

SD-1RI

Smart Transmitter Detector

- Catalytic combustion type
- Sensor types include
 - Non-dispersive infrared type
- Direct digital display of gas readings
- HART Communication protocol or 4-20 linear output
- Available with SIL2 approval (IR, EC, OX versions)
- Easy maintenance using a magnetic key
- Self-diagnosis by microprocessor
- Low power operation (Maximum: 2W)
- Explosion proof: ATEX, IECEx, Ex db IIC T6 Gb

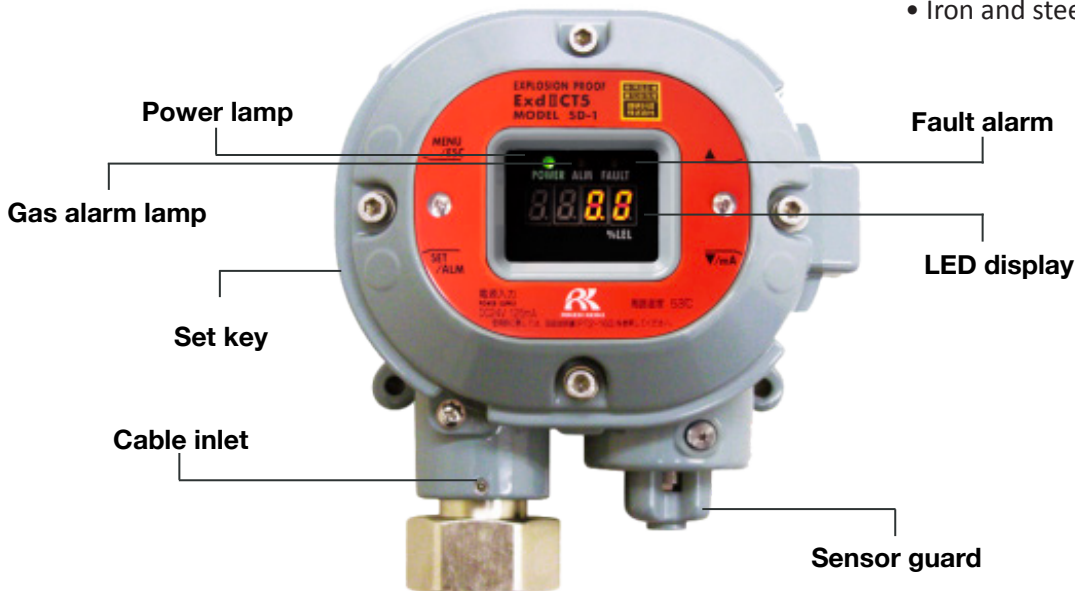


Overview

Our SD-1 line of smart transmitters feature state-of-the-art gas detectors with durable flameproof enclosure, maximum safety, especially in hydrogen/acetylene atmospheres. A simple magnetic control key is placed over clear marked positions on the surface plate to test and adjust the instrument without opening the transmitter in situations with danger of explosion.

Applications

- LNG Terminal
- Petrochemical/Chemical plants
- Power plant
- Utilities
- Iron and steel works



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 Information

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Common Specifications	
Model	SD-1RI
Detection principle	Non-dispersive infrared type
Detection target gas	Combustible gas
Detection method	Diffusion type
Detection range	0–100 % LEL
Alarm setpoints	25 % LEL (standard)
Alarm accuracy (for identical conditions)	Within ± 25 % of alarm setpoint
Alarm delay (for identical conditions)	Within 30 seconds after gas reaches 1.6 times the alarm setpoint
Alarm indications	Gas alarm: ALM LED lights up (red). Fault alarm: FAULT LED lights up (yellow)/information displayed.
Transmission specifications^{*1}	3-wire analog transmission 4–20 mA DC (common cable for power and signal [power, signal, common])
Gas concentration display	4-digit 7-segment LED
Explosion-proof	Flame-proof enclosure
Explosion-proof class^{*2}	Japan Ex Ex d IIC T6 X ATEX II 2G Ex db IIC T6 Gb IECEX Ex db IIC T6 Gb
Protection level	IP65 equivalent
Operating temperature/ humidity range	Japan Ex -20°C – +53°C (no sudden changes), up to 95 % RH (no condensation) ATEX/IECEX -20°C – +60°C (no sudden changes), up to 95 % RH (no condensation)
Power source	24 V DC ± 10 %
Power consumption	Max. 2 W
External dimensions	Approx. 148 mm (W) \times 167 mm (H) \times 88 mm (D) (excluding projections)
Weight	Approx. 2.0 kg

^{*1} Specify HART communication specification requirements when ordering.

^{*2} Specify explosion-proof specification requirements when ordering.

Explosion-proof in hydrogen/acetylene environments

Flame-proof enclosures enable use as an explosion-proof product in hydrogen/acetylene environments.

Waterproof/Dust-proof

Protection rating equivalent to IP65. Suitable for use in harsh environments.

Compatible with HART communications

The product sends digital signals across general analog 4 - 20 mA output lines to allow data exchange over a broad range.

Equipped with self-diagnostic function

The device performs self-diagnostics after power supply starts.

In the event of an error, instead of displaying the gas concentration, the product will display a fault description (error code) pointing to a potential cause of the problem.

Supports gas detection by aspiration

Connecting the SD-1 Series suction cap (with gas flow inlet/outlet) to the product sensor allows gas detection by aspiration.

* Use for gas detection by aspiration requires a suction pump and aspirator unit (available separately), in addition to a power supply.