



A gas transmitter for use with directly or remotely mounted toxic and Oxygen gas sensors

Sensepoint XCD RTD



Benefits

- Increased personnel safety
- Compliance with Health and Safety legislation
- Fulfilment of duty of care
- Reduced insurance premiums

Flexibility

- Tri-colour display indicates status at a glance
- Transmitter can be mounted in easy to access area or highly visible location
- Sensor can be mounted directly or up to 30 metres (100 feet) from transmitter
- Detects a wide range of toxic gases
- Generic 4-20mA input device option

Reliable Detection

- Compatible with Honeywell Analytics' proven Sensepoint toxic and Oxygen gas sensors
- Surecell™ technology ensures performance at extremes of temperature and humidity
- Long-life sensors
- IP66/67 rated for use in harsh environments

Easy to Use

- Easy to read tri-colour backlit display with digits, bar graph and icons
- Fully configurable via non-intrusive magnetic switches
- Selectable sink or source 4-20mA output
- Auto-inhibit during maintenance prevents false alarms

Cost Effective

- Sensepoint XCD common transmitter platform
- Reduces training costs
- Reduces spares and stock costs
- Non-intrusive, one-man operation reduces cost of maintenance
- Plug-in sensor cartridge replacement

Applications

- Industrial manufacturing facilities
- Power plants
- Waste water facilities
- Utilities
- Food and beverage production
- Refineries and chemical plants
- Onshore oil and gas terminals
- Production platforms
- Exploration and drilling

Sensepoint XCD RTD enables users to comply with legislation, increase safety and reduce insurance premiums and maintenance costs when protecting personnel from toxic gas releases. It provides proven, reliable toxic and Oxygen gas detection, an easy to read status display and a common platform.



Sensepoint XCD RTD (Remote Toxic Detector) has been specifically designed for use with the Honeywell Analytics' range of Sensepoint toxic and Oxygen sensors. This configuration is ideal for a wide range of toxic and Oxygen gas detection applications. The sensor can be mounted up to 30 metres (100 feet) away from the transmitter in areas that are difficult to access. The transmitter can be mounted at a suitable location away from this area where it is easy to access, view its display and interact with via the user interface.

Sensepoint toxic and Oxygen sensors offer a wide variety of gases and measuring ranges. The sensor can be mounted directly to the transmitter as well as remotely. Sensepoint XCD RTD can be used as a common platform for all toxic and Oxygen gas detection, reducing spares requirements. The Sensepoint sensor design includes an IS portion with a removable sensor cartridge, eliminating the need for a hot work permit when changing the sensor cartridge. The sensor has an IP67 rating for use in the harshest conditions.

The transmitter's tri-colour backlit LCD clearly indicates the unit's status at a glance, even from a distance. A steady green backlight indicates normal operation, flashing yellow indicates fault and flashing red indicates an alarm.

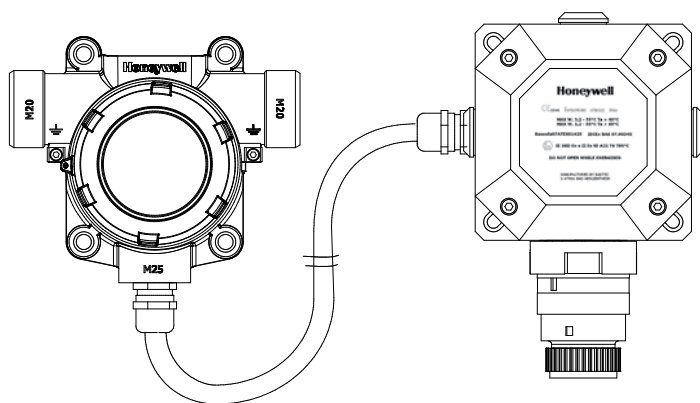
Outputs include 2 programmable alarm relays, 1 programmable fault relay as well as 4-20mA output (sink or source selectable).

The range, relay operation, alarm set points and electronic tag number of the detector can be adjusted using the transmitter's LCD and the non-intrusive magnetic switches. Outputs are automatically inhibited during adjustment thereby reducing the risk of false alarm at the control panel during maintenance.

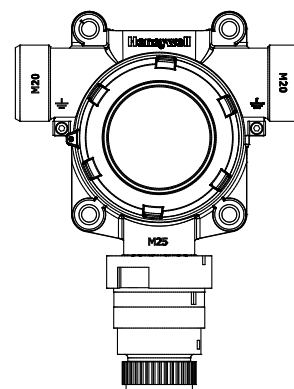
Sensepoint XCD RTD Overview



The Sensepoint XCD RTD (Remote Toxic Detector) can be used with the Sensepoint range of toxic and Oxygen gas detectors. The sensors can be directly mounted to the M25 entry at the bottom of the transmitter, or remotely mounted to suitable junction boxes or duct mounting assemblies.



Typical installation of Sensepoint XCD RTD with remote Sensepoint toxic or Oxygen sensor



Typical installation of Sensepoint XCD RTD with local Sensepoint toxic or Oxygen sensor

| Available Sensepoint Toxic Sensors | | | | | | | | | |
|------------------------------------|--|--|--|--|---------------------------------------|---|--|-----------------------------|--|
| Gas and Range | Hydrogen Sulphide (H ₂ S) 20/50/100ppm | Carbon Monoxide (CO) 100/200/500ppm | Ammonia (NH ₃) 50/1000ppm | Chlorine (Cl ₂) 5/15ppm | Oxygen (O ₂) 25% V / V | Hydrogen (H ₂) 1000/10000ppm | Sulphur Dioxide (SO ₂) 15/50ppm | Nitric Oxide (NO) 100ppm | Nitrogen Dioxide (NO ₂) 10ppm |
| Operating Temp | -25 to +50°C | -20 to +50°C | -20 to +40°C | -20 to +50°C | -15 to +40°C | | | | |
| Warm-up Time | < 3 minutes | | | < 5 minutes | | < 3 minutes | | 12 hours | 1 hour |
| Response Time | | | | | | | | | |
| T20 | < 6 secs | < 5 secs | — | < 10 secs | < 3 secs | — | — | < 3 secs | < 15 secs |
| T50 | < 15 secs | < 12 secs | < 10 secs | < 20 secs | < 5 secs | < 10 secs | < 10 secs | < 5 secs | < 30 secs |
| T90 | < 40 secs | < 30 secs | < 65 secs | < 105 secs | < 10 secs | < 45 secs | < 90 secs | < 30 secs | < 60 secs |
| Stability (zero) | | | | | | | | | |
| with time* | < ±2% fsd / yr | | | | | | | | |
| with temp** | < ±5% fsd | | < ±6% fsd | < ±2% fsd | | < ±2% fsd | < ±5% fsd | | |
| with humidity | < ±10% fsd | < ±2% fsd | < ±10% fsd | < ±2% fsd | | < ±2% fsd | < ±10% fsd | | |
| Stability (span) | | | | | | | | | |
| with time* | < ±2% fsd / yr | < ±4% fsd / yr | < ±20% fsd / yr | < 10% fsd / yr | < ±20% fsd / yr | < ±2% fsd / yr | | | |
| with temp*** | < ±25% fsd | < ±20% fsd | < ±20% fsd | < 40% fsd | < ±10% fsd | < ±60% fsd | < ±15% fsd | < ±25% fsd | |
| with humidity | < ±10% fsd | < ±2% fsd | < ±10% fsd | < ±2% fsd | < ±1% fsd | < ±2% fsd | < ±10% fsd | | |

Notes

*= % of range (fsd) per year, **Over operating temperature range, ***= % of applied concentration

Ready, Steady, Go!

Sensepoint XCD RTD uses three instantly recognisable 'traffic light' colours to indicate its status. The large tri-colour backlit LCD flashes red to indicate an alarm, flashes yellow to indicate a fault and is steady green to indicate normal operation. This allows anyone in the area to clearly see at a glance the status of any detector. This can be particularly useful to identify detector status if the detector is located in a difficult to access area or if a number of detectors are located in the same area.

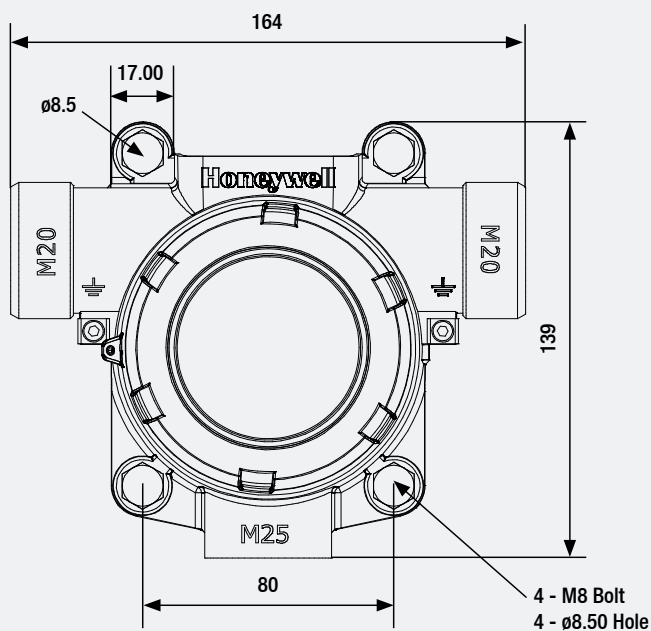


Installation



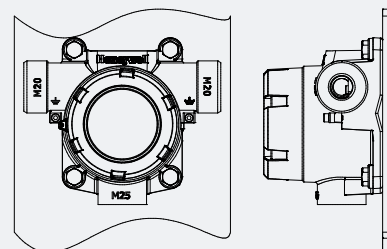
Mechanical

The Sensepoint XCD RTD transmitter has an integral mounting plate consisting of four mounting holes on the transmitter body. The transmitter may be fixed directly to a surface mounting, or to a horizontal or vertical pipe/structure, 40.0-80.0mm (1.6 to 3.1 inches) in diameter/cross section. The pipe mounting bracket accessory (optional accessory) may be used for this purpose.

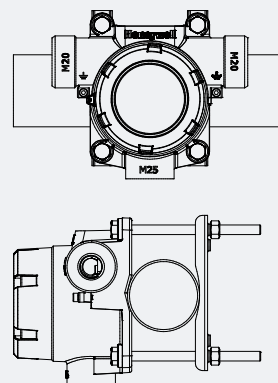


All dimensions in mm.
1" = 25.4mm

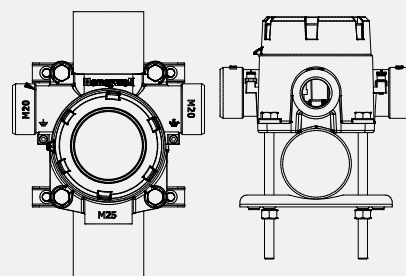
Installation Options



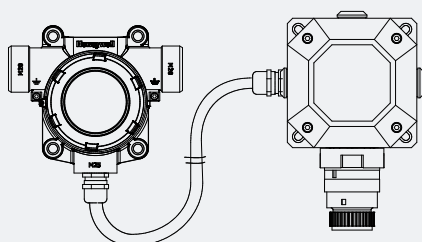
Wall mounted



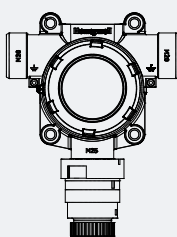
Horizontal pipe mounted
(Using optional pipe mounting kit)



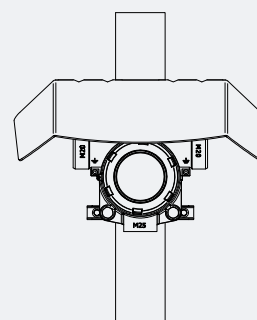
Vertical pipe mounted
(Using optional pipe mounting kit)



Typical installation of Sensepoint XCD RTD with remote
Sensepoint toxic or Oxygen sensor



Typical installation of Sensepoint XCD RTD with local
Sensepoint toxic or Oxygen sensor



Optional sunshade/deluge protection

Installation



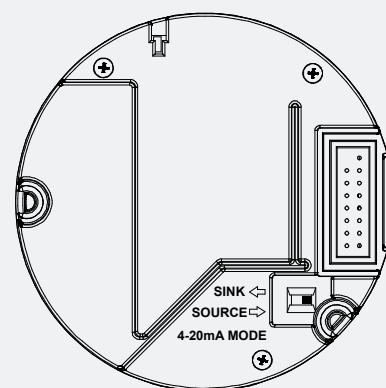
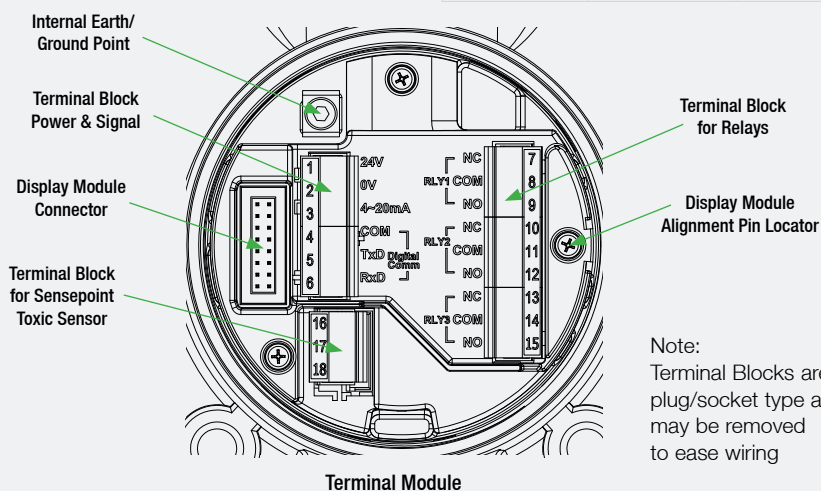
Electrical

Sensepoint XCD RTD is designed for use in potentially explosive atmospheres. As such, installation should follow national guidelines using suitable mechanically protected cable and glands (M20 and M25). Use 0.5mm² to 2.5mm² cross sectional area cable as needed to ensure minimum operating voltage at the detector, depending on installed cable length.



Terminal Module Connections

| Terminal Number | Marking | Connection | Description |
|-----------------|--------------|---------------------------|---|
| 1 | 24V | +VE Supply (18 - 32VDC) | Controller Connections |
| 2 | 0V | -VE Supply (0VDC) | |
| 3 | 4~20mA | Current Output Signal | |
| 4 | COM | Drain | MODBUS RTU. RS485 (Optional/ Pending) |
| 5 | TxD | MODBUS B (+) | |
| 6 | RxD | MODBUS A (-) | |
| 7 | RLY1/NC | Normally Closed | Programmable Relay 1 (Default A1) |
| 8 | RLY1/COM | Common | |
| 9 | RLY1/NO | Normally Open | |
| 10 | RLY2/NC | Normally Closed | Programmable Relay 2 (Default A2) |
| 11 | RLY2/COM | Common | |
| 12 | RLY2/NO | Normally Open | |
| 13 | RLY3/NC | Normally Closed | Programmable Relay 3 (Default Fault) |
| 14 | RLY3/COM | Common | |
| 15 | RLY3/NO | Normally Open | |
| 16 | +VE | +24VDC (Sensor Red Wire) | RTD Sensor Connections |
| 17 | -VE | 4-20mA (Sensor Blue Wire) | |
| 18 | Unused | - | |
| Earth Point | Earth Symbol | Screen | |

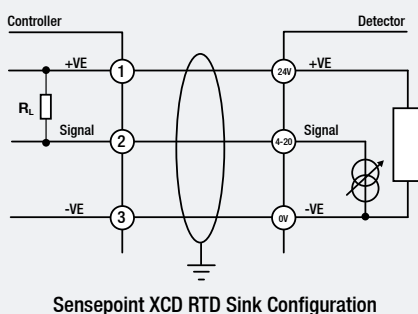
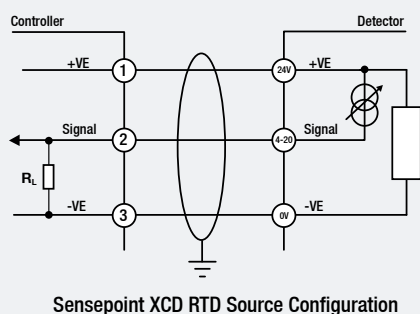


Wiring Schematics

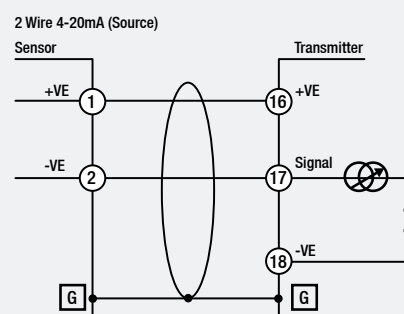
The Sensepoint XCD RTD transmitter may be wired in either current sink or current source configuration. These two options are offered to allow greater flexibility in the type of control system that it can be used with. Sink/source is selectable via the switch located on the back side of the display module; accessible by removing the display module during installation/commissioning.

Note:
Terminate cable screen at the detector
or the controller, not both.

Detector to Controller Wiring Schematics



Transmitter to Sensor Wiring Schematic



Installation and Technical Summary



Typical Cable Lengths

| Typical Cable Data | | | Maximum Cable Length | |
|--------------------------------------|------------------|------|----------------------|------|
| Cable Size (Cross Sectional Area) | Cable Resistance | | Metres | Feet |
| | Ω/km | Ω/mi | | |
| 0.5mm ² (20AWG*) | 36.8 | 59.2 | 353 | 1158 |
| 1.0mm ² (17AWG*) | 19.5 | 31.4 | 666 | 2185 |
| 1.5mm ² (16AWG*) | 12.7 | 20.4 | 1023 | 3356 |
| 2.0mm ² (14AWG*) | 10.1 | 16.3 | 1287 | 4222 |
| 2.5mm ² (13AWG*) | 8 | 12.9 | 1621 | 5318 |

Note:

Table given for guidance only. Users should calculate maximum distances using actual data for cable being used. Typical calculation assumes minimum guaranteed controller supply of 24VDC, minimum detector voltage of 18VDC and maximum power supply under full alarm. R_L (max) is 250ohms.

Sensepoint XCD RTD Transmitter

Use 3 wire 4-20mA gas transmitter for use with toxic and Oxygen gas sensors to protect plant and personnel from toxic and Oxygen gas hazards. Transmitter incorporates in-built alarm and fault relays, local tri-colour LCD display and is fully configurable via non-intrusive magnetic switch interface.

Electrical

| | |
|-----------------------|---|
| Input Voltage Range | 18 to 32VDC (24VDC nominal) |
| Max Power Consumption | 5 Watts |
| Current Output | Sink or source |
| ≥0.0<1.0mA | Fault |
| 2.0mA or 4.0mA | Inhibit (during configuration/user settings) |
| 4.0mA to 20.0mA | Normal gas measurement |
| 22.0mA | Maximum over range |
| Terminals | 18 x screw terminals suitable for wire diameter 0.5mm ² to 2.5mm ² (20AWG to 14AWG) |
| Relays | 3 x 5A@250VAC. Selectable normally open or normally closed (switch) and energised de-energised (programmable) Alarm relays default normally open/de-energised. Fault relay default normally open/energised |

Construction

| | | |
|------------------------|--|---|
| Material | Transmitter Housing | Epoxy painted aluminium alloy LM25 or 316 stainless steel |
| | Sensepoint Toxic Sensor | PPS |
| | Weather Protection | Plastic |
| Weight (approx) | Aluminium Alloy LM25 | 2.0kg (4.4lbs) |
| | 316 Stainless Steel | 5.0kg (11lbs) |
| | Sensor | 0.2kg (max- type dependant) |
| Mounting | Integral mounting plate with 4 x mounting holes suitable for M8 bolts | |
| | Optional pipe mounting kit for horizontal or vertical pipe Ø1.5 to 3" (2" nominal) | |
| Entries | European ATEX/IECEx versions: 2 x M20 side entries and 1 x M25 bottom entry. Suitable blanking plug supplied for use if only 1 side entry used. Seal to maintain IP rating | |

Sensepoint Detectable Gases, Ranges and Default Settings

| Gas | Displayed Name | Range | Lower Alarm | Lower Alarm Type | Higher Alarm | Higher Alarm Type | Lowest Alarm Level |
|-------------------|------------------|-----------|-------------|------------------|--------------|-------------------|--------------------|
| Hydrogen Sulphide | H ₂ S | 20.0ppm | 4.0ppm | Rising | 8.0ppm | Rising | 2.0ppm |
| | | 50.0 ppm | 10.0ppm | Rising | 20.0ppm | Rising | 5.0ppm |
| | | 100 ppm | 20ppm | Rising | 40ppm | Rising | 10ppm |
| Carbon Monoxide | CO | 100 ppm | 30ppm | Rising | 60ppm | Rising | 10ppm |
| | | 200 ppm | 40ppm | Rising | 80ppm | Rising | 20ppm |
| | | 500 ppm | 100ppm | Rising | 200ppm | Rising | 50ppm |
| Chlorine | Cl ₂ | 5.0 ppm | 0.5 ppm | Rising | 2.0ppm | Rising | 5.0ppm |
| | | 15.0 ppm | 1.5 ppm | Rising | 6.0ppm | Rising | 10ppm |
| Ammonia | NH ₃ | 50.0ppm | 20.0ppm | Rising | 30.0ppm | Rising | 5.0ppm |
| | | 100 ppm | 20ppm | Rising | 40ppm | Rising | 10ppm |
| | | 1000 ppm | 200ppm | Rising | 400ppm | Rising | 100ppm |
| Hydrogen | H ₂ | 1000ppm | 200ppm | Rising | 400ppm | Rising | 100ppm |
| | | 9999 ppm | 2000ppm | Rising | 4000ppm | Rising | 1000ppm |
| Nitrogen Monoxide | NO | 100 ppm | 20ppm | Rising | 40ppm | Rising | 10ppm |
| Sulphur Dioxide | SO ₂ | 15.0ppm | 2.0ppm | Rising | 6.0ppm | Rising | 1.5ppm |
| | | 50.0ppm | 5.0ppm | Rising | 20.0ppm | Rising | 5.0ppm |
| Nitrogen Dioxide | NO ₂ | 10.0ppm | 2.0ppm | Rising | 4.0ppm | Rising | 1.0ppm |
| Oxygen | O ₂ | 25.0% V/V | 19.5%Vol | Falling | 23.5%Vol | Rising | 10.0%Vol |

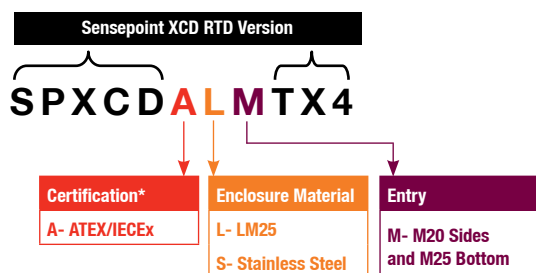
Note

Please refer to Sensepoint Sensor Datasheet for further details.

Technical Summary cont. and Ordering Information



| Certification | |
|---------------------------------------|--|
| European | ATEX Ex II 2 GD Ex d IIC Gb T6 (Ta -40°C to +65°C) Ex tb IIIC T85°C Db IP66 |
| International | IEC Ex d IIC Gb T6 (Ta -40°C to +65°C) Ex tb IIIC T85°C Db IP66 |
| China | GB Ex d IIC T4 GB3836.1&2 -2000, PA, CCCF |
| Korea | KTL Ex d IIC T6 (-40°C to +65°C) |
| EMC | CE: EN50270:2006 EN6100-6-4:2007 |
| Environmental | |
| IP Rating | Transmitter: IP66, Sensor: IP67 in accordance with EN60529:1992 |
| Transmitter Certified Operating Range | -40°C to +65°C (-40°F to +149°F) Note: The detector display may become illegible at temperatures below -20°C, but the detector continues its gas monitoring function. The display is not damaged and recovers when the temperature rises back above -20°C. See Sensepoint Sensor Datasheet for further certified and operational temperature details. |
| Operating Humidity | Continuous 20-90%RH (non-condensing), Intermittent 0-99%RH (non-condensing) |
| Operating Pressure | 90-110kPa |
| Storage Conditions | -25°C to +65°C (-13°F to 131°F) |
| Transmitter Ordering Information | |
| Standard Supply | Sensepoint XCD RTD is supplied complete with integral wall mounting plate, 2 x M20 side entries and 1 x M25 bottom entry. 1 x M20 plug, Allen key for locking screw, operating magnet, quick start guide and instruction manual CD. Default settings, ranges and calibrations are 100% tested at the factory. Each unit is supplied with a test certificate. |
| Shipping Details | Shipping carton dimensions: L312mm (12.3") x W223mm (8.8") x D110mm (4.3") Approximate weight: aluminium 2.5kg (5.5lbs), stainless steel 5.5kg (12.1lbs) |



Note:
Order required sensor separately
*Asian certifications also available



| Sensepoint XCD RTD Transmitter | | Sensepoint Toxic and Oxygen Sensors | |
|--------------------------------|--|-------------------------------------|--|
| SPXCDASMTX4 | ATEX/IECEx & AP approved SP XCD RTD Transmitter with 316SS | 2106B1418 | Sensepoint NO 0-100 ppm Toxic Sensor M20 |
| SPXCDALMTX4 | ATEX/IECEx & AP approved SP XCD RTD Transmitter with LM25 | 2106B1518 | Sensepoint NO 0-100 ppm Toxic Sensor M25 |
| Sensepoint Toxic Sensors | | 2106B1420 | Sensepoint SO ₂ 0-15 ppm Toxic Sensor M20 |
| 2106B1400 | Sensepoint H ₂ S 0-20ppm Toxic Sensor M20 | 2106B1421 | Sensepoint SO ₂ 0-50 ppm Toxic Sensor M20 |
| 2106B1401 | Sensepoint H ₂ S 0-50 ppm Toxic Sensor M20 | 2106B1520 | Sensepoint SO ₂ 0-15 ppm Toxic Sensor M25 |
| 2106B1402 | Sensepoint H ₂ S 0-100 ppm Toxic Sensor M20 | 2106B1521 | Sensepoint SO ₂ 0-50 ppm Toxic Sensor M25 |
| 2106B1500 | Sensepoint H ₂ S 0-20 ppm Toxic Sensor M25 | 2106B1422 | Sensepoint NO ₂ 0-10 ppm Toxic Sensor M20 |
| 2106B1501 | Sensepoint H ₂ S 0-50 ppm Toxic Sensor M25 | 2106B1522 | Sensepoint NO ₂ 0-10 ppm Toxic Sensor M25 |
| 2106B1502 | Sensepoint H ₂ S 0-100 ppm Toxic Sensor M25 | 2106B1430 | Sensepoint O ₂ 25% V/V Toxic Sensor M20 |
| 2106B1405 | Sensepoint CO 0-100 ppm Toxic Sensor M20 | 2106B1530 | Sensepoint O ₂ 25% V/V Toxic Sensor M25 |
| 2106B1406 | Sensepoint CO 0-200 ppm Toxic Sensor M20 | Sensepoint Cell Exchange Kits | |
| 2106B1407 | Sensepoint CO 0-500 ppm Toxic Sensor M20 | 2106B1545 | O ₂ Electrochemical Cell Exchange Kit |
| 2106B1505 | Sensepoint CO 0-100 ppm Toxic Sensor M25 | 2106B1546 | SO ₂ Electrochemical Cell Exchange Kit |
| 2106B1506 | Sensepoint CO 0-200 ppm Toxic Sensor M25 | 2106B1547 | Cl ₂ Electrochemical Cell Exchange Kit |
| 2106B1507 | Sensepoint CO 0-500 ppm Toxic Sensor M25 | 2106B1548 | CO Electrochemical Cell Exchange Kit |
| 2106B1410 | Sensepoint Cl ₂ 0-5 ppm Toxic Sensor M20 | 2106B1549 | H ₂ S Electrochemical Cell Exchange Kit |
| 2106B1411 | Sensepoint Cl ₂ 0-15 ppm Toxic Sensor M20 | 2106B1594 | NO Electrochemical Cell Exchange Kit |
| 2106B1510 | Sensepoint Cl ₂ 0-5 ppm Toxic Sensor M25 | 2106B1595 | NH ₃ 0-1000 ppm Electrochemical Cell Exchange Kit |
| 2106B1511 | Sensepoint Cl ₂ 0-15 ppm Toxic Sensor M25 | 2106B1596 | NH ₃ 0-50 ppm Electrochemical Cell Exchange Kit |
| 2106B1413 | Sensepoint NH ₃ 0-50 ppm Toxic Sensor M20 | 2106B1597 | H ₂ 0-1000 ppm Electrochemical Cell Exchange Kit |
| 2106B1414 | Sensepoint NH ₃ 0-1000 ppm Toxic Sensor M20 | 2106B1598 | H ₂ 10000 ppm Electrochemical Exchange Kit |
| 2106B1415 | Sensepoint NH ₃ 0-100 ppm Toxic Sensor M20 | 2106B1599 | NO ₂ 0-10 ppm Electrochemical Exchange Kit |
| 2106B1513 | Sensepoint NH ₃ 0-50 ppm Toxic Sensor M25 | Accessories | |
| 2106B1514 | Sensepoint NH ₃ 0-1000 ppm Toxic Sensor M25 | 00780-A-0100 | Term Hsg - Bartec DE1155 with continuity plate 1 x 25mm - 3 x 20mm Entries - ATEX approved |
| 2106B1515 | Sensepoint NH ₃ 0-100 ppm Toxic Sensor M25 | SPXCDDMK | Duct mounting kit |
| 2106B1416 | Sensepoint H ₂ 0-1000 ppm Toxic Sensor M20 | SPXCDHMR TEN | Hard copy manual in English |
| 2106B1417 | Sensepoint H ₂ 0-10000 ppm Toxic Sensor M20 | SPXCMTBR | Mounting bracket (inc. bolts, nuts, brackets) |
| 2106B1516 | Sensepoint H ₂ 0-1000 ppm Toxic Sensor M25 | SPXCSDP | Sunshade/deluge protection |
| 2106B1517 | Sensepoint H ₂ 0-10000 ppm Toxic Sensor M25 | | |