COSMOS

Gas Leak Detector
With in-built Display and Alarm
Model: KD-12 Series

- ● **Simpler, smarter and reliable gas detector with digital display**
- ● **Simple and cost effective installation**
- ● **Rugged, compact and lightweight design**
- ● **Environmentally friendly Product**

Scale 1:1

GAS DETECTOR KD-12
POWER ALARM
MODE
88.25
%LEL
ENTER TROUBLE
Ex d II CT5 COSMOS

KD-12A/B/C

Approvals:
- ● Ex d IIC T5 (KD-12 A/B/C)
- ● Ex d IIB T6 (KD-12 B/O)
- ● CE Marking (EMC Directive)
- ● ATEX standard
- ● China Fire Equipment Inspection*
- *(Pending)
- ● Others

Combustible Gas
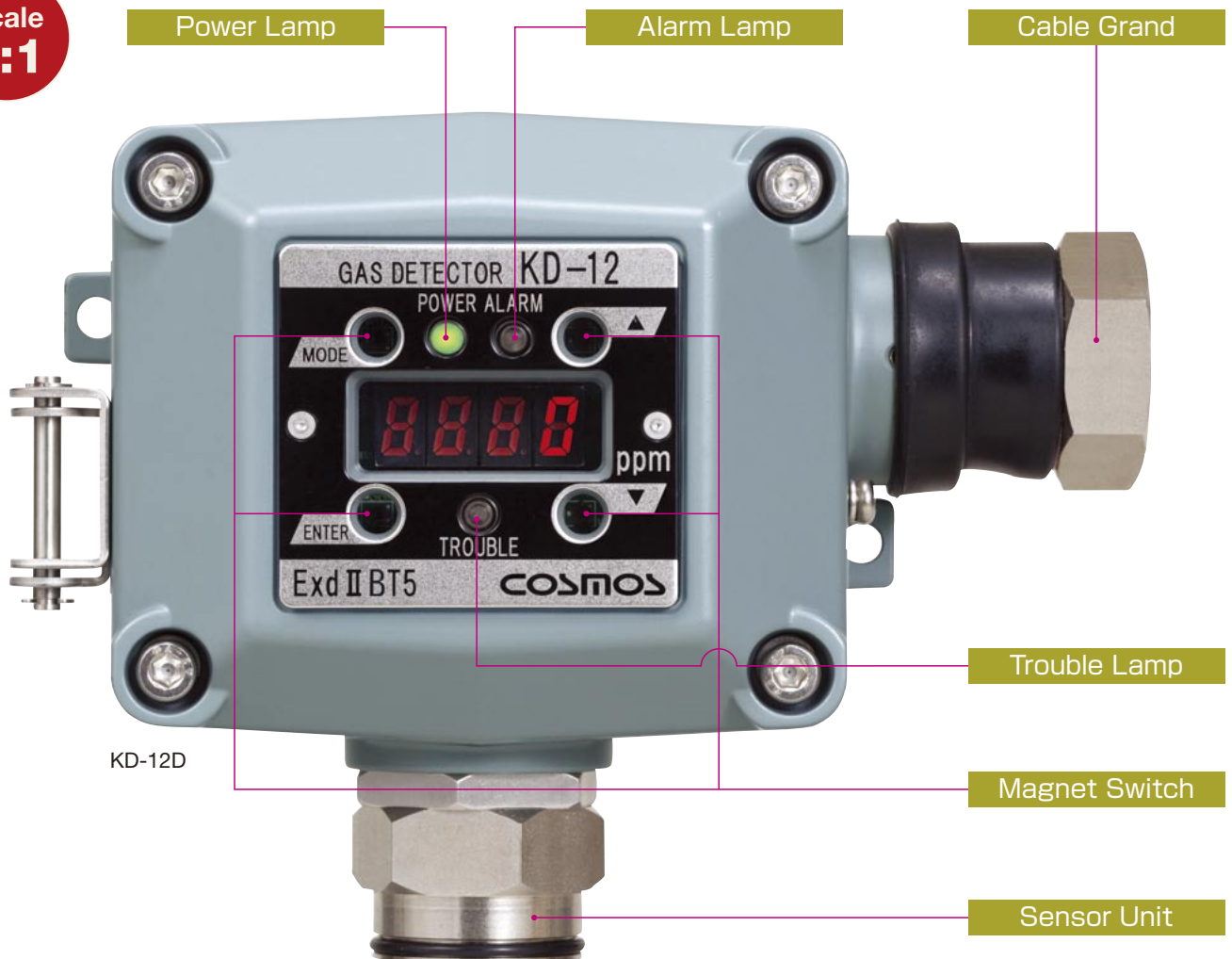
Hot wire semiconductor sensor

Catalytic combustion sensor

Very Compact and Light with Digital Display

Scale 1:1

Power Lamp

Alarm Lamp

Cable Grand

GAS DETECTOR KD-12

POWER ALARM

MODE

8880 ppm

ENTER

TROUBLE

Exd II BT5

COSMOS

KD-12D

Trouble Lamp
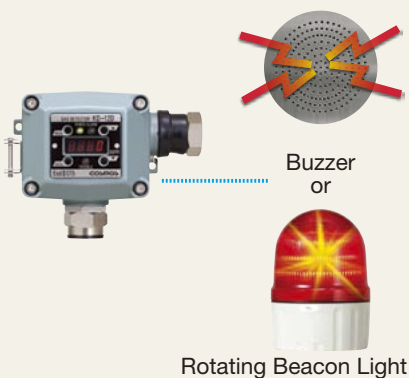
Magnet Switch

Sensor Unit

Different Configurations of KD-12

With Buzzer or Rotating beacon light

It is used as an integral type gas detection system, connecting to External Buzzer or Rotating beacon light (screw-less type only).
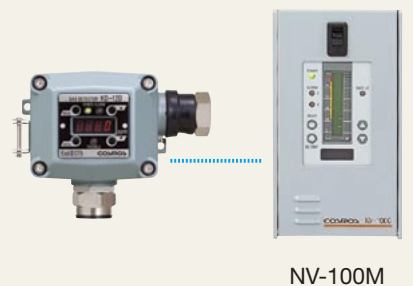
With External buzzer Rotating beacon light

Buzzer
or

Rotating Beacon Light

Desktop type

※ Non Exprosion-proof

With Indicator unit

It is connected with our indicators. Alarms and ga
and checked from not only Indicator unit but also

One point type

NV-100M

Features

● LED Display
Large and Easy-to-see display shows the gas concentration and alarm indication.

● Easy maintenance
With a magnetic stick, Zero and Span adjustments can be done without any difficulty on site.

● Easy sensor replacement
The simple plug-in sensor module makes it easier.

● Rugged, Compact and Lightweight
Protection rating IP65 (standard)
Size W158×H116×D68mm, weight 1.2kg

● Explosion-proof
KD-12A/B/C are designed as ExdII CT5 for Hydrogen and Acetylene.

● Environmentally-friendly design
Lead-free PC board, electronics parts and solders
RoHS regulation can be applied to KD-12A/B/C on your request.

● For Combustible, Toxic gases and Oxygen deficiency
Detects many gases from ppm to vol% with
- Hot Wire Semiconductor Sensor
- Thermal Conductivity Sensor
- Galvanic Cell Sensor (oxygen)
- Catalytic Combustion Sensor
- Electrochemical Sensor

● Easy maintenance

● Easy sensor replacement

Cost effective

User friendly, one person calibration

OTHER MODELS

More than 2 people are required.

KD-12

Only one person is required.
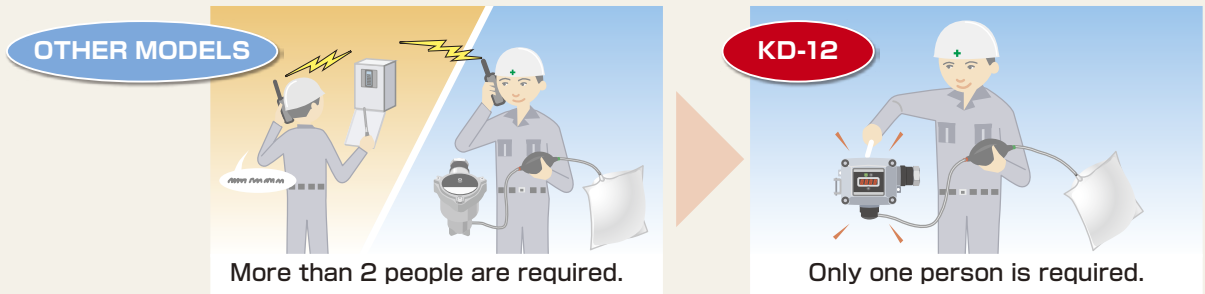
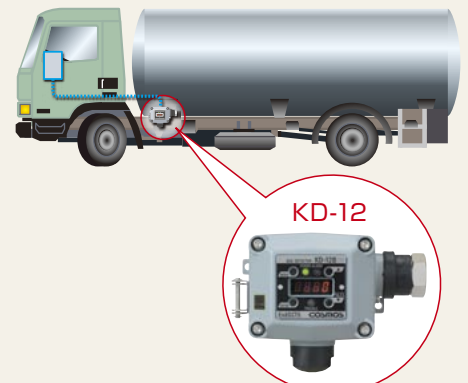as concentration indications can be displayed
form Detector head.

With DCS/PLC/SCADA
It is directly connected to a Central control system such as DCS/PLC/SCADA. It is also mounted in a vehicle like Tank lorry etc.

| Multi channel type | With DCS/PLC etc. | For Tank lorry |

VM2 Type
or

V-810

DCS

PLC

KD-12

Specifications

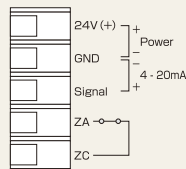| Mode	KD-12A	KD-12B	KD-12C	KD-12D		KD-12O
Corresponding Sensor Type	Hot wire semiconductor	Catalytic combustion	Thermal Conductivity	Electrochemical cell		Galvanic cell
Target Gas	Combustible /Toxic gas		Hydrogen, Helium, Carbon dioxide	Carbon monoxide	Hydrogen sulfide	Oxygen
Sampling Method	Diffusion type					
Detection Range	As per specifications			0-100ppm, 0-150ppm or 0-250ppm*1	0-30ppm or 0-50ppm*1	0-25.0vol%
Alarm Set Value	As per specifications			FS100ppm: 25ppm(recommendation) FS150/250ppm: 50ppm(recommentaion)	10ppm	18.0vol%
Alarm Accuracy	Combustible gas:±25% of Alarm Set Value (under identical conditions).			±30% of Alarm Set Value (under identical conditions)		±1.0vol% of Alarm Set Value (under identical conditions)*2
Alarm Delay	Combustible gas: 30s or less at 160% concentration of an Alarm Set Value. Toxic gas: 60s or less at 160% concentration of an Alarm Set Value.			60s or less at 160% concentration of an Alarm Set Value.		5s or less to reach 18vol% under condition of 10vol% *2
Warning Display	Gas Alarm: Red LED lamp flashes Trouble Alarm: Yellow LED lamp flashes (sensor trouble, power voltage malfunction, etc.)					
External Output	Gas concentration analog signal: 4 to 20mA DC (common to the negative side of power supply) Gas alarm contact *3 : 1 a non-voltage relay contact / Non-latching Rated load: 0.5 A at 250V AC or 0.5 A at 30V DC (resistance load)					
Gas Concentration Display	4-digit digital LED display					
Operation	At 4 points of magnetic switches					
Cable Connection	Screw-less / terminal block					
Approvals	Ex d IIC T5 (Japan), Ex II 2G Ex d IIC T5 (ATEX)			Ex d II BT5		
Degree of protection	IP65					
CE Marked	Complied with CE Directive 2004/108/EC					
Applicable Cable	Cable out diameter (10 to 13 mm dia.) 5-conductor cable *3 : CVV-S 1.25mm2 3-conductor cable: CVV-S 2mm2 or 1.25mm2					
Temperature and Humidity range *4	Temperature: -10 to 50 degrees C Humidity: 10 to 90%RH (0 to 50 degrees C)			Temperature: -10 to 40 degrees C Humidity: 30 to 85%RH		Temperature: 0 to 40 degrees C Humidity: 30 to 85%RH
Power Suply	24V DC (18 to 30V DC)					
Power Consumption	3W or less			1.2W or less		
Demensions	158(W) x 116(H) x 68(D) mm (excluding protrusions)			158(W) x 120(H) x 68(D) mm (excluding protrusions)		
Weight	Approx. 1.2kg			Approx. 1.3kg		

*1: Please specify when purchasing   *2: Under the condition of 20±2 degrees C   *3: Screwless type only   *4: No radical temperature or humidity changes and no condensation.
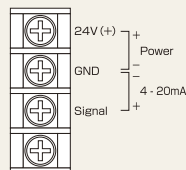
External Gimentions

●KD-12A/B/C

158 102 116 68 110 32

●KD-12D/O

158 102 120 68 110 32
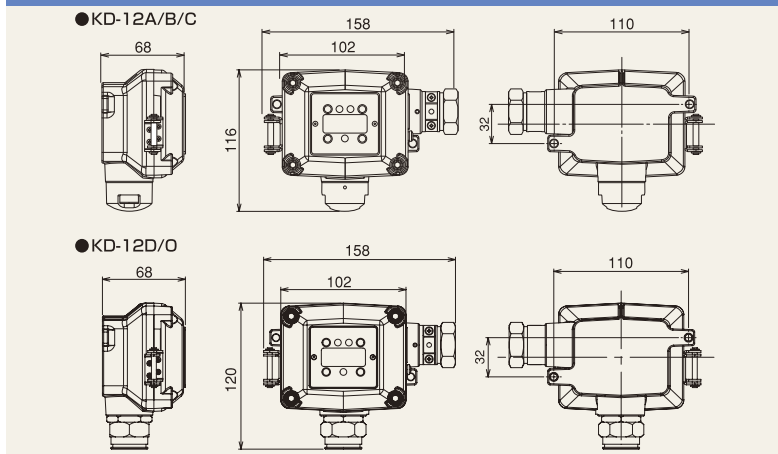
Terminal Block

Screw-less Type

24V (+) Power
GND
Signal 4 - 20mA
ZA
ZC

Terminal Block Type

24V (+) Power
GND
Signal 4 - 20mA

Optional Item

Protective Cover Horizonal Type(KW-41)

Protective Cover Vertical Type(KW-42)

Safety warning
● Read the operating instructions thoroughly before use. Always operate in accordance with the instructions.
● Be sure to choose the sensor designed to detect the required type of gas. Use of the wrong sensor type could cause an accident.

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