1. INSTALLATION

Installing Option Modules

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 buttons and the corresponding slots on the opposite board.
- Replace the instrument by aligning the CPU and PSU boards with their guides in the housing, then slowly push 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 ullam and pressing the SEL button until a legend is shown for 7 seconds, followed by the legend for the current mode.

Press (SEL) to choose the required mode, then press (SEL) to enter.

An unlock code is required to prevent unauthorized entry to the configuration and setup modes. Press (SEL) or (SEL) to enter the unlock code. If the unlock code is correct, then press (SEL) to proceed.

Note: Automatic return to Operator Mode after 2 minutes without key activity.

3. CONFIGURATION MODE

First select Configuration mode from Select mode (refer to section 2). Press (SEL) to scroll through the parameters. While this key is pressed, and up to 1 second after the parameter legend is shown, followed by the current value.

Press (SEL) to set the required value. Press (SEL) to display (SEL) to accept the change, otherwise parameter will revert to previous value.

To exit from Configuration mode, hold down (SEL) and press (SEL) to return to Select mode.

Note: Parameters displayed depend on how instrument has been configured. Refer to user guide available from your supplier for further details.
4. SETUP MODE

Note: Configuration must be completed before adjusting Setup parameters. First select Setup mode from Select mode (refer to section 2). Press or to scroll through the parameters. Change the parameter in the display and press to return to Select mode. Note: Parameters displayed depend on how instrument has been configured.

5. MESSAGES & ERROR INDICATIONS

These messages indicate that the instrument may require attention, or there is a problem with the signal input connection. The message legend is shown for 10 seconds. Caution: 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 mode parameters must be set as required before starting normal operations. Press to scroll through the parameters (white key is pressed) and for 7 sec to lock or unlock the parameter (black key is pressed). Note: All Operator parameters in Display 8 are read only (black key is pressed). Only parameter in display 5 is adjustable via Setup mode.

Note: Operator mode screens follow, without exiting from Setup mode.

7. PRODUCT INFORMATION MODE

First select Product information mode from Select mode (refer to section 2). Please view each parameter (white key is pressed) and for 7 sec to lock or unlock the parameter legend is shown, followed by value. Hold down white key and press to return to Select mode. Note: These parameters are all read only.

8. SERIAL COMMUNICATIONS

UNIVERSAL INPUT

Thermocouple: -10.0% of full range, 1.150 (±1% for Thermocouple CJC)
Calibration: BS4397, NB125, IS 1284
PIT010 Calibration: BS1894 & DN43705 (0.0385% of 2°C)
DC Calibration: ±1.0% of full range, ±1.5%D.
Sample Rate: 4 point/sec.
Impedance: <100kΩ resistive, except DC (100) and V (470kΩ)
Sensor Break: Thermal resistance to 4 to 20 mA, to 100% and 1 to 5 V ranges only. High alarm activates for thermocouple/RTD sensor break. Low alarm closes for DC sensor break.
Isolation: Isolated from outputs (except SSR driver)
Universal input must not be connected to operator accessible circuits (e.g. rear output screens are connected to a hazardous voltage source. Supplementary insulation or input grounding would then be required).

DIGITAL INPUT

Input Voltage: Reset or Tare on occurs on high (2 to 24VDC) to low-0.8VDC, or high to low-contact.
Isolation: Reinforcement isolation from inputs and other outputs.

OUTPUTS

Contact Type & Rating: Single pole double throw (SPDT), latching or non-latching (selectable). 2A maximum at 120/240VAC
Life: ±500,000 operations at rated voltage/current.
Isolation: Basic isolation from universal input and SSR outputs.

Dual Relay: Contact Type & Single pole single throw (SPST), latching or non-latching (selectable). 3A maximum at 120/240VAC
Life: ±200,000 operations at rated voltage/current.
Isolation: Reinforcement isolation from inputs and other outputs.

SSR Driver: Drive capability: SSR driver voltage +12V to 500s. Isolation: Not isolated from universal input or other SSR driver outputs.

Power Rating: 20 to 260Vrms (47 to 63Hz).
Current Rating: 0.1 to 5.0A (full cycle rms or on 86°C (25°C), derates linearly above 86°C to 0°C at 50°C.
Isolation: Reinforcement isolation from inputs and other outputs.

Linear DC Accuracy: ±0.25% (±0.5mA, 0–240V). Degrades linearly to ±1.5% for increasing burden (to specification limits).
Resolution: 4 bits in 235mV (1 bit in 1% typical to ±1% above 1% typical).
Isolation: Reinforcement isolation from inputs and other outputs.

Transmitter PSU: 24V dc PSU Module. Ungrounded 20 to 26V DC to 9010mA Linear Module. Regulated 0.0 to 10.0V to 500s. Isolation: Reinforcement isolation from inputs and other outputs.

SERIAL COMMUNICATIONS

Physical: RS485, at 1200, 2400, 4800, 9600 or 19200 bps.
Protocols:Selectable between Modbus and ASCII.
Isolation: 100% isolation from all inputs and other outputs.

OPERATING CONDITIONS (FOR INDOOR USE)

Ambient: 0°C to 55°C (Operating), –20°C to 80°C (Storage).
Temperature: 20% to 95% non-condensing.
Supply Voltage: 100 to 240VAC ±10%, 50/60Hz, 7.5VA (for 100VAC version).
Power: 20 to 48V AC/DC 800mA to 7.5VA or 22 to 65V DC 5W (for 100VAC version).

ENVIROMENTAL

Standards: CE, UL & LEC
SMI: Complies with EN41385 (Susceptibility & Emissions).
Safety: Complies with EN61010-1 & IEC376.
Considerations: Pollution Degree 2, Installation Category II.
Front Panel Sealing: IP 09 (IP20 behind the panel).

PHYSICAL

Front Panel: 96 x 48mm (3/8") DIN
Depth Behind Panel: 100mm.
Weight: 0.21kg maximum.