1. INSTALLATION

The two indicators contained in the manual have different DIN case sizes (refer to section 3). Some installation details vary between these models. These differences have been clearly shown.

Note: The functions described in sections 2 to 8 are common to both models.

Installing Option Modules

One-third DIN Size Instruments

Option Module A

Option Module B

Option Module C

Configuration, CPU PCB

Option Module D

Option Module E

PSU PCB

Connector

Option Module F

Option Module G

Panel Mounting

Mounting the panel must be rigid, and may be up to 6.0mm or 0.24" thick. Screw holes are provided on 90°清爽 mountings.

Cut-Out Dimensions

A: 68.0mm x 44.0mm (option D 66.0mm x 42.0mm)

For non-multiple instruments mounted side-by-side, cut-out A is 45.0mm x 44.0mm (option D 43.0mm x 42.0mm)

Tolerance +0.5, 0.0mm

Slide mounting clamp over the instrument housing towards rear face of mounting panel until both of the instrument and instrument is clamped in position.

Hold instrument firmly in position (apply pressure to bezel only).

CAUTION: Do not remove the panel glass; it is a seal against dust and moisture.

Rear Terminal Wiring

All copper conductors (except for 7C input)

Single strand wire gauge: Max. 1.0mm (16AWG)

Option Module Connections

One-third DIN Size Instruments

Option Module A

Option Module B

Option Module C

Option Module D

Option Module E

PSU PCB

Connector

Option Module F

Option Module G

To access modules 1 or 2, first detach the PSU and CPU boards from the front-by-lifting the upper, and then lower mounting struts. Gently separate the boards. Plug the required option modules into the correct connectors, as shown below.

Locate the module tongues in the corresponding slot on the opposite board.

Hold the main boards together while releasing back on the mounting struts.

Replace the instrument by aligning the CPU and PSU boards with their guides and pushing the instrument back into position.

Note: Option modules are automatically detected at power up.

2. SELECT MODE

Select mode is used to access the configuration and operation menu functions.

It can be accessed at any time by holding down the SELECT button and pressing the required function. Press [2] to choose the required mode, then press [ENTER] to enter.

An unlock code is required to prevent unauthorised entry to Configuration & Setup mode. Press [5] to unlock the clock, then press [ENTER] to proceed.

3. CONFIGURATION MODE

1. Select Configuration mode from Select mode (refer to section 2).

Press [5] to scroll through the parameters. While the key is pressed, and up to 15 characters is visible in the current value.


Note: Parameters displayed depends on host instrument that has been configured. Refer to user guide (available from your supplier) for further details.

Parameters marked with an asterisk (*) are repeated in Setup mode.

4. INPUT RANGES

See following table for possible codes

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Legend</th>
<th>Set Value</th>
<th>Adjustment Range &amp; Description</th>
<th>Default Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code</td>
<td>Input &amp; Type</td>
<td>Code</td>
<td>Input &amp; Type</td>
<td>Code</td>
</tr>
<tr>
<td>100-164°C</td>
<td>0°C-20°C</td>
<td>100-164°C</td>
<td>0°C-20°C</td>
<td>100-164°C</td>
</tr>
<tr>
<td>211-325°F</td>
<td>0°C-20°C</td>
<td>211-325°F</td>
<td>0°C-20°C</td>
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<td>0-158°C</td>
<td>0°C-20°C</td>
<td>0-158°C</td>
</tr>
</tbody>
</table>

5. SCALING

Ah, V, Pa, mPa, % or °C (linear range or user defined)

Units Display

None ( Stalin, C or °F), 2 digits only where linear inputs represented temperature.

Multipoint Scoring

Produce High Alarm

No alarm

Alarm 4 Type

Low Alarm 4

Multiple alarms, options as for alarm 1

High Alarm 4

High Alarm 3

High Alarm 2

High Alarm 1

Low Alarm 3

Low Alarm 2

Low Alarm 1

Zero alarm

Unit: mV

6. DISPLAY

Display Style

Display Colour

Serial Communication Protocols

Comms 10B

Comms Address
4. SETUP MODE

Note: Configuration must be completed before adjusting Setup parameters. First select Setup mode from Select mode (refer to section 2). Press to scroll through the parameters which will be displayed on the display. Use up and down arrows to change settings, then use the select button to confirm changes. Press to exit to Select mode. Press and hold to exit Setup mode.

Parameters displayed depends on how instrument has been configured.

5. MESSAGES & ERROR INDICATIONS

These messages indicate that there may be a problem in the operation of the instrument, and that action may be required. To view messages, press the key. To clear messages, press and hold until the message disappears from the display.

Note: Do not continue with the process until the issue is resolved.

6. OPERATOR MODE

This mode is entered at power on or accessed from Select mode (see section 2). Note: All Configuration mode and Setup parameters must be set as per the setup section prior to operating the instrument. The parameters are displayed (while the key is pressed), and for 1 sec after. Press to scroll through the parameters which will be displayed on the display. Use up and down arrows to change settings, then use the select button to confirm changes. Press to exit to Select mode. Note: All Operator Mode parameters in Configuration Mode display Status 6 are only readout in configuration mode, they can only be adjusted via Setup mode.

7. PRODUCT INFORMATION MODE

Fast view Product Information mode from Select mode (refer to section 2). Press the key, press the key, and press the key. The display should return to Select mode. Note: These parameters are all read only.

8. SERIAL COMMUNICATIONS

Refer to the full user guide (available from your supplier) for details.

9. SPECIFICATIONS

UNIVERSAL
Thermocouple: 
- 0.1% of full range, ±1LSB (1 LSb = Thermocouple J/C).
- Calibration: BS4637, NS125 & BS5594.
- PTC10 Calibration: BS5844 & DIN43770 (0.03%552°C) (C).
DC Calibration: 
- ±1LSB of full range, ±1LSB.
- Sampling Rate: 4 per second.
- Impedance: >100MΩ resistant, except DC mA (5V) and 4-20mA.
- Sensor Break: Thermocouple input 100%, analog inputs 1% of range on resistance only. Mfr alarm activates for thermocouple/RTD sensor break, line alarm activates for mA/V DC sensor break.
- Isolation: From all outputs except (sensor driver).

DIGITAL INPUT
Voltage Input: Reset or Toggle occurs on high (24VDC) to low (<8.5VDC), or vice versa. Open to Closed transition.
- Isolated: Reinforced isolation safety from inputs and outputs.

OUTPUTS
Relay Contact Type & Rating: Single pole double throw (SPDT), latching or non-latching action (activation), 2A resistive at 120VAC.
- Lifetime: >500,000 operations at rated voltage.
- Isolated: Basic isolation from universal input and SIR outputs.
- Indication: Selectable from inputs to output.
- Isolated: >200,000 operations at rated voltage.
- Isolated: Reinforced isolation safety from inputs and outputs.
- Isolated: SSR Drive: SSR drive voltage >40VAC to 500mV.
- Isolated: Not isolated from universal input or SSR driver outputs.

Failsafe: Operating Voltage: 20 to 28VDC (47 to 69Hz).
- Current Rating: 0.01 to 1A (full cycle max rms current @ 25°C).
- Response Time: 6-10ms, typically <10ms in >t1 typial.
- Isolated: Reinforced isolation safety from inputs and outputs.

Linear DC
Accuracy: ±0.25% (mA 250kΩ V 2.48). Degrades linearly to ±0.5% for increasing burden (to specification limits).
- Resolution: 0.2mA, maximum 10 bits >0.1mA typical.
- Isolated: Reinforced isolation safety from inputs and outputs.

Transmitter PSU
Power: 24V ±5% Unregulated, 24VDC to 24VDC for 19100 PSU.
- Linear Module: Regulated 0.0 to 10.0V DC to 500mV.
- Isolated: Reinforced isolation from inputs and outputs.

COMMUNICATIONS
Physical: RS485, at 1200, 2400, 4800, 9600 or 19200 bps.
- Protocol: Selectable between Modbus and Wi-Fi ASI.
- Isolated: Selectable isolation from all inputs and outputs.

OPERATING CONDITIONS (FOR INDOOR USE)
Ambient Temperature: 0°C to 55°C (Operating), −20°C to 80°C (Storage).
- Relative Humidity: 20% to 95%, non-condensing.
- Supply Voltage and Power: 100 to 240VAC ±10%, 50/60Hz, 7.5VA (for mains operation) or 20 to 48VDC 55mA/7.5mA or 22 to 65VDC 5W (for battery operation).

ENVIRONMENTAL
- Standards: CE, UL & IEC.
- Mil: Complies with M&I 810G-10G (Susceptibility & Emissions).
- Front Panel Sealing: To IP66 (IP67 behind the panel).

PHYSICAL
- Front Panel LCD: 4x38 characters, 1x16 symbols.
- Depth Below Panel: 100mm.
- Weight: 0.28kg maximum.