

CGSCH4CO

Mini Merlin

Datasheet

Combined Natural Gas & Carbon Monoxide Monitor



Product Overview



The CGS Mini Merlin CH4CO is a dual gas sensor designed and tested to UL standards for the purpose of monitoring levels of Natural Gas - Methane (CH₄) and Carbon Monoxide (CO) in the air.

If there is a dangerous build-up of gas or unsafe levels of carbon monoxide at the sensor, this device can shut off fuel supplies or power supplies via gas valves and/or electrical contactors. On board relays can interrupt appliances built in safety circuits such as fan proving switch or louver proving switch.

This device has a manual reset button, as well as audible and visual alarm - it can also be integrated with a Building Management Systems and fire alarm control panels.

General							
Model:	Mini Merlin CH4CO						
Target Gases:	Methane/Natural Gas & Carbon Monoxide						
Size: (H x W x D)	5.95 x 4.37 x 1.97” (151 x 111 x 50mm)						
Housing Material:	ABS PA765 (Flame Rating UL94 V-1)						
Mounting:	Safe Zone - Indoor use - Wall Mounted						
Weight:	12.24oz (0.347kg)						
Display:	1.8” TFT						
Visual Indicators:	TFT visual. Green: Normal; Yellow: Pre-Alarm; Red: Alarm						
Audible Alarm:	>70dB @ 3.28ft (1m). Quiet conditions.						
Buttons:	Multi-Function – Initial Start / Reset / Circuit Test						
Power Consumption:	3W max						
AC Power:	100-120V~ 50/60Hz						
Internal Fuse:	Anti-Surge 3.15A 250Vac						
Overvoltage Category:	II						
Volt Free BMS relay output:	0.5A switching current (resistive load)						
Ingress Protection:	Not Formally Evaluated						
Operating:	-10 ~ 50°C / 14 ~ 122°F 30 ~ 80% RH (non-condensing)						
Storage:	-25 ~ 50°C / -13~122°F up to 95% RH (non-condensing)						
Wiring	Min. 18-22AWG						
Electrical Safety and Electromagnetic Compatibility	UL61010-1/2012/R:2019-07. UL2075 R:2013-02 Gas and Vapor Detectors and Sensors. CAN CSA C22.2 No. 61010-1-12/A1:2018-11 / EMC EN 61326-1:2013						
Sensor Specification ▲ Rising Alarm ▼Falling alarm *EOL – Expected Operational Life							
Gas Sensor	Indicating Range	Steps	Response (t90)	Recovery (t10)	Alarm: 1 (Pre alarm warning)	Alarm: 2	*EOL (Years)
Electrochemical Sensors							
Carbon Monoxide (CO)	0-999ppm	1	<60s	<60s	▲25ppm	▲50ppm	5
Semiconductor Sensors							
Methane (CH ₄)	0-20% LEL	0.1	<30s	<30s	▲8% LEL	▲10% LEL	10

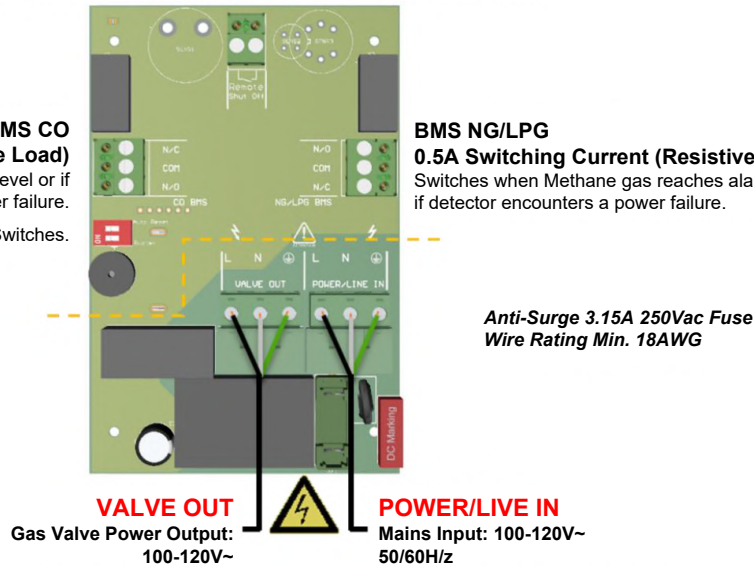
Circuit Board Overview

REMOTE SHUT OFF

Open / Close Circuit Connector
Shuts off gas valve if external devices are activated i.e. fire alarm etc.

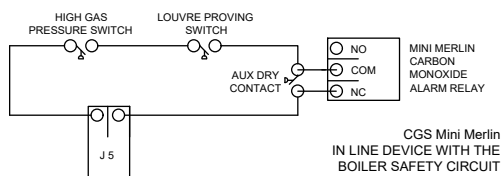
BMS CO
0.5A Switching Current (Resistive Load)
Switches when CO gas reaches alarm level or if detector encounters a power failure.
Auto Reset & Buzzer Switches.

BMS NG/LPG
0.5A Switching Current (Resistive Load)
Switches when Methane gas reaches alarm level or if detector encounters a power failure.

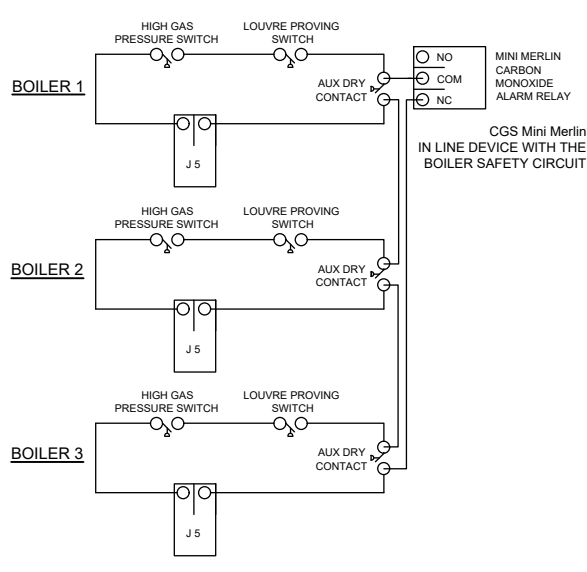


Wiring Examples

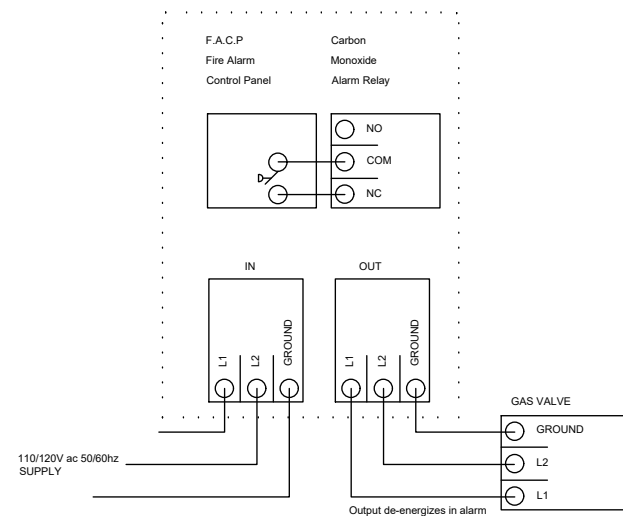
TYPICAL APPLIANCE



MULTIPLE APPLIANCES



CGS MINI MERLIN



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