

Process Analysis Systems

Chem

Energy

Pharm

Food

Water

Protos® 3400 (X)

Specifications OXY 3400 (X)-063 module

Oxy input*) (Ex ia IIC)	for sensor modules SE 707, InPro6800 series (Mettler Toledo), OXYFERM, Oxygold (Hamilton), and others
Measuring current (sensor)	0 ... 600 nA, resolution 10 pA
Saturation	0.0 ... 199.9/200 ... 600 % air 0.0 ... 29.9/30 ... 120 % O ₂
Measurement error ^{1,2,3)}	< 0.5 % meas. val. + 0.5 %
Concentration (-10 ... +80 °C)	0000 ... 9999 µg/l (overrange up to 19.99 mg/l) 0000 ... 9999 ppb (overrange up to 19.99 ppm)
Measurement error ^{1,2,3)}	< 0.5 % meas. val. + 0.005 mg/l or 0.005 ppm
Partial pressure	0 ... 2000 mbars
Air pressure	700 ... 1100 mbars, manual: 0 ... 9999 mbars
Salinity correction	0.0 ... 45.0 g/kg
Polarization voltage	0 ... -1000 mV (default -675 mV)
Permissible guard current	≤ 20 µA
Ref. voltage	±500 mV (voltage across ref. connection and anode)
Measurement in gases	0 ... 2000 mbars 0 ... 9999 ppm 0.00 ... 29.9/30.0 ... 120.0 vol % (1 vol % = 10000 ppm)
Current start/end	specifiable as desired within range
Sensor monitoring*)	Sensocheck®, monitoring of membrane and electrolyte
Sensoface®	provides information on the sensor condition: zero/slope, response time, calibration timer, Sensocheck®
Sensor network diagram	graphical representation of current sensor parameters in a network diagram on the display: slope, zero point, response time, calibration timer, Sensocheck®
Sensor monitor	direct display of measured values from sensor for validation: sensor current/barometric pressure/temperature
Sensor standardization*)	operating modes: - automatic calibration in air - automatic calibration in air-saturated water - product calibration for saturation - product calibration for concentration - data entry of zero slope - zero calibration
Calibration methods	automatic – air product calibration (select process variable ppm or vol%) data entry zero correction
Calibration record/statistics	recording of: zero, slope, response time, calibration method with date and time of the last three calibrations and the first calibration

Specifications OXY 3400 (X)-063 module – continued

Output curve*)	– linear – trilinear – function – as desired via table
Temperature input**) (Ex ia IIC)	
Temperature probe*)	NTC 22 kohms/NTC 30 kohms, 2-wire connection, adjustable
Measuring range	–20 ... +150 °C
Resolution	0.1 °C
Measurement error ^{1,2,3)}	0.2 % meas. val. + 0.5 K
Explosion protection	IECEX: Ex ib [ia] IIC T4 ATEX: II 2 (1) G Ex ib [ia] IIC T4 FM: IS, Class 1, Div 1, GRP A, B, C, D, T4, Entity Class I, Zone 1, A Ex ib [ia], GRP IIC, T4 CSA: NI, Class I, Div 2, GRP A, B, C, D, with IS circuits extending into Div 1 AIS, Class I, Zone 1, Ex ib [ia] IIC T4 NI, Class I, Zone 2, Ex nA [ia] IIC GOST: 1 Ex ib [ia] IIC T4 NEPSI: Ex ib [ia] IIC T4
EMC	NAMUR NE 21 und EN 61326
Emitted interference	Class B
Immunity to interference	Industry
Lightning protection	EN 61000-4-5, Installation Class 2
Nominal operating conditions	ambient temperature: –20 ... +55 °C (Ex: max. 50 °C) relative humidity: 10 ... 95 % not condensing
Transport/Storage temperature	–20 ... +70 °C
Module enclosure	material: PC/ABS blend
Color	black
Protection	IP 20
Dimensions (mm)	w x h x d: 118 x 91 x 21
Terminals	screw clamp connection, single wires and flexible leads up to 2.5 mm ²

*) user-defined

¹⁾ to IEC 746 Part 1, at nominal operating conditions

²⁾ ±1 count

³⁾ plus sensor error

**) Oxy input, temperature input galvanically connected, galvanically isolated up to 60 V against the other inputs, outputs, relay contacts (protective separation due to double insulation in accordance with EN 61010-1). Ex ia IIC: galvanic isolation up to 60 V.

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