

Pellistor Mimic Module

Installation, Commissioning and Maintenance Instructions

Introduction

The Crowcon Pellistor Mimic Module (part number C01648) is designed to interface between infra-red (IR) gas detectors and control equipment designed to monitor pellistor (catalytic bead) type gas detectors. This module enables pellistor detectors to be replaced with IR detectors, whilst retaining the original control equipment. The module is designed for mounting on to standard 'top-hat' style DIN rail.

Operation

The module converts the 4-20mA signal from the IR gas detector (signal sink or source) to a 3 or 4 wire mV bridge type signal as produced by pellistor-based detectors. The mV bridge output signal will increase or decrease proportionally with the gas level depending on the internal switch position (NORM or INV), allowing connection to different control equipment.

The 24Vdc output to the IR gas detector is protected by a re-settable fuse rated at 500mA, to prevent damage from incorrect field wiring. The Fault LED will illuminate if this fuse is blown, the fuse will automatically reset once the fault is rectified. The green Power LED indicates that a DC supply is connected to the module.

A fault is considered to be an input current of less than 2.8mA, at which point the module produces an open circuit output signal to force the control equipment into fault.

Connections

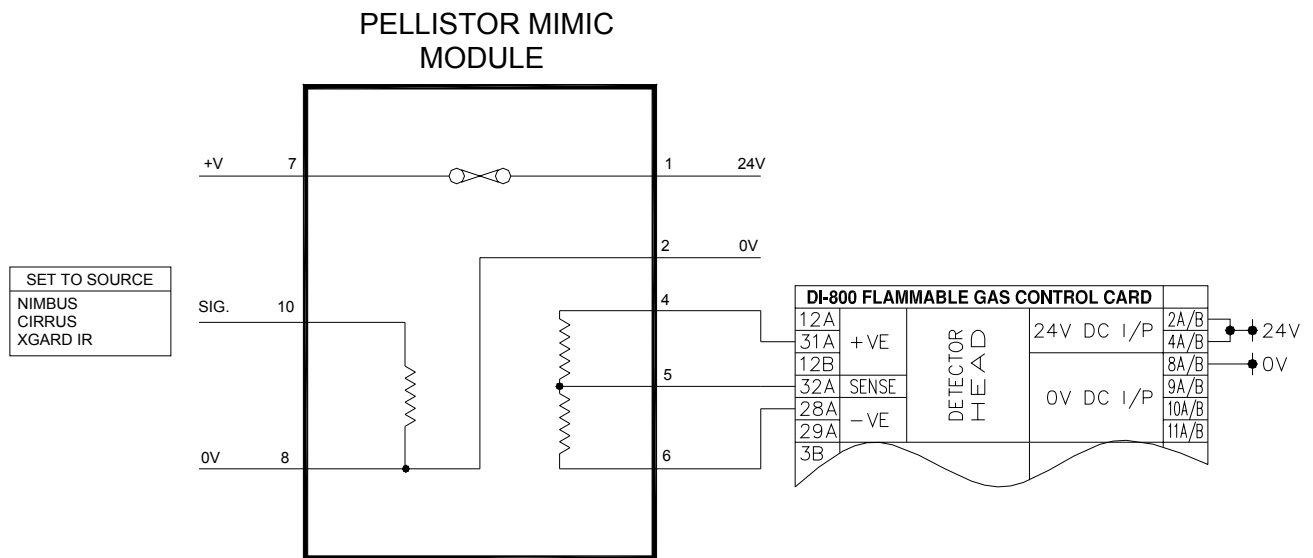
The Pellistor Mimic Module connections are:

Terminal 1	DC in (12-30V dc)
Terminal 2	0V in
Terminal 3	Bridge Reference out
Terminal 4	Bridge Supply (2.1V)
Terminal 5	Bridge Output
Terminal 6	Bridge Common
Terminal 7	DC out
Terminal 8	0V out
Terminal 9	Detector Sink input
Terminal 10	Detector Source input
Terminal 11	Not connected
Terminal 12	Not connected



Connecting to a DI-800 Gas Module

Mimic Switch Setting: INV



Set-up and configuration

1. Connect to the DI-800 card as shown above and apply power.
2. Measure the voltage across terminals 4 and 6 of the Mimic Module and adjust RV1 on the DI-800 module so that 2.1V is obtained.
2. Connect an IR gas detector to the Mimic Module and check the detector is reading 0% LEL and producing 4mA.
3. Turn the DI-800 mode selector switch to *CAL* mode, and adjust the *Zero* potentiometer until the display reads '00' (note a decimal point on the left-side display denotes a negative reading on the DI-800 module).
4. Apply 50% LEL gas and calibrate the IR detector, check that 12mA signal is produced. Adjust the *Span* potentiometer on the DI-800 until the display reads 50% LEL.
5. Remove the gas and return the DI-800 selector switch back to the *NORM* setting.
6. The system is now operational.

Connecting to non-Crowcon control equipment

The Bridge Supply terminal (terminal 4) must be connected to the positive terminal with respect to the Bridge 0V terminal. When the internal switch is in the *NORM* position the bridge output is nominally 1.00V to 1.10V (zero to full-scale), when in the *INV* position the bridge output is nominally 1.00V to 0.90V (zero to full-scale). Ensure the control equipment is compatible with this specification before using the Pellistor Mimic Module.



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UK Office
Crowcon Detection Instruments Ltd
2 Blacklands Way
Abingdon Business Park
Abingdon
Oxfordshire OX14 1DY
Tel: +44 (0)1235 557700
Fax: +44 (0)1235 557749
Email: sales@crowcon.com
Website: www.crowcon.com

USA Office
Crowcon Detection Instruments Ltd
21 Kenton Lands Road
Erlanger KY 41018-1845
Tel: 001 800-527-6926 (800-5-CROWCON)
or 001 859-957-1039
Fax: 001 859-957-1044
Email: salesusa@crowcon.com
Website: www.crowcon.com

Rotterdam Office
Crowcon Detection Instruments Ltd
Vlambloem 129
3068JG
Rotterdam
Netherlands
Tel: +31 10 421 1232
Fax: +31 10 421 0542
Email: eu@crowcon.com
Website: www.crowcon.com

Singapore Office
Crowcon Detection Instruments Ltd
Block 192 Pandan Loop
~05-01 Pantech Industrial Complex
Singapore 128381
Tel: +65 6745 2936
Fax: +65 6745 0467
Email: sales@crowcon.com.sg
Website: www.crowcon.com

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