Calibration Sheet



Customer: 4H-Jena PO number: 452-100028-3



Sensor characteristics

Note! For proper handling please check our manual, esp. chapter "Important Notices"!

Energy consumption

(CONTROS HydroC® FT standard, general values):

Current	20 °C	During warm-up**	
@ 12 V	440 mA	710 mA	
@ 24 V	280 mA	1060 mA	

^{*} measured during calibration

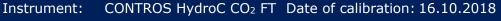
Warm-up time

(T_control, general values of standard CONTROS HydroC® FT):

Warm-up time at 7 °C water temperature		Volta	Voltage	
		12 V	24 V	
Ambient temperature	14 °C	31 min		
	20 °C	19 min	3 min	
	25 °C	16 min		

^{**} warm-up time decreases with increasing voltage [consumption during zeroing: +330 mA @ 12 V]

Calibration Sheet



Serial number: CO2FT-0918-001 Date of delivery: 19.10.2018

Customer: 4H-Jena PO number: 452-100028-3



Sensor specifications

Operating depth: Surface, flow through sensor

Gas tension (abs.): 800 mbar to 1100 mbar

(defined through measuring range of the internal pressure

sensors p_NDIR and p_in)

Measuring range: 200 μatm to 1000 μatm

Resolution – digital signal: <1 µatm

Initial accuracy: $\pm 0.5 \%$ reading (as total sum of all error)

Water temperature range: 1 °C to 30 °C

Calibration optimised for: 1 °C to 30 °C (as requested by customer)

Ambient temperature: 1 °C to 35 °C

(The instrument should not be operated at ambient temperatures lower than 8 °C compared to the water to

avoid condensation within the gas stream.)

Dimensions: 325 x 240 x 136 mm (L x W x H)

Weight: 5.3 kg

Output connector: Hirschmann-plug CA6LD

Voltage: 11 to 24 V

RS232/ EIA-232 output signal: See "CONTROS HydroC® On-line data"

RS485/ EIA-485 output signal: See "CONTROS HydroC® On-line data"

Baud rate (preset): 115200 Bd

Interval settings (preset): Warm-up: 0 min; Zero: 2 min; Flush: 0 min;

Measure: 718 min

Data logger: None

Storage space: None

Analog output (voltage, current): None

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Calibration Sheet



Customer: 4H-Jena PO number: 452-100028-3



Calibration details

Setup and parameters

Calibration unit: KM Contros CO₂ calibration tank #1

RS232 protocol unit: DETECT-2 software package on CO-CALIB2

Voltage: 12.0 VDC

Temperature: 15.5 °C

Ambient temperature: 22.0 °C

Water: Deionised water with carbonate additives

Salinity: 0 %

Reference gases: 102.18 ppm, 445.57 ppm, 798.20 ppm CO₂ in natural air

Reference system: SPRINK underway instrument with LiCOR LI7000

Calibration steps: (200, 400, 600, 800) µatm

Pump Flow rate: approx. 6.5 L/min

Pressure in water stream: +110 mbar with respect to ambient pressure

Sensor

Sensor configuration: BD-00

Membrane: Silicone composite membrane

Control temperature (NDIR detector): 50 °C

PWM of internal pump: During Zero: 50

During Flush: 70

During Measure: 70

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