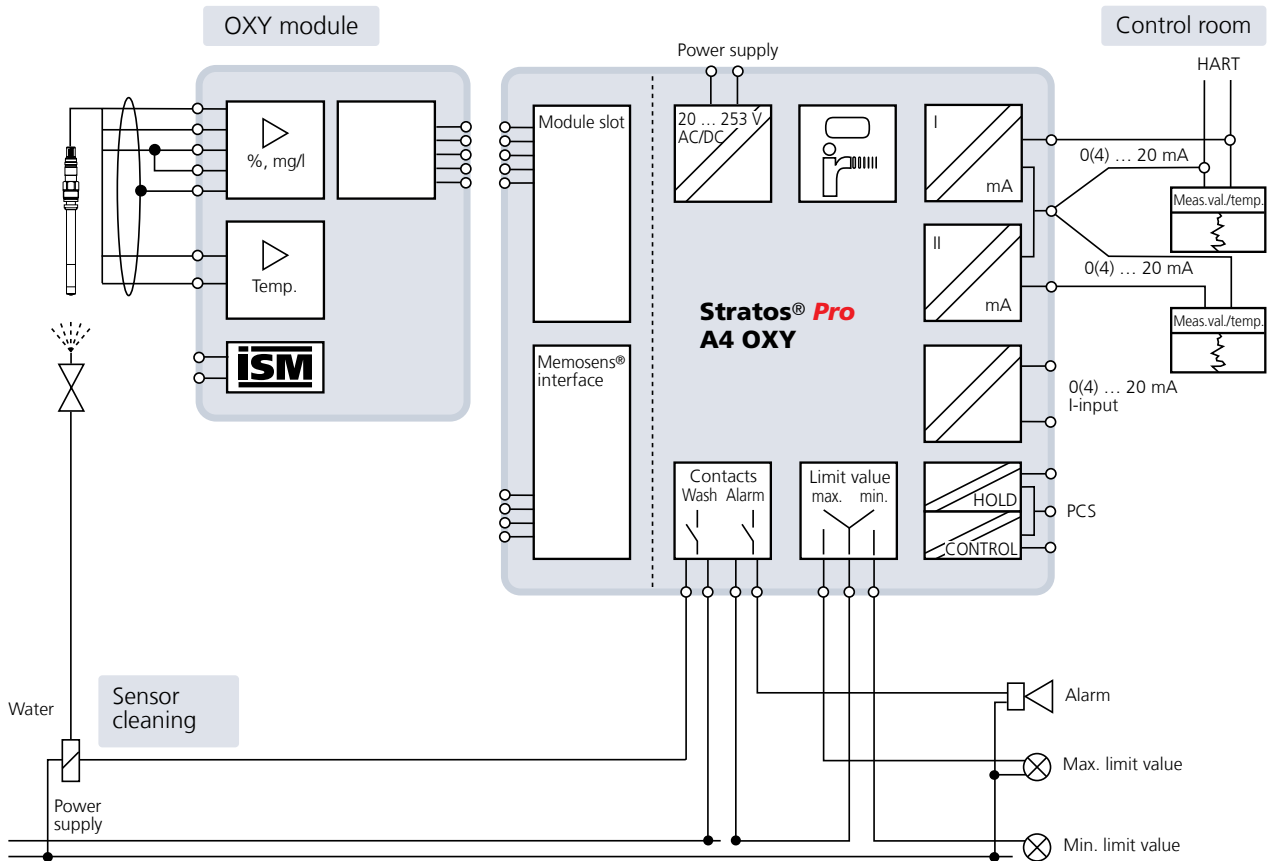


Stratos® Pro A4 OXY

Connection

Connection of OXY module with oxygen sensor (SE 706, Mettler Toledo InPro 6800, Hamilton OXYFERM)
 Model used: Stratos® Pro A401N-OXY/0



Terminal Assignments of Stratos® Pro OXY Module

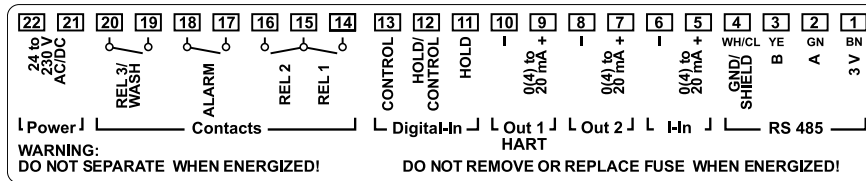
Knick >		Module
MK-OXY 045 X		OXY
No. 0000000		O ₂ / °C
Stratos Pro A...		IECEX
KEMA 08 ATEX 0100		
IECEX KEM08.0020		
see Control drawing 212.002-120		
D-14163 Berlin 00000/000000/0726		0044
Oxy Sensor		
[Temp]		
SHEILD	RTD	RTD (GND)
ISM (DATA)	ISM (GND)	GUARD
ANODE	REFERENCE:	CATHODE
K	I	H
G	F	E
D	C	B
A		

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Process Analysis Systems

Terminal Assignments of Stratos® Pro 4-Wire Devices



Specifications

Inputs

O ₂ standard	sensor models SE 705, SE 706 (Mettler Toledo InPro 6800, Hamilton OXYFERM)
O ₂ trace measurement (TAN)	sensor models SE 706/707 (Mettler Toledo InPro 6800/6900/6950 and Hamilton OXYFERM/OXYGOLD)
Operating modes	GAS measurement in gases DO measurement in liquids
Input ranges*)	
Polarization voltage	0 ... -1000 mV, default -675 mV (resolution < 5 mV)
Measuring current	-600 (-10000) ... 2 nA, resolution 10 pA (166 pA)
Permissible guard current	≤ 20 µA
Measurement error ^{1,2,3)}	< 0.5 % meas. val. + 0.05 nA + 0.005 nA/K
Display ranges with standard sensors "10"	saturation 0.0 ... 600.0 % concentration 0.00 ... 99.99 mg/l (ppm) volume concentration in gas 0.00 ... 99.99 vol %
Display ranges with trace sensors "01"	saturation 0.000 ... 150.0 % concentration 0 ... 9999 µg/l (ppb)/10.00 ... 20.00 mg/l (ppm) volume concentration in gas 0 ... 9999 ppm (vol)/1.000 ... 50.00 vol %
Display ranges with subtrace sensors "001"	saturation 0.000 ... 150.0 % concentration 0.0 ... 9999 µg/l (ppb)/10.00 ... 20.00 mg/l (ppm) volume concentration in gas 0.0 ... 9999 ppm (vol)/1.000 ... 50.00 vol %
Input correction	
Pressure correction*)	0.000 ... 9.999 bars/999.9 kPa/145.0 PSI manually or through current input 0(4) ... 20 mA
Salinity correction*)	0.0 ... 45.0 g/kg
ISM (TAN)	interface for operation with ISM (digital sensors)
Temperature	NTC 22 kohms/NTC 30 kohms

Specifications – continued

Input correction – continued

Display range	-20.0 ... +150.0 °C (-4.0 ... +302.0 °F)	
Current input (TAN)	analog, 0/4 ... 20 mA/50 ohms for external pressure compensation	
HOLD input, digital	0 ... 2 V (AC/DC)	HOLD inactive
	10 ... 30 V (AC/DC)	HOLD active
CONTROL input, digital	parameter set selection	0 ... 2 V (AC/DC) parameter set A
		10 ... 30 V (AC/DC) parameter set B
flow	pulse amplitude 10 ... 30 V DC pulse input for flow measurement 0 ... 100 pulses/s display: 00.00 ... 99.99 l/h message via 22 mA, alarm contact or limit contacts	

Outputs

Output 1, Output 2	0/4 ... 20 mA, max. 10 V, 22 mA for error message
Process variable*)	O ₂ saturation/O ₂ concentration or temperature
Characteristic	linear
Output filter*)	PT ₁ filter, filter time constant: 0 ... 120 s
Contacts	alarm, wash (parameter set A/B), limits 1/2
Contact ratings	AC < 250 V/< 3 A/< 750 VA DC < 30 V/< 3 A/< 90 W
PID process controller	output via limit contacts 1/2
Controller type*)	pulse length controller or pulse frequency controller

Sensor standardization

Operating modes*)	<ul style="list-style-type: none"> – automatic calibration in air – automatic calibration in air-saturated water – product calibration – zero calibration
Calibration range standard sensor "10"	zero point ±2 nA slope 25 ... 130 nA (at 25 °C, 1013 mbars)
Calibration range trace sensor "01"	zero point ±2 nA slope 200 ... 550 nA (at 25 °C, 1013 mbars)
Calibration range subtrace sensor "001"	zero point ±3 nA slope 2000 ... 9000 nA (at 25 °C, 1013 mbars)
Calibration timer*)	0000 ... 9999 h
Pressure correction*)	manually 0.000 ... 9.999 bars/999.9 kPa/145.0 PSI

Communication

HART communication (TAN)	HART version 6 digital communication by FSK modulation of output current 1
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Process Analysis Systems

Specifications – *continued*

Diagnostics/Service

Diagnostics functions	calibration data, device self-test, display test
Sensocheck®	monitoring of membrane and electrolyte and the sensor wires for short circuits or open circuits
Sensoface®	provides information on the sensor condition (zero/slope, calibration interval, Sensocheck® and sensor wear)
Logbook (TAN)	100 events with date and time
Extended logbook (TAN)	Audit Trail: 200 events with date and time
FDA CFR 21 Part 11	<ul style="list-style-type: none"> – access control by editable passcodes – logbook entry and flag via HART in the case of configuration changes – message and logbook entry when enclosure is opened
Service functions	current source, manual controller
Sensor monitor	display of direct sensor signals (sensor current, impedance, temperature, current input)
Relay test	manual control of the 4 relay contacts
IrDA interface	infrared service interface for firmware updates

Approvals

Explosion protection (A4xxB)	IECEX	Ex nA II T4 / Ex tD A22 IP5X T 85 °C
	ATEX	II 3 G Ex nA II T4 / II 3 D Ex tD A22 IP54 T85 °C
	FM	C/US NI/II/2/ABCD/T4 / S/II,III/2/FG/T4, Type 4X
		C I/2/Ex nA IIC T4 / 22/Ex tD T85 °C, Type 4X
		US I/2/AEx nA IIC T4 / 22/AEx tD T85 °C, Type 4X
	CSA	C/US Class I,II,III Div 2, GP A,B,C,D,E,F,G T4, Type 4X
		C Ex nA II T4 / DIP/II,III/2/EFG, Type 4X
		US AEx nA II T4 / II, III/22/AEx tD 22, T85 °C, Type 4X
	NEPSI	Ex nA II T4 / DIP A22 TA,T6
	GOST	2ExnAII T4 / DIP A22 TA 85 °C

Device data

Display	LC display with colored backlighting, main display, secondary display, plain-text ticker line, icons, Sensoface®, status indication, alarm indication
Keypad	keys: meas, info, 4 cursor keys, enter
Power supply	24 (–15 %) ... 230 (+10 %) V AC, 45 ... 65 Hz, < 12 VA 20.5 ... 80 V DC, < 4 W overvoltage category II, protection class II
Real-time clock	different time and date formats selectable power reserve > 5 days

Stratos® Pro A4 OXY

Specifications – continued

Device data – continued

EMC	EN 61326-1 (general requirements) emitted interference: class B (residential area) immunity to interference: industry EN 61326-2-3
Electrical safety	protection against electric shock by protective separation of all low-voltage circuits against mains according to EN 61010-1 CB report

Nominal operating conditions

Ambient temperature	–20 ... +55 °C
Transport/Storage temperature	–20 ... +70 °C
Relative humidity	10 ... 95 %, not condensing
Enclosure	molded enclosure, PBT/PC, glass-reinforced
Assembly	– wall mounting – pipe mounting: Ø 40 ... 60 mm, □ 30 ... 45 mm – panel mounting
Dimensions (mm)	H x W x D: 148 x 148 x 117
Cable glands	3 knockouts for cable glands M20 x 1.5 2 knockouts for 1/2" NPT or rigid metallic conduit
Control panel cutout	138 mm x 138 mm to DIN 43700
Ingress protection	IP 67/NEMA 4X outdoor
Weight	approx. 1.2 kg (1.6 kg incl. accessories and packaging)
Connections	terminals, conductor cross section max. 2.5 mm ²

*) user-defined

Process Analysis Systems

Simple Installation

- wall, post/pipe, or panel mounting
- all parts are easily accessible
- large terminal compartment
- pre-installation of rear unit possible
- also suitable for rigid metallic conduits
- replaceable screw terminals
- replacement of electronics without new cabling

ZU 0274 pipe-mount kit

For assembly on vertical or horizontal pipes or posts.



ZU 0737 protective hood

Additional protection from direct weather exposure and mechanical damage.



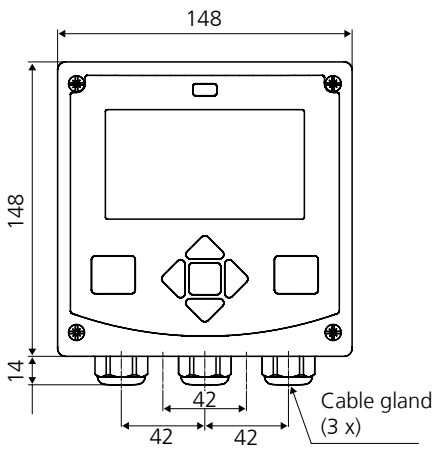
ZU 0738 panel-mount kit

For mounting in standardized panel cutout 138 x 138 mm (DIN 43700), sealed against panel.

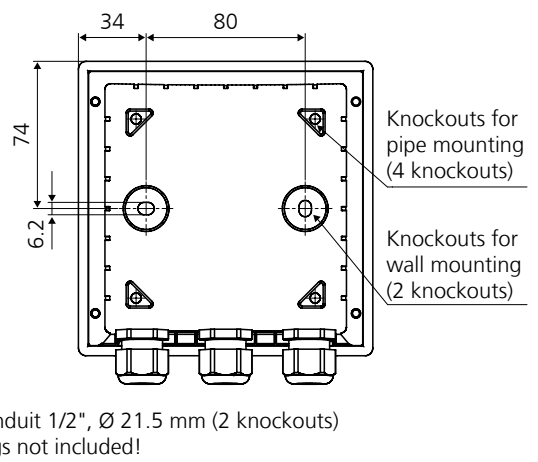


Dimension Drawings

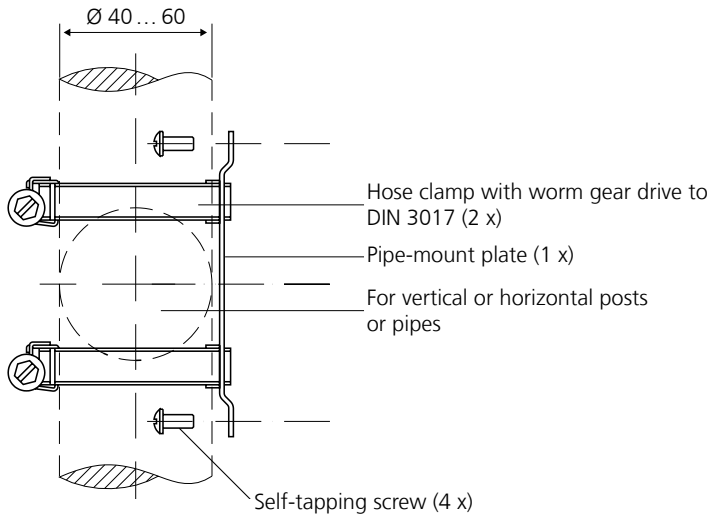
Front and side view



Rear side

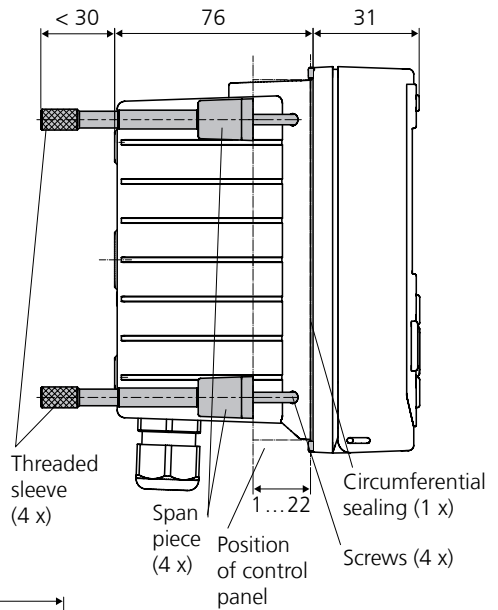


Pipe-mount kit ZU 0274

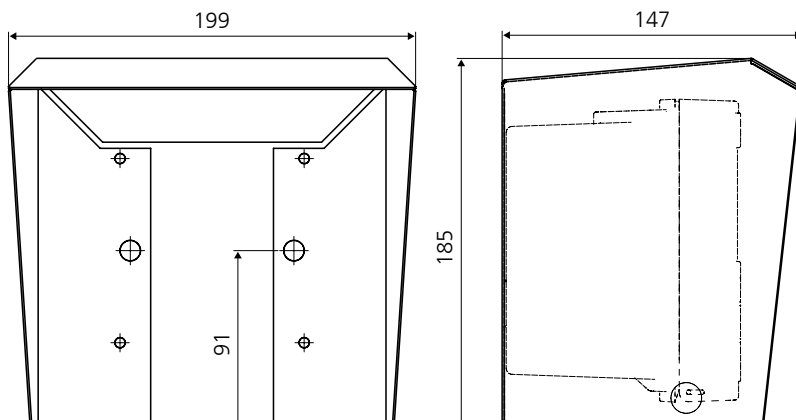


Panel-mount kit ZU 0738

Control panel cutout 138 x 138 mm (DIN 43700)



Protective hood ZU 0737



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