



A flammable gas transmitter for use with catalytic gas sensors, certified for use in potentially explosive atmospheres

Sensepoint RFD



Reliable detection

- Compatible with Honeywell Analytics' proven catalytic bead flammable gas sensors
- Gas sensors have thermally matched beads for highest accuracy and stability
- Gas sensors use long life, poison resistant beads as standard
- Transmitter temperature / linearisation compensation software

Reduced installation cost

- Universal mounting bracket included
- Onboard alarm relays for local switching

Simplified commissioning procedure

- Configurable 0-20% and 0-100% LEL ranges
- Non-intrusive, calibration capability removes need for hot work permit.
- Menu / icon driven calibration procedure
- Backlit display for poorly illuminated areas

Reduced maintenance costs

- Integral display for local gas reading and fault diagnostics
- Sensor / transmitter remote mounting up to 45m (147ft) for easy access

Regulatory compliance

- European (ATEX)
- US (UL)

Optional accessories (sensor)

- Weather Protection
- Duct mounting kit
- Flow housing No
- Collecting cone

Typical applications

- Gas Turbine Enclosures
- Solvent based printing and coating drying ovens
- Onshore oil and gas terminals
- Refineries and chemical plants
- Power plants
- Utilities

Sensepoint RFD (Remote Flammable Detector) is available for the detection of flammable gases (0-20% or 0-100% LEL) and certified for use in potentially explosive atmospheres to international standards with an integral gas concentration display.

Sensepoint RFD is ATEX certified for Zone 1 and 2 hazardous areas and UL certified for Class I, Division 1 and 2 hazardous areas.

Used in conjunction with Honeywell Analytics' gas sensors (Sensepoint and Model 705), the Sensepoint RFD allows flammable gas sensors to be mounted remotely (up to 45m / 147ft) away from the transmitter when used with an appropriately certified remote terminal enclosure.

This configuration is ideal for applications where the sensor is mounted in locations where temperatures are well above ambient (up to 150°C / 302°F) and the transmitter would not be visible to plant personnel at the point of detection.

A 3-wire linear 4-20mA output allows interface to Honeywell Analytics or 3rd party controllers. On board relays permit switching of local alarm functions.

An intrinsically safe infrared controller permits configuration and calibration without the need to open the enclosure or obtain a hot work permit and is supplied as standard along with a universal mounting bracket with each transmitter.



Installation



Mechanical Installation Options

Sensepoint RFD is designed for use in potentially explosive atmospheres. As such, installation should follow national guidelines using suitable mechanically protected cable and glands (M20 or 3/4" NPT) or conduit (3/4" NPT). A universal mounting bracket is supplied with each transmitter suitable for pipe or wall mounting. Gas sensors can be directly mounted to the transmitter or up to 45m (147ft) away when using an appropriately certified sensor terminal enclosure or approved conduit system.



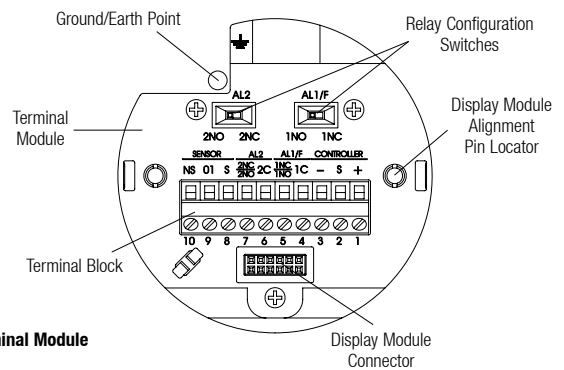
Directly mounted sensor



Remotely mounted sensor

Electrical Connections

Sensor type	Terminal Connection/Wire Color			
	S	NS	01	Earth/Ground
Sensepoint LEL	Brown	Blue	White	-
Sensepoint High Temp	Brown	Blue	White	Green
705 LEL	Brown	Blue	White	-
705 High Temp	Brown	Blue	White	-



Recommended Cable

Transmitter field wiring: 3 core (plus screen 90% coverage) 0.5 to 2.5mm² (20 to 14 AWG)

Remote sensor wiring: 3 core (plus screen 90% coverage) 1.0mm² (17 AWG)

Relay cables: 2 core (plus screen 90% coverage)

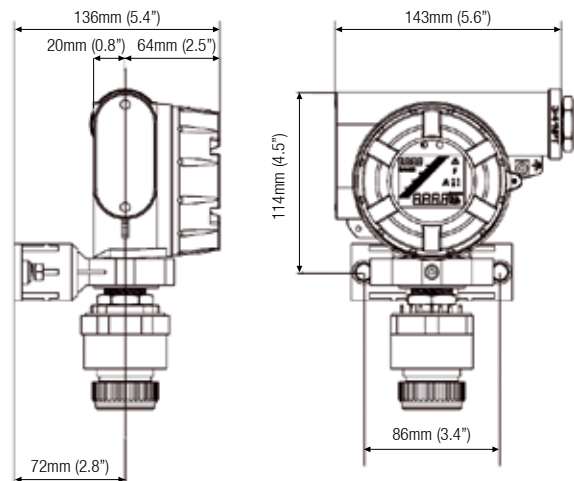
Maximum Cable Lengths

Maximum distance between the transmitter and remotely mounted sensor is 45m (147ft) using 1mm² wire (17AWG).

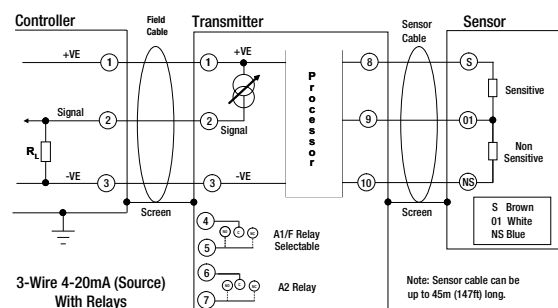
The following table shows the maximum cable distances between the controller and transmitter assuming a voltage drop of 4V and for different cable parameters. The table is an example only and actual cable parameters for the application should be used to calculate the maximum cable distance allowed at the installation site.

Cross-sectional Area		Resistance (ohms per km)		Maximum Distance	
mm ²	AWG	Cable	Loop	m	ft
1.0	17	18.1	36.2	330	1,080
1.5	16	12.1	24.2	495	1,625
2.5	14	7.4	14.8	810	2,660

Dimensions



Wiring Schematics



Technical Summary



Sensepoint RFD Transmitter

Use 3-wire, 4-20mA, flammable gas transmitter for use with remotely or directly fitted flammable gas sensors. For the protection of personnel and plant from flammable gas hazards. IR Hand-held Remote Interface for one-man non intrusive operation.

The number and type of detectable flammable gases is dependent upon the detection range and the sensor selected. Refer to the product manual for more information or contact your local Honeywell Analytics representative for more information.

Electrical

Input voltage range	12-30VDC	
Operating current	300mA (In rush 600mA max)	
Current output	4-20mA (source)	
	≥0.0<4.0mA	Fault
	4.0mA to 20.0mA	Normal gas measurement
	2.0mA or 4.0mA	Inhibit (during configuration/user settings)
	22.0mA	Maximum over range
Terminals	7 x screw terminals suitable for wire diameter 0.5mm ² to 2.5mm ² (20AWG to 14AWG). For remote sensor wiring use 1mm ² (17AWG) wire.	
Relays	2 x 1A @ 24VDC. Selectable normally open or normally closed (switch) and energised/de-energised (programmable).	
EMC	EN 50270	

Construction

Material	Powder coated aluminum (ADC12)
Weight	1.4kg (3.1lbs)
Mounting	Pole or wall mounting bracket supplied
Entries	2 x 3/4" NPT entries with M20 adaptors (1 sensor entry, 1x customer input / outputs)

Environmental

IP rating	IP65 in accordance with EN60529:1992
Operating temperature	-25°C to +55°C (-13°F to +131°F)
Operating humidity	Continuous 20-90% RH (non condensing) Intermittent 10-99% RH (non condensing)
Operating pressure	90-110kPa
Storage conditions	-25°C to +55°C (-13°F to 131°F)
Certification	UL Class I Div 1 & 2, Groups B, C & D -25°C to 55°C (-13°F to 131°F) UL Class II Div 1 & 2, Groups E, F & G -25°C to 55°C (-13°F to 131°F) ATEX II 2 G EEx d [ia] IIB+H2 T4 (T _{amb} -40°C to +65°C / -40°F to +149°F) IECEX Ex d [ia] IIB+H 2 T4

Approvals CE compliant in accordance with:
EMC Directive 89 / 336 / EEC as amended by 92 / 31 / EEC
ATEX Directive 94 / 9 / EC



For specification of compatible sensors refer to their individual manuals.



Ordering Information



Sensepoint RFD Transmitter (includes mounting bracket, Allen key, IR hand-held remote interface and manual)

SPRFDADX	Sensepoint RFD 0-20% LEL / 0-100% LEL approved to ATEX standards
SPRFDUDX	Sensepoint RFD 0-20% LEL / 0-100% LEL approved to UL standards

Detectors

0-100% LEL Version Sensors

00705-A-1733	705 Flammable Sensor – 0-100% LEL - Aluminum - ¼" NPT - UL
2106B1200	Sensepoint Flammable Sensor – 0-100% LEL - Stainless Steel - M20 - ATEX
2106B1204	Sensepoint Flammable Sensor – 0-100% LEL - Stainless Steel - ¼" NPT - ATEX
00705-A-1735	705 High Temperature Flammable Sensor – 0-20% LEL or 0-100% LEL - Aluminum - ¼" NPT - UL
2106B2310	Sensepoint High Temperature Flammable Sensor – 0-20% LEL or 0-100% LEL - Stainless Steel - M20 - ATEX
2106B2312	Sensepoint High Temperature Flammable Sensor – 0-20% LEL or 0-100% LEL - Stainless Steel - ¼" NPT - ATEX

0-20% LEL Version Sensors

2106B2310	Sensepoint High Temperature Flammable Sensor – 0-20% LEL or 0-100% LEL - Stainless Steel - M20 - ATEX
2106B2312	Sensepoint High Temperature Flammable Sensor – 0-20% LEL or 0-100% LEL - Stainless Steel - ¼" NPT - ATEX
00705-A-1735	705 High Temperature Flammable Sensor – 0-20% LEL or 0-100% LEL - Aluminum - ¼" NPT - UL

Accessories

SPPMMTBR	Mounting bracket (inc. screws and hex wrench set)
SPPPMADP	¼" NPT to M20 adapter
SPPPMTS	Terminal screw and 'U' clamp (bag of 20)
SPPPLHW	Large hex wrench (for mounting bracket)
RFDMAN	Instruction manual
2052D0001	FEEL Range 2000 high temperature junction box (cast iron) - for use with European Sensepoint type detectors
90053-A-7041	High temperature single duct mounting assembly for use with FEEL Range 2000 junction box (P/N 2052D0001) - for use with European Sensepoint type detectors

Spares

SPRFDMDX	Replacement display module
SPRFDTMX	Replacement terminal module
ZHC1A	IR Hand-held remote interface for set-up / configuration ZHC1 (ATEX)
ZHC1U	IR Hand-held remote interface for set-up / configuration ZHC1 (UL)



Our Product Range



Fixed Gas Monitoring

Honeywell Analytics offers a wide range of fixed gas detection solutions for a diverse array of industries and applications including: Commercial properties, industrial applications, semiconductor manufacturers, energy plants and petrochemical sites.

- » Detection of flammable, oxygen and toxic gases (including exotics)
- » Innovative use of 4 core sensing technologies – paper tape, electrochemical cell, catalytic bead and infrared
- » Capability to detect down to Parts Per Billion (ppb) or Percent by Volume (%v/v)
- » Cost effective regulatory compliance solutions

Portable Gas Monitoring

When it comes to personal protection from gas hazards, Honeywell Analytics has a wide range of reliable solutions ideally suited for use in confined or enclosed spaces.

These include:

- » Detection of flammable, oxygen and toxic gases
- » Single gas personal monitors – worn by the individual
- » Multi-gas portable gas monitors – used for confined space entry and regulatory compliance
- » Multi-gas transportable monitors – used for temporary protection of area during site construction and maintenance activities

Technical Services

At Honeywell Analytics, we believe in the value of great service and customer care. Our key commitment is providing complete and total customer satisfaction. Here are just a few of the services we can offer:

- » Full technical support
- » Expert team on hand to answer questions and queries
- » Fully equipped workshops to ensure quick turnaround on repairs
- » Comprehensive service engineer network
- » Training on product use and maintenance
- » Mobile calibration service
- » Customised programmes of preventative/corrective maintenance
- » Extended warranties on products

Find out more

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