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PRODUCT SPEC SHEET SMART 3R IR SENSOR

AGS CONTROLS
A Division of American Gas Safety



SMART3-R is developed to detect different gases in non classified areas, as machinery rooms and laboratories. An infrared sensor is used to detect flammable and refrigerant gases, thanks to the high reliability and selectivity. 4 smart LEDs illuminate the transparent ring to describe the detector status and an internal buzzer is activated in alarm and fault conditions. The SMART3-R gas detector has a standard 12-24 Vdc power supply, but a 220 Vac version can be supplied. The gas detector has three relay outputs, an RS485 serial communication and an analogue 4-20 mA output (not in 220 Vac version). The polycarbonate case has a global size of 130 x 130 x 74 mm. The box has 2 entries with M20 cable glands. On the sides there are pre-formed guides that can be drilled to add up to 6 M16 cable glands. The gas detector can be equipped with a remote head connected with 6 conductors cable.

Sensing element	
Application	Machinery rooms, laboratories and non-classified areas
Sensing element	Infrared
Predicted life sensor	5 years
Gas detected	CH_4; C_3H_8; C_4H_{10}; R152a; R454B; R32; R1234YF; R1234ZE; R134a; R404A; R407C; R410A; SF6; R125; R407A; R407F; R449A; R507A; R417A; R448; CO_2; R1233ZD
Fullscale	0 - 100% LFL for flammable gases 0 - 5000 ppm or 0 - 2000 ppm for refrigerant gases 0-5000 ppm; 0-2%Vol; 0-5%Vol; 0-30%Vol for CO_2
Accuracy	±1% fullscale for readings < 25% fullscale ±2% fullscale for readings < 50% fullscale ±5% fullscale for readings > 50% fullscale
Electrical data	
Power supply	12-24 Vdc or 90-250VAC (add -220 to model number for 90-240Vac)
Signal output	3 relays; RS485 serial output, 4-20 mA analogue output (only for 12-24 Vdc version)
Dissipated power	110 mA at 24 Vdc
Relays contact rating	1.0 A at 30 Vdc
Optical indications	4 smart LED
Acoustic indications	Buzzer 63 dB @1mt
Remote head cable	RJ12 6P6C

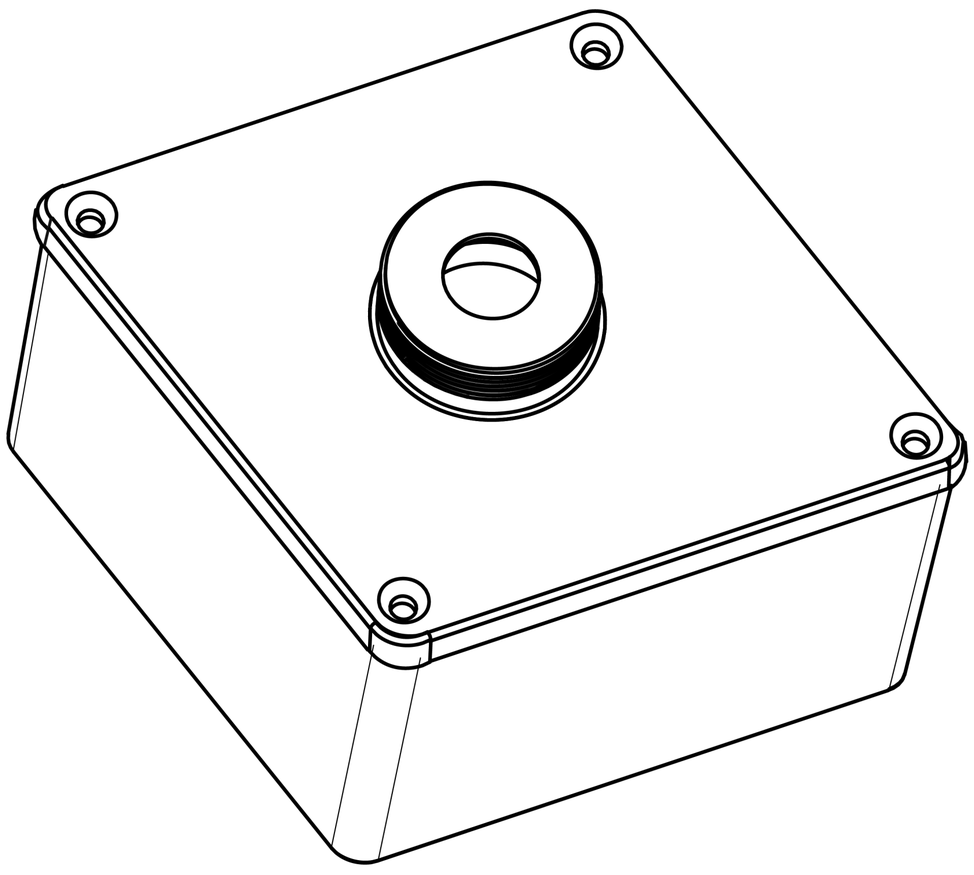
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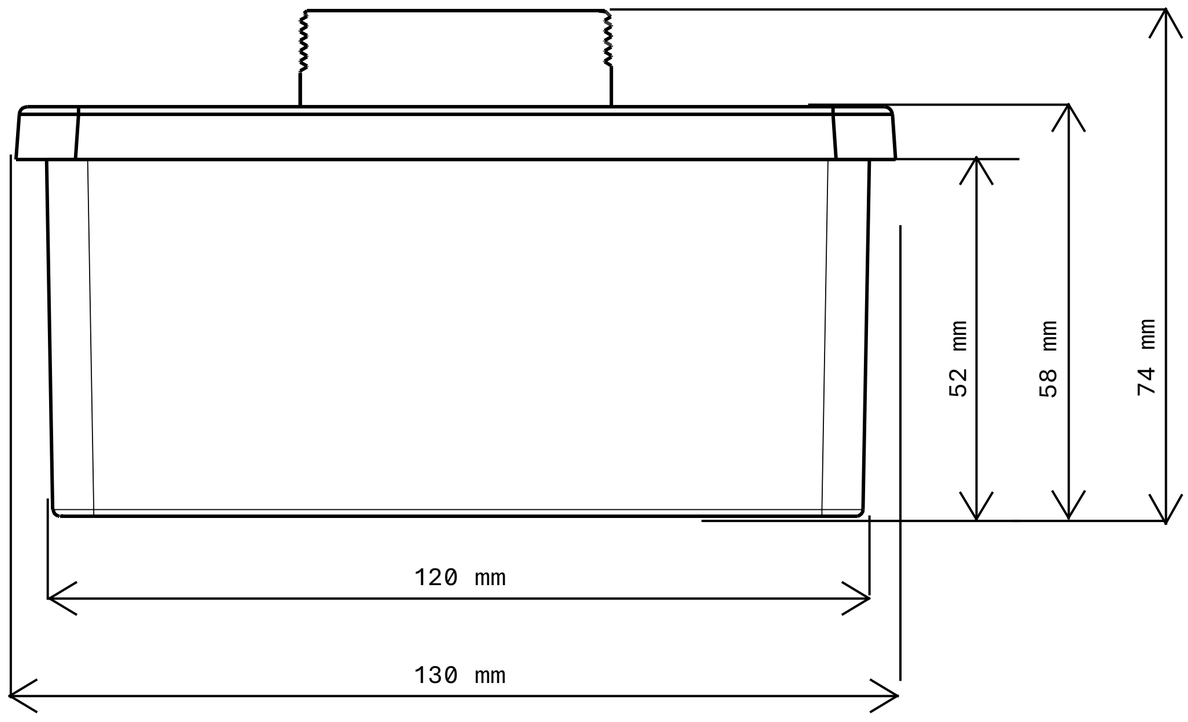
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Environmental conditions	
Storage temperature	-40 / +185°F
Operating temperature	-40 / +140°F -4 / +122°F 14 / +122°F See table “Product codes” for details
Operating humidity	0 / 95% RH non condensing
Operating pressure	80 / 120 kPa (321.5 in. w.c. / 482.2 in. w.c.)
Air velocity	<6 m/s
Time of response	t90 < 60 s ; t50 < 20 s
Compliance	
EMC	EN 61000-6-3:2007 + A1:201; EN 50270:2015
Electrical safety (90-240 Vac version)	EN 61010-1: 2010 / A1: 2019
Refrigeration Standards	EN 378-3; EN 14624; EN 50676; IEC 60335-2-40 Annex LL; ISO 5149-3; F-Gas Regulation
External case	
Material	Polycarbonate
Dimensions	Box: 4.72 x 4.72 x 20.5 in Cover: 5.12 x 5.12 x 0.87 in Remote head box: 4.17 x 4.17 x 2.20 in Maximum length of remote head’s cable: 16.4 ft
Weight	Detector: 1 lb Remote head: 0.66 lb
Cable entry	2 entries with M20 cable glands 6 optional entries for M16 cable glands
IP Grade	IP54

Mechanical drawings





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Product codes	
S4591ME	Methane gas detector (0 - 100% LFL), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4592PR	Propane gas detector (0 - 100% LFL), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4592BU	Butane gas detector (0 - 100% LFL), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4592DE	R152 gas detector (0 - 100% LFL), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4629R454B	R454B gas detector (0 - 100% LFL), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4626R32	R32 gas detector (0 - 100% LFL), IREF infrared sensor, -40 / +140°F, 12-24 Vdc
S4627R1234YF	R1234YF gas detector (0 - 100% LFL), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4628R1234ZE	R1234ZE gas detector (0 - 100% LFL), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4638R32	R32 gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4639R134A	R134a gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4640R404A	R404A gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4641R407C	R407C gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4642R410A	R410A gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4643R1234YF	R1234YF gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4644R1234ZE	R1234ZE gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4857R1233ZD	R1233ZD gas detector (0 - 5000 ppm), IREF infrared sensor, 14 / +122°F, 12-24 Vdc
S4611R32	R32 gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4612R134A	R134a gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4613SF6	SF6 gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4614R125	R125 gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4615R1234YF	R1234YF gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4616R1234ZE	R1234ZE gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4617R404A	R404A gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4618R407A	R407A gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4619R407F	R407F gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4620R449A	R449A gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4621R507A	R507A gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4622R410A	R410A gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4623R417A	R417A gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4624R448	R448 gas detector (0 - 2000 ppm), IREF infrared sensor, -4 / +122°F, 12-24 Vdc
S4606CO2	CO_2 gas detector (0 - 2% Vol), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4607CO2	CO_2 gas detector (0 - 5% Vol), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4608CO2	CO_2 gas detector (0 - 30% Vol), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc
S4610CO2	CO_2 gas detector (0 - 5000 ppm), IRNET infrared sensor, -40 / +140°F, 12-24 Vdc

Add “-220” to get the 220 Vac version
Add“-RH” to get the remote head version

Add“-220-RH” to get the 220 Vac version with remote head