

Process Analysis Systems

Chem

Energy

Pharm

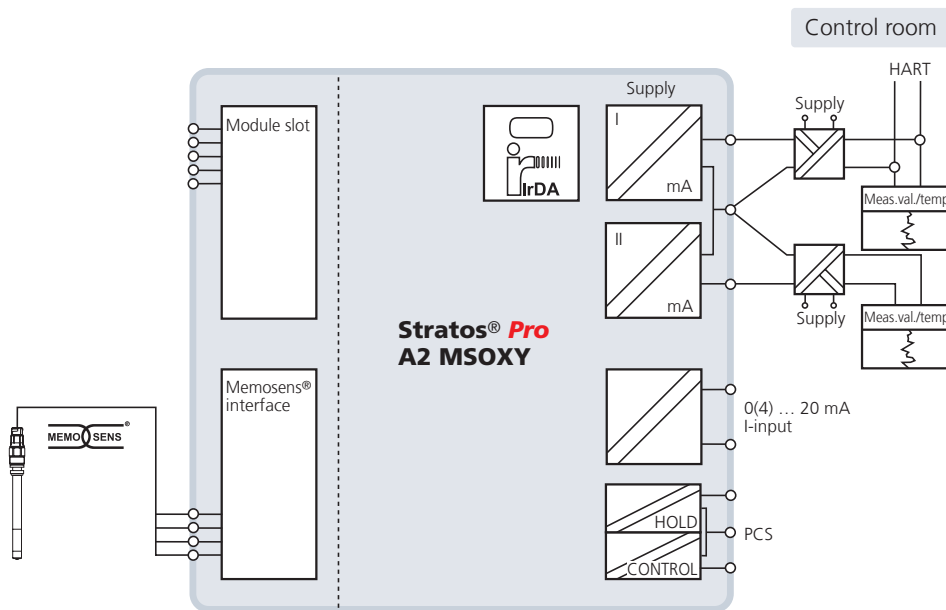
Food

Water

Stratos® Pro A2 MSOXY

Connection

Connection of Memosens® interface of 2-wire device with a Memosens® sensor
 Model used: Stratos® Pro A201N-MSOXY-1



Terminal Assignments of Stratos® Pro 2-Wire Devices

18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
N.C.	4 to 20 mA	N.C.	N.C.	CONTROL	N.C.	HOLD	HART	+	I	4 to 20 mA	+	I	4 to 20 mA	+	WH/CL	YE	GN	BN
Out 2				Digital In			HART		Supply/Out 1,2		I-In	RS 485						
WARNING: DO NOT SEPARATE MODULE WHEN ENERGIZED																		

Specifications

Inputs

RS 485

digital input for Memosens® oxygen sensors
SE 706X-NMSN, SE 707X-NMSN

Operating modes

GAS measurement in gases
DO measurement in liquids

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" (TAN)

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 range for temperature

-20.0 ... +150.0 °C (-4.0 ... +302.0 °F)

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

Current input (TAN)

analog, 0/4 ... 20 mA 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

4 ... 20 mA current loops, 22 mA for error message,
HART communication (TAN) at output 1,
supply voltage 14 ... 30 V

Process variable*)

O₂ saturation/O₂ concentration or temperature

Characteristic

linear

Output filter*)

PT₁ filter, filter time constant: 0 ... 120 s

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Specifications – continued

Sensor standardization

Operating modes*)

- adoption of calibration data from digital sensors
- 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 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
device identification, measured values, status and messages, parameter setting, calibration, records

Diagnostics/Service

Diagnostics functions

calibration data, device self-test, display test

Sensoface®

provides information on the sensor condition
(zero point, slope, calibration interval, 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

- 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

Sensor monitor

display of direct sensor signals (sensor current, temperature, current input)

IrDA interface

infrared service interface for firmware updates

Approvals

Explosion protection (A2xxX)

IECEX	Ex ib[ia] IIC T4 / zone 0 Ex ia IIC T4 / Ex iaD 20 IP 6X T 85 °C
ATEX	II 2(1) G Ex ib[ia] IIC T4 / II 1 G Ex ia IIC T4 II 1 D Ex iaD 20 IP6x T85 °C / II 2 D Ex iaD 21 IP6x T85 °C
FM	C/US N/II/2/ABCD/T4 / S/II,III/2/FG/T4, Type 4X C IS/I,II,III/1/ABCDEFG/T4 / I/O/Ex ia IIC T4, Entity, Type 4X C I/2/Ex nA IIC T4 / 22/Ex tD T85 °C; Type 4X US IS/I,II,III/1/ABCDEFG/T4 / I/O/AEx ia IIC T4, Entity, Type 4X US I/2/AEx nA IIC T4 / 22/AEx tD T85 °C, Type 4X
CSA	IS, Class I,II,III Div 1, GP A,B,C,D,E,F,G T4, Entity, Type 4X AIS Class I,II,III Div 1, GP A,B,C,D,E,F,G T4, Entity, Type 4X Class I, Zone 1, AEx ia IIC T4, Entity, Type 4X
NEPSI	Ex ib[ia] IIC T4 / Ex ia IIC T4 / DIP A20 TA,T6

Specifications – continued

Approvals – continued

Explosion protection (A2xxB)	IECEX ATEX	Ex ib[ia] IIC T4 / zone 0 Ex ia IIC T4 / Ex iaD 20 IP 6X T 85 °C II 2(1) G Ex ib[ia] IIC T4 / II 1 G Ex ia IIC T4 II 1 D Ex iaD 20 IP6x T85 °C / II 2 D Ex iaD 21 IP6x T85 °C
	FM	C/US C US US
	CSA	IS, Class I,II,III Div 1, GP A,B,C,D,E,F,G T4, Entity, Type 4X AIS Class I,II,III Div 1, GP A,B,C,D,E,F,G T4, Entity, Type 4X Class I, Zone 1, AEx ia IIC T4, Entity, Type 4X
	NEPSI	Ex ib[ia] IIC T4 / Ex ia IIC T4 / DIP A20 TA,T6
		NI/II/III/1/ABCD/T4 / S/II,III/2/FG/T4, Type 4X I/2/Ex nA IIC T4 / 22/Ex tD T85 °C; Type 4X IS/I,II,III/1/ABCD/FG/T4 / I/O/AEx ia IIC T4, Entity, Type 4X I/2/AEx nA IIC T4 / 22/AEx tD T85 °C, Type 4X

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	see Outputs 1/2
Real-time clock	different time and date formats selectable power reserve > 5 days
EMC	EN 61326-1 (general requirements) emitted interference: class B (residential area) immunity to interference: industry EN 61326-2-3

Nominal operating conditions

Ambient temperature	-20 ... +65 °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