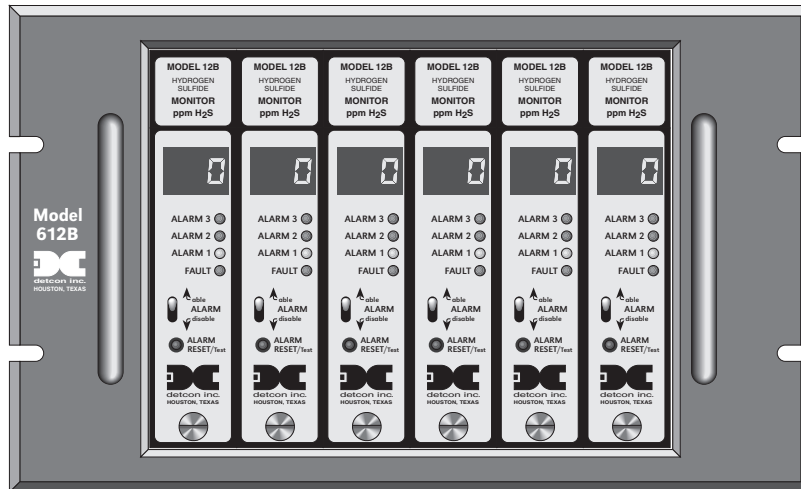




# Detcon Model 612B Rack Mount Control Enclosure



*Operator's Installation & Instruction Manual*

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## 1.0 INTRODUCTION

Detcon Model 612B 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 612B rack mount control enclosure, along with Model 12B digital control modules, is designed to serve as a host assembly for up to six 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 six channels. All control modules are plug-in front panel accessible for easy maintenance and repair.

The system is powered by 24VDC unless otherwise specified at time of order. Discreet output terminal strips located on the controller motherboard are provided for sensor terminations, Form C dry contact alarm outputs for three alarms plus fault (common and choice of normally open or normally closed), 4-20 mA outputs for remote recording devices, and RS-485 serial Modbus™ output. Terminations are also provided for remote alarm reset.

The RS-485 serial output, as well as the 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

11.5"W x 7"H x 8.75"D

### Capacity

6 single channels

### Power Input

24VDC

### Power Consumption

5 watts per channel (full alarm peak load)

### Outputs

Discrete Analog 4-20 mA DC

Common or zoned (max two zones) Serial RS-485 Modbus™

**Alarm Relays** (discrete or zoned)

Contacts include common with jumper selectable choice (on controller) of normally-open or normally-closed for four alarms

Resistive load: 5A, 250 VAC; 5A, 30 VDC

Inductive load: 2A, 250 VAC; 2A, 30 VDC

Max. operating current: 5A

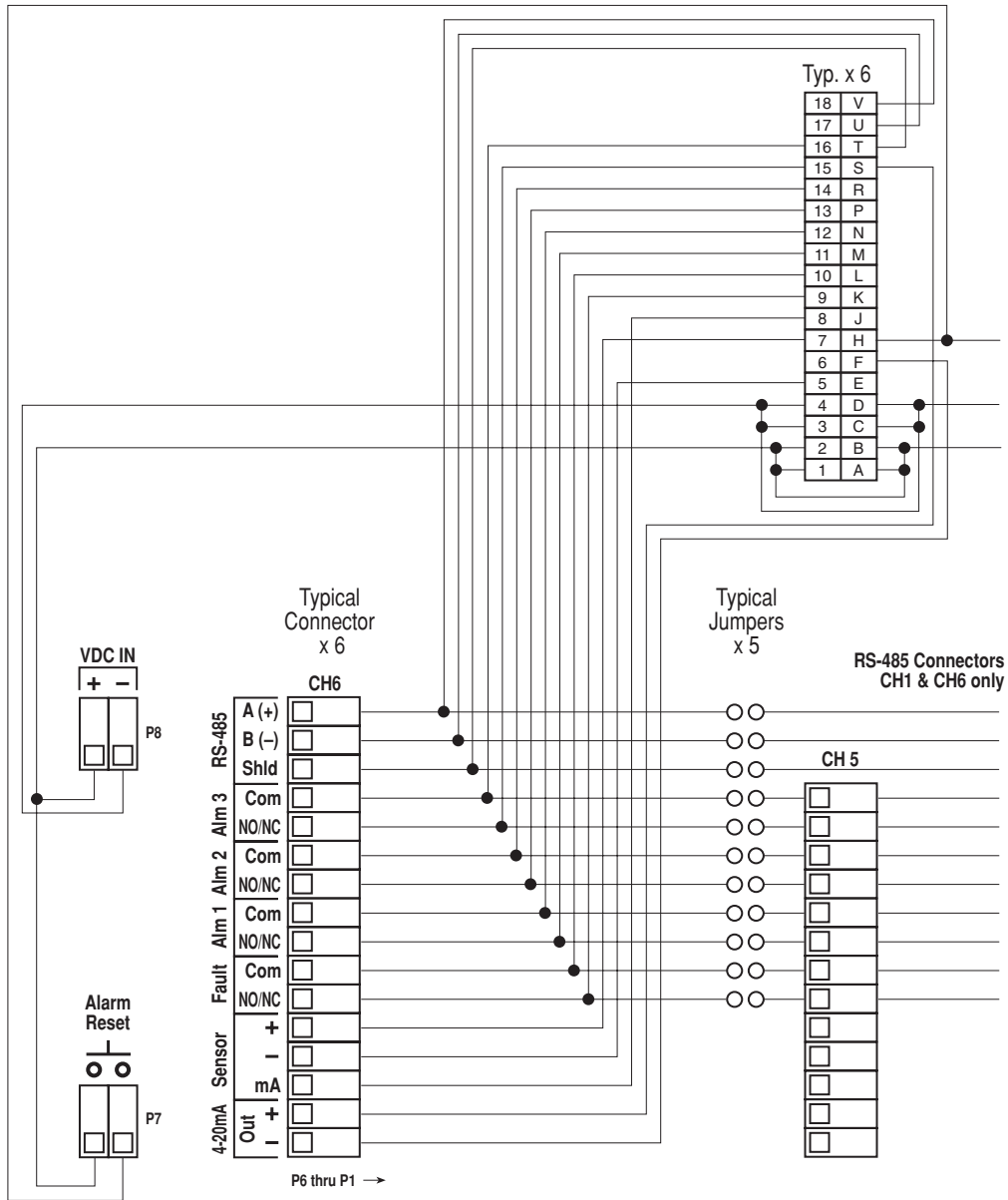
**Operating Temperature Range**

-40°F to +175°F

**Warranty**

One year

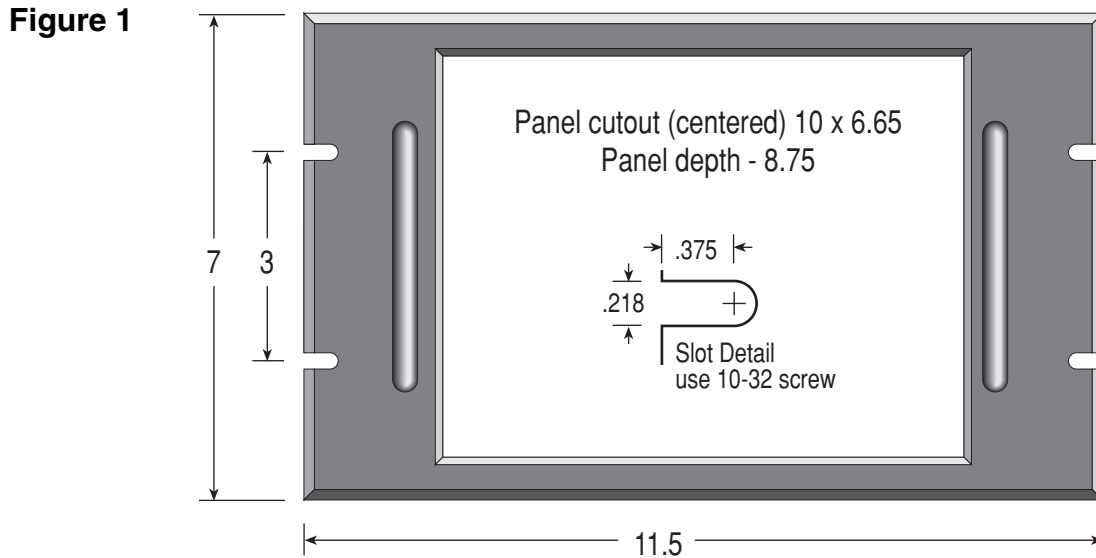
**1.3 SCHEMATIC**



## 1.4 INSTALLATION

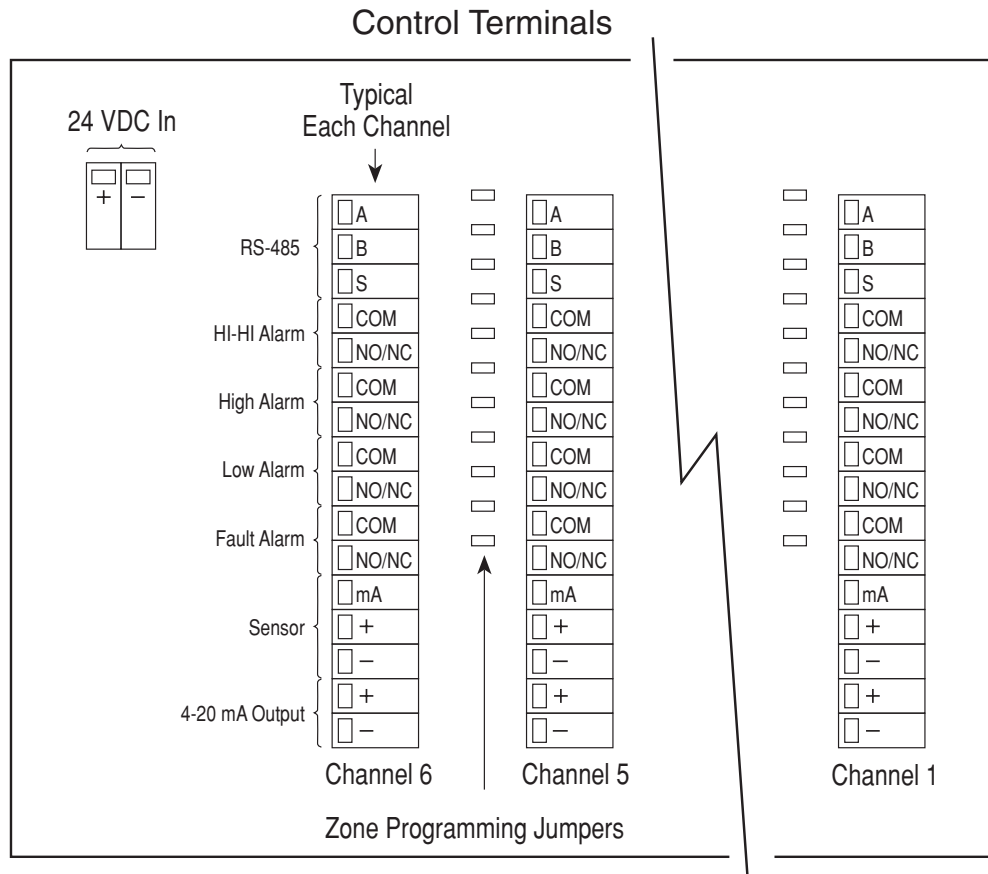
1. Securely mount the 612B enclosure in accordance with the drawing in figure 1.

**Note:** Reference figure 2 for wiring terminations.



2. Connect 24VDC input to the terminal strip labeled “VDC IN” (+ and –).
3. Refer to installation and wiring detail of remote mount sensor assemblies as detailed in section 3.0. Terminate field wiring from sensors to the 612B motherboard. Terminals are labeled “SENSOR” (MA, + and –).
4. If applicable, terminate the discrete 4-20 mA output to external device(s). Terminals are labeled “4-20 mA OUT” (+ and –).
5. If applicable, terminate the RS-485 serial output to external device(s). Terminals are labeled “RS-485” (A+, B-, and Shield). RS-485 outputs may be common or zoned (max two zones) via the gold-plated jumper tabs.
6. 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. Terminals are labeled “ALARM 1”, “ALARM 2”, “ALARM 3”, and “FAULT” (COM & NO/NC). Relay contact outputs may be discreet or zoned via the gold-plated jumper tabs.
7. If applicable, terminate a remote mounted normally open momentary switch to the terminations labeled “Alarm Reset”. Activation of the alarm reset function will reset the alarms of all Model 12B controllers. The reset function is effective when the Model 12B’s respective alarms have been programmed in the latching position and alarm conditions have passed. Each Model 12B controller has its own alarm reset switch which is discussed further in section 2.0.

**Figure 2**



## 1.5 START UP

Upon completion of all field wiring apply 24VDC power. Note that each Model 12B controller's 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 SPARE PARTS LIST

0224 Gold plated jumper tab

## 1.7 WARRANTY

Detcon Inc., as manufacturer, warrants under intended normal use each new Model 612B rack mount 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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