

C O N T E N T S

PART 1 - DI-280

PART 2 - DI-800

PART 1  
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1. PREAMBLE

1.1 This handbook contains information on the DI-280 and DI-800 Gas Control Modules. It is supplied primarily for users of the DI-280 who will already have knowledge and experience of the original Detection Instruments Gas Control Module - the DI-230. The DI-280 replaces the DI-230.

## 2. INTRODUCTION

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2.1 The DI-280 Gas Control Module is a development of the DI-230 and DI-800 Modules. It uses an identical circuit to the DI-800 with the addition of a mains power supply, but is constructed into the same frame as the DI-230 and is thus a direct plug-in replacement. This enables users of DI-230 based systems to upgrade this equipment with modern electronic circuitry without having to replace or re-wire equipment racks.

## 3. SPECIFICATION

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3.1 The specification of the DI-280 is identical to the DI-800 except for the following changes. (Numbers in brackets refer to the paragraph numbers of the DI-800 specification).

### POWER REQUIREMENTS (1.3)

24 volts D.C. nominal. Operating range 18-35 volts D.C.  
OR  
110/120 or 220/240 volts A.C. 50/60Hz

For alternative A.C. inputs check link on bottom rear of P.C.B adjacent to the toroidal transformers.

### 3.3 ALARM RELAYS (1.5)

Rating 24 volts, 5 Amps maximum. As for DI-230

### 3.4 FAULT RELAY (1.7)

Rating 250 volts, 5 Amps maximum as for DI-230

### 3.5 SET CONTROLS (1.14)

All pre-set controls except for adjust threshold are accessible through the front panel

### 3.6 ALARM OUTPUTS (1.16)

Relay contacts only. Pulse and continuous Alarm outputs are not available.

### 3.7 FAULT OUTPUT

Relay contacts and continuous output.

#### 4. INSTALLATION

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4.1 As the DI- 800 is a direct replacement for the DI-230 Control Module it can be plugged directly into a DI-230 Rack that is already wired. There are two additional outputs available from the DI-280. One of these is an inhibit Output which is a volt free relay contact available on pins 32 and 29 in lieu of the recorder Output; dependent on the P.C.B link arrangement - (see Detector Module corrections). The other output is a Fault Output which is normally low, and high when a Fault condition occurs. This is available on pin 16 - (see Detector Module corrections).

#### 5. LAYOUT OF CONTROLS

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5.1 The operational controls and indicators on the front panel are identical to those on the DI-800 (see part 2, pages 13 & 14). The pre-set controls however are laid out slightly differently although their function is the same. All pre-set controls other than Threshold are accessible at the front panel using an instrument-makers screwdrivers. There is no shutter mechanism to guard these pre-sets therefore it is important that the function switch is set to inhibit position (equivalent to CAL position on DI-800) before any adjustments are made.

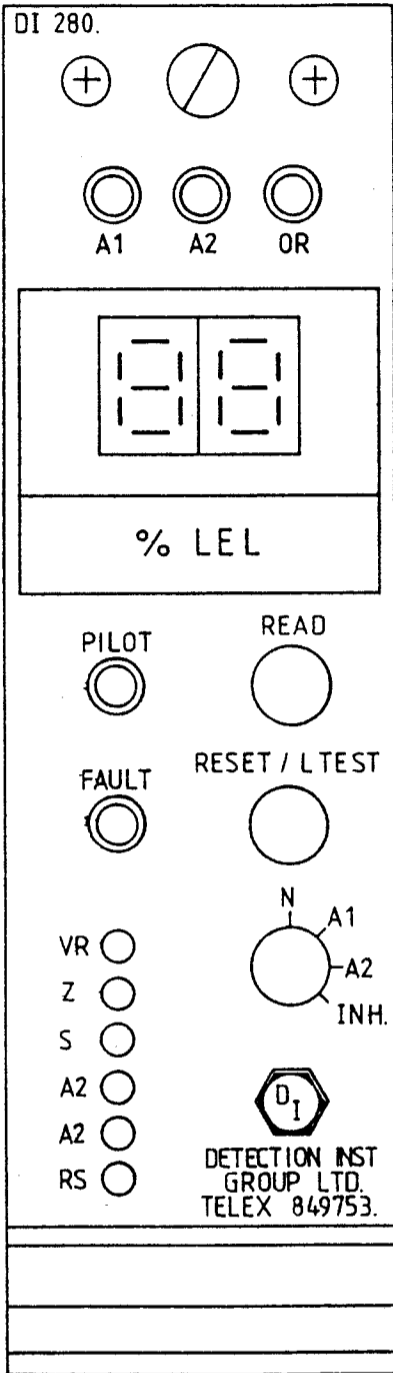
#### 6. SETTING UP MODULE

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6.1 ALWAYS SWITCH FUNCTION SWITCH TO INHIBIT BEFORE MAKING ANY ADJUSTMENT

6.2 Proceed according to the instructions in part 2, pages 20, 21 and 22 but note the following abbreviations for this module compared with the nomenclature in para 7.2 of page 20.

DI-28	EQUIVALENT TO DI-800
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VR	Detector voltage control (RVI)
Z	Zero control (RV2)
S	Span control (RV3)
A1	Alarm level 1 (RV5)
A2	Alarm level 2 (RV6)
RS	Analogue Output (RV4)
RV7 (on PCB)	RV7 - Threshold



DI 280 FRONT PANEL

# Detector Module Connections

ALARM LEVEL 1 RELAY 1	{	centre Normally open Normally closed
ALARM LEVEL 1 RELAY 2	{	centre Normally open Normally closed
ALARM LEVEL 2 RELAY 1	{	centre Normally open Normally closed
ALARM LEVEL 2 RELAY 2	{	centre Normally open Normally closed
FAULT RELAY 1	{	centre Normally open Normally closed
FAULT RELAY 2	{	centre Normally open Normally closed
24V DC INPUT	{	24+ 24-
MAINS INPUT	{	Earth Line Neutral
DETECTOR HEAD	{	Black Green Red
RECORDER OUTPUT	{	+ve P.C.B. LINKS -ve c-b, d-e
INHIBIT OUTPUT		P.C.B. LINKS a-b, e-f
FAULT OUTPUT		

