

RIKEN**Non-Dispersive Infrared Absorption (NDIR)****SMART TRANSMITTER WITH ALARM RELAY/
INFRARED GAS DETECTOR SD-705 series**

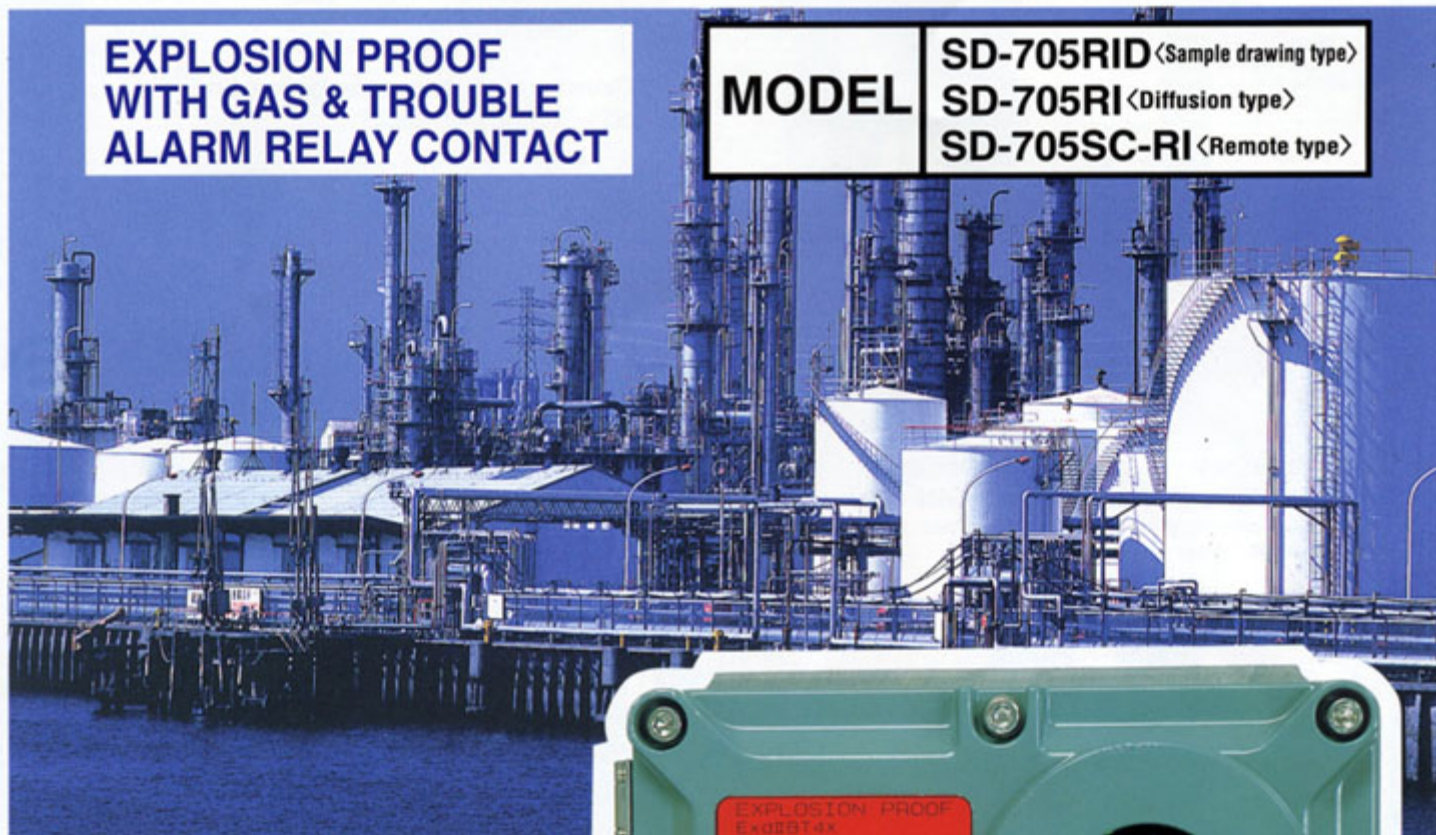
For LEL detection of methane or hydrocarbon gas (Patent Pending)

**EXPLOSION PROOF
WITH GAS & TROUBLE
ALARM RELAY CONTACT****MODEL**

SD-705RID <Sample drawing type>

SD-705RI <Diffusion type>

SD-705SC-RI <Remote type>

**Features**

- Dual alarm contacts provided
- Simple adjustment with magnetic control key
- Non-dispersive Infrared Absorption (NDIR) method applied
- Remote detector connection capability
- Simple one man calibration
- Self-diagnostics by internal microprocessor
- Stable reading and good gas selection by NDIR
- Free from interference of inert gas and H₂ etc
- Back-lit LCD provided
- Peakhold function provided (option)



Infrared detector



95QR-007



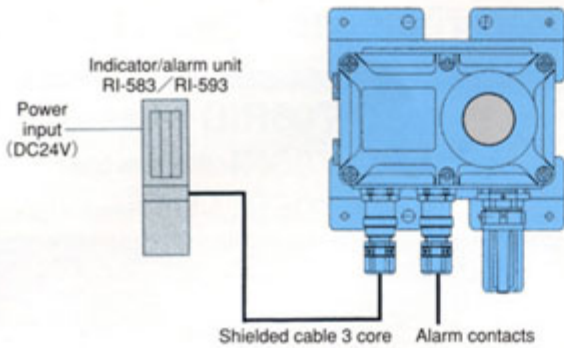
97ER-005

**RIKEN KEIKI**

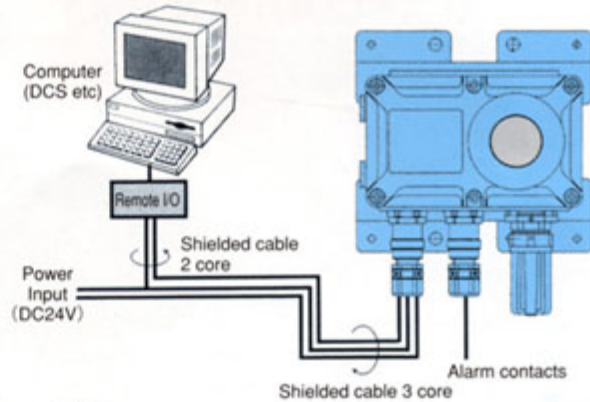
Versatile electrical and mechanical connections

System application

Connection example for SD-705RI with indicator/alarm unit (RM-580 and RM-590 series)

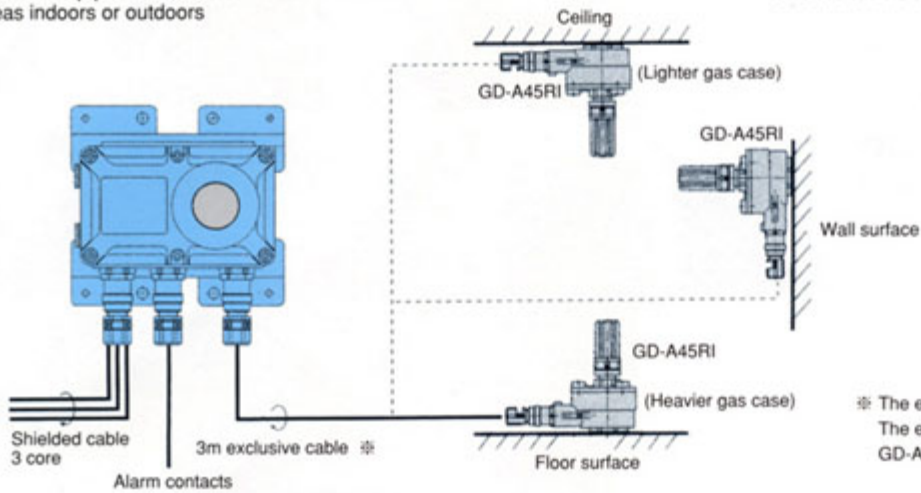


Connection example between SD-705RI and DCS



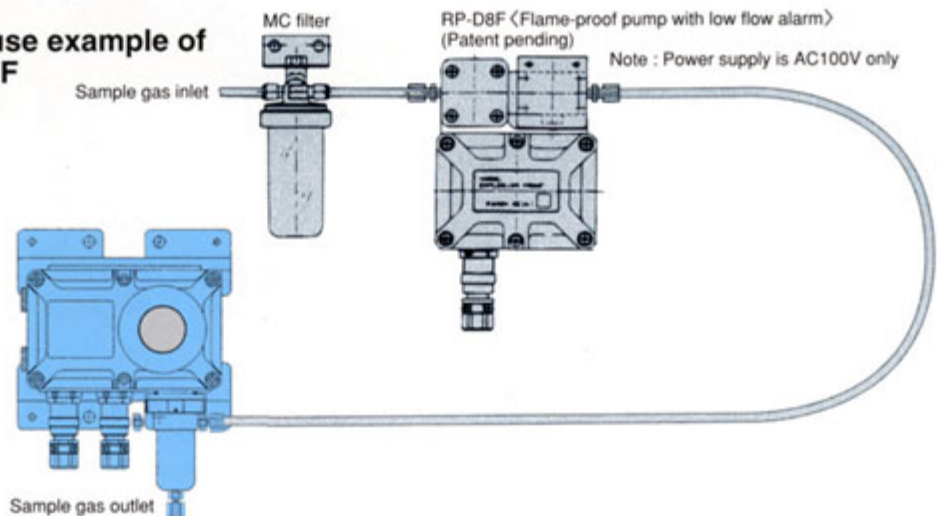
Connection example between SD-705SC-RI and GD-A45RI

- Optional drip proof box and cover available for wet areas indoors or outdoors



※ The exclusive cable length is 3m only.
The exclusive cable is connected with GD-A45RI on delivery from factory.

Sample drawing use example of SD-705RID/ RP-D8F



Air aspirating sampling method is available for model SD-705RID

MODEL

SD-705RID <Sample drawing type>

SD-705RI <Diffusion type>

SD-705SC-RI <Remote type>

Measuring gas and range

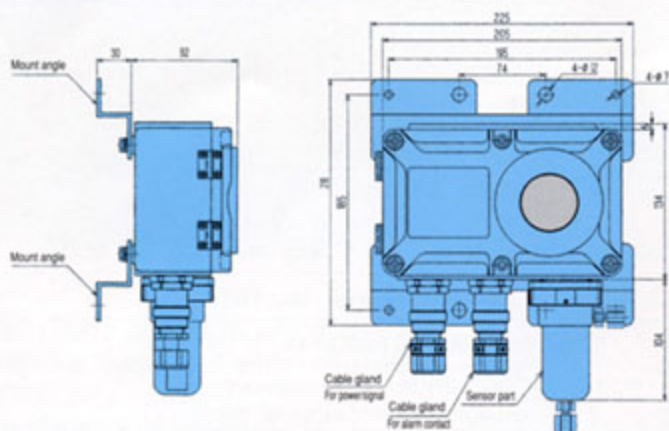
Measuring gas	Lower Explosive Limit (LEL)	Range	Resolution	Model compatible	
				SD-705RI/SD-705SC-RI	SD-705RID
Methane CH ₄	5.0 VOL%	0~100%LEL	0.5%LEL	○	○
Ethylene C ₂ H ₄	2.7 VOL%	0~100%LEL	0.5%LEL	○ ※	○
Ethane C ₂ H ₆	3.0 VOL%	0~100%LEL	0.5%LEL	○	○
Propane C ₃ H ₈	2.0 VOL%	0~100%LEL	0.5%LEL	○ ※	○
Iso-butane i-C ₄ H ₁₀	1.8 VOL%	0~100%LEL	0.5%LEL	○ ※	○
n-hexane n-C ₆ H ₁₄	1.2 VOL%	0~100%LEL	0.5%LEL	○ ※	○
IPA	2.0 VOL%	0~100%LEL	0.5%LEL	○ ※	○
Toluene C ₇ H ₈	1.2 VOL%	0~100%LEL	0.5%LEL	○ ※	○
MEK	1.8 VOL%	0~100%LEL	0.5%LEL	○ ※	○
Ethanol C ₂ H ₅ OH	3.3 VOL%	0~100%LEL	0.5%LEL	○ ※	○
Methanol CH ₃ OH	5.5 VOL%	0~100%LEL	0.5%LEL	○ ※	○
Cyclopentan C ₅ H ₁₀	1.4 VOL%	0~100%LEL	1.4%LEL	○ ※	○

For those gases which are not described above, contact our nearest agent or Riken Keiki.
 ※Response time : T60, within 60 seconds

External drawings and name

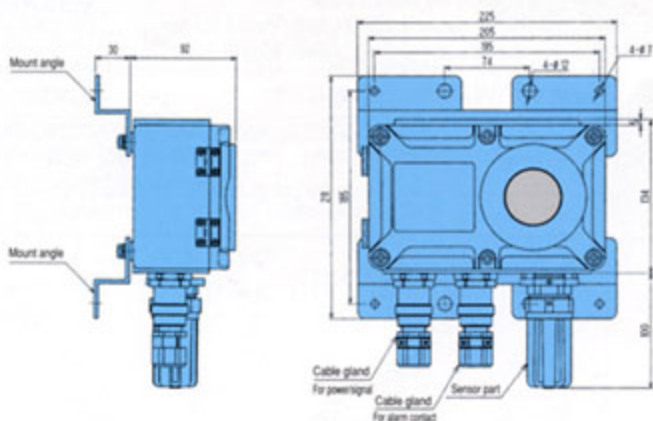
SD-705RID

Sample drawing type

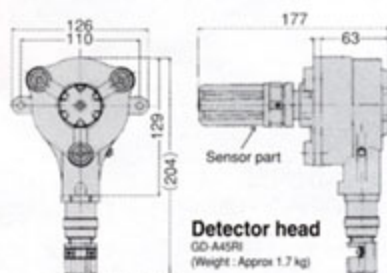


SD-705RI

Diffusion type



GD-A45RI



Japan ministry of labor explosion proof approval No. C14687

Note) Model SD-705SC-RI type can be installed by separating the transmitter from the detector head.
 The detector head applicable is model GD-A45RI.

※1 : Wall mount dimensions ※2 : Pole stand mount dimensions

General

This is a flame proof gas detector for LEL level detection of methane and many other hydrocarbons. This detector uses the non-dispersive infrared absorption (NDIR) detection method, which is free from interferences from H₂, most non hydrocarbon refrigerants, and most other gases or vapors. The sensor also is not poisoned or influenced by silicon vapors, or corrosive vapors, which typically can destroy sensors from other detection methods.

The SD-705 is compact and easy to install and operate. The adjustment control is a magnetic wand that is easy to use by placing it onto the glass window of the gas detector. Gas concentration is read through window, and adjustable dual alarm contacts are provided for activation of external buzzer or alarm light. Powered by 24 VDC, the unit has a 4-20 mA output for communication to outside controllers, for additional external readouts or alarming devices.

Standard accessories

- ★ Fuse (1A)
- ★ Control key
- ★ Sun shade cover

Optional accessories

- Box type drip-proof cover (for detector head use)
- Drip-proof adaptor (for SD-705RI/GD-A45RI)
- Aspirator unit
- Calibration kit
- Pole mounting bracket

Specifications

Model	SD-705RID (Sensor attached to transmitter housing)	SD-705RI (Sensor attached to transmitter housing)	SD-705SC-RI/GD-A45RI (Sensor remote from transmitter housing)
Sampling method	Sample drawing type	Diffusion type	Diffusion type
Measuring gas	Methane (CH ₄) and Hydrocarbon (HC) (See the table of measuring gas and range.)		
Detection principle	Non-Dispersive Infrared absorption (NDIR) method		
Measuring range	0~100%LEL		
Accuracy	Within ±5% of F.S		
Response time	Within 30 seconds to get T60		
Alarm preset point & contact capacity	1st :25%LEL 2nd:50%LEL (Adjustable at any level) DC125V 0.3A, DC30V 1A		
External output	Alarm contact : Gas alarm.....Normally open or normally close for both 1st and 2nd alarms Trouble alarmNormally open or normally close (option)		
	Signal : Gas concentration.....4-20mA (Linear, Resistance load, below 300 Ω) Malfunction.....0.5mA At maintenance mode and initial clear time ...2.5mA (Note : Max. 22mA with limiter)		
Power source	DC24V±10% (Power consumption : Max 4W)		
Structure	Flame-proof structure ExdⅡBT4X		
Ambient temp and humidity	-10℃~40℃ Below 95%RH (Non-condensing) ※Option : Available beyond standard range on request		
Cable used	Shielded cable 3 core	Shielded cable 3 core	Shielded cable 3 core and 3 m exclusive cable is used between transmitter and detector head
Transmission distance	Between indicator/alarm unit and detector head: Shielded cable 1.25sq used, Max 1.25 km Shielded cable 2.0 sq used, Max 2.0 km		
Dimensions	Approx 205 (W) ×230 (H) ×90 (D) mm		
Weight	Approx 5.2 kg (SD-705RID only)	Approx 5.0 kg (SD-705RI only)	Approx 5.0 kg (SD-705SC-RI only) Approx 7.0 kg (SD-705SC-RI with GD-A45RI and exclusive cable)

Specifications subject to change without notice.



A9812



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