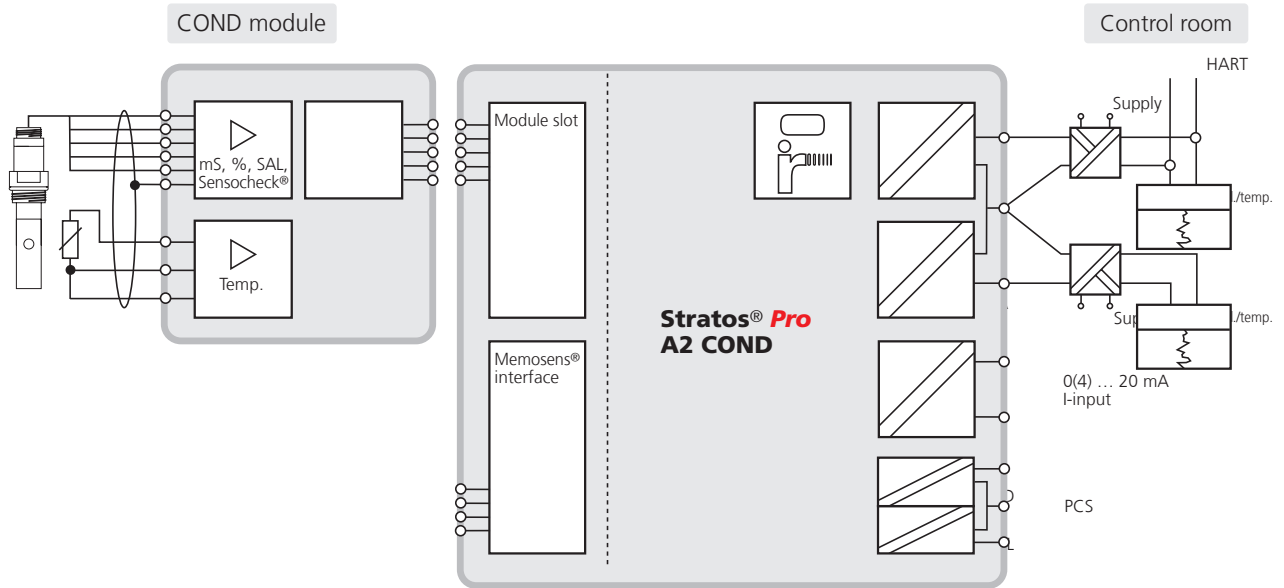


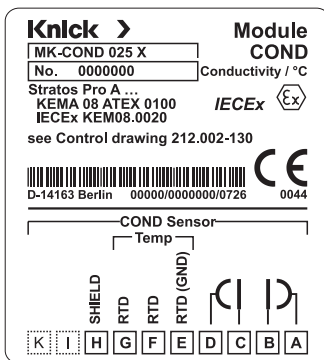
Stratos® Pro A2 COND

Connection

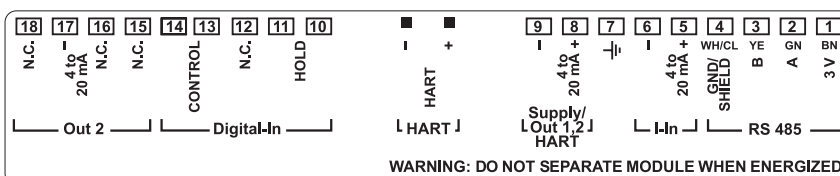
Connection of COND module with 2- or 4-electrode sensors
 Model used: Stratos® Pro A401N-COND/0



Terminal Assignments of Stratos® Pro COND Module



Terminal Assignments of Stratos® Pro 2-Wire Devices



Specifications

Inputs

| | | | |
|--|---|---|--|
| Conductivity | input for 2-electrode and 4-electrode sensors | | |
| Effective ranges | 2-electrode sensors | 0.2 $\mu\text{S} \cdot \text{cm} \dots 200 \text{ mS} \cdot \text{cm}$ | |
| | 4-electrode sensors | 0.2 $\mu\text{S} \cdot \text{cm} \dots 1000 \text{ mS} \cdot \text{cm}$ | |
| Measuring ranges*) | conductivity | 0.000 $\mu\text{S}/\text{cm} \dots 999.9 \text{ mS}/\text{cm}$ | 0.000 $\dots 99.99 \text{ S}/\text{m}$ |
| | resistivity | 00.00 $\dots 99.99 \text{ Mohms} \cdot \text{cm}$ | |
| | concentration | 00.00 $\dots 9.99 \%$ | |
| | salinity | 0.0 $\dots 45.0 \%$ (0 $\dots 35 \text{ }^\circ\text{C}$) | |
| Temperature compensation*) (reference temperature 25 $^\circ\text{C}$) | linear 00.00 $\dots 19.99 \%$ /K (user-defined reference temperature) | | |
| | natural waters to EN 27888 | | |
| | NaCl from 0 (ultrapure water) to 26 % by wt (0 $\dots 120 \text{ }^\circ\text{C}$) ultrapure water with traces of NaCl, HCl, or NH_3 | | |
| Concentration determination | NaCl | 0.00 $\dots 9.99 \%$ by wt | (0 $\dots 100 \text{ }^\circ\text{C}$) |
| | HCl | 0.00 $\dots 9.99 \%$ by wt | (-20 $\dots +50 \text{ }^\circ\text{C}$) |
| | NaOH | 0.00 $\dots 9.99 \%$ by wt | (0 $\dots 100 \text{ }^\circ\text{C}$) |
| | H_2SO_4 | 0.00 $\dots 9.99 \%$ by wt | (-17 $\dots +110 \text{ }^\circ\text{C}$) |
| | HNO_3 | 0.00 $\dots 9.99 \%$ by wt | (-17 $\dots +50 \text{ }^\circ\text{C}$) |
| Temperature | Pt 100 / Pt 1000 / NTC 30 kohms / NTC 8.55 kohms (Betatherm) / Ni 100 | | |
| Measuring range | Pt: | -50.0 $\dots +250.0 \text{ }^\circ\text{C}$ | (-58.0 $\dots +482.0 \text{ }^\circ\text{F}$) |
| | NTC: | -20.0 $\dots +150.0 \text{ }^\circ\text{C}$ | (-4.0 $\dots +302.0 \text{ }^\circ\text{F}$) |
| | Ni 100: | -50.0 $\dots +180.0 \text{ }^\circ\text{C}$ | (-58.0 $\dots +356.0 \text{ }^\circ\text{F}$) |
| Current input (TAN) | analog, 0/4 $\dots 20 \text{ mA}$ for external temperature signal | | |
| HOLD input, digital | | 0 $\dots 2 \text{ V}$ (AC/DC) | HOLD inactive |
| | | 10 $\dots 30 \text{ V}$ (AC/DC) | HOLD active |
| CONTROL input, digital | parameter set selection | 0 $\dots 2 \text{ V}$ (AC/DC) | parameter set A |
| | | 10 $\dots 30 \text{ V}$ (AC/DC) | parameter set B |
| | flow | pulse amplitude 10 $\dots 30 \text{ V}$ DC pulse input for flow measurement 0 $\dots 100 \text{ pulses/s}$ display: 00.00 $\dots 99.99 \text{ l/h}$ message via 22 mA, alarm contact or limit contacts | |

Outputs

| | | | |
|--------------------|--|--|--|
| Output 1, Output 2 | 4 $\dots 20 \text{ mA}$ current loops, 22 mA for error message, HART communication (TAN) at output 1, supply voltage 14 $\dots 30 \text{ V}$ | | |
| Process variable*) | conductivity, resistivity, concentration, salinity, or temperature | | |
| Characteristic | linear, bilinear, or logarithmic | | |
| Output filter*) | PT_1 filter, filter time constant: 0 $\dots 120 \text{ s}$ | | |
| USP function | water monitoring in the pharmaceutical industry (USP) with additional user-defined limit value (%), output via 22 mA and HART (TAN) | | |

Process Analysis Systems

Stratos® Pro A2 COND

Specifications – continued

Sensor standardization

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

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> |
|--------------------------|--|

Diagnostics/Service

| | |
|------------------------|--|
| Diagnostics functions | calibration data, device self-test, display test |
| Sensocheck® | polarization detection and monitoring of cable capacitance |
| Sensoface® | provides information on the sensor condition, 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 | direct display of measured values from sensor for validation: resistance/temperature |
| 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 | NI/II/2/ABCD/T4 / S/II,III/2/FG/T4, Type 4X |
| | | C | IS/I,II,III/1/ABCDEFGH/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/ABCDEFGH/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 | | |
| GOST | 1Exib[ia]IIC T4 / 0ExialIIC T4 / DIP A20 TA 85°C / DIP A21 TA 85°C | | |

Specifications – continued

Approvals – continued

| | | |
|------------------------------|-------|---|
| Explosion protection (A2xxB) | 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 IP5X T85 °C |
| | FM | C/US NII/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/EF, 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 | 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