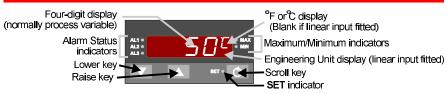
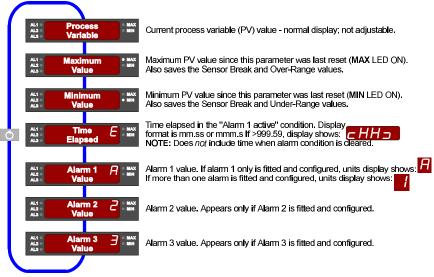
1-DIN PANEL INDICATOR CONCISE PRODUCT MANUAL (59235-2)

FRONT PANEL



OPERATOR MODE

Typical Display Sequence (see Operator Mode Display Strategy)



Alarm Status Indication



Flashes when Alarm 1 is active. For latched alarm, flashes when Alarm 1 is latched and alarm condition exists: goes ON when Alarm 1 is latched but alarm condition is cleared

Flashes when Alarm 2 is active.

Flashes when Alarm 3 is active.

Resetting the Maximum PV Value/Minimum PV Value/Time Elapsed

To reset the Maximum PV Value or Minimum PV Value (to the current PV value) or the Time Elapsed value (to zero):

- 1. Select the required display:
- 2. Press the Raise key or Lower key for three seconds.

The resetting of the value is indicated for two seconds (see right) before the unit reverts to the requested display.



Resetting the Latched Alarm

If output 1 is configured to be a latched alarm output, once it becomes active it will remain active (even if the alarm condition is cleared) until reset either from the front panel or via the Remote Reset option. To reset an active latched alarm from the front panel:

- 1. Select the process variable display.
- 2. Press the Raise key or Lower key for three seconds.

The resetting of the latched alarm is indicated for two seconds (see right) before the unit reverts to the process variable display.



Error/Fault Indication







Cold Junction Compensation Disabled

If a thermocouple input is fittled and configured, cold junction compensation should be enabled (see CONFIGURATION MODE). If it is disabled, whenever the process variable is displayed, the unit display will be as shown on the right.



SET UP MODE

Set Up Mode operations should be performed only by personnel who are technically competent and authorised to do so.

Entry/Exit

To enter into or exit from Set Up Mode, select the process variable display, then press the Raise and Scroll keys simultaneouslyfor three seconds. SET LED will come ON. An automatic return to Operator Mode will be executed if there is no key activity in Set Up Mode for one minute.

NOTE: If, in Operator Mode, the four-digit display shows all decimal points ON (see right), the Set Up Mode Parameters have been automatically set to their default values (probably because one or more CONFIGURATION MODE parameter has been changed. To clear this display, alter the value/setting of any Set Up Mode parameter.

Parameter Selection/Adjustment

Use to select parameter



Set Up Mode Parameter Sequence

In Set Up Mode, the SET indicator is ON and the units display shows a single-character legend identifying the parameter currently displayed.

Parameter Parameter	Legend	Adjustment Range
Alarm 1 value - one alarm fitted - more than one alarm fitted	<u> </u>	Range Minimum to Range Maximum
Alarm 1 Hysteresis	-	1LSD to 10% of span expressed as display units
Alarm 2 value 1	2	Range Minimum to Range Maximum
Alarm 2 Hysteresis ¹		1LSD to 10% of span expressed as display units
Alarm 3 value ²	3	Range Minimum to Range Maximum
Alarm 3 Hysteresis ²		1LSD to 10% of span expressed as display units
Process Variable Offset	0	±input span of instrument
Digital Filter Time Constant	E	0.0secs. (OFF) to 100.0secs. in 0.5-sec. increments
Linear Input Decimal Point Position 3	P	0 (XXXX), 1 (XXX,X), 2 (XX,XX) or 3 (X,XXX)
Linear Input Scale Range Minimum 3	L	-1999 to 9999
Linear Input Scale Range Maximum 3	Н	-1999 to 9999
Recorder Output Scale Minimum 4	<u>d</u>	-1999 to 9999
Recorder Output Scale Maximum 4	u	-1999 to 9999
Operator Mode Display Strategy 5	5	0, 1, 2, 3 or 4
Operator Mode displays (dependent upon the s NOTE 5 below).	etting of Op	perator Mode Display Strategy - see above and

- 1. Applicable only if Alarm 2 is fitted/configured.
- 2. Applicable only if Alarm 3 is fitted/configured.
- 3. Applicable only to DC linear input, if fitted.
- 4. Applicable only to Recorder Output Option, if fitted. 5. Defines the parameter sequence in Operator Mode (see table below).

Operator Mode Parameter Setting								
0	1	2	3	4				
PV value	PV value	PV value	PV value	PV value				
Max. PV value	Max. PV value	Alarm 1 value	Max. PV value	Max. PV value				
Min. PV value	Min. PV value	Alarm 2 value *	Min. PV value	Min. PV value				

Operator Mode Parameter Setting								
0	1	2	3	4				
PV va l ue	PV value	PV va l ue	PV value	PV va l ue				
Max. PV value	Max. PV value	Alarm 1 value	Max. PV value	Max. PV value				
Min. PV value	Min. PV value	Alarm 2 value *	Min. PV value	Min. PV value				
Elapsed Time		Alarm 3 value *	Alarm 1 value	Elapsed Time				
			A l arm 2 value *	Alarm 1 va l ue				
			A l arm 3 value *	Alarm 2 value *				
				Alarm 3 value *				

^{*} If configured/fitted.

SERIAL COMMUNICATIONS

Refer to the full manual for details of this option, available from your supplier.

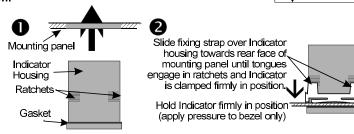


All installation work should be performed only by personnel who are technically competent and authorised to do so. Local Regulations regarding electrical installation & safety must be observed.

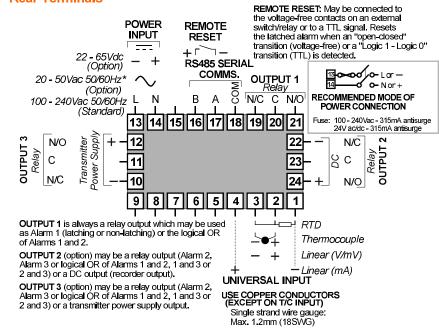
Panel-Mounting

The mounting panel must be rigid and may be up to 6mm (0.25 inches) thick. The cut-out required for the Indicator is shown on the right. Several Indicators may be mounted side-by-side in a multiple installation for which the cut-out width (for n Indicators) is (96n - 4) millimetres. The panel-mounting procedure is shown below

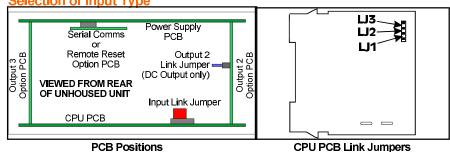
45.0 mm 92.0 mm +0.5 -0.0



Rear Terminals



Selection of Input Type



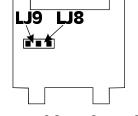
Input Type Link Jumpers Fitted (CPU PCB) None (Parked)

RTD or DC (mV) Thermocouple LJ3 DC (mA) LJ2 DC (V)

Selection of Output 2/Output 3 Type

Output type is determined by the type of Output Option PCB fitted in the appropriate position (see PCB Positions illustration above). Output 3 may be a relay output or a Transmitter Power Supply output. Output 2 may be a relay output or a DC output; in the latter case, the DC output range is determined by link jumpers on the Output 2 DC Output Option PCB.

DC Output Range	Link Jumper Fitted
0 - 10V	LJ8
0 - 20mA	LJ9
0 - 5V	LJ8
4 - 20mA	LJ9

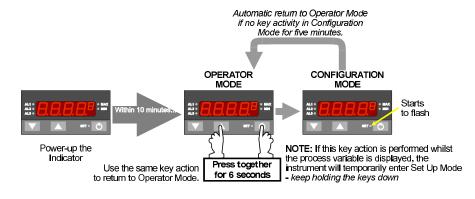


Output 2 DC Output Option PCB - Link Jumpers

CONFIGURATION MODE

These operations should be performed only by personnel who are technically competent and authorised to do so.

Entry/Exit



Parameter Selection and Editing



Use to select

parameter





narameter value





new value





(display will flash) NOTE: In Step 4, if any key other than the Raise key is pressed, the original parameter value is retained.

Configuration Mode Parameter Sequence

Parameter	Legend	Adjustment Range
<u>Input Range</u> Alarm 1 Type		Defined by four-digit code (see Input Codes below). P H Process High Alarm
Maiiii Type		P_L Process Low Alarm
Alarm 2 Type		nonE Not used
		P_H, Process High Alarm
		P_L_ Process Low Alarm
Alarm 3 Type		nonE Not used
		P_H, Process High Alarm
		P_L_ Process Low Alarm
Output 1 Use	1	Alarm 1, non-latching, direct-acting
		Alarm 1, non-latching, reverse-acting
		Alarm 1, latching, direct-acting
		Alarm 1, latching, reverse-acting
		Logical OR of Alarms 1/2, direct-acting
		Logical OR of Alarms 1/2, reverse-acting
Output 2 Use 1	2	<u>P2_d</u> Alarm 2, direct-acting ⁵
		Alarm 2, reverse-acting ⁵
		Alarm 3, direct-acting ⁵
		Alarm 3, reverse-acting ⁵
		Logical OR of Alarms 1/2, direct-acting ⁵
		Logical OR of Alarms 1/2, reverse-acting
		Logical OR of Alarms 1/3, direct-acting ⁵
		Logical OR of Alarms 1/3, reverse-acting
		Logical OR of Alarms 2/3, direct-acting ⁵
		Logical OR of Alarms 2/3, reverse-acting
		Recorder Output (PV) 6
Output 3 Use ²		月 2 Alarm 2, direct-acting ⁷
		Alarm 2, reverse-acting ⁷
		Alarm 3, direct-acting ⁷
		Alarm 3, reverse-acting 7
		Logical OR of Alarms 1/2, direct-acting 7
		Logical OR of Alarms 1/2, reverse-acting Logical OR of Alarms 1/3, direct-acting 7
		Logical OR of Alarms 1/3, reverse-acting
		Logical OR of Alarms 2/3, direct-acting ⁷ Logical OR of Alarms 2/3, reverse-acting
		Logical OR of Alarms 2/3, reverse-acting FPSU Transmitter Power Supply 8
Communications Baud Rate ³ Communications Address ³	<u>Б</u> Я	1200, 2400, 4800 or 9600 Baud 1 to 32

Parameter	Legend	Adjustment Range
Communications Protocol 3	P	F5EII ASCII
		MODBUS, odd parity
		MODBUS, even parity
		MODBUS, no parity
Cold Junction Compensation Enable/Disable 4	<u></u>	EnRb Enabled
El lable/Disable		d ₁5月 Disabled

NOTES

- 1. Applicable only if Output 2 is configured/fitted.
- 2. Applicable only if Output 3 is configured/fitted.
- 3. Applicable only if the serial communications option is configured/fitted.
- 4. Applicable only if a thermocouple input is configured/fitted.
- 5. Applicable only if Output 2 is configured as a relay output.
- 6. Applicable only if Output 2 is configured as a DC linear output.
- 7. Applicable only if Output 3 is configured as a relay output.
- 8. Applicable only if Output 3 is configured as a transmitter power supply output.

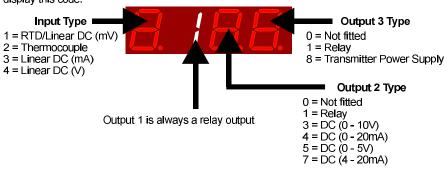
Input Codes

Thermocouple Inputs										
Туре	Range	Code	Type Range		Code	Type	Range	Code		
R	0 - 1650°C	1127	Т	-200 - 262°C	1525	L	0 - 450°C	1817		
R	32 - 3002°F	1128	Т	-328 - 503°F	1526	L	32 - 841°F	1818		
S	0 - 1649°C	1227	Т	0.0 - 260.6°C	1541	L	0 - 762°C	1819		
S	32 - 3000°F	1228	Т	32.0 - 501.0°F	1542	L	32 - 1403°F	1820		
J	0.0 - 205.4°C	1415	K	-200 - 760°C	6726	В	211 - 3315°F	1934		
J	32.0 - 401.7°F	1416	K	-328 - 1399°F	6727	В	100 - 1824°C	1938		
J	0 - 450°C	1417	K	-200 - 1373°C	6709	N	0 - 1399°C	5371		
J	32 - 842°F	1418	K	-328 - 2503°F	6710	N	32 - 2550°F	5324		
J	0 - 761°C	1419	L	0.0 - 205.7°C	1815					
J	32 - 1401°F	1420	L	32.0 - 402.2°F	1816					

Range	Code	Range	Code	Range	Code	Range		Code		
0 - 800°C	7220	-100.9 - 100.0)°C 2230	0.0 - 100.9°	C 2295	-328 - 402°F		2298		
32 - 1471°F	7221	-149.7 - 211.9	9°F 2231	32.0 - 213.6	°F 2296	-100.9 - 5373	.3°C	7222		
32 - 571°F	2229	0 - 300°C	2251	-200 - 206°	6°C 2297 -149.7		1ºF	7223		
	DC Linear Inputs									
Range	Code	Range	Code	Range	Code	Range	C	ode		
0 - 20mA	3413	0 - 50mV	4443	0 - 5\/	4445	0 - 10V	4	446		
4 - 20mA	3414	10 - 50mV	4499	1 - 5V	4434	2 - 10V	4	450		

Hardware Definition Code

With the Indicator in Configuration Mode, press the Scroll and Lower keys simultaneously to display this code:



This may be adjusted in the usual manner. Use the Scroll and Lower keys to return to Configuration Mode.

Hardware Option

Whilst the Hardware Definition Code is displayed, press the Scroll key to show the Hardware Option currently configured, one of the following:



fitted

This may be adjusted in the usual manner. Use the Scroll key to return to the Hardware Definition Code display.

SPECIFICATION

UNIVERSAL INPUT

Thermocouple, RTD or DC Linear

Input Impedance: Greater than 100M Ω resistive, except for DC mA (4.7 Ω) and V (47k Ω)

Isolated from all outputs at 240V AC. Isolation Sensor Break: Detected within two seconds...

Accuracy: $\pm 0.25\%$ of span ± 1 LSD. CJC better than ± 0.7 °C.

REMOTE RESET INPUT (OPTION)

Voltage-free or TTL-compatible. Type:

May be connected to: External switch/relay contacts (voltage-free) or TTL signal.

יopen-closed" transition (voltage-free) or "Logic 1 - Logic 0" transition (TTL). Reset Caused By:

Voltage Free Operation:

Max. Contact Resistance (Closure): 50Ω Min. Contact Resistance (Open): 5000Ω

TTL Operation: Max. Voltage for "0": V8.0 Min. Voltage for "0": -0.6V Min. Voltage for "1": 2.0V Max. Voltage for "1": 24.0V

OUTPUTS

Relay

Contact Type/Rating: Single pole double throw (SPDT); 2A resistive at 120/240V AC.

Lifetime: >500,000 operations at rated voltage/current. Isolation: Isolated from all other inputs and outputs.

DC

Resolution: 8 bits in 250mS (10 bits in 1s typical, >10 bits in >1s typical).

Isolated from all other inputs and outputs. solation:

Transmitter Power Supply Option

20 - 28V DC (24V DC nominal). Output: Minimum Load Impedance: 910Ω (22mA @ 20V DC). OPERATING CONDITIONS FOR INDOOR USE Ambient Temperature (Operating): 0°C to 55°C Ambient Temperature (Storage): -20°C to 80°C

Relative Humidity: 20% - 95% non-condensing

Supply Voltage: 100 - 240V AC 50/60Hz (standard) 7.5VA

20 - 50V AC 50/60Hz (option) 7.5VA or

22 - 65V DC (option) 5W.

ENVIRONMENTAL.

Approvals: CE, UL, ULC Certified to EN61326. FMC: Safety Considerations: Complies with EN61010-1.

Front Panel Sealing: To IP66.

PHYSICAL Dimensions: Depth - 100mm (behind panel)

Front Panel: Width - 96mm

Height - 48mm

Weight: 0.21kg maximum