



G015546

# Gas detector

## **ST350**

Part no. 5150001-5150128

System: CGD50/500, CGS50/500

### General description

- All-round industrial gas detector
- Detection of aromatic hydrocarbons and synthetic refrigerant gases (H)CFKs and HFKs
- ATEX / IECEx approved
- Touch screen experience, control without additional tools
- Self-diagnostics
- Reliable sensor technology
- Splashguard included

The ST350 is an all-round gas detector and useful for many applications. The heart of the detector is a replaceable BUSENS D gas sensor. This sensor is available in various versions, such as a SCV and a SCF sensor.

The SCV sensor is suitable for the detection of aromatic hydrocarbons at ppm level (for example toluene or xylene) and also gases present in the chemical industry such as carbon disulfide (CS<sub>2</sub>).

The SCF sensor is suitable for the detection of synthetic refrigerants (H)CFKs and HFKs. These are well known freons such as R134a, R407c and the newer type R1234yf. Both the SCV and the SCF sensors are stable over their entire long life-time, which gives an optimal cost of ownership.

The ST350 is available with or without a graphic display. The version with graphic display shows the measured value and various status notifications locally. The capacitive key control gives an experience similar to a touchscreen and enables easy navigation through the user/calibration menu. The user menu is secured with a password; unauthorized users cannot access the gas detector.

The control of the user/calibration menu does not require additional tools (for example magnets). Simple, easy and user friendly!

The user menu provides different features, such as a zero and span calibration, adjustment of alarm set points (local alarm indication through notifications on the display and bright colored LED), display of set points, diagnostic information, and simulation of the output signal (4-20 mA) for loop testing.

### Remote applications

A remote application allows the user to mount the sensor separately from the transmitter. Remote sensors are ideal for applications where the gases present ascend, i.e. gases lighter than air. Detection areas located high above ground makes it difficult to reach the detector for maintenance etc. When using a remote sensor, the sensor itself will be mounted in the high location and the transmitter will be mounted within close reach. This makes maintenance quick and easy and therefore cost effective. Cable lengths up to 150 meters are supported between the transmitter and the sensor (depending on the type).

### Applications

- Refrigeration
- Soil remediation
- Painting industry, printing ink industry
- Spraying booths and dry cabins
- Shipping
- Storage of dangerous goods
- Chemical industry

**Data**

Gas type	Toxic gases, (aromatic) hydrocarbons, synthetic refrigerants (Freons), (H)CFKs, and HFks	Load impedance	Max. 400 $\Omega$ at 24 V DC
Calibration	ST350-SCV: Standard Toluene ST350-SCF: Standard Freon R134a (Other calibrations to be specified when ordered)	Operating temperature	Standard: -10 °C to +50 °C
Sensor type	Semiconductor sensor (MOS), type SCV and SCF	Ingress protection	Enclosure: IP66 <sup>1</sup> Sensor: IP6X
Range	0-50 ppm up to 0-5000 ppm (depending on gas type, sensor type, and calibration)	Relative humidity	15-95 % RH (non-condensing)
Display (optional)	Digital graphic display with backlight	Pressure range	700 to 1300 hPa
Status LED	Green: OK Red: Alarm Yellow: System failure	Enclosure	Aluminium with coating, optional SS
Power supply	17.5-24 V DC (max. 120 mA)	Dimensions (H × W × D)	179 × 189 × 107 mm
Outputs	4-20 mA, RS485 Modbus RTU (half-duplex) 2 mA system failure, >20 mA over range	Weight	1.5 kg ± 5% (Al) 2.6 kg ± 5% (SS)
Signal cable	3-wire shielded, 0.75 - 2.5 mm <sup>2</sup>	Enclosure gas sensor	SS 316
Cable gland	Aluminium housing: Brass / SS housing SS (thread M20x1.5)	Certification	ATEX -  (Directive 2014/34/EU) Electromagnetic Compatibility (Directive 2014/30/EU)
		ATEX approvals	II 2G Ex d IIC T6 Gb II 2D Ex tb IIIC T85°C Db
		IECEx approvals	Ex d IIC T6 Gb Ex tb IIIC T85°C Db

**NOTE!**

More information can be found in the sensor datasheets.

**Ordering Information**

<b>Ordering Table (Aromatic) Hydrocarbons</b>						
Gas type	Range	Version	Part no.			
			Standard	Remote	LCD	LCD + Remote
Toluene (C <sub>7</sub> H <sub>8</sub> )	0-100 ppm	Aluminium:	5150001-00A	5150005-00A	5150003-00A	5150007-00A
		SS 316:	5150002-00A	5150006-00A	5150004-00A	5150008-00A
Carbon disulfide (CS <sub>2</sub> )	0-100 ppm	Aluminium:	5150009-00A	5150013-00A	5150011-00A	5150015-00A
		SS 316:	5150010-00A	5150014-00A	5150012-00A	5150016-00A
Ethanol (C <sub>2</sub> H <sub>6</sub> O)	0-250 ppm	Aluminium:	5150025-00A	5150029-00A	5150027-00A	5150031-00A
		SS 316:	5150026-00A	5150030-00A	5150028-00A	5150032-00A
Methanol (CH <sub>3</sub> OH)	0-250 ppm	Aluminium:	5150033-00A	5150037-00A	5150035-00A	5150039-00A
		SS 316:	5150034-00A	5150038-00A	5150036-00A	5150040-00A
Hexane (C <sub>6</sub> H <sub>14</sub> )	0-150 ppm	Aluminium:	5150041-00A	5150045-00A	5150043-00A	5150047-00A
		SS 316:	5150042-00A	5150046-00A	5150044-00A	5150048-00A
Vinyl chloride (C <sub>2</sub> H <sub>3</sub> Cl)	0-200 ppm	Aluminium:	5150049-00A	5150053-00A	5150051-00A	5150055-00A
		SS 316:	5150050-00A	5150054-00A	5150052-00A	5150056-00A
Methyl chloride (CH <sub>3</sub> Cl)	0-100 ppm	Aluminium:	5150057-00A	5150061-00A	5150059-00A	5150063-00A
		SS 316:	5150058-00A	5150062-00A	5150060-00A	5150064-00A
Xylene (C <sub>8</sub> H <sub>10</sub> )	0-100 ppm	Aluminium:	5150065-00A	5150069-00A	5150067-00A	5150071-00A
		SS 316:	5150066-00A	5150070-00A	5150068-00A	5150072-00A

1) IP ratings do not imply that the equipment will detect gas during and after exposure to those conditions.

Ordering Table (Aromatic) Hydrocarbons						
Gas type	Range	Version	Part no.			
			Standard	Remote	LCD	LCD + Remote
Propene (C <sub>3</sub> H <sub>6</sub> )	0-1000 ppm	Aluminium:	5150073-00A	5150077-00A	5150075-00A	5150079-00A
		SS 316:	5150074-00A	5150078-00A	5150076-00A	5150080-00A
Carbon disulfide (CS <sub>2</sub> )	0-300 ppm	Aluminium:	5150017-00A	5150021-00A	5150019-00A	5150023-00A
		SS 316:	5150018-00A	5150022-00A	5150020-00A	5150024-00A

Ordering Table Synthetic Refrigerant Gases						
Gas type	Range	Version	Part no.			
			Standard	Remote	LCD	LCD + Remote
R134a	0-1000 ppm	Aluminium:	5150081-00A	5150085-00A	5150083-00A	5150087-00A
		SS 316:	5150082-00A	5150086-00A	5150084-00A	5150088-00A
R22	0-1000 ppm	Aluminium:	5150089-00A	5150093-00A	5150091-00A	5150095-00A
		SS 316:	5150090-00A	5150094-00A	5150092-00A	5150096-00A
R404a	0-5000 ppm	Aluminium:	5150097-00A	5150101-00A	5150099-00A	5150103-00A
		SS 316:	5150098-00A	5150102-00A	5150100-00A	5150104-00A
R407c / R410a	0-5000 ppm	Aluminium:	5150105-00A	5150109-00A	5150107-00A	5150111-00A
		SS 316:	5150106-00A	5150110-00A	5150108-00A	5150112-00A
R1234yf	0-1000 ppm	Aluminium:	5150113-00A	5150117-00A	5150115-00A	5150119-00A
		SS 316:	5150114-00A	5150118-00A	5150116-00A	5150120-00A
R507	0-5000 ppm	Aluminium:	5150121-00A	5150125-00A	5150123-00A	5150127-00A
		SS 316:	5150122-00A	5150126-00A	5150124-00A	5150128-00A



Standard



With LCD



Remote with LCD

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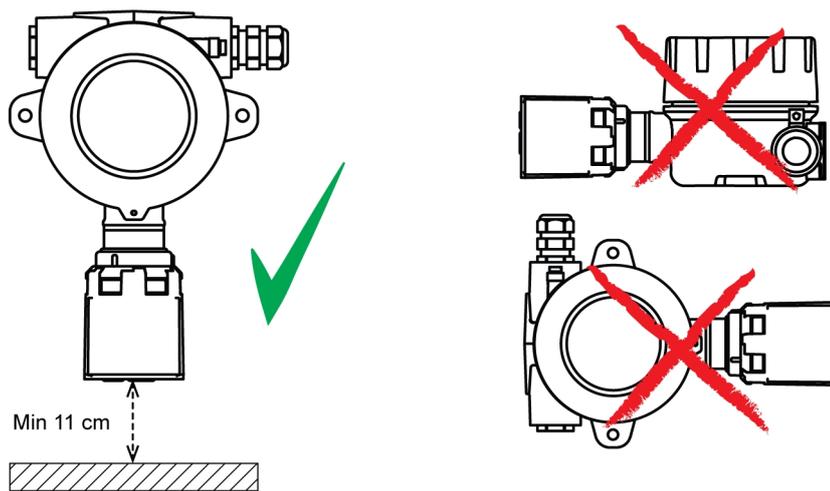
Accessories		
Type	Part no.	Description
Splash guard	5150227-00A	Sensor protection against splash water
Inline flow adapter	5150228-00A	Inline flow adapter for sample applications, connection 2×6mm, SS
Protective hood	5150226-00A	Protective hood SS, for optimal protection in "wet" protection areas, dim. 315×300×138 mm

Accessories		
Type	Part no.	Description
Isolation set EMC/RFI	5150231-00A	Isolation board, 160×160 mm
Protective bracket	5150225-00A	SS bracket, extra protection for use in warehouses
Conical collector hood	5150230-00A	Conical hood for ascending gases

Spare parts / consumables			
Spare gas sensor	Part no.	Range	Description
BUSENS D, type SCV	5150232-00A	Calibration dependent	Standard applications, (aromatic) hydrocarbons, ppm level
BUSENS D, type SCF	5150233-00A	Calibration dependent	Freon applications, detection of synthetic refrigerants

## Mounting

Mount the detector in a vertical position, with the sensor pointing downwards.



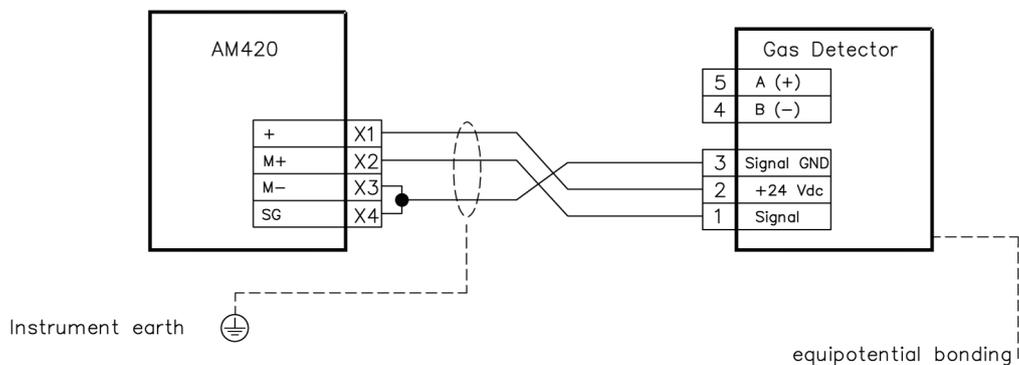
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### NOTE!

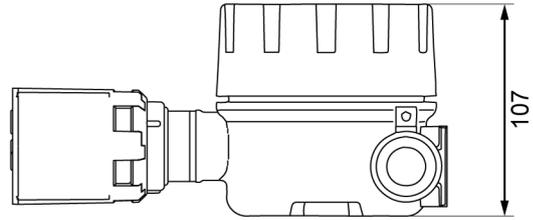
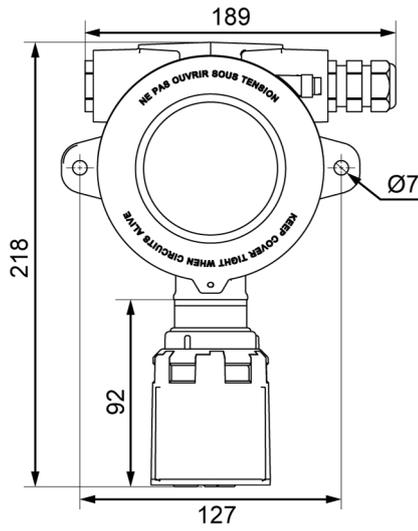
Leave at least 11 cm free space below the sensor head to ensure that the splashguard can be removed during sensor exchange. This also allows connection of a hose for bump tests.

## Connections



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## Dimensions (mm)



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