

Installation Instructions for: CGi420 4-20mA Interface

The CGI420 is a 4-20mA analogue module to interface with Gas Detectors and is compatible with Cooper addressable control panels. This interface has a unique address on the Cooper addressable loop. It has a built in isolator for short circuit protection.

Each of the DIL switches JP1, JP2 and JP3 (see table 1) can be programmable to set the threshold Level for Pre-alarm1, Pre-alarm 2 and Alarm respectively.

This can be expressed as a percentage of L.E.L (Lower Explosion Limit) or PPM (Parts per million).

Installation

General Operation

The lower 7 switch positions of each of the 8-way DIL switches (JP1, JP2 and JP3) are used to the activation thresholds in steps of 5% between 4 and 20mA (see table 1).

The 8th Position of each DIL Switch is used to select 'tracking' and will operate as follows:

	Tracking switch set to 'ON'	Tracking switch set to 'OFF'
Pre-Alarm 1 threshold exceeded (DIL SWITCH JP1)	<input type="checkbox"/> Panel displays pre-alarm 1, <input type="checkbox"/> No fire LED	<input type="checkbox"/> No Indication on the panel
Pre-Alarm 2 threshold exceeded (DIL SWITCH JP2)	<input type="checkbox"/> Panel displays pre-alarm 2, <input type="checkbox"/> No fire LED	<input type="checkbox"/> No Indication on the panel
Alarm (threshold exceeded (DIL SWITCH JP3))	<input type="checkbox"/> Panel displays Alarm Condition <input type="checkbox"/> Panel Fire LED ON. <input type="checkbox"/> Panel Cause & effect programming active	<input type="checkbox"/> No Indication on the panel

1. Separate the two halves of the unit.
2. Drill out (or knock out) the required cable entries in the surface mounting back-box.
3. Fit the back-box in position and pass the wires into it.
4. Connect the unit according to the diagram below.
5. Recommended Loop Cable Type: FIRETUF, FP200, MICC

Notes:

No addressing of the interface is required. See control panel operation for details.

There are no serviceable parts so no maintenance procedures apply.

Cooper Lighting and Safety Ltd.

Wheatley Hall Road, Doncaster, South Yorkshire, DN2 4NB, United Kingdom

Sales
 Tel: +44 (0)1302 – 303303
 Fax: +44 (0)1302 – 367155
 sales@cooperfire.com

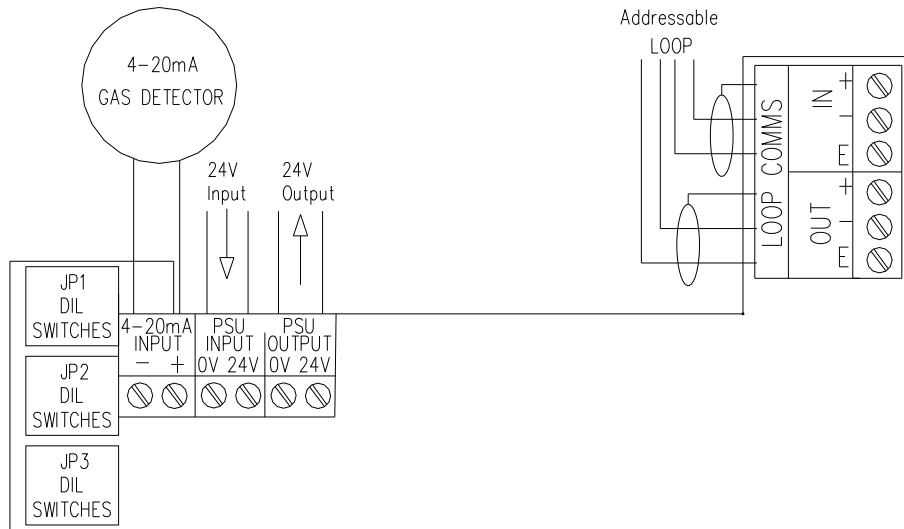
Technical
 Tel: +44 (0)1302 – 303350
 Fax: +44 (0)1302 – 303340
 techsupport@cooperfire.com

Export
 Tel: +44 1302 – 303250
 Fax: +44 1302 – 303345
 export@cooperfire.com

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COOPER Safety
 Fire Systems

Standard Connections



Notes:

1. Only connect cable screen to its adjacent earth terminal.
2. Sensitivity is set by DIL switch's JP1, J P2 & J P3.
3. 24V External power supply is required

Specifications

Loop Load	Min	Nom	Max	Units
Quiescent Current		310		μA

Operating Loop Voltage	18.5		30	V DC
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Inputs	4		20	mA
External PSU	15V		30V	V DC

Environmental				
Operating Temperature	-10		+60	°C
Humidity (Non Condensing)			95	%RH

Standards
EN54 : Pt17
EN54 : Pt18

Compatibility
Suitable for use with Cooper Analogue Addressable Fire Systems (800 series protocol PR200-07-400)

Physical	
Dimensions	147 x 88 x 57 (mm)
Weight	0.25kg
Ingress Protection	IP40

Percentages	8	DIL switches to set, ON = 1						
		7	6	5	4	3	2	1
0%	Tracking Bit - ON passes fire and pre-alarms to the panel, OFF does not pass fire and pre-alarms to the panel	0	0	1	0	0	0	0
5%		0	0	1	0	0	1	1
10%		0	0	1	0	1	1	0
15%		0	0	1	1	0	0	1
20%		0	0	1	1	1	0	1
25%		0	1	0	0	0	0	0
30%		0	1	0	0	0	1	1
35%		0	1	0	0	1	1	0
40%		0	1	0	1	0	1	0
45%		0	1	0	1	1	0	1
50%		0	1	1	0	0	0	0
55%		0	1	1	0	0	1	1
60%		0	1	1	0	1	1	1
65%		0	1	1	1	0	1	0
70%		0	1	1	1	1	0	1
75%		1	0	0	0	0	0	0
80%		1	0	0	0	1	0	0
85%		1	0	0	0	1	1	1
90%		1	0	0	1	0	1	0
95%		1	0	0	1	1	0	1
100%	1	0	1	0	0	0	1	

Table 1: Setting of Dil Switches JP1,JP2 and JP3

Short Circuit Isolator

This addressable device contains an integral short circuit isolator, which operates between the – IN terminal and the – OUT terminal. The isolator operates in conjunction with the Cooper Addressable Control Panel when a low parallel resistance fault of typically 200Ω is present between the +VE and –VE of the loop wiring.

Short Circuit Isolation Data (Integral with each device)	
Total Loop Resistance for correct operation of short circuit isolator	50Ω (max)
Parallel Fault Resistance to be seen at the Control Panel for isolators to open	200Ω (typ)
Continuous Current allowable through isolator	700mA (max)
Isolator Resistance in closed state	0.26Ω (max)
Leakage Current into direct short circuit with isolator open	14mA (max)
Voltage at which isolator changes from open to closed or closed to open state	3.8V to 11V
Maximum switching current to isolator	1.5A