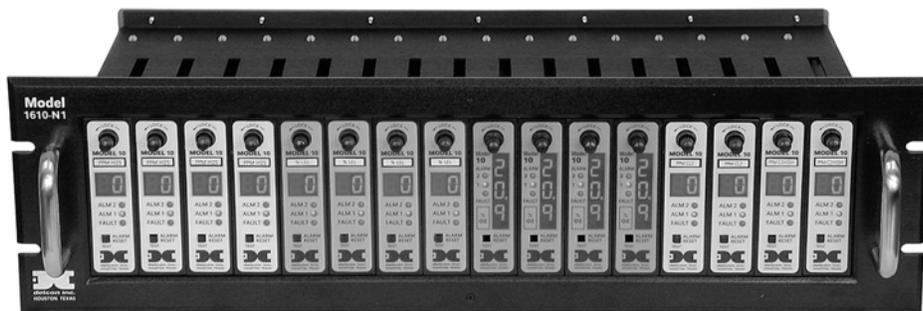




Detcon Model 1610-N1 Rack

Panel Mount Control Enclosure



Operator's Installation & Instruction Manual

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1.0 INTRODUCTION

Detcon Model 1610-N1 Rack consists of 3 major assemblies:

1. The NEMA 1 rack mount control enclosure.
2. The single channel digital control modules.
3. The remote mount gas sensor assemblies.

The NEMA 1 control enclosure is detailed in section 1.0 of the manual, the control modules in section 2.0, and applicable sensor assemblies in section 3.0.

1.1 DESCRIPTION

Detcon Model 1610-N1 along with Model 10B digital control modules is designed to serve as a host assembly for up to sixteen remote mount gas detection sensor assemblies. The control enclosure is rated NEMA 1 suitable for installation in non-hazardous locations. The single channel modular design supports application flexibility wherein multiple function gas detection systems can be configured in any combination up to sixteen channels. All control modules are plug-in front panel accessible for easy maintenance and repair.

Discreet output terminal strips located on the controller motherboard are provided for sensor terminations, Form C dry contact alarm outputs (normally open, normally closed and common), 4-20 mA outputs for remote recording devices, RS-485 serial Modbus™, remote alarm reset, and 24 VDC input.

Form C relay outputs may be discreet, zoned or common by gold plated jumper tabs located on the controller mother board.

1.2 SPECIFICATIONS

Electrical Classification

NEMA 1

Dimensions

19"W, 5.25"H, 8"D

Capacity

16 Single Channels

Power

24 VDC Input to Controller Motherboard

Alarm Contacts

Discreet Fault, Low, High, per Channel

5 Amp @ 30VDC/5 Amp @ 125VAC

Common, Normally Open and Normally Closed

Outputs

Discreet 4-20 mA DC

Serial RS-485 Modbus™

Operating Temperature Range

-40°F to +175°F

Power Consumption

<5 Watts per Channel (includes gas sensor and control module)

Warranty

One Year

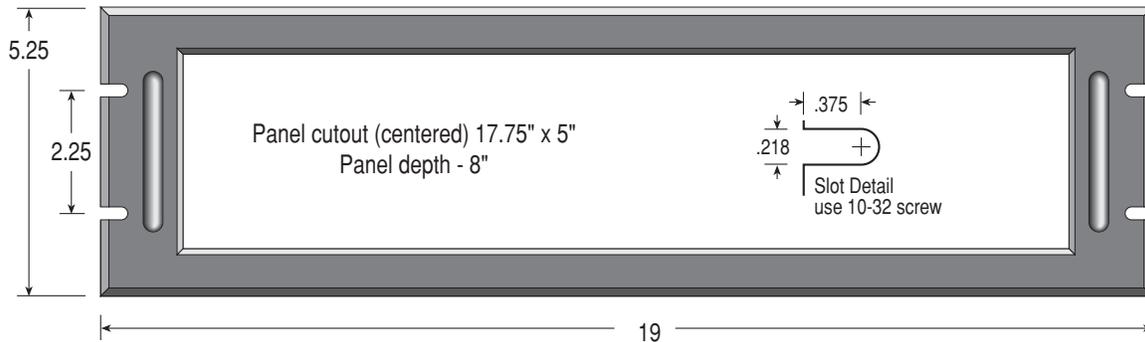
1.3 REMOTE RESET

The reset function is effective when the Model 10B's respective alarms have been programmed in the latching position and alarm conditions have passed. The alarm reset function is common to all controllers and is activated by closing the circuit between the two reset contacts. A normally open momentary switch is suitable.

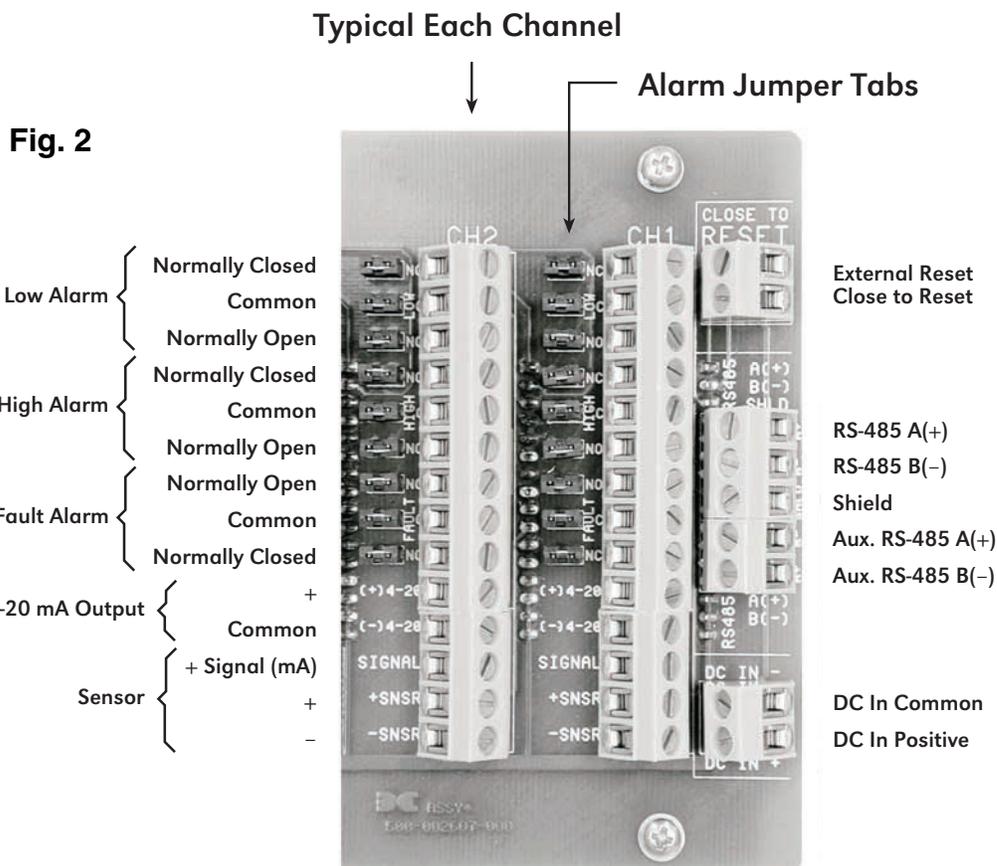
1.4 INSTALLATION

1. Securely mount the 1610-N1 rack enclosure in accordance with Figure 1.

Fig. 1



2. Connect 24 VDC input wiring to the lugless terminal strip (labeled DC IN) on the back of the controller mother board (see fig 2).



Caution: Observe correct polarity when terminating all input/output field wiring. Failure to do so may result in circuit damage on power up.

3. If applicable, connect a normally open momentary remote mounted switch to the lugless terminal strip (labeled RESET) located on the controller mother board (see fig 2).
4. If applicable, terminate the discrete 4-20 mA output to external device(s). Terminals are labeled “(+) 4-20” and “(-) 4-20”.
5. If applicable, terminate the RS-485 serial output to external device(s). Terminals are labeled “A (+)”, “B (-)”, and “SHLD”. An additional set of RS-485 terminal are provided for the connection of additional devices.
6. Refer to installation and wiring detail of remote mount sensor assemblies as detailed in section 3.0. Terminate field wiring from sensors to Model 1610-N1 rack lugless terminal strips located on the controller mother board (see fig 2).
7. Alarm relay outputs may be discrete, zoned, or common via gold plated jumper tabs. Configure accordingly.

Note: Based on the application and use of relay contact outputs, complete all wiring terminations prior to application of power. Shut-in controls may be omitted until system test is complete.

1.5 START-UP

Upon completion of all field wiring apply 24VDC power to the 1610-N1 rack. Note that each Model 10B controller digital display illuminates. Varying readings may occur during sensor warm-up. A 10 second alarm delay will occur on power up. Refer to sections 2.0 and 3.0 for additional start-up detail.

1.6 MAINTENANCE AND REPAIR

The Detcon Model 1610-N1's modular design allows for minimum down time during maintenance and/or repair. A Model 10B control module may be changed by turning the latch knob clockwise until it stops and then sliding it out of the panel by pulling on the latch knob. To install, slide the 10B control module into the 1610-N1 control enclosure and then secure by turning the latch knob counter-clockwise until it stops. See section 3 for more information on the 10B control module.

1.7 SPARE PARTS

0224 Gold plated jumper tab
910-000008-003 Model Series 10 Blank Plate

1.8 WARRANTY

Detcon inc., as manufacturer, warrants under intended normal use each new Model 1610-N1 rack control enclosure to be free from defects in material and workmanship for a period of one year. The warranty period begins from the date of shipment to the original purchaser and ends one year thereafter. All warranties and service policies are FOB the Detcon Inc. facility located in The Woodlands, Texas.

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