code)

Materials

Process isolating diaphragms (*)
AISI 316 L ss, Hastelloy C276 ◊; Monel 400 ◊; Tantalum

Process flanges, adapters, plugs and drain/vent valves (*)
AISI 316 L ss; Hastelloy C ◊; Monel 400◊;
Plated carbon steel with AISI 316 L ss valves

Blind flange (reference side of 611EG, EA)
AISI 316 L ss; Plated carbon steel .

Sensor fill fluid
Silicone oil (DC200) or inert fill (perfluorinated polyethers Galden ◊) or "process-inert" fill (KTFILL-1).

Mounting bracket (**)
Zinc plated carbon steel with chrome passivation;
AISI 316 L ss

Gaskets (*)
Viton ◊, PTFE.

Sensor housing : AISI 316 L ss

Bolts and nuts
- Plated carbon steel bolts class 8.8 per UNI 5737 (ISO 4014) and nuts class 6.S per UNI 3740/4 (ISO 898/2).
- Plated alloy steel bolts per ASTM-A-193-77a grade B7M and nuts per ASTM A194/A 194 M-90 grade 2HM, in compliance with NACE MR0175 Class II.
- AISI 316 ss bolts Class A4-80 and nuts Class A4-70 per UNI 7323 (ISO 3506).
- AISI 316 ss bolts and nuts Class A4-50 per UNI 7323 (ISO 3506), in compliance with NACE MR0175 Class II.

Electronic housing and covers
Barrel version
- Low-copper content aluminium alloy with baked epoxy finish;
- AISI 316 L ss.

DIN version
- Low-copper content aluminium alloy with baked epoxy finish

Covers O-ring: Buna N.

Local zero and span adjustments:
Glass filled polycarbonate plastic (removable)

Tagging
AISI 316 ss data plate attached to the electronics housing.

Calibration

- Standard: at maximum span, zero based range, ambient temperature and pressure
- Optional: at specified range and ambient conditions; or at operating temperature.

Optional extras

Mounting brackets

For vertical and horizontal 60 mm. (2 in) pipes or wall mounting.

Output indicator:

plug-in rotatable type, LCD or analog.
Standard LCD output meter scale is 0 to 100% linear; special linear scale to specified range and engineering unit is available.Standard analog output meter scale is 0 to 100% linear or 0 to 10 square-root; special graduation is available.

Supplemental customer tag

AISI 316 ss tag fastened to the transmitter with stainless steel wire for customer's tag data up to a maximum of 56 characters and spaces on two lines for tag number and tag name, and up to a maximum of 28 characters and spaces for calibration details.

Surge protection (not available with Profibus PA and FF output)
Cleaning procedure for oxygen service; hydrogen preparation; special degreasing
Material traceability; manifold

Environmental protection

Wet and dust-laden atmospheres

The transmitter is dust and sand tight and protected against immersion effects as defined by IEC 529 (1989) to IP 67 (IP 68 on request) or by NEMA to 4X or by JIS to C0920

Hazardous atmospheres

With or without output meter/integral display
INTRINSIC SAFETY/EUROPE:
ATEX/BASEEFA approval
EC-Type Examination Certificate no. BAS 99ATEX 1180
(HART)
II 1 GD T50°C, EEx ia IIC T5 (-40°C ≤ Ta ≤+40°C)
T95°C, EEx ia IIC T4 (-40°C ≤ Ta ≤+85°C)
(FOUNDATION Fieldbus)
II 1 GD T70°C, EEx ia IIC T4 (-40°C ≤ Ta ≤+60°C)
EC-Type Examination Certificate no. BAS 00ATEX 1241
(PROFIBUS-PA)
II 1 GD T70°C, EEx ia IIB T4 (-40°C ≤ Ta ≤+60°C)
FLAMEPROOF/EUROPE:
CENELEC/CESI approval;
Conformity Certificate no. Ex-94.C.017
EEx d IIC T5 (T_{amb} -40°C to +85°C)/T6 (T_{amb} -40°C to +70°C)
CANADIAN STANDARDS ASSOCIATION
and FACTORY MUTUAL :
- Explosionproof: Class I, Div. 1, Groups A, B, C, D
- Dust ignitionproof : Class II, Div. 1, Groups E, F, G
- Suitable for : Class II, Div. 2, Groups F, G; Class III, Div. 1, 2
- Nonincendive: Class I, Div. 2, Groups A, B, C, D
- Intrinsically safe: Class I, II, III, Div. 1, Groups A, B, C,D,E, F, G

STANDARDS AUSTRALIA (SAA)
- TS/WCA Approval
  Conformity Certificate no. AUS Ex 3117X
  Ex d IIC T5 (T_{amb} +85°C)/T6 (T_{amb} +70°C)
  Class 1 Zone 1; Ex ia IIC T4 (T_{amb} +85°C) T5 (T_{amb} +55°C), T6/
  Class 1 Zone 0

Process connections (according to DIN 19213)

- on flanges : 1/4 NPT on process axis
- on adapters : 1/2 NPT on process axis
- centre distance (611ED, EE , EH) : 54 mm (2.13 in) on flange 51,54 or 57 mm (2.01, 2.13 or 2.24 in) as per adapters fittings.

Electrical connections

Two 1/2 NPT or M20x1.5 or PG 13.5 or 1/2 GK threaded conduit entries, direct on housing; straight or angle Harting HAN connector and one plug, on request.

Terminal block

Two terminals for signal wiring up to 2.5 mm^2 (14 AWG) and three connection points for test and communication purposes. Two additional terminals for external meter wiring up to 1.5 mm^2 (16 AWG), on request.

Grounding

Internal and external 6 mm^2 (10 AWG) ground termination points are provided.

Mounting position

Transmitter can be mounted in any position.
Electronics housing may be rotated to any position. A positive stop prevents over travel.

Mass (without options)

3.5 kg approx (8 lb); add 1.5 kg (3.4 lb) for AISI housing.
Add 650 g (1.5 lb) for packing.

Packing

Carton 26 x 26 x 18 cm approx (10 x 10 x 7 in).

◊ Hastelloy is a Cabot Corporation trademark
◊ Monel is an International Nickel Co. trademark
◊ Galden is a Montefluos trademark
◊ Viton is a Dupont de Nemour trademark

(*) Wetted parts of the transmitter.
(**) U-bolt material: AISI 400 ss; screws material: high-strength alloy steel or AISI 316 ss.

CONFIGURATION

• Transmitter with HART communication and 4 to 20 mA

Standard configuration

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

- Engineering Unit: Specify code option
- 4 mA: Zero
- 20 mA: Upper Range Limit (URL)
- Output : Linear
- Damping: 1 sec.
- Transmitter failure mode: Upscale
- Software tag characters: Blank
- Optional LCD output indicator : 0 to 100.0% linear

Any or all the above configurable parameters, including Lower range-value and Upper range-value which must be the same unit of measure, can be easily changed using the HART hand-held communicator. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Custom configuration (option)

The following data may be specified in addition to the standard configuration parameters:

- Descriptor : 16 alphanumeric characters
- Message: 32 alphanumeric characters
- Date: Day, month, year
- Damping: Seconds

• Transmitter with Profibus PA communication

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

- Measure Profile: Pressure
- Engineering Unit: kPa
- Output scale 0%: Lower Range Limit (LRL)
- Output scale 100%: Upper Range Limit (URL)
- Output : Linear
- Hi-Hi Limit : Upper Range Limit (URL)
- Hi Limit : Upper Range Limit (URL)
- Low Limit : Lower Range Limit (LRL)
- Low-Low Limit : Lower Range Limit (LRL)
- Limits hysteresis: 0.5% of output scale
- PV filter: 0 sec.
- Address: 126
- Tag : 32 alphanumeric characters

Any or all the above configurable parameters, including Lower range-value and Upper range-value which must be the same unit of measure, can be easily changed by a PC running the configuration software Smart Vision with DTM for 600T or 600T template for Siemens Simatic PDM System. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Custom configuration (option)

The following data may be specified in addition to the standard configuration parameters:

- Descriptor : 32 alphanumeric characters
- Message: 32 alphanumeric characters
- Date: Day, month, year
- PV filter: Seconds

• Transmitter with FOUNDATION fieldbus communication

Transmitters are factory calibrated to customer's specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

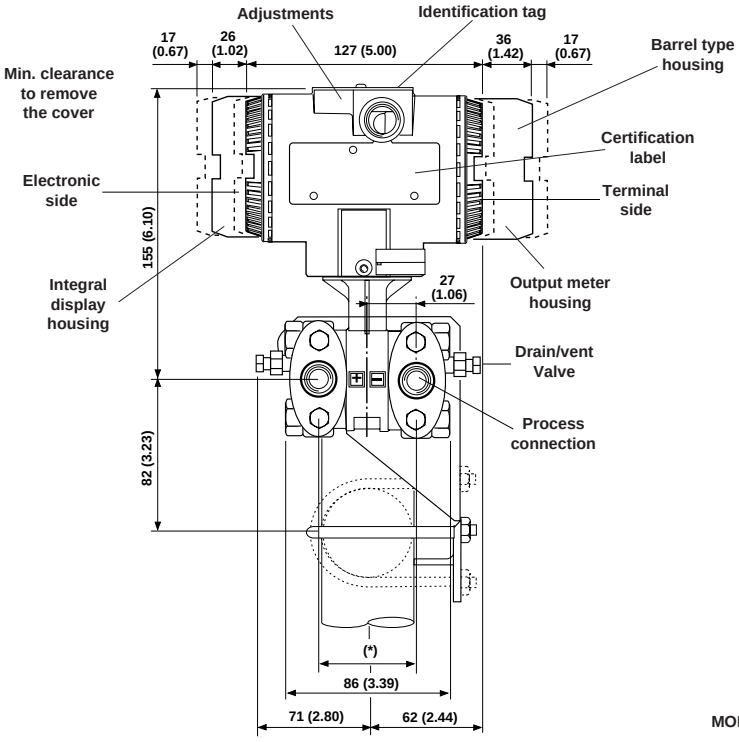
- Measure Profile: Pressure
- Engineering Unit: kPa
- Output scale 0%: Lower Range Limit (LRL)
- Output scale 100%: Upper Range Limit (URL)
- Output : Linear
- Hi-Hi Limit : Upper Range Limit (URL)
- Hi Limit : Upper Range Limit (URL)
- Low Limit : Lower Range Limit (LRL)
- Low-Low Limit : Lower Range Limit (LRL)
- Limits hysteresis: 0.5% of output scale
- PV filter time: 0 sec.
- Tag : 32 alphanumeric characters

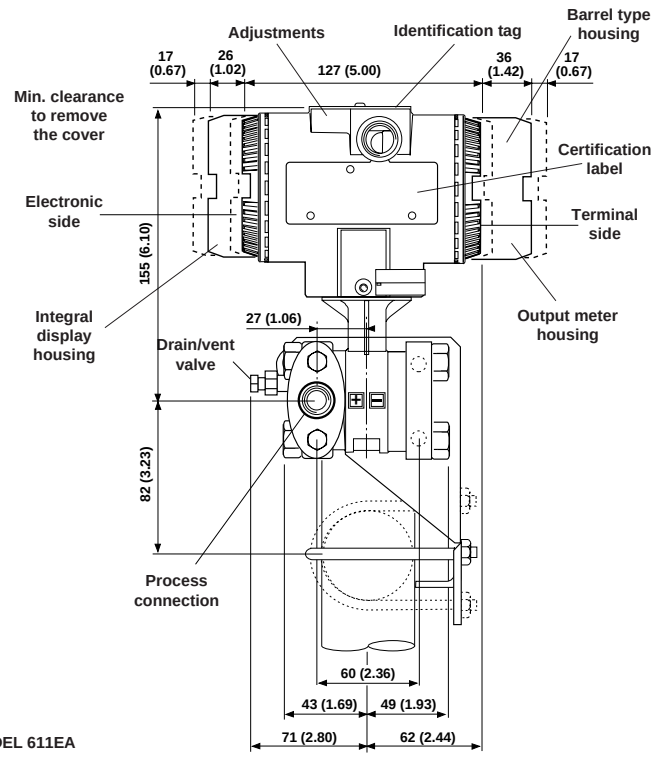
Any or all the above configurable parameters, including the range values, can be changed using any host compliant to FOUNDATION fieldbus. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Available engineering units of pressure measure are :
Pa, kPa, MPa
inH2O@4°C, mmH2O@4°C, psi
inH2O@20°C, ftH2O@20°C, mmH2O@20°C
inHg, mmHg, Torr
g/cm^2, kg/cm^2, atm
mbar, bar

MOUNTING DIMENSIONS
(not for construction unless certified)

- **Transmitter on bracket for vertical or horizontal 60 mm (2in) pipe mounting (Barrel housing)**

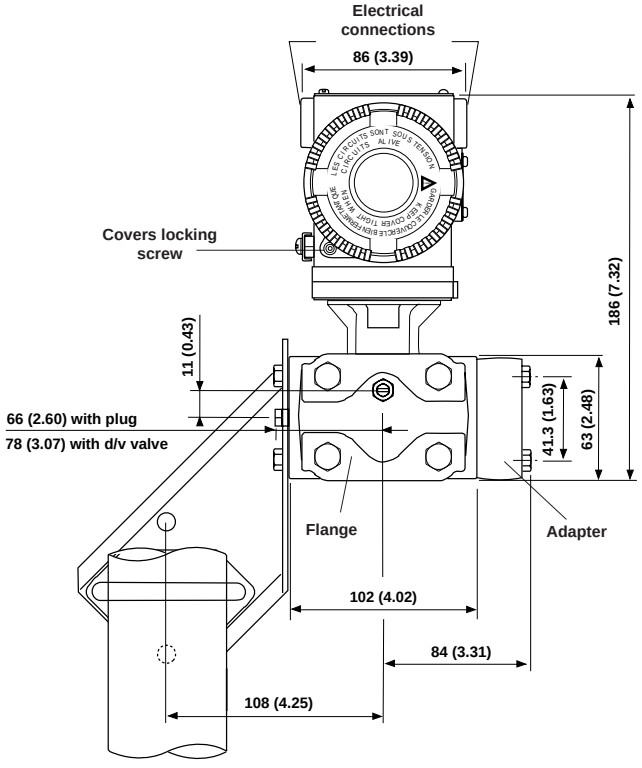


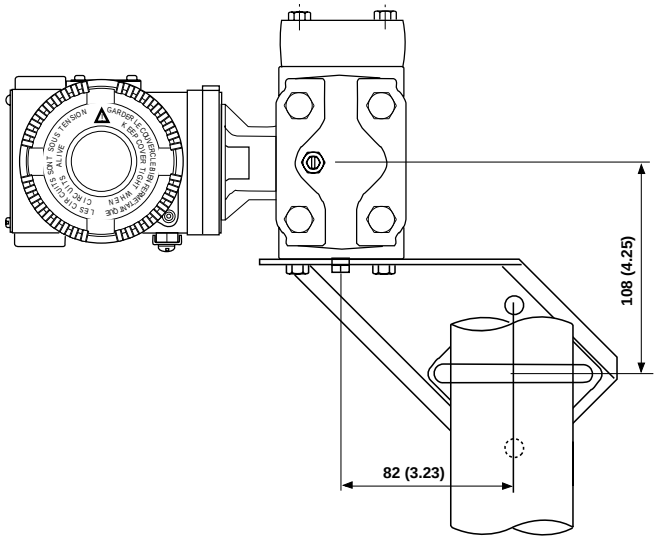


MODEL 611EA

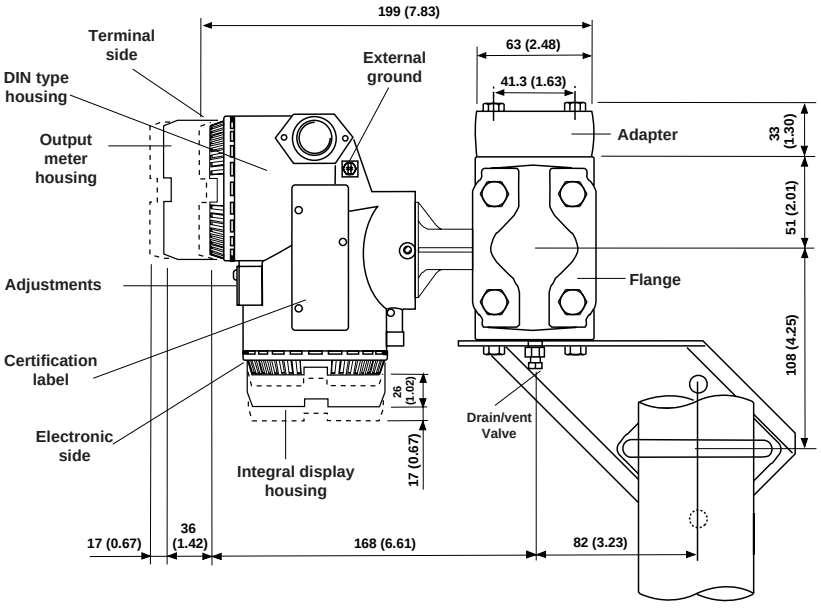
(*) FOR MODEL 611ED, EE, EH
51 (2.01), 54 (2.13) or 57 (2.24) mm (in) according to 1/2"-14 NPT adapters fitting 54 (2.13) mm (in) on 1/4"-18 NPT process flange
FOR MODEL 611EG
54 (2.13) mm (in) with low pressure side flange without process connection and drain/vent valve

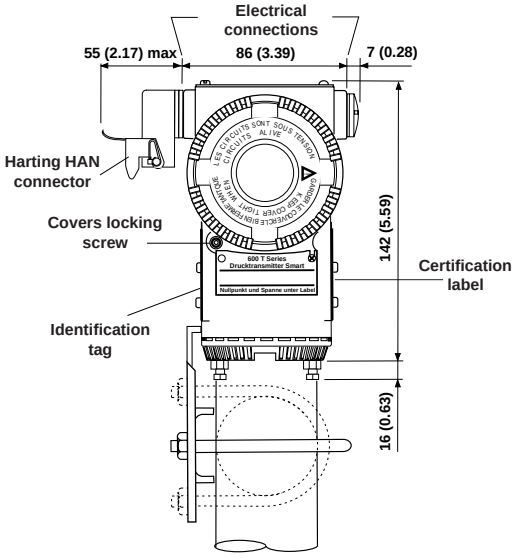
NOTE : Process connection, gasket groove and gaskets are in accordance with DIN 19213. Bolting threads for fixing adapter or other devices (i.e. manifold etc.) on process flange is 7/16"-20 UNF.



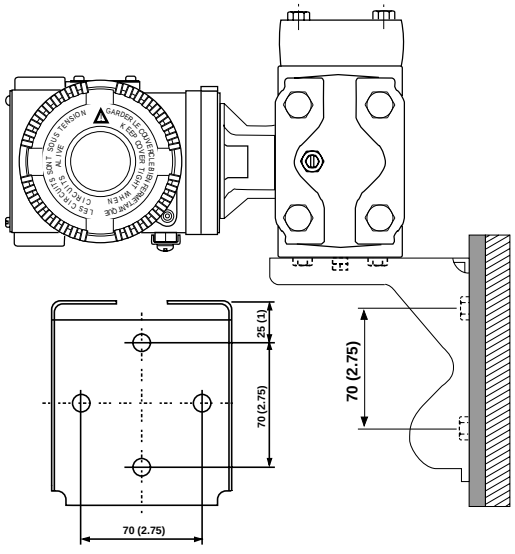


- **Transmitter on bracket for vertical or horizontal 60 mm (2in) pipe mounting (DIN housing)**

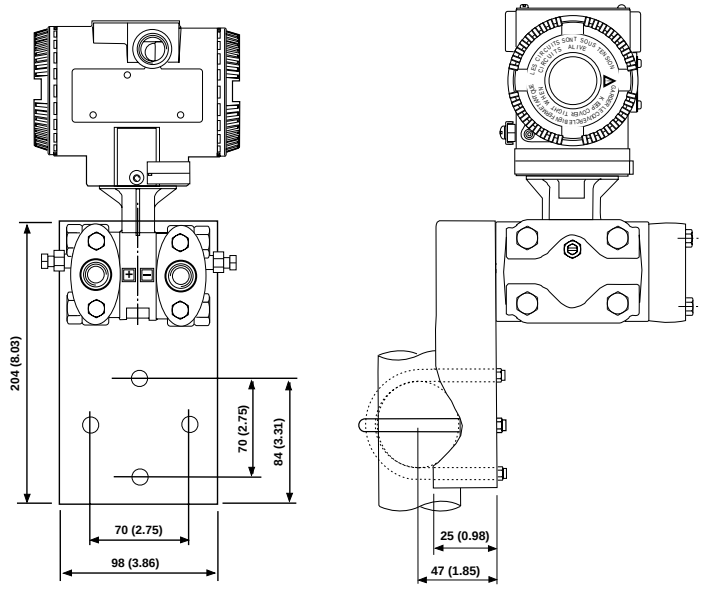




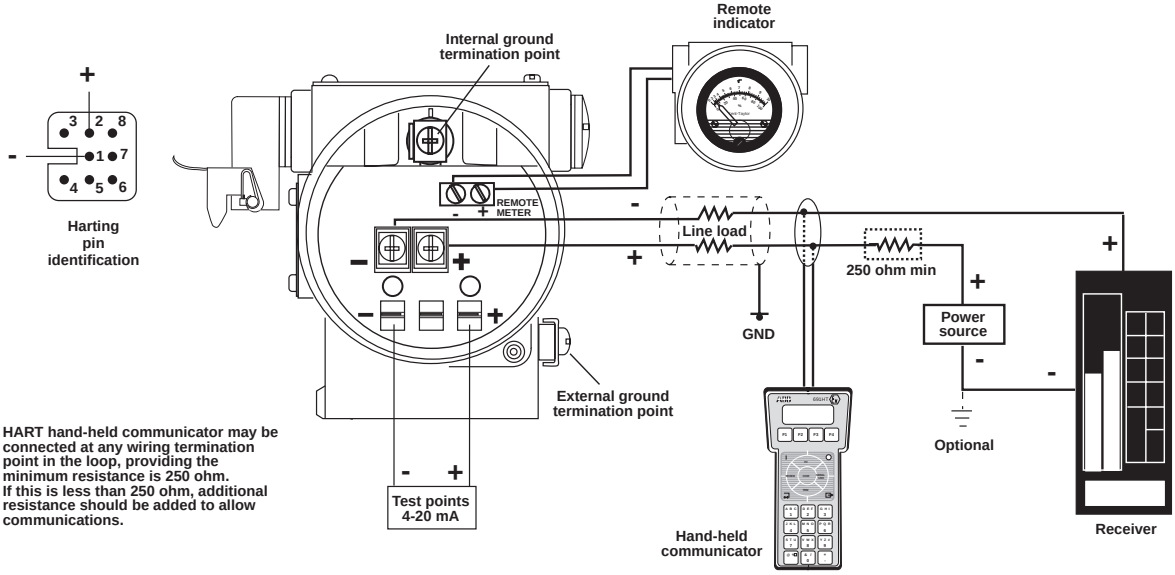
- **Transmitter on bracket for wall mounting (by four M8 screws)**



- **Transmitter on flat type (for box) bracket for vertical or horizontal 60 mm (2in) pipe mounting**



ELECTRICAL CONNECTIONS



HART hand-held communicator may be connected at any wiring termination point in the loop, providing the minimum resistance is 250 ohm. If this is less than 250 ohm, additional resistance should be added to allow communications.

ORDERING INFORMATION model 611ED Differential Pressure Transmitter (MWP=14 MPa)

Select one character or set of characters from each category and specify complete catalog number.
Refer to supplementary code and specify another number for each transmitter if additional options are required.

PRODUCT CODE

abcde fg hi j k l m n op

0

BASE MODEL
SENSOR
BOTTOM WORKS
MOUNTING BRACKET
OUTPUT
ELECTRICAL CERTIFICATION
TOP WORKS
ELECTRICAL OPTIONS

abcde **BASE MODEL** - 1st to 5th characters

	Code
Differential pressure transmitter	**611ED**

SENSOR

f **Span limits** - 6th character

0.125 and 2.5 kPa	1.25 and 25 mbar	0.5 and 10 inH2O (Note)	**A**
0.5 and 10 kPa	5 and 100 mbar	2 and 40.1 inH2O	**B**
0.67 and 40 kPa	6.7 and 400 mbar	2.67 and 160 inH2O	**C**
1.1 and 65 kPa	11 and 650 mbar	4.35 and 260 inH2O	**N**
2.67 and 160 kPa	26.7 and 1600 mbar	10.7 and 642 inH2O	**D**
10 and 600 kPa	0.1 and 6 bar	1.45 and 87 psi	**E**
40 and 2400 kPa	0.4 and 24 bar	5.8 and 348 psi	**F**
133 and 8000 kPa	1.33 and 80 bar	19.3 and 1160 psi	**W**

Note : Maximum Working Pressure 8 MPa, 80 bar, 1160 psi

7th character

g

Diaphragm material (*)	**Fill fluid**		
AISI 316 L ss	Silicone oil (**)	(Note)	**2**
Hastelloy C276 ◊	Silicone oil (**)		**3**
Monel 400 ◊	Silicone oil (**)	(Note)	**4**
Tantalum	Silicone oil (**)	(Note)	**5**
AISI 316 L ss	Inert fluid	(Note)	**A**
Hastelloy C276 ◊	Inert fluid	(Note)	**B**
Monel 400 ◊	Inert fluid	(Note)	**C**
Tantalum	Inert fluid	(Note)	**D**
AISI 316 L ss	KTFILL-1 (**)	(Note)	**L**
Hastelloy C276 ◊	KTFILL-1 (**)	(Note)	**N**

Note : not available with sensor code A at position "f"

BOTTOM WORKS

h **Process flanges / adapters / drain/vent valves (*)** - 8th character

Material	**Connection**	**Valves fitting**	
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on process axis	**F**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**H**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**J**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**L**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**Q**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**R**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**T**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**V**
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on flange side and plug fitted on process axis	**Z**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**B**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**1**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**4**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**D**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**G**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**P**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**S**

9th character

i

Bolts	**Gaskets (*)**	
Carbon Steel	Viton ◊ (**)	**1**
	PTFE	**3**
AISI 316 ss	Viton ◊ (**)	**4**
	PTFE	**6**
AISI 316 ss (NACE) (MWP = 14 MPa)	Viton ◊ (**)	**S**
	PTFE	**T**
Plated alloy steel	Viton ◊ (**)	**7**
	PTFE	**A**

■ Compliance to NACE class II bolting, according to specification MR0175, latest revision

(*) Process wetted-parts

(**) Not available for oxygen service

◊ Hastelloy is a Cabot Corporation trademark

◊ Monel is an International Nickel Co. trademark

◊ Viton is a Dupont de Nemour trademark

ORDERING INFORMATION model 611ED Differential Pressure Transmitter (MWP=14 MPa)

MOUNTING BRACKET - 10th character

j	**Shape**	**Material**	
	None	None	**1**
	For pipe mounting (Not suitable for AISI housing)	Carbon steel	**A**
		AISI 316 L ss	**B**
	For wall mounting (Not suitable for AISI housing)	Carbon steel	**5**
		AISI 316 L ss	**6**
	Flat type, for box	Carbon steel	**C**
		AISI 316 L ss	**D**

k 11th character

Use code	**0**

12th character

l **OUTPUT**

HART digital communication and 4 to 20 mA	**G**
Profibus PA communication	**P**
FOUNDATION Fieldbus Communication	**F**

m **ELECTRICAL CERTIFICATION -** 13th character

General Purpose	**1**
Flameproof to CENELEC EN 50018 CESI approval EEx d	**3**
ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval	**L**
Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2" NPT and M20 electrical connection)	**8**
Intrinsic Safety and Flameproof to Standards Australia SAA approval Ex ia IIC T6/T5/T4 + Ex d IIC T6/T5 (Note)	**W**

Note : not available with output code P and F at position "l"

TOP WORKS - 14th character

n	**Housing material**	**Electrical connection**		
	Aluminium alloy (Barrel version)	1/2" NPT		**1**
		M20 x 1.5 (CM 20)		**2**
		Pg 13.5		**3**
		1/2" GK		**4**
		Harting HAN connector - straight entry	(Note)	**5**
		Harting HAN connector - angle entry	(Note)	**6**
	AISI 316 L ss (Barrel version)	1/2" NPT		**A**
		M20 x 1.5 (CM 20)		**C**
		Pg 13.5		**D**
		1/2" GK		**F**
	Aluminium alloy (DIN version)	Pg 13.5	(Note)	**7**
		M20 x 1.5 (CM 20)	(Note)	**8**
		Harting HAN connector - straight entry	(Note)	**K**

Note : requires certification code 1 at position "m"

ELECTRICAL OPTIONS - 15th character

o **Internal meter type**

None		**1**
Digital LCD output indicator linear 0-100%, user scalable	(Note)	**3**
Digital LCD output indicator linear scale (specify range and engineering units)	(Note)	**5**
Analog output indicator linear 0-100% scale	(Note)	**7**
Analog output indicator square root 0-10 scale	(Note)	**8**
Analog output indicator, special graduation (to be specified for linear or square root scale)	(Note)	**9**
Digital LCD integral display		**A**
Digital LCD integral display and digital LCD output indicator linear 4-20 mA	(Note)	**C**
Digital LCD integral display and analog output indicator linear 0-100% scale	(Note)	**E**
Programmable signal meter and HART configurator (CoMeter)	(Note)	**P**
Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display	(Note)	**R**

Note : not available with output code P and F at position "l"

16th character

p	**Electrical options**	**Labels language**	
	None	English	**1**
		German	**2**
		Italian	**7**
	Surge protector (Note) (Requires certification code, 1, 3, 8, W at position "m")	English	**3**
		German	**4**
		Italian	**8**
	Terminals for external meter (Note)	English	**5**
		German	**6**
		Italian	**9**

Note : not available with output code P and F at position "l"

ORDERING INFORMATION model 611EE Differential Pressure Transmitter (MWP=25 MPa)

Select one character or set of characters from each category and specify complete catalog number.
Refer to supplementary code and specify another number for each transmitter if additional options are required.

PRODUCT CODE

abcde fg hi j k l m n op

0

- **BASE MODEL**
- **SENSOR**
- **BOTTOM WORKS**
- **MOUNTING BRACKET**
- **OUTPUT**
- **ELECTRICAL CERTIFICATION**
- **TOP WORKS**
- **ELECTRICAL OPTIONS**

abcde **BASE MODEL** - 1st to 5th characters

	Code
Differential pressure transmitter	**611EE**

SENSOR

f **Span limits** - 6th character

1.1 and 65 kPa	11 and 650 mbar	4.35 and 260 inH2O	**N**
2.67 and 160 kPa	26.7 and 1600 mbar	10.7 and 642 inH2O	**D**
10 and 600 kPa	0.1 and 6 bar	1.45 and 87 psi	**E**
40 and 2400 kPa	0.4 and 24 bar	5.8 and 348 psi	**F**
133 and 8000 kPa	1.33 and 80 bar	19.3 and 1160 psi	**W**
267 and 16000 kPa	2.67 and 160 bar	38.7 and 2320 psi	**U**

7th character

g

Diaphragm material (*)	**Fill fluid**	
AISI 316 L ss	Silicone oil (**)	**2**
Hastelloy C276 ◊	Silicone oil (**)	**3**
Monel 400 ◊	Silicone oil (**)	**4**
Tantalum	Silicone oil (**)	**5**
AISI 316 L ss	Inert fluid	**A**
Hastelloy C276 ◊	Inert fluid	**B**
Monel 400 ◊	Inert fluid	**C**
Tantalum	Inert fluid	**D**
AISI 316 L ss	KTFILL-1 (**)	**L**
Hastelloy C276 ◊	KTFILL-1 (**)	**N**

BOTTOM WORKS

Process flanges / adapters / drain/vent valves (*) - 8th character

h

Material	**Connection**	**Valves fitting**	
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on process axis	**F**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**H**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**J**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**L**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**Q**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**R**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**T**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**V**
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on flange side and plug fitted on process axis	**Z**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**B**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**1**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**4**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**D**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**G**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**P**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**S**

9th character

i

Bolts	**Gaskets (*)**	
Carbon Steel	Viton ◊ (**)	**1**
	PTFE	**3**
AISI 316 ss	Viton ◊ (**)	**4**
	PTFE	**6**
Plated alloy steel	Viton ◊ (**)	**7**
	PTFE	**A**

■ Compliance to NACE class II bolting, according to specification MR0175, latest revision

(*) Process wetted-parts

(**) Not available for oxygen service

◊ Hastelloy is a Cabot Corporation trademark

◊ Monel is an International Nickel Co. trademark

◊ Viton is a Dupont de Nemour trademark

ORDERING INFORMATION model 611EE Differential Pressure Transmitter (MWP=25 MPa)

MOUNTING BRACKET - 10th character

j	**Shape**	**Material**	
	None	None	**1**
	For pipe mounting (Not suitable for AISI housing)	Carbon steel	**A**
		AISI 316 L ss	**B**
	For wall mounting (Not suitable for AISI housing)	Carbon steel	**5**
		AISI 316 L ss	**6**
	Flat type, for box	Carbon steel	**C**
		AISI 316 L ss	**D**

k	11th character	
	Use code	**0**

12th character

l	**OUTPUT**	
	HART digital communication and 4 to 20 mA	**G**
	Profibus PA communication	**P**
	FOUNDATION Fieldbus Communication	**F**

m	**ELECTRICAL CERTIFICATION -** 13th character	
	General Purpose	**1**
	Flameproof to CENELEC EN 50018 CESI approval EEx d	**3**
	ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval	**L**
	Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2" NPT and M20 electrical connection)	**8**
	Intrinsic Safety and Flameproof to Standards Australia SAA approval Ex ia IIC T6/T5/T4 + Ex d IIC T6/T5 (Note)	**W**

Note : not available with output code P and F at position "l"

TOP WORKS - 14th character

n	**Housing material**	**Electrical connection**		
	Aluminium alloy (Barrel version)	1/2" NPT		**1**
		M20 x 1.5 (CM 20)		**2**
		Pg 13.5		**3**
		1/2" GK		**4**
		Harting HAN connector - straight entry	(Note)	**5**
		Harting HAN connector - angle entry	(Note)	**6**
	AISI 316 L ss (Barrel version)	1/2" NPT		**A**
		M20 x 1.5 (CM 20)		**C**
		Pg 13.5		**D**
		1/2" GK		**F**
	Aluminium alloy (DIN version)	Pg 13.5	(Note)	**7**
		M20 x 1.5 (CM 20)	(Note)	**8**
		Harting HAN connector - straight entry	(Note)	**K**

Note : requires certification code 1 at position "m"

ELECTRICAL OPTIONS - 15th character

o	**Internal meter type**		
	None		**1**
	Digital LCD output indicator linear 0-100%, user scalable	(Note)	**3**
	Digital LCD output indicator linear scale (specify range and engineering units)	(Note)	**5**
	Analog output indicator linear 0-100% scale	(Note)	**7**
	Analog output indicator square root 0-10 scale	(Note)	**8**
	Analog output indicator, special graduation (to be specified for linear or square root scale)	(Note)	**9**
	Digital LCD integral display		**A**
	Digital LCD integral display and digital LCD output indicator linear 4-20 mA	(Note)	**C**
	Digital LCD integral display and analog output indicator linear 0-100% scale	(Note)	**E**
	Programmable signal meter and HART configurator (CoMeter)	(Note)	**P**
	Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display	(Note)	**R**

Note : not available with output code P and F at position "l"

16th character

p	**Electrical options**	**Labels language**	
	None	English	**1**
		German	**2**
		Italian	**7**
	Surge protector (Note) (Requires certification code, 1, 3, 8, W at position "m")	English	**3**
		German	**4**
		Italian	**8**
	Terminals for external meter (Note)	English	**5**
		German	**6**
		Italian	**9**

Note : not available with output code P and F at position "l"

ORDERING INFORMATION model 611EH Differential Pressure Transmitter (high vacuum)

Select one character or set of characters from each category and specify complete catalog number.
Refer to supplementary code and specify another number for each transmitter if additional options are required.

PRODUCT CODE

abcde fg hi j k l m n op

0

BASE MODEL
SENSOR
BOTTOM WORKS
MOUNTING BRACKET
OUTPUT
ELECTRICAL CERTIFICATION
TOP WORKS
ELECTRICAL OPTIONS

abcde **BASE MODEL** - 1st to 5th characters

	Code
Differential pressure transmitter	**611EH**

SENSOR

f **Span limits** - 6th character

1 and 10 kPa	10 and 100 mbar	4 and 40.1 inH2O	**B**
2 and 40 kPa	20 and 400 mbar	8 and 160 inH2O	**C**
3.25 and 65 kPa	32.5 and 650 mbar	13 and 260 inH2O	**N**
8 and 160 kPa	80 and 1600 mbar	32 and 642 inH2O	**D**

7th character

g

Diaphragm material (*)	**Fill fluid**	
AISI 316 L ss	Silicone oil (**)	**2**
Hastelloy C276 ◊	Silicone oil (**)	**3**
AISI 316 L ss	Inert fluid (Note)	**A**
Hastelloy C276 ◊	Inert fluid (Note)	**B**
AISI 316 L ss	KTFILL-1 (**) (Note)	**L**
Hastelloy C276 ◊	KTFILL-1 (**) (Note)	**N**

Note : not available with sensor code B at position "f"

BOTTOM WORKS

h **Process flanges / adapters / drain/vent valves (*)** - 8th character

Material	**Connection**	**Valves fitting**	
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on process axis	**F**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**H**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**J**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**L**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**Q**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**R**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**T**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**V**
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on flange side and plug fitted on process axis	**Z**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**B**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**1**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**4**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**D**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**G**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**P**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**S**

9th character

i

Bolts	**Gaskets (*)**	
Carbon Steel	Viton ◊ (**)	**1**
	PTFE	**3**
AISI 316 ss	Viton ◊ (**)	**4**
	PTFE	**6**
AISI 316 ss (NACE) (MWP = 14 MPa)	Viton ◊ (**)	**S**
	PTFE	**T**
Plated alloy steel	Viton ◊ (**)	**7**
	PTFE	**A**

MOUNTING BRACKET - 10th character

j

Shape	**Material**	
None	None	**1**
For pipe mounting (Not suitable for AISI housing)	Carbon steel	**A**
	AISI 316 L ss	**B**
For wall mounting (Not suitable for AISI housing)	Carbon steel	**5**
	AISI 316 L ss	**6**
Flat type, for box	Carbon steel	**C**
	AISI 316 L ss	**D**

■ Compliance to NACE class II bolting, according to specification MR0175, latest revision
(*) Process wetted-parts
(**) Not available for oxygen service

◊ Hastelloy is a Cabot Corporation trademark
◊ Monel is an International Nickel Co. trademark
◊ Viton is a Dupont de Nemour trademark

ORDERING INFORMATION model 611EH Differential Pressure Transmitter (high vacuum)

k 11th character

Use code	**0**

12th character

l **OUTPUT**

HART digital communication and 4 to 20 mA	**G**
Profibus PA communication	**P**
FOUNDATION Fieldbus Communication	**F**

m **ELECTRICAL CERTIFICATION -** 13th character

General Purpose	**1**
Flameproof to CENELEC EN 50018 CESI approval EEx d	**3**
ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval	**L**
Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2" NPT and M20 electrical connection)	**8**
Intrinsic Safety and Flameproof to Standards Australia SAA approval Ex ia IIC T6/T5/T4 + Ex d IIC T6/T5 (Note)	**W**

Note : not available with output code P and F at position "l"

TOP WORKS - 14th character

n **Housing material**	**Electrical connection**	
Aluminium alloy (Barrel version)	1/2" NPT	**1**
	M20 x 1.5 (CM 20)	**2**
	Pg 13.5	**3**
	1/2" GK	**4**
	Harting HAN connector - straight entry (Note)	**5**
	Harting HAN connector - angle entry (Note)	**6**
AISI 316 L ss (Barrel version)	1/2" NPT	**A**
	M20 x 1.5 (CM 20)	**C**
	Pg 13.5	**D**
	1/2" GK	**F**
Aluminium alloy (DIN version)	Pg 13.5 (Note)	**7**
	M20 x 1.5 (CM 20) (Note)	**8**
	Harting HAN connector - straight entry (Note)	**K**

Note : requires certification code 1 at position "m"

ELECTRICAL OPTIONS - 15th character

o **Internal meter type**

None		**1**
Digital LCD output indicator linear 0-100%, user scalable	(Note)	**3**
Digital LCD output indicator linear scale (specify range and engineering units)	(Note)	**5**
Analog output indicator linear 0-100% scale	(Note)	**7**
Analog output indicator square root 0-10 scale	(Note)	**8**
Analog output indicator, special graduation (to be specified for linear or square root scale)	(Note)	**9**
Digital LCD integral display		**A**
Digital LCD integral display and digital LCD output indicator linear 4-20 mA	(Note)	**C**
Digital LCD integral display and analog output indicator linear 0-100% scale	(Note)	**E**
Programmable signal meter and HART configurator (CoMeter)	(Note)	**P**
Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display	(Note)	**R**

Note : not available with output code P and F at position "l"

16th character

p **Electrical options**	**Labels language**	
None	English	**1**
	German	**2**
	Italian	**7**
Surge protector (Note) (Requires certification code, 1, 3, 8, W at position "m")	English	**3**
	German	**4**
	Italian	**8**
Terminals for external meter (Note)	English	**5**
	German	**6**
	Italian	**9**

Note : not available with output code P and F at position "l"

ORDERING INFORMATION model 611EG Gauge Pressure Transmitter

Select one character or set of characters from each category and specify complete catalog number.
Refer to supplementary code and specify another number for each transmitter if additional options are required.

PRODUCT CODE

abcde fg hi j k l m n op

0

BASE MODEL
SENSOR
BOTTOM WORKS
MOUNTING BRACKET
OUTPUT
ELECTRICAL CERTIFICATION
TOP WORKS
ELECTRICAL OPTIONS

abcde **BASE MODEL -** 1st to 5th characters

	Code
Gauge pressure transmitter	**611EG**

SENSOR

f **Span limits -** 6th character

				Code
0.5 and 10 kPa	5 and 100 mbar	2 and 40.1 inH2O	(Note)	**B**
0.67 and 40 kPa	6.7 and 400 mbar	2.67 and 160 inH2O	(Note)	**C**
1.1 and 65 kPa	11 and 650 mbar	4.35 and 260 inH2O	(Note)	**N**
2.67 and 160 kPa	26.7 and 1600 mbar	10.7 and 642 inH2O	(Note)	**D**
10 and 600 kPa	0.1 and 6 bar	1.45 and 87 psi	(Note)	**E**
40 and 2400 kPa	0.4 and 24 bar	5.8 and 348 psi	(Note)	**F**
133 and 8000 kPa	1.33 and 80 bar	19.3 and 1160 psi	(Note)	**W**
267 and 16000 kPa	2.67 and 160 bar	38.7 and 2320 psi		**U**

Note : Maximum Working Pressure 14 MPa, 140 bar, 2030 psi

7th character

g

Diaphragm material (*)	**Fill fluid**	
AISI 316 L ss	Silicone oil (**)	**2**
Hastelloy C276 ◊	Silicone oil (**)	**3**
Monel 400 ◊	Silicone oil (**)	**4**
Tantalum	Silicone oil (**)	**5**
AISI 316 L ss	Inert fluid	**A**
Hastelloy C276 ◊	Inert fluid	**B**
Monel 400 ◊	Inert fluid	**C**
Tantalum	Inert fluid	**D**
AISI 316 L ss	KTFILL-1 (**)	**L**
Hastelloy C276 ◊	KTFILL-1 (**)	**N**

BOTTOM WORKS

Process flanges / adapters / drain/vent valves (*) - 8th character

h

Material	**Connection**	**Valves fitting**	
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on process axis	**F**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**H**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**E**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**J**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**L**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**6**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**Q**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**R**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**Y**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**T**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**V**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**C**
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on flange side and plug fitted on process axis	**Z**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**B**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**1**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**4**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**D**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**G**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**P**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**S**

9th character

i

Bolts	**Gaskets (*)**	
Carbon Steel	Viton ◊ (**)	**1**
	PTFE	**3**
AISI 316 ss	Viton ◊ (**)	**4**
	PTFE	**6**
AISI 316 ss (NACE) (MWP = 14 MPa)	Viton ◊ (**)	**S**
	PTFE	**T**
Plated alloy steel	Viton ◊ (**)	**7**
	PTFE	**A**

■ Compliance to NACE class II bolting, according to specification MR0175, latest revision
(*) Process wetted-parts
(**) Not available for oxygen service

◊ Hastelloy is a Cabot Corporation trademark
◊ Monel is an International Nickel Co. trademark
◊ Viton is a Dupont de Nemour trademark

ORDERING INFORMATION model 611EG Gauge Pressure Transmitter

MOUNTING BRACKET - 10th character

j	**Shape**	**Material**	
	None	None	1
	For pipe mounting (Not suitable for AISI housing)	Carbon steel	A
		AISI 316 L ss	B
	For wall mounting (Not suitable for AISI housing)	Carbon steel	5
		AISI 316 L ss	6
	Flat type, for box	Carbon steel	C
		AISI 316 L ss	D

k 11th character

Use code		0

12th character

l OUTPUT

HART digital communication and 4 to 20 mA	G
Profibus PA communication	P
FOUNDATION Fieldbus Communication	F

m ELECTRICAL CERTIFICATION - 13th character

General Purpose	1
Flameproof to CENELEC EN 50018 CESI approval EEx d	3
ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval	L
Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2" NPT and M20 electrical connection)	8
Intrinsic Safety and Flameproof to Standards Australia SAA approval Ex ia IIC T6/T5/T4 + Ex d IIC T6/T5 (Note)	W

Note : not available with output code P and F at position "l"

TOP WORKS - 14th character

n	**Housing material**	**Electrical connection**	
	Aluminium alloy (Barrel version)	1/2" NPT	1
		M20 x 1.5 (CM 20)	2
		Pg 13.5	3
		1/2" GK	4
		Harting HAN connector - straight entry (Note)	5
		Harting HAN connector - angle entry (Note)	6
	AISI 316 L ss (Barrel version)	1/2" NPT	A
		M20 x 1.5 (CM 20)	C
		Pg 13.5	D
		1/2" GK	F
	Aluminium alloy (DIN version)	Pg 13.5 (Note)	7
		M20 x 1.5 (CM 20) (Note)	8
		Harting HAN connector - straight entry (Note)	K

Note : requires certification code 1 at position "m"

ELECTRICAL OPTIONS - 15th character

o Internal meter type

None	1
Digital LCD output indicator linear 0-100%, user scalable (Note)	3
Digital LCD output indicator linear scale (specify range and engineering units) (Note)	5
Analog output indicator linear 0-100% scale (Note)	7
Analog output indicator, special graduation (to be specified for linear scale) (Note)	9
Digital LCD integral display	A
Digital LCD integral display and digital LCD output indicator linear 4-20 mA (Note)	C
Digital LCD integral display and analog output indicator linear 0-100% scale (Note)	E
Programmable signal meter and HART configurator (CoMeter) (Note)	P
Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display (Note)	R

Note : not available with output code P and F at position "l"

16th character

p	**Electrical options**	**Labels language**	
	None	English	1
		German	2
		Italian	7
	Surge protector (Note) (Requires certification code, 1, 3, 8, W at position "m")	English	3
		German	4
		Italian	8
	Terminals for external meter (Note)	English	5
		German	6
		Italian	9

Note : not available with output code P and F at position "l"

ORDERING INFORMATION model 611EA Absolute Pressure Transmitter

Select one character or set of characters from each category and specify complete catalog number.
Refer to supplementary code and specify another number for each transmitter if additional options are required.

PRODUCT CODE

abcde fg hi j k l m n op

0

BASE MODEL
SENSOR
BOTTOM WORKS
MOUNTING BRACKET
OUTPUT
ELECTRICAL CERTIFICATION
TOP WORKS
ELECTRICAL OPTIONS

abcde **BASE MODEL** - 1st to 5th characters

	Code
Absolute pressure transmitter	**611EA**

SENSOR

f **Span limits** - 6th character

				Code
1 and 10 kPa	10 and 100 mbar	7.5 and 75 mmHg	(Note)	**B**
2 and 40 kPa	20 and 400 mbar	15 and 300 mmHg	(Note)	**C**
3.25 and 65 kPa	32.5 and 650 mbar	24 and 480 mmHg	(Note)	**N**
8 and 160 kPa	80 and 1600 mbar	60 and 1200 mmHg	(Note)	**D**
30 and 600 kPa	0.3 and 6 bar	4.35 and 87 psi	(Note)	**E**
120 and 2400 kPa	1.2 and 24 bar	17.4 and 348 psi	(Note)	**F**
400 and 8000 kPa	4 and 80 bar	58 and 1160 psi	(Note)	**W**
800 and 16000 kPa	8 and 160 bar	116 and 2320 psi		**U**

Note : Maximum Working Pressure 14 MPa, 140 bar, 2030 psi

7th character

g

Diaphragm material (*)	**Fill fluid**		Code
AISI 316 L ss	Silicone oil (**)		**2**
Hastelloy C276 ◊	Silicone oil (**)		**3**
AISI 316 L ss	Inert fluid	(Note)	**A**
Hastelloy C276 ◊	Inert fluid	(Note)	**B**
AISI 316 L ss	KTFILL-1 (**)	(Note)	**L**
Hastelloy C276 ◊	KTFILL-1 (**)	(Note)	**N**

Note : not available with sensor code B at position "f"

BOTTOM WORKS

h **Process flanges / adapters / drain/vent valves (*)** - 8th character

Material	**Connection**	**Valves fitting**	Code
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on process axis	**F**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**H**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**E**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**J**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**L**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**6**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**Q**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**R**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**Y**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**T**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**V**
	1/4" NPT-f direct for manifold block (7/16" UNF U.S. drilling)		**C**
Plated Carbon Steel with AISI 316 L ss valves	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)	Valves fitted on flange side and plug fitted on process axis	**Z**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**B**
AISI 316 L ss	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**1**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**4**
Hastelloy C ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**D**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**G**
Monel 400 ◊	1/2" NPT-f through adapter (7/16" UNF U.S. drilling)		**P**
	1/4" NPT-f direct (7/16" UNF U.S. drilling)		**S**

9th character

i

Bolts	**Gaskets (*)**	Code
Carbon Steel	Viton ◊ (**)	**1**
	PTFE	**3**
AISI 316 ss	Viton ◊ (**)	**4**
	PTFE	**6**
AISI 316 ss (NACE) (MWP = 14 MPa)	Viton ◊ (**)	**S**
	PTFE	**T**
Plated alloy steel	Viton ◊ (**)	**7**
	PTFE	**A**

■ Compliance to NACE class II bolting, according to specification MR0175, latest revision

(*) Process wetted-parts

(**) Not available for oxygen service

◊ Hastelloy is a Cabot Corporation trademark

◊ Monel is an International Nickel Co. trademark

◊ Viton is a Dupont de Nemour trademark

ORDERING INFORMATION model 611EA Absolute Pressure Transmitter

MOUNTING BRACKET - 10th character

j	Shape	Material	
	None	None	1
	For pipe mounting (Not suitable for AISI housing)	Carbon steel	A
		AISI 316 L ss	B
	For wall mounting (Not suitable for AISI housing)	Carbon steel	5
		AISI 316 L ss	6
	Flat type, for box	Carbon steel	C
		AISI 316 L ss	D

k 11th character

Use code	0

12th character

l **OUTPUT**

HART digital communication and 4 to 20 mA	G
Profibus PA communication	P
FOUNDATION Fieldbus Communication	F

m **ELECTRICAL CERTIFICATION -** 13th character

General Purpose	1
Flameproof to CENELEC EN 50018 CESI approval EEx d	3
ATEX Group II Category 1 GD - Intrinsic Safety EEx ia BASEEFA approval	L
Factory Mutual (FM) and Canadian Standard Association (CSA) approvals (only with 1/2" NPT and M20 electrical connection)	8
Intrinsic Safety and Flameproof to Standards Australia SAA approval Ex ia IIC T6/T5/T4 + Ex d IIC T6/T5 (Note)	W

Note : not available with output code P and F at position "l"

TOP WORKS - 14th character

n	Housing material	Electrical connection	
	Aluminium alloy (Barrel version)	1/2" NPT	1
		M20 x 1.5 (CM 20)	2
		Pg 13.5	3
		1/2" GK	4
		Harting HAN connector - straight entry (Note)	5
		Harting HAN connector - angle entry (Note)	6
	AISI 316 L ss (Barrel version)	1/2" NPT	A
		M20 x 1.5 (CM 20)	C
		Pg 13.5	D
		1/2" GK	F
	Aluminium alloy (DIN version)	Pg 13.5 (Note)	7
		M20 x 1.5 (CM 20) (Note)	8
		Harting HAN connector - straight entry (Note)	K

Note : requires certification code 1 at position "m"

ELECTRICAL OPTIONS - 15th character

o **Internal meter type**

None	1
Digital LCD output indicator linear 0-100%, user scalable (Note)	3
Digital LCD output indicator linear scale (specify range and engineering units) (Note)	5
Analog output indicator linear 0-100% scale (Note)	7
Analog output indicator, special graduation (to be specified for linear scale) (Note)	9
Digital LCD integral display	A
Digital LCD integral display and digital LCD output indicator linear 4-20 mA (Note)	C
Digital LCD integral display and analog output indicator linear 0-100% scale (Note)	E
Programmable signal meter and HART configurator (CoMeter) (Note)	P
Programmable signal meter and HART configurator (CoMeter) and digital LCD integral display (Note)	R

Note : not available with output code P and F at position "l"

16th character

p	Electrical options	Labels language	
	None	English	1
		German	2
		Italian	7
	Surge protector (Note) (Requires certification code, 1, 3, 8, W at position "m")	English	3
		German	4
		Italian	8
	Terminals for external meter (Note)	English	5
		German	6
		Italian	9

Note : not available with output code P and F at position "l"

ORDERING INFORMATION

Select one character or set of characters from each category and specify complete catalog number in addition to each transmitter code, if required.

PRODUCT CODE

ab c d e f

BASE MODEL
CONFIGURATION
CALIBRATION
PROCEDURE
INTEGRAL MOUNTING OF ASSOCIATED INSTRUMENTATION

ab **BASE MODEL** - 1st to 2nd characters

	Code
Supplementary code	**SC**

c **CONFIGURATION -** 3rd character

Standard - Pressure = kPa; Temperature = deg. C	**1**
Standard - Pressure = inH2O/psi (@ 20°C); Temperature = deg. F	**2**
Standard - Pressure = inH2O/psi (@ 4°C); Temperature = deg. F	**3**
Standard - Pressure = inH2O/psi (@ 20°C); Temperature = deg. C	**4**
Standard - Pressure = inH2O/psi (@ 4°C); Temperature =- deg. C	**5**
Custom	**C**

d **CALIBRATION -** 4th character

Calibration range	Calibration	Certificate	
Standard (max span = 0 to URL)	Reference temperature	None	**1**
		Yes (3 copies)	**2**
	Operating temperature	None	**3**
		Yes (3 copies)	**4**
At specified range	Reference temperature	None	**5**
		Yes (3 copies)	**6**
	Operating temperature	None	**7**
		Yes (3 copies)	**8**

e 5th character

PROCEDURE	Material traceability	
None	None	**0**
	To EN10204 - 3.1.B (certificates for flanges, adapters, diaphragms)	**A**
	To EN10204 - 2.2 (declaration for instrument)	**B**
Oxygen service cleaning	None	**2**
	To EN10204 - 3.1.B (certificates for flanges, adapters, diaphragms)	**C**
	To EN10204 - 2.2 (declaration for instrument)	**F**
Hydrogen service preparation	None	**3**
	To EN10204 - 3.1.B (certificates for flanges, adapters, diaphragms)	**D**
	To EN10204 - 2.2 (declaration for instrument)	**H**
Special degreasing	None	**4**
	To EN10204 - 3.1.B (certificates for flanges, adapters, diaphragms)	**E**
	To EN10204 - 2.2 (declaration for instrument)	**K**

f **INTEGRAL MOUNTING OF ASSOCIATED INSTRUMENTATION -** 6th character

None	**0**
For valve manifold	**1**
For integral orifice (only available for differential pressure transmitter)	**2**
For valve manifold and integral orifice (only available for differential pressure transmitter)	**3**

SS/611ED Rev. 4

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