

Features

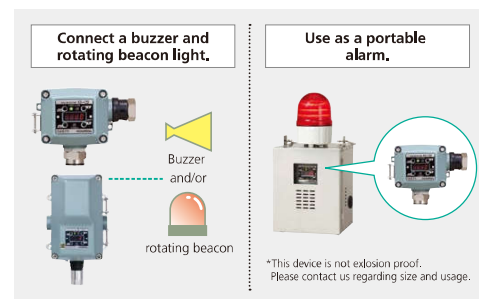
- **Local LED display**
Large local LED display shows gas concentrations and alarm indication.
- **Water and dust proof**
IP65 rating
- **One man calibration**
All setup and maintenance can be performed easily on site by one person with a magnetic stick (pic.1).
- **Easy sensor replacement**
Simple plug-in sensor module makes sensor replacement easy (pic.2).
- **Made in Japan**
Including the sensor, all products are developed and manufactured in Japan to ensure the highest quality and reliability.



Flexible design for every application.

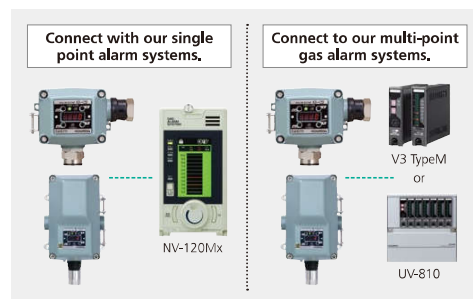
1. Stand alone detector or integrated alarm system.

Attach a buzzer and rotating beacon light, and it can be used as a stand alone alarm system. (The KD-12 series is screwless type only)



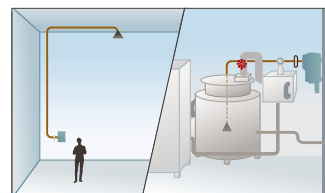
2. Connect to our alarm systems for integrated detection.

Ensure maximum safety by connecting with our indicator panels for easy gas alarm and concentration checking in multiple locations.

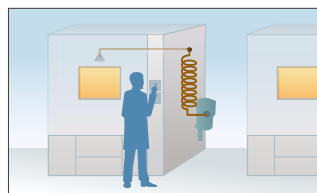


Attach a pump to further increase possible uses.

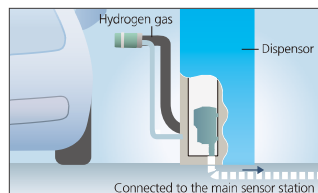
Perfect for use in areas where it is difficult to perform maintenance on diffusion type detectors.



Installation example 1
On the ceiling or in a confined space where maintenance is difficult



Installation example 2
Near temperature baths or ovens with extreme temperatures.



Installation example 3
In hydrogen charging stations to monitor coupling systems for leaks.



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Be sure, be safe.

COSMOS

GAS DETECTOR HEAD with DISPLAY

KD-12 SERIES / PD-12 SERIES

Concentration levels you can see,
security you can feel.

~Introducing our compact detector with display functionality~

**Certified Safety
Integrity Level (SIL2)**

*Only KD-12B



DIFFUSION TYPE
KD-12SERIES



EXTRACTION TYPE
PD-12SERIES

Approvals

- CE marking
- UKCA
- IECEx
- ATEX
- China Ex (NEPSI)*1
- Korea Ex (KCs)*2
- India Ex (PESO)
- Taiwan Ex (ITRI)*3
- Japan Ex (JPEx)

*1: Only KD-12A/B/C/D/R/O

*2: Only KD-12A/B

*3: Only KD-12A/B/C/D

Approvals

- CE marking
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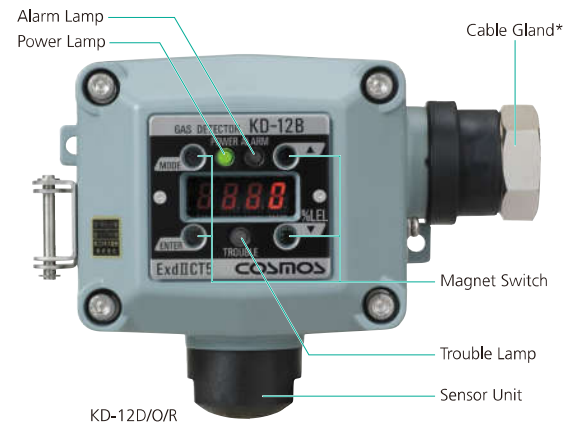
*1: Only PD-12A/B

**Your Authorized New
Cosmos Distributor:**

Minerva Industrial & Trading Pte Ltd

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KD-12 SERIES



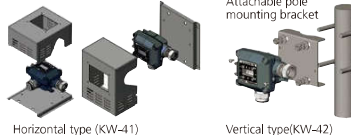
* Cable gland is not included in ATEX certified models and sold separately.

Standard and Optional Accessories

Standard Accessories
Magnetic Wand (MJ-1)

Optional Accessories
Protective Cover
Impact and weathering protection

2B-Pole Mounting Bracket (PB-1)
Attachable pole mounting bracket



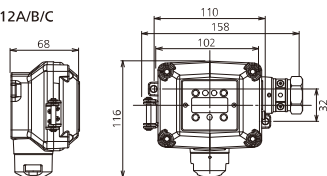
Specifications

Model	KD-12A	KD-12B	KD-12C	KD-12R	KD-12D	KD-12O
Detection Principle	Hot-wire Semiconductor	Catalytic Combustion	Thermal Conduction	Non-dispersive Infrared	Electrochemical Cell	Galvanic Cell
Target Gas	Combustible gas, Toxic gas		Hydrogen, Helium, Carbon dioxide	Methane, Carbon dioxide	Carbon monoxide Hydrogen sulfide	Oxygen
Sampling Method	Diffusion					
Detection Range	Specification Dependant				0-100ppm, 0-150ppm, or 0-250ppm*1	0-30-ppm or 0-50ppm*1 0-25,0vol%
Alarm Set Value	Specification Dependant				FS100ppm: 25ppm (recomendation) FS150/250ppm: 50ppm (recomendation)	10ppm 18,0vol%
Alarm Accuracy	Combustible gas: $\pm 25\%$ of alarm set value Toxic gas: $\pm 30\%$ of alarm set value			$\pm 25\%$ of alarm set value	$\pm 30\%$ of alarm set value	$\pm 1.0\text{vol}\%$ of alarm set value
Alarm Response Time	Combustible gas: within 30s at 1.6 times alarm set value Toxic gas: within 60s at 1.6 times alarm set value			Within 30s at 1.6 times of alarm set value	Within 60 s at 1.6 times of alarm set value	Within 5s to reach 18vol% under condition of 10vol%*2
Alarm Indication	Gas alarm: Red LED lamp flashes Trouble alarm: Yellow LED lamp flashes (Sensor trouble, Power voltage malfunction, etc.)					
Gas Concentration Display	4-digit digital LED display					
Output	Gas concentration analog signal •DC4-20mA (common to the negative side of power supply) Gas alarm contact (one stage only)*3 •1a no-voltage contact output, Non-latching •Rated load: 0.5A at 250VAC, or 0.5A at 30VDC (resistance load)					
Operation	4 Magnetic Switches					
Explosion Proofing	II 2 G Ex db IIC T5 Gb (ATEX) Ex db IIC T5 Gb (IECEx) Ex d IIC T5 (Japan Ex)			II 2 G Ex db IIC T5 Gb (ATEX) Ex db IIC T5 Gb (IECEx) Ex d IIB T5 (Japan Ex)		
Protection Level	IP65					
Applicable Cable	Outer Diameter: $\phi 10\sim 13\text{ mm}$ 5-conductor cable*2: CVV-5 1.25mm ² , 3-conductor cable: CVV-5 2mm ² or 1.25mm ²					
Operating Temperature/ Humidity*4	Temperature: -10 to +50°C Humidity: 10% to 90% RH (0 to +50°C)				Temperature: -10 to +40°C Humidity: 30% to 85% RH	
Power Supply	24 VDC ($\pm 20\%$)				Temp: 0 to +40°C Hum: 30% to 85% RH	
Power Consumption	3W max.			2.2 W max,	1.2 W max,	
Dimensions	W158xH116xD68 mm (excluding protrusion)*1			W158xH120xD68mm (excluding protrusion)*6		
Weight	Approx, 1.2kg			Approx, 1.3kg		

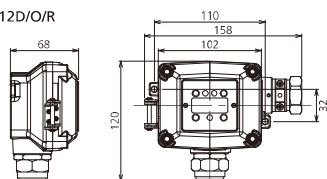
*1. Specify when purchasing *2. Under the condition of 20 $\pm 2^\circ\text{C}$ *3. Screwless type only *4. No radical temperature or humidity changes and no condensation *5. W127xH116xD68mm for ATEX certified models
*6. W127xH120xD68mm for ATEX certified models

External Dimensions (mm)

•KD-12A/B/C

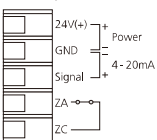


•KD-12D/O/R

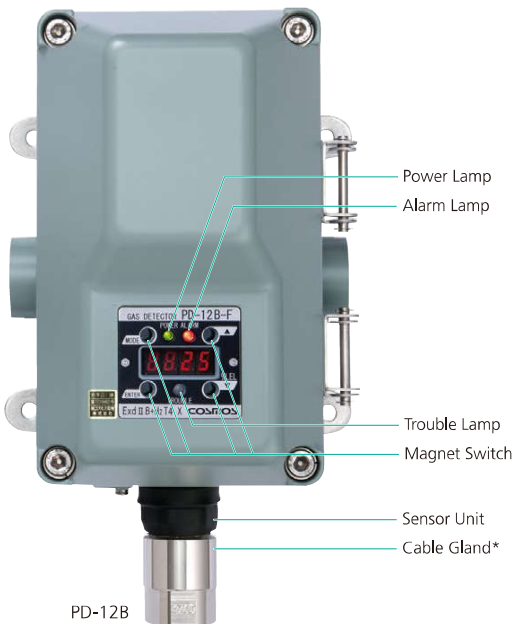


Terminal Block

•Screw-less Type



PD-12 SERIES



* Cable gland is not included in ATEX certified models and sold separately.

Specifications

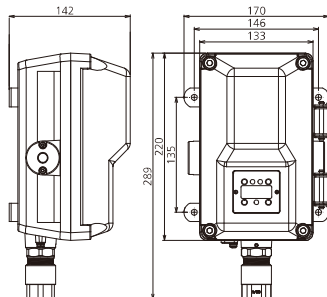
Model	PD-12A	PD-12B	PD-12C
Detection Principle	Hot-wire Semiconductor	Catalytic Combustion	Thermal Conduction
Target Gas	Combustible Gas		
Sampling Method	Suction Pump		
Flow Rate	Greater Than 0.5L/min		
Detection Range	Specification Dependant		
Alarm Set Value	Specification Dependant		
Alarm Accuracy	Combustible gas: $\pm 25\%$ of alarm set value Toxic gas: $\pm 30\%$ alarm set value		
Alarm Response Time	Combustible gas: within 30s at 1.6 times alarm set value Toxic gas: within 60s at 1.6 times alarm set value		
Alarm Indication	Gas alarm: Red LED lamp flashes Trouble alarm: Yellow LED lamp flashes (Sensor trouble, Power voltage malfunction, etc.)		
Output	Gas concentration analog signal •DC4-20mA (common to the negative side of power supply) Gas alarm contact (one stage only) •1a no-voltage contact output, Non-latching •Rated load: 0.5A at 250VAC or 0.5A at 30VDC (resistance load)		
Gas Concentration Display	4-digit digital LED display		
Operation	4 Magnetic Switches		
Explosion Proofing	II 2 G Ex db IIB + H2 T4 Gb (ATEX) Ex db IIB + H2 T4 Gb (IECEx) Ex d IIB + H2 T4 (Japan Ex)		
Protection Level	IP65		
Compatible Cable	Outer Diameter: 11-15mm 6 Core Cable: CVV-5 1.25mm ² or 2.0mm ²		
Operating Temperature/Humidity	Temperature: -10°C ~ +50°C Humidity: 10~90%RH (0~50°C)		
Power Supply	DC24V ($\pm 20\%$)		
Power Consumption	7.5W Maximum		
External Dimensions	W133XH289XD132 (Excluding Protrusions)		
Weight	Approx. 5.2kg		
Option	Flow Rate Drop Detection (Alert at less than 0.3L/min)		

*1. Uses normal alarm contacts. Additional settings required for use as a fault contact.

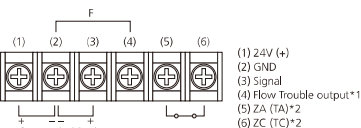
*2. ATEX certified. Certain models may not be certified. Please inquire further for details.

*3. Avoid sudden temperature and humidity changes, as well as condensation.

External Dimensions (mm)



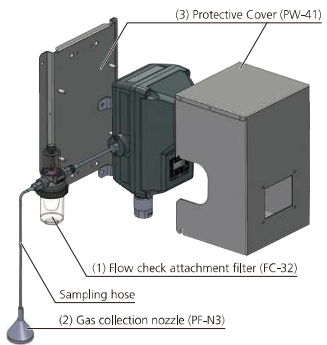
Terminal Block



*1. When flow drop is detected (Non-contact output (open contact).

*2. External alarm contact
External trouble alarm contact

Standard and Optional Accessories



Standard Accessories

- (1) Magnetic Wand (MJ-1)
- (2) Flow check attachment filter (FC-32)
capable of monitoring the flow rate
- (3) Gas collection nozzle (PF-N3)

Optional Accessories

- (4) Protective Cover (PW-41)
Impact and weathering protection
- (5) Automatic Drainer (AD-40)
Removes moisture from the sampling area to prevent harm to the sensor unit.
(Other filters are available for various use cases)

