

# CGSCH4CO-TWA

## Mini Merlin

## Datasheet

### Combined Natural Gas & Carbon Monoxide Monitor



### Product Overview



The CGS Mini Merlin CH4CO-TWA 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. Meets the TWA guidelines for Carbon Monoxide (CO) & Natural Gas (NG).

General							
Model:	Mini Merlin CH4CO-TWA						
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						
Overtoltage 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 / -13~122F° 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	▲20ppm	▲20ppm @ 2 hours / 50ppm @ 1 hour / 100ppm @ 10 minutes / 300ppm @ 1 min.	5
Semiconductor Sensors							
Methane (CH4)	0-20% LEL	0.1	<30s	<30s	▲8% LEL	▲10% LEL	10

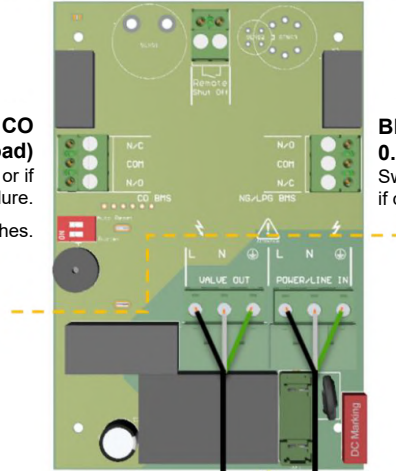
# Circuit Board Overview

## 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.



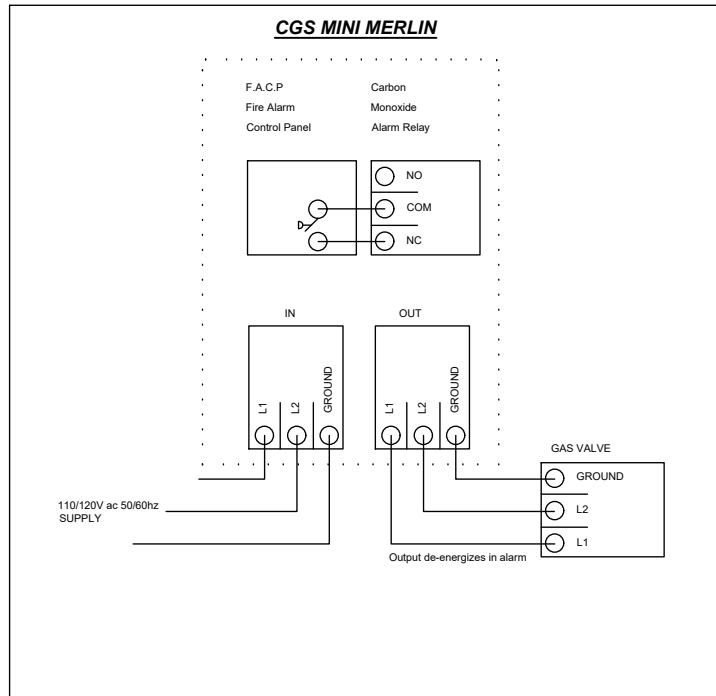
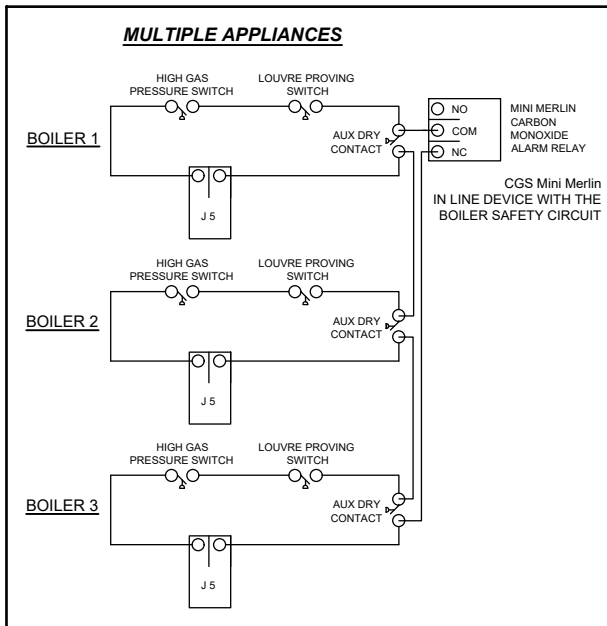
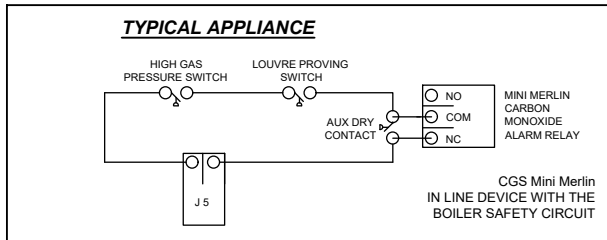
**Anti-Surge 3.15A 250Vac Fuse**  
Wire Rating Min. 18AWG

**VALVE OUT**  
Gas Valve Power Output:  
100-120V~



**POWER/LIVE IN**  
Mains Input: 100-120V~  
50/60Hz

# Wiring Examples



Find out more  
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