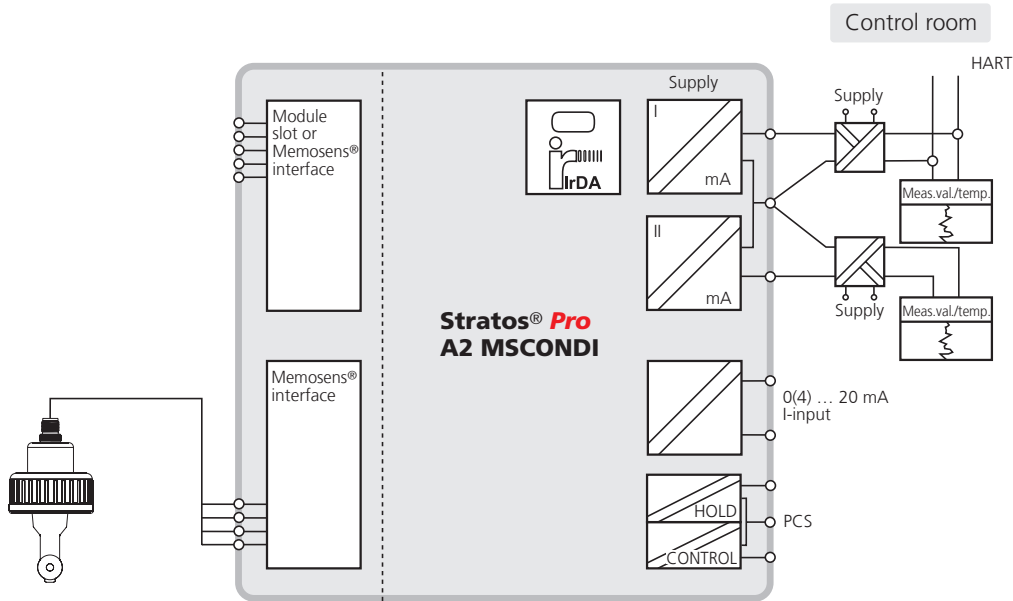


Process Analysis Systems

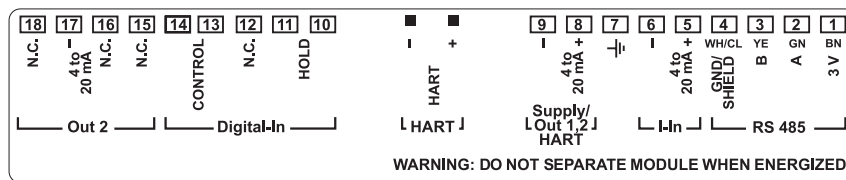
Stratos® Pro A2 MSCONDI

Connection

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



Terminal Assignments of Stratos® Pro 2-Wire Devices



New England - ETA Process Instrumentation
 119 Foster Street, Bldg #6
 Peabody, MA 01960
 Tel: (978) 532-1330
 www.etapii.com
 sales@etapii.com

Upstate NY - Martech Controls
 2000 Teall Avenue
 Syracuse, NY 13026
 Tel: (315) 876-9120
 www.martechcontrols.com
 sales@martechcontrols.com

Specifications

Inputs

RS 485	input for digital electrodeless conductivity sensor SE 670 or contactless Memosens® conductivity sensors	
Display ranges*)	conductivity	0.00 ... 999.9 mS/cm 0.000 ... 99.99 S/m
	concentration	00.00 ... 9.99 %/10.0 ... 100.0 %
	salinity	0.0 ... 45.0 ‰ (0 ... 35 °C)
	temperature	-20 ... +150 °C (-4.0 ... +302.0 °F)
Temperature compensation*) (reference temperature 25 °C)	none linear characteristic 00.00 ... 19.99 %/K (user-defined reference temperature) natural waters to EN 27888 (0 ... 120 °C) NaCl from 0 (ultrapure water) to 26 % by wt (0 ... 120 °C)	
Concentration determination	[01] NaCl	0–26 % by wt (0 °C) ... 0–28 % by wt (100 °C)
	[02] HCl	0–18 % by wt (-20 °C) ... 0–18 % by wt (50 °C)
	[03] NaOH	0–13 % by wt (0 °C) ... 0–24 % by wt (100 °C)
	[04] H ₂ SO ₄	0–26 % by wt (-17 °C) ... 0–37 % by wt (110 °C)
	[05] HNO ₃	0–30 % by wt (-20 °C) ... 0–30 % by wt (50 °C)
	[06] H ₂ SO ₄	94–99 % by wt (-17 °C) ... 89–99 % by wt (115 °C)
	[07] HCl	22–39 % by wt (-20 °C) ... 22–39 % by wt (50 °C)
	[08] HNO ₃	35–96 % by wt (-20 °C) ... 35–96 % by wt (50 °C)
	[09] H ₂ SO ₄	28–88 % by wt (-17 °C) ... 39–88 % by wt (115 °C)
	[10] NaOH	15–50 % by wt (0 °C) ... 35–50 % by wt (100 °C)
Current input (TAN)	analog, 0/4 ... 20 mA for external temperature signal	
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*)	conductivity, resistivity, concentration, salinity, or temperature	
Characteristic	linear, bilinear, or logarithmic	
Output filter*)	PT ₁ filter, filter time constant: 0 ... 120 s	

Process Analysis Systems

Stratos® Pro A2 MSCONDI

Specifications – continued

Sensor standardization

Operating modes	<ul style="list-style-type: none"> – input of cell factor with simultaneous display of selected process variable and temperature – input of conductivity of calibration solution with simultaneous display of cell factor and temperature – product calibration – zero adjustment – temperature probe adjustment
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Communication

HART communication (TAN)	<p>HART version 6</p> <p>digital communication by FSK modulation of output current 1</p> <p>device identification, measured values, status and messages, parameter setting, calibration, records</p>
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Diagnostics/Service

Diagnostics functions	calibration data, device self-test, display test
Sensocheck®	<p>monitoring of primary and secondary coils and lines for open circuit and of primary coil and lines for short circuit</p> <p>delay approx. 30 s</p>
Sensoface®	provides information on the sensor condition (zero point, Sensocheck®)
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
Sensor monitor	<p>direct display of measured values from sensor for validation:</p> <p>resistance/temperature</p>
IrDA interface	infrared service interface for firmware updates

Approvals

Explosion protection (A2xxX)	<p>IECEX Ex ib[ia] IIC T4 / zone 0 Ex ia IIC T4 / Ex iaD 20 IP 6X T 85 °C</p> <p>ATEX II 2(1) G Ex ib[ia] IIC T4 / II 1 G Ex ia IIC T4</p> <p>II 1 D Ex iaD 20 IP6x T85 °C / II 2 D Ex iaD 21 IP6x T85 °C</p> <p>FM C/US NI/2/ABCD/T4 / S/II,III/2/FG/T4, Type 4X</p> <p>C IS/I,II,III/1/ABCDEFG/T4 / I/0/Ex ia IIC T4, Entity, Type 4X</p> <p>C I/2/Ex nA IIC T4 / 22/Ex tD T85 °C; Type 4X</p> <p>US IS/I,II,III/1/ABCDEFG/T4 / I/0/AEx ia IIC T4, Entity, Type 4X</p> <p>US I/2/AEx nA IIC T4 / 22/AEx tD T85 °C, Type 4X</p> <p>CSA IS, Class I,II,III Div 1, GP A,B,C,D,E,F,G T4, Entity, Type 4X</p> <p>AIS Class I,II,III Div 1, GP A,B,C,D,E,F,G T4, Entity, Type 4X</p> <p>Class I, Zone 1, AEx ia IIC T4, Entity, Type 4X</p> <p>NEPSI Ex ib[ia] IIC T4 / Ex ia IIC T4 / DIP A20 TA,T6</p>
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Specifications – continued

Approvals – continued

Explosion protection (A2xxB)	IECEX	Ex nL IIC T4 / Ex tD A22 IP5X T 85 °C	
	ATEX	II 3 G Ex nL IIC T4 / II 3 D Ex tD A22 IP5X 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 nL IIC T4 / DIP A22 TA,T6	

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