



**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).

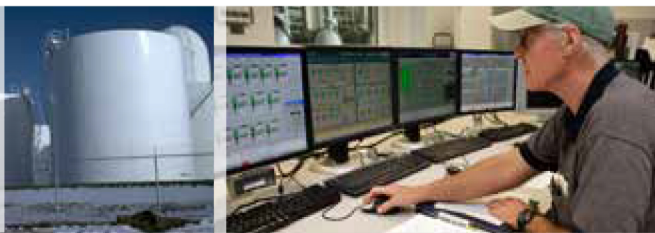
The range, relay operation, alarm set points and electronic tag number of the detector can be adjusted using the transmitter's LCD and the non-intrusive magnetic switches. Outputs are automatically inhibited during adjustment thereby reducing the risk of false alarm at the control panel during maintenance.



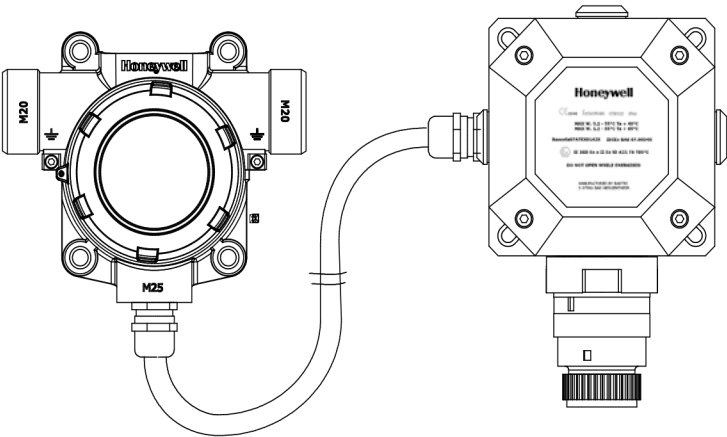
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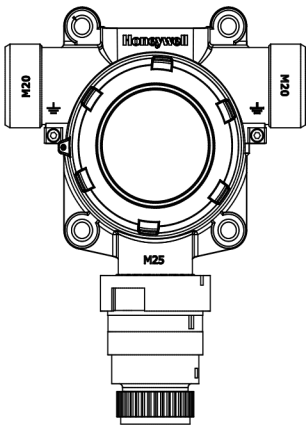
# Sensepoint XCD RTD Overview



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 <sub>2</sub> S) 20/50/100ppm	Carbon Monoxide (CO) 100/200/500ppm	Ammonia (NH <sub>3</sub> ) 50/1000ppm	Chlorine (Cl <sub>2</sub> ) 5/15ppm	Oxygen (O <sub>2</sub> ) 25% V / V	Hydrogen (H <sub>2</sub> ) 1000/10000ppm	Sulphur Dioxide (SO <sub>2</sub> ) 15/50ppm	Nitric Oxide (NO) 100ppm	Nitrogen Dioxide (NO <sub>2</sub> ) 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!

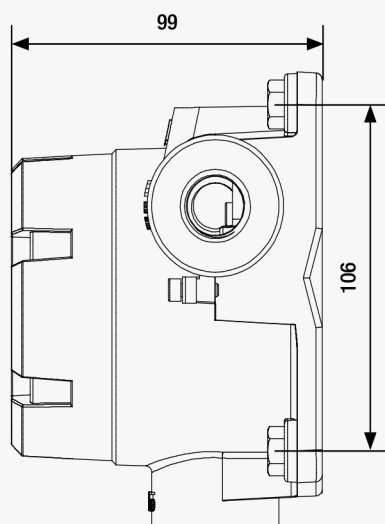
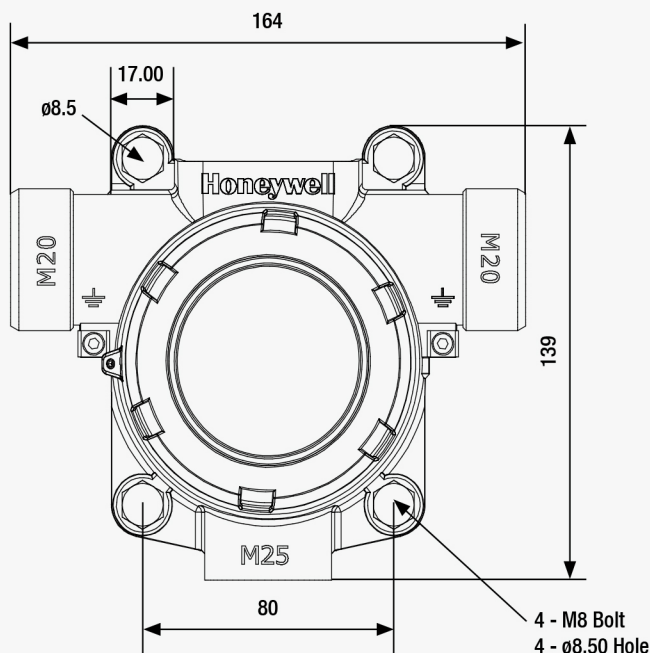
Sensepoint XCD RTD uses three instantly recognisable 'traffic light' colours to indicate its status. The large tri-colour backlit LCD flashes red to indicate an alarm, flashes yellow to indicate a fault and is steady green to indicate normal operation. This allows anyone in the area to clearly see at 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.



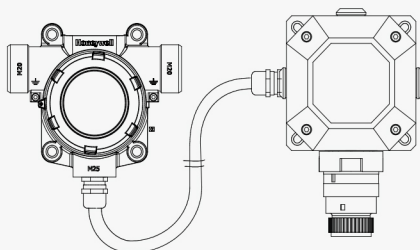


## Mechanical

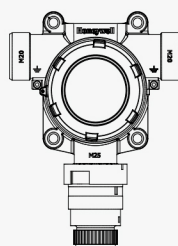
The Sensepoint XCD RTD transmitter has an integral mounting plate consisting of four mounting holes on the transmitter body. The transmitter may be fixed directly to a surface mounting, or to a horizontal or vertical pipe/structure, 40.0-80.0mm (1.6 to 3.1 inches) in diameter/cross section. The pipe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



All dimensions in mm.  
1" = 25.4mm

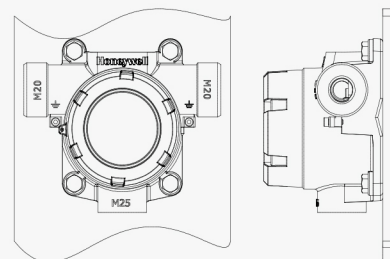


Typical installation of Sensepoint XCD RTD with remote Sensepoint toxic or Oxygen sensor

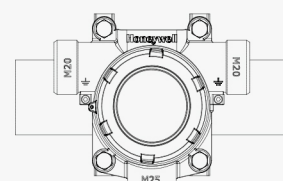


Typical installation of Sensepoint XCD RTD with local Sensepoint toxic or Oxygen sensor

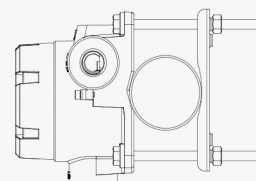
## Installation Options



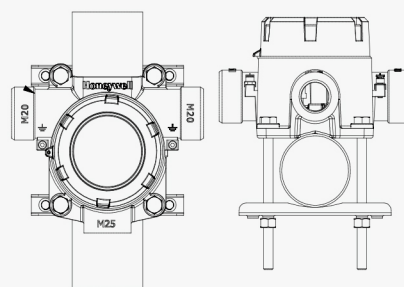
Wall mounted



Horizontal pipe mounted  
(Using optional pipe mounting kit)



Vertical pipe mounted  
(Using optional pipe mounting kit)



Optional sunshade/deluge protection

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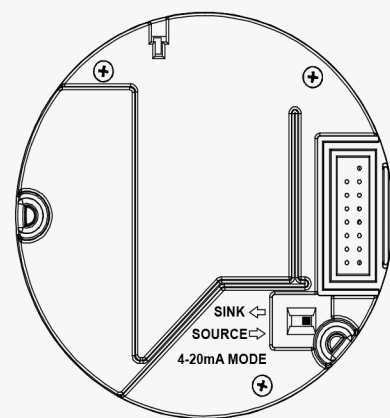
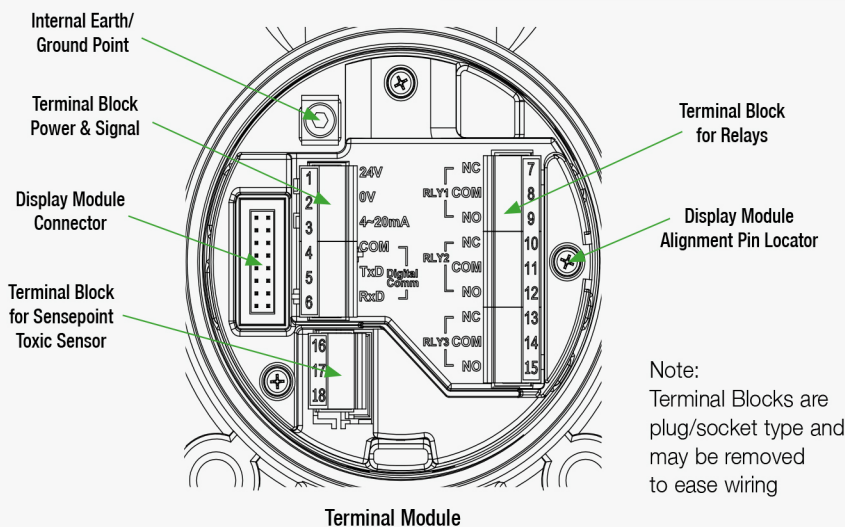


## Electrical

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 0.5mm<sup>2</sup> to 2.5mm<sup>2</sup> 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	

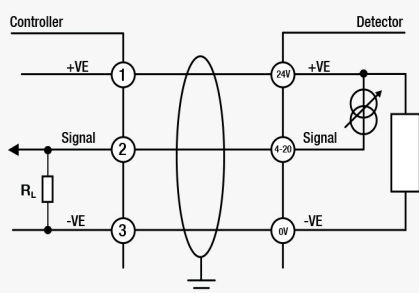


Puck Rear View

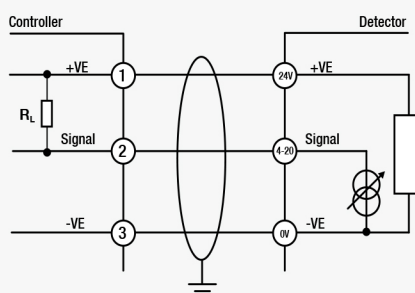
## Wiring Schematics

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.

### Detector to Controller Wiring Schematics



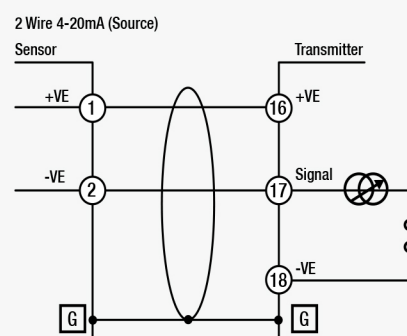
Sensepoint XCD RTD Source Configuration



Sensepoint XCD RTD Sink Configuration

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

### Transmitter to Sensor Wiring Schematic



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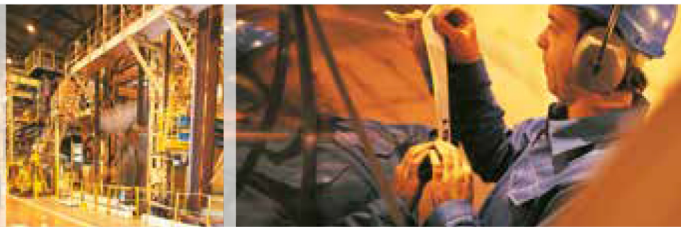


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# Installation and Technical Summary



## Typical Cable Lengths

Typical Cable Data			Maximim Cable Length	
Cable Size (Cross Sectional Area)	Cable Resistance		Metres	Feet
	Ω/km	Ω/mi		
0.5mm <sup>2</sup> (20AWG*)	36.8	59.2	353	1158
1.0mm <sup>2</sup> (17AWG*)	19.5	31.4	666	2185
1.5mm <sup>2</sup> (16AWG*)	12.7	20.4	1023	3356
2.0mm <sup>2</sup> (14AWG*)	10.1	16.3	1287	4222
2.5mm <sup>2</sup> (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<sub>L</sub> (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<sup>2</sup> to 2.5mm<sup>2</sup> (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 <sub>2</sub> 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 <sub>2</sub>	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 <sub>3</sub>	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 <sub>2</sub>	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 <sub>2</sub>	15.0ppm	2.0ppm	Rising	6.0ppm	Rising	1.5ppm
		50.0ppm	5.0ppm	Rising	20.0ppm	Rising	5.0ppm
Nitrogen Dioxide	NO <sub>2</sub>	10.0ppm	2.0ppm	Rising	4.0ppm	Rising	1.0ppm
Oxygen	O <sub>2</sub>	25.0% V/V	19.5%Vol	Falling	23.5%Vol	Rising	10.0%Vol

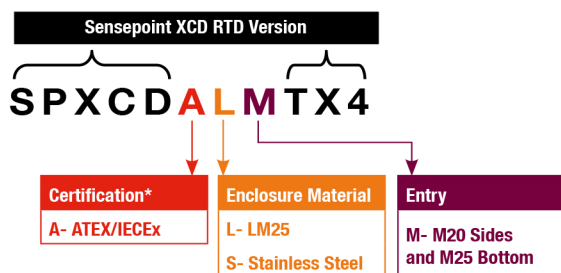
Note  
Please refer to Sensepoint Sensor Datasheet for further details.



# Technical Summary cont. and Ordering Information



Certification	
<b>European</b>	ATEX Ex II 2 GD Ex d IIC Gb T6 (Ta -40°C to +65°C) Ex tb IIIC T85°C Db IP66
<b>International</b>	IEC Ex d IIC Gb T6 (Ta -40°C to +65°C) Ex tb IIIC T85°C Db IP66
<b>China</b>	GB Ex d IIC T4 GB3836.1&2 -2000, PA, CCCF
<b>Korea</b>	KTL Ex d IIC T6 (-40°C to +65°C)
<b>EMC</b>	CE: EN50270:2006 EN6100-6-4:2007
Environmental	
<b>IP Rating</b>	Transmitter: IP66, Sensor: IP67 in accordance with EN60529:1992
<b>Transmitter Certified Operating Range</b>	-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.
<b>Operating Humidity</b>	Continuous 20-90%RH (non-condensing), Intermittent 0-99%RH (non-condensing)
<b>Operating Pressure</b>	90-110kPa
<b>Storage Conditions</b>	-25°C to +65°C (-13°F to 131°F)
Transmitter Ordering Information	
<b>Standard Supply</b>	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.
<b>Shipping Details</b>	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	
<b>SPXCDASMTX4</b>	ATEX/IECEx & AP approved SP XCD RTD Transmitter with 316SS	<b>2106B1418</b>	Sensepoint NO 0-100 ppm Toxic Sensor M20
<b>SPXCDALMTX4</b>	ATEX/IECEx & AP approved SP XCD RTD Transmitter with LM25	<b>2106B1518</b>	Sensepoint NO 0-100 ppm Toxic Sensor M25
Sensepoint Toxic Sensors		<b>2106B1420</b>	Sensepoint SO <sub>2</sub> 0-15 ppm Toxic Sensor M20
<b>2106B1400</b>	Sensepoint H <sub>2</sub> S 0-20ppm Toxic Sensor M20	<b>2106B1421</b>	Sensepoint SO <sub>2</sub> 0-50 ppm Toxic Sensor M20
<b>2106B1401</b>	Sensepoint H <sub>2</sub> S 0-50 ppm Toxic Sensor M20	<b>2106B1520</b>	Sensepoint SO <sub>2</sub> 0-15 ppm Toxic Sensor M25
<b>2106B1402</b>	Sensepoint H <sub>2</sub> S 0-100 ppm Toxic Sensor M20	<b>2106B1521</b>	Sensepoint SO <sub>2</sub> 0-50 ppm Toxic Sensor M25
<b>2106B1500</b>	Sensepoint H <sub>2</sub> S 0-20 ppm Toxic Sensor M25	<b>2106B1422</b>	Sensepoint NO <sub>2</sub> 0-10 ppm Toxic Sensor M20
<b>2106B1501</b>	Sensepoint H <sub>2</sub> S 0-50 ppm Toxic Sensor M25	<b>2106B1522</b>	Sensepoint NO <sub>2</sub> 0-10 ppm Toxic Sensor M25
<b>2106B1502</b>	Sensepoint H <sub>2</sub> S 0-100 ppm Toxic Sensor M25	<b>2106B1430</b>	Sensepoint O <sub>2</sub> 25% V/V Toxic Sensor M20
<b>2106B1405</b>	Sensepoint CO 0-100 ppm Toxic Sensor M20	<b>2106B1530</b>	Sensepoint O <sub>2</sub> 25% V/V Toxic Sensor M25
<b>2106B1406</b>	Sensepoint CO 0-200 ppm Toxic Sensor M20	Sensepoint Cell Exchange Kits	
<b>2106B1407</b>	Sensepoint CO 0-500 ppm Toxic Sensor M20	<b>2106B1545</b>	O <sub>2</sub> Electrochemical Cell Exchange Kit
<b>2106B1505</b>	Sensepoint CO 0-100 ppm Toxic Sensor M25	<b>2106B1546</b>	SO <sub>2</sub> Electrochemical Cell Exchange Kit
<b>2106B1506</b>	Sensepoint CO 0-200 ppm Toxic Sensor M25	<b>2106B1547</b>	Cl <sub>2</sub> Electrochemical Cell Exchange Kit
<b>2106B1507</b>	Sensepoint CO 0-500 ppm Toxic Sensor M25	<b>2106B1548</b>	CO Electrochemical Cell Exchange Kit
<b>2106B1410</b>	Sensepoint Cl <sub>2</sub> 0-5 ppm Toxic Sensor M20	<b>2106B1549</b>	H <sub>2</sub> S Electrochemical Cell Exchange Kit
<b>2106B1411</b>	Sensepoint Cl <sub>2</sub> 0-15 ppm Toxic Sensor M20	<b>2106B1594</b>	NO Electrochemical Cell Exchange Kit
<b>2106B1510</b>	Sensepoint Cl <sub>2</sub> 0-5 ppm Toxic Sensor M25	<b>2106B1595</b>	NH <sub>3</sub> 0-1000 ppm Electrochemical Cell Exchange Kit
<b>2106B1511</b>	Sensepoint Cl <sub>2</sub> 0-15 ppm Toxic Sensor M25	<b>2106B1596</b>	NH <sub>3</sub> 0-50 ppm Electrochemical Cell Exchange Kit
<b>2106B1413</b>	Sensepoint NH <sub>3</sub> 0-50 ppm Toxic Sensor M20	<b>2106B1597</b>	H <sub>2</sub> 0-1000 ppm Electrochemical Cell Exchange Kit
<b>2106B1414</b>	Sensepoint NH <sub>3</sub> 0-1000 ppm Toxic Sensor M20	<b>2106B1598</b>	H <sub>2</sub> 10000 ppm Electrochemical Exchange Kit
<b>2106B1415</b>	Sensepoint NH <sub>3</sub> 0-100 ppm Toxic Sensor M20	<b>2106B1599</b>	NO <sub>2</sub> 0-10 ppm Electrochemical Exchange Kit
<b>2106B1513</b>	Sensepoint NH <sub>3</sub> 0-50 ppm Toxic Sensor M25	Accessories	
<b>2106B1514</b>	Sensepoint NH <sub>3</sub> 0-1000 ppm Toxic Sensor M25	<b>00780-A-0100</b>	Term Hsg - Bartec DE1155 with continuity plate 1 x 25mm - 3 x 20mm Entries - ATEX approved
<b>2106B1515</b>	Sensepoint NH <sub>3</sub> 0-100 ppm Toxic Sensor M25	<b>SPXCDDMK</b>	Duct mounting kit
<b>2106B1416</b>	Sensepoint H <sub>2</sub> 0-1000 ppm Toxic Sensor M20	<b>SPXCDHMRTE</b>	Hard copy manual in English
<b>2106B1417</b>	Sensepoint H <sub>2</sub> 0-10000 ppm Toxic Sensor M20	<b>SPXCDDMTBR</b>	Mounting bracket (inc. bolts, nuts, brackets)
<b>2106B1516</b>	Sensepoint H <sub>2</sub> 0-1000 ppm Toxic Sensor M25	<b>SPXCDDSDP</b>	Sunshade/deluge protection
<b>2106B1517</b>	Sensepoint H <sub>2</sub> 0-10000 ppm Toxic Sensor M25		



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