1/16 - 1/8 DIN INDICATOR
CONCISE PRODUCT MANUAL (59344-6)

CAUTION: Installation should be only performed by technically competent personnel. Local Regulations regarding electrical installation & safety must be observed.

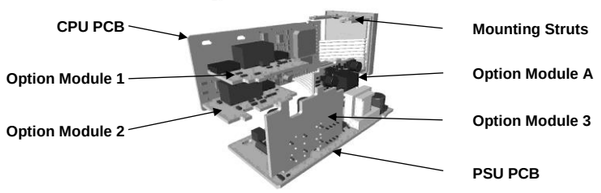
1. INSTALLATION

The two indicators covered by this manual have different DIN case sizes *(refer to section 9)*. Some installation details vary between these models. These differences have been clearly shown.

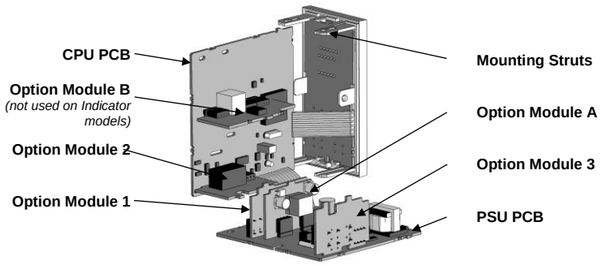
Note: The functions described in sections 2 to 8 are common to both models.

Installing Option Modules

1/16 Din Size Instruments



1/8 Din Size Instruments



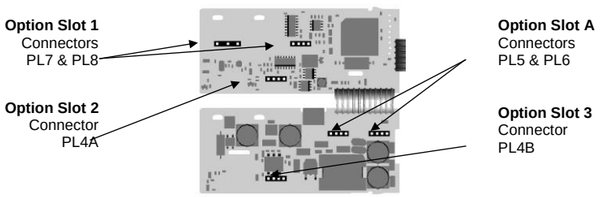
To access modules 1 or A, first detach the PSU and CPU boards from the front by lifting first the upper, and then lower mounting struts. Gently separate the boards.

a. Plug the required option modules into the correct connectors, as shown below.
b. Locate the module tongues in the corresponding slot on the opposite board.
c. Hold the main boards together while relocating back on the mounting struts.
d. Replace the instrument by aligning the CPU and PSU boards with their guides in the housing, then slowly push the instrument back into position.

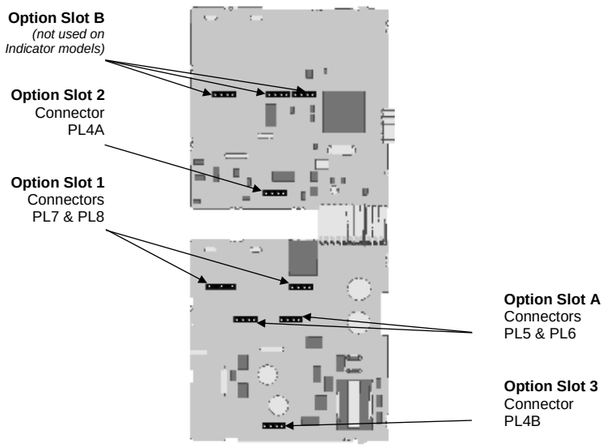
Note: Option modules are automatically detected at power up.

Option Module Connectors

1/16 Din Size Instruments



1/8 Din Size Instruments



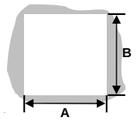
Panel-Mounting

The mounting panel must be rigid, and may be up to 6.0mm (0.25inch) thick. Cut-out sizes are:

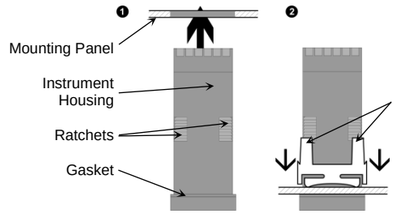
Cut-Out Dim A
1/16 Din = 45mm, 1/8 Din = 92mm

Cut-Out Dim B
1/16 & 1/8 Din = 45mm

For *n* multiple instruments mounted side-by-side, cut-out A is 48*n*-4mm (1/16 Din) or 96*n*-4mm (1/8 Din)



Tolerance +0.5, -0.0mm



1. Insert instrument into the panel cut-out.

2. Hold front bezel firmly (*without pressing on display area*), and re-fit mounting clamp.

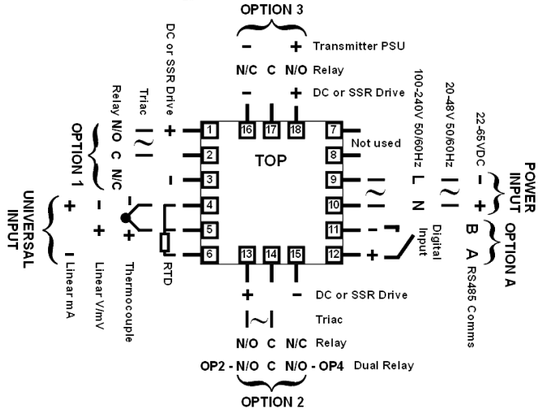
3. Push clamp forward, using a tool if necessary, until gasket is compressed and instrument held firmly in position.

CAUTION: For an effective IP66 & NEMA 4X seal against dust and moisture, ensure gasket is well compressed against the panel, with the 4 tongues located in the same ratchet slot.

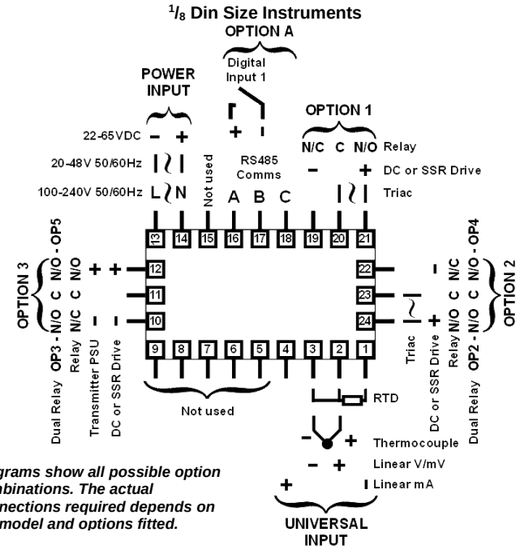
Rear Terminal Wiring

USE COPPER CONDUCTORS (EXCEPT FOR T/C INPUT). CABLE RATING 80°C MIN
Single Strand wire gauge: Max 1.2mm (18SWG))

1/16 Din Size Instruments



1/8 Din Size Instruments



Diagrams show all possible option combinations. The actual connections required depends on the model and options fitted.

CAUTION: Check information label on housing for correct operating voltage before connecting supply to Power Input
Fuse: 100 – 240Vac – 1amp anti-surge **or** 24/48Vac/dc – 315mA anti-surge

Supplementary Installation Information
- Designed to offer a minimum of Basic Insulation only & compliance shall not be impaired when fitted to the final installation. Ensure that supplementary insulation suitable for Installation Category II is achieved when fully installed.
- To avoid possible hazards, accessible conductive parts of the final installation should be protectively earthed in accordance for Class 1 Equipment. Output wiring should be within a Protectively Earthed cabinet & sensor sheaths should be bonded to protective earth or not be accessible.
- Live parts should not be accessible without the use of a tool.
- A disconnecting device should disconnect both LINE & NEUTRAL conductors simultaneously. The disconnecting device must be easily accessible.

2. SELECT MODE – SLCt

Note: At first power-up Goto Conf is displayed, see section 5 of this manual. Access to other menus is denied until configuration mode is complete.

Select mode is used to access the configuration and operation menu functions.
It can be accessed at any time by holding down ↺ and pressing △. *The SLCt legend is shown for 1 second, followed by the legend for the current mode.*
Press △ or ▽ to choose the required mode, then press ↺ to enter.
An unlock code is required to prevent unauthorised entry to Configuration, & Setup modes.
Press △ or ▽ to enter the unlock code, then press ↺ to proceed.

Mode	Legend *for 1 sec followed by* →	Set Value	Description	Default Unlock Codes	Units Display *(1/8 Din Only)*
Operator	SLCt	OPtr	Normal operation	None	S
Set Up		SEtP	Tailor settings for application	10	
Configuration		Conf	Configure instrument for use	20	
Product Info		inFo	Instrument information	None	

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

3. CONFIGURATION MODE - Conf

First select Configuration mode from Select mode *(refer to section 2)*.
Press ↺ 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 △ or ▽ to set the required value. Press ↺ to display YES?, press △ to accept the change, otherwise parameter will revert to previous value. To exit from Configuration mode, hold down ↺ and press △ to return to Select mode.
Note: Parameters seen modal and configuration settings. Refer to user guide (available from your supplier) for details. Parameters marked * repeat in Setup Mode.

Parameter	Legend *for 1 sec followed by* →	Set Value	Adjustment Range & Description	Default Value	Units Display *(1/8 Din Only)*
Input Range/Type	inPt	*See following table for possible codes*		JC	r

Code	Input Type & Range	Code	Input Type & Range	Code	Input Type & Range
bC	B: 100 - 1824 ºC	LC	L: 0.0 - 537.7 ºC	P24F	PtRh20% vs 40%: 32 - 3362 ºF
bF	B: 211 - 3315 ºF	LF	L: 32.0 - 999.9 ºF		
CC	C: 0 - 2320 ºC	nC	N: 0 - 1399 ºC	Pt C	Pt100: –199 - 800 ºC
CF	C: 32 - 4208 ºF	nF	N: 32 - 2551 ºF	Pt F	Pt100: –328 - 1472 ºF
JC	J: –200 - 1200 ºC	rC	R: 0 - 1759 ºC	Pt.C	Pt100: –128.8 - 537.7 ºC
JF	J: –328 - 2192 ºF	rF	R: 32 - 3198 ºF	Pt.F	Pt100: –199.9 - 999.9 ºF
J.C	J: –128.8 - 537.7 ºC	SC	S: 0 - 1762 ºC	0_20	0 - 20 mA DC
J.F	J: –199.9 - 999.9 ºF	SF	S: 32 - 3204 ºF	4_20	4 - 20 mA DC
KC	K: –240 - 1373 ºC	tC	T: –240 - 400 ºC	0_50	0 - 50 mV DC
KF	K: –400 - 2503 ºF	tF	T: –400 - 752 ºF	10.50	10 - 50 mV DC
K.C	K: –128.8 - 537.7 ºC	t.C	T: –128.8 - 400.0 ºC	0_5	0 - 5 V DC
K.F	K: –199.9 - 999.9 ºF	t.F	T: –199.9 - 752.0 ºF	1_5	1 - 5 V DC
LC	L: 0 - 762 ºC	P24C	PtRh20% vs. 40%: 0 - 1850 ºC	0_10	0 - 10 V DC
LF	L: 32 - 1403 ºF			2_10	2 - 10 V DC

Note: Decimal point shown in table indicates temperature resolution of 0.1º

Parameter	Legend *for 1 sec followed by* →	Set Value	Adjustment Range & Description	Default Value	Units Display *(1/8 Din Only)*
Scale Range Upper Limit	rUL	Scale Range Lower Limit +100 to Range Maximum		Max (Lin = 1000)	u
Scale Range Lower Limit	rLL	Range Minimum to Scale Range Upper Limit -100		Min (Lin = 0)	L
Decimal point position	dPoS	0=XXXX, 1=XXX.X, 2=XX.XX, 3=X.XXX	*(non-temperature ranges only)*	1	P
Linear Range Engineering Units Display	L inU	nonE	None (*Blank*), °C or °F *1/8 Din units only where linear inputs represent temperature*	nonE	
		C			°C
		F			°F
Multi-Point Scaling	mPS	EnAb	Enables or disables the input multi-point scaling feature	diSA	S
		diSA			
Alarm 1Type	AL A1	P_H,	Process High Alarm	P_H,	1
		P_Lo	Process Low Alarm		
		nonE	No alarm		
High Alarm 1*	PhA1	Alarm 1 value, adjustable within scaled range, in display units		Max	1 (Alm1 only = A)
Low Alarm 1*	PLA1			Min	
Alarm 1 Hysteresis*	AHY1	1 LSD to full span in display units on safe side of alarm		1	-
Alarm 2Type	AL A2	Options as for alarm 1		nonE	2
High Alarm 2*	PhA2			Max	2
Low Alarm 2*	PLA2			Min	

Parameter	Legend *for 1 sec followed by* →	Set Value	Adjustment Range & Description	Default Value	Units Display *(1/8 Din Only)*
Al 2 Hysteresis*	AHY2			1	-
Alarm 3Type	AL A3			nonE	3
High Alarm 3*	PhA3		Options as for alarm 1	Max	3
Low Alarm 3*	PLA3			Min	
Al 3 Hysteresis*	AHY3			1	-
Alarm 4Type	AL A4		Options as for alarm 1	nonE	4
High Alarm 4*	PhA4			Max	4
Low Alarm 4*	PLA4		Options as for alarm 1	Min	
Al 4 Hysteresis*	AHY4			1	4
Alarm 5 Type	AL A5			nonE	5
High Alarm 5*	PhA5		Options as for alarm 1	Max	5
Low Alarm 5*	PLA5			Min	
Al 5 Hysteresis*	AHY5			1	5
Output 1 Usage	USE 1	A 1nd	Alarm 1, direct, non-latching	rEtP for linear outputs, A 1nd for others	1
		A 1nr	Alarm 1, reverse, non-latching		
		A 1Ld	Alarm 1, direct, latching		
		A 1Lr	Alarm 1, reverse, latching		
		A2nd	Alarm 2, direct, non-latching		
		A2nr	Alarm 2, reverse, non-latching		
		A2Ld	Alarm 2, direct, latching		
		A2Lr	Alarm 2, reverse, latching		
		A3nd	Alarm 3, direct, non-latching		
		A3nr	Alarm 3, reverse, non-latching		
		A3Ld	Alarm 3, direct, latching		
		A3Lr	Alarm 3, reverse, latching		
		A4nd	Alarm 4, direct, non-latching		
		A4nr	Alarm 4, reverse, non-latching		
		A4Ld	Alarm 4, direct, latching		
		A4Lr	Alarm 4, reverse, latching		
		A5nd	Alarm 5, direct, non-latching		
		A5nr	Alarm 5, reverse, non-latching		
		A5Ld	Alarm 5, direct, latching		
		A5Lr	Alarm 5, reverse, latching		
		O 12d	Logical Alarm 1 OR 2, direct		
		O 12r	Logical Alarm 1 OR 2, reverse		
		O 13d	Logical Alarm 1 OR 3, direct		
		O 13r	Logical Alarm 1 OR 3, reverse		
		O23d	Logical Alarm 2 OR 3, direct		
		O23r	Logical Alarm 2 OR 3, reverse		
		AnYd	Any active alarm, direct		
		AnYr	Any active alarm, reverse		
		rEtP	Retransmit PV Output		
		dc 10	0 to 10VDC (adjustable) transmitter power supply*		
Output 1 PV Retransmit Type	tYP 1	0_5	0 to 5 V DC output	0_ 10	1
		0_ 10	0 to 10 V DC output		
		2_ 10	2 to 10 V DC output		
		0_20	0 to 20 mA DC output		
		4_20	4 to 20 mA DC output		
Retransmit OP 1 Scale maximum	ro 1H	Display value between, -1999 & 9999 at which Output 1 will be at maximum		Range max	H
Retransmit OP 1 Scale minimum	ro 1L	Display value between, -1999 & 9999 at which Output 1 will be at minimum		Range min	L
TxPSU 1 level	PSU 1	Output 1 Power Supply (0 to 10VDC)*		10.0	1
Output 2 Usage	USE2	As for Output 1 Usage		A2nd	2
Output 2 PV Retransmit Type	tYP2	As for Output 1 PV Retransmit Type			2
Output OP2 Scale Maximum	ro2H	As for Retransmit Output 1 Scale Maximum			H
Retransmit OP2 Scale Minimum	ro2L	As for Retransmit Output 1 Scale Minimum			L
TxPSU 2 level	PSU2	Output 2 Power Supply (0 to 10VDC)*		10.0	2
Output 3 Usage	USE3	As for Output 1 Usage		A3nd	3
Output 3 PV Retransmit Type	tYP3	As for Output 1 PV Retransmit Type			3
Retransmit OP3 Scale maximum	ro3H	As for Retransmit Output 1 Scale Maximum			H
Retransmit OP3 Scale minimum	ro3L	As for Retransmit Output 1 Scale Minimum			L
TxPSU 3 level	PSU3	Output 3 Power Supply (0 to 10VDC)*		10.0	3
Output 4 Usage	USE4	Alarm output options as for Output 1 Usage		A4nd	4
Output 5 Usage	USE5			A5nd	5
Display Strategy	diSP	0, 1, 2, 3, 4 or 6 *(refer to section 6)*		0	d
Display Colour	Clor	rEd	Permanent Red	G-r	c
		Grn	Permanent Green		
		r-G	Red to Green on any alarm		
		G-r	Green to Red on any alarm		

Serial Communication Protocol	Prot	ASC I	ASCII	rnbn	P
		rnbn	Modbus with no parity		
		rnbE	Modbus with Even Parity		
		rnbo	Modbus with Odd Parity		
Comms Bit Rate	bAud	1.2, 2.4, 4.8, 9.6 or 19.2 kbps		4.8	b
Comms Address	Addr	1 to 255 (Modbus), 1 to 99 (ASCII)		1	A
Comms Write	CoEn	r_W	Read/Write	r_W	E
		r_O	Read only		
Digital Input Usage	d iG i	rrLY	Reset latched relay(s)	rrLY	i
		tArE	Initiate Tare (zero display)		
		rPu	Reset min/max PV values		
		rE	Reset Alarm 1 elapsed time		
		rPuE	Reset Alarm 1 elapsed time & min/max PV values		
Config Lock	CLoc	Config Mode lock code, 0 to 9999		20	C

4. SETUP MODE - SEtP

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 *(while this key is pressed, and for 1 sec after, the parameter legend is shown, then the current value)*. Press △ or ▽ to change the value.

To exit from Setup mode, hold down ↻ and press △ to return to Select mode.
Note: Parameters displayed depends on how instrument has been configured.

Parameter	Legend *for 1 sec followed by* →	Set Value	Adjustment Range & Description	Default Value	Units Display *(⅛ Din Only)*
Input Filter Time Constant	F iLt	OFF or 0.5 to 100.0 secs		2.0	t
Process Variable Offset	OFFS	±Span of controller		0.0	o
Raw PV value	S iG	Linear input value, un-scaled (mA, mV or VDC)			*blank*
High Alarm 1	PhA 1	Alarm 1 value, adjustable within scaled range, in display units	Max		1 (Alm1 only = A)
Low Alarm 1	PLA 1		Min		
Alarm 1 Hysteresis	AHY 1	1 LSD to full span in display units on safe side of alarm		1	-
High Alarm 2	PhA2	Options as for alarm 1	Max		2
Low Alarm 2	PLA2		Min		
Al 2 Hysteresis	AHY2			1	=
High Alarm 3	PhA3	Options as for alarm 1	Max		3
Low Alarm 3	PLA3		Min		
Al 3 Hysteresis	AHY3			1	=
High Alarm 4	PhA4	Options as for alarm 1	Max		4
Low Alarm 4	PLA4		Min		
Al 4 Hysteresis	AHY4			1	4
High Alarm 5	PhA5	Options as for alarm 1	Max		5
Low Alarm 5	PLA5		Min		
Al 5 Hysteresis	AHY5			1	5
Scaling Breakpoint 1	ScA 1	Multi-point scaling breakpoint 1 value, adjustable from 0 to 100 in % of span		100	1
Display Value 1	d iS 1	Value to be displayed at multi-point scaling breakpoint 1, in display units		Range Max	
Scaling Breakpoint 2	ScA2	Multi-point scaling breakpoint 2, adjustable up to 100% of span. Must be >ScA 1 value			2
Display Value 2	d iS2	Value to be displayed at Multi-point scaling breakpoint 2, in display units			
Scaling Breakpoint 3	ScA3	Multi-point scaling breakpoint 3, adjustable up to 100% of span. Must be >ScA2 value			3
Display Value 3	d iS3	Value to be displayed at Multi-point scaling breakpoint 3, in display units			
Scaling Breakpoint 4	ScA4	Multi-point scaling breakpoint 4, adjustable up to 100% of span. Must be >ScA3 value			4
Display Value 4	d iS4	Value to be displayed at Multi-point scaling breakpoint 4, in display units			
Scaling Breakpoint 5	ScA5	Multi-point scaling breakpoint 5, adjustable up to 100% of span. Must be >ScA4 value			5
Display Value 5	d iS5	Value to be displayed at Multi-point scaling breakpoint 5, in display units			
Scaling Breakpoint 6	ScA6	Multi-point scaling breakpoint 6, adjustable up to 100% of span. Must be >ScA5 value			6
Display Value 6	d iS6	Value to be displayed at Multi-point scaling breakpoint 6, in display units			
Scaling Breakpoint 7	ScA7	Multi-point scaling breakpoint 7, adjustable up to 100% of span. Must be >ScA6 value			7
Display Value 7	d iS7	Value to be displayed at Multi-point scaling breakpoint 7, in display units			
Scaling Breakpoint 8	ScA8	Multi-point scaling breakpoint 8, adjustable up to 100% of span. Must be >ScA7 value			8
Display Value 8	d iS8	Value to be displayed at Multi-point scaling breakpoint 8, in display units			
Scaling Breakpoint 9	ScA9	Multi-point scaling breakpoint 9, adjustable up to 100% of span. Must be >ScA8 value			9
Display Value 9	d iS9	Value to be displayed at Multi-point scaling breakpoint 9, in display units			
Tare Feature	tArE	EnAb	Enables or disables the input auto-zero Tare feature	d iSA	r
		d iSA			
Setup Lock Code	SLoc	0 to 9999		10	S

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 1 second, followed by its value.* ***Caution: Do not continue with the process until the issue is resolved.***

Parameter	Legend *for 1 sec followed by* →	Value	Description	Units Display *(⅛ Din Only)*
Instrument parameters are in default conditions	Goto	Conf	Configuration & Setup is required. This screen is seen at first turn on, or if hardware configuration is changed. Press ↻ to enter Configuration Mode, next press △ or ▽ to enter the unlock code, then press ↻ to proceed	C
Input Over Range	Err	CHHJ	Input signal is > 5% over-range	E
Input Under Range		CLLJ	Input signal is > 5% under-range (*>10% under-range for 4 to 20mA, 1 to 5V and 2 to 10V ranges*)	
Input Sensor Break		OPEN	Break detected in input signal sensor or wiring	
Option 1 Error		Err 1	Option 1 module fault	1
Option 2 Error		Err2	Option 2 module fault	2
Option 3 Error		Err3	Option 3 module fault	3
Option A Error		ErrA	Option A module fault	A
Option B Error		Errb	Shown if any module is fitted *(option B not used on Indicators)*	b

6. OPERATOR MODE - OPtr

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 *(while this key is pressed, and for 1 sec after, the parameter legend is shown, followed by the current value)*.
Note: All Operator Mode parameters in Display strategy 6 are read only (see d iSP in configuration mode), they can only be adjusted via Setup mode.

Legend *for 1 sec followed by* →	Value	Display Strategy and When Visible	Description	Units Display *(⅛ Din Only)*
Proc	PV Value*	Always	Process Variable value *Read only* *Latched outputs can be reset*	°C, °F or *blank*
rnA	Max PV Value	Strategies 0, 1, 3, 4, & 6	Maximum displayed value (inc CHHJ or OPEN) since rnA last reset. *To reset, press ▽ or △ for 3 seconds, display = ---- when reset*	°C, °F or *blank*
rn in	Min PV Value	Strategies 0, 1, 3, 4, & 6	Minimum displayed value (inc CLLJ or OPEN) since rn in last reset. *To reset, press ▽ or △ for 3 seconds, display = ---- when reset*	°C, °F or *blank*
Et i	Elapsed Time	Strategies 0, 4 & 6 if alarm 1 configured. Format *mm.ss to 99.59 then mmm.s (10 sec increments)* Shows CHHJ if >999.9	Accumulated alarm 1 active time since Et i last reset. *To reset, press ▽ or △ for 3 seconds, display = ---- when reset*	E
AL 1	Alarm 1 Value	Strategies 2, 3, 4 & 6 if alarm 1 configured	Alarm 1 value, *adjustable except in Strategy 6*	1 (Alm1 only = A)
AL2	Alarm 2 Value	Same options as AL1	Same options as AL1	2
AL3	Alarm 3 Value	Same options as AL1	Same options as AL1	3
AL4	Alarm 4 Value	Same options as AL1	Same options as AL1	4
AL5	Alarm 5 Value	Same options as AL1	Same options as AL1	5
ALSt	Active Alarm Status*	When one or more alarms are active	54321 — Alarm 4 active, Alarm 2 active, Alarm 3 active, Alarm 5 active	1 if alarm 1 active

Alarm Indication

The Active Alarm Status screen indicates any active alarms. In addition, the associated Alarm LED flashes. For latching alarm outputs, the LED flashes when the alarm condition exists, and goes to ON when the alarm condition is no longer present if the output has not yet been reset.

*Resetting Latched Alarm Outputs

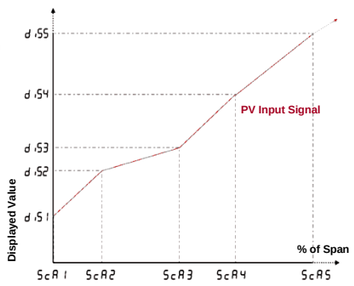
Any latched outputs can be reset whilst the Process variable or Alarm Status screens are displayed, by pressing the ▽ or △ key, via the Digital Input (if fitted) or with a communications command via the RS485 module (if fitted).
***Note:* Outputs will only reset if their alarm condition is no longer present.**
Caution: A reset will affect ALL latched outputs.

Additional 1/8 Din Indicator Units Display and LED's

In Operator Mode, a Units display shows °C or °F when temperature values are shown. This display is also used in other modes as a confirmation of the parameter type currently shown in the main display. The SET LED indicator is off in Operator Mode, Flashing in Configuration Mode and ON in Set-up mode.
MIN ▽ and MAX △ LED's light when these stored values are shown.

Multi-Point Scaling

When enabled (rnPS = EnAb), up to 9 breakpoints can be set to compensate for non-linear input signals.
For each breakpoint, the input scale value (ScAn) is entered in % of input span, followed by the value to be shown (d iSn) in display units.
Each breakpoint's input scale value must be higher than the previous value, but the display values can be higher or lower. Any scale value set to 100% becomes the last in the series.



Tare Feature

When Tare is enabled (tArE = EnAb), it can be used to set the displayed value to zero automatically, by making the PV Offset parameter equal, but opposite to, the current process variable value. Tare can be initiated via the Digital Input (if fitted), with a communications command via the RS485 module (if fitted) or by using the following key press sequence: ***Tare request is abort if the sequence is not followed exactly.***

Press ↻ until the process variable is displayed.
Hold down ▽ and △ together for three seconds until the display shows YESP
Release both keys and press △ within 3 seconds to confirm the request.
The display should read 0 briefly, then begin responding to input signal changes.

7. PRODUCT INFORMATION MODE - inFo

First select Product information mode from Select mode *(refer to section 2)*.
Press ↻ to view each parameter *(while this key is pressed, and for 1 sec after, the parameter legend is shown, followed by its value)*. Hold down ↻ and press △ to return to Select mode. ***Note: These parameters are all read only.***

Parameter	Legend *for 1 sec followed by* →	Value	Description	Units Display *(⅛ Din Only)*
Input type	In_ 1	Un i	Universal input	t
Option 1 module type fitted	OPn 1	nonE	No option fitted	1
		rLY	Relay output	
		SSr	SSR drive output	
		tr i	Triac output	
		L in	Linear DC voltage / current output	
Option 2 module type fitted	OPn2	nonE	No option fitted	2
		rLY	Relay output	
		drLY	Dual Relay (outputs 2 & 4)	
		SSr	SSR drive output	
		tr i	Triac output	
		L in	Linear DC voltage / current output	
Option 3 module type fitted	OPn3	nonE	No option fitted	3
		rLY	Relay output	
		drLY	Dual Relay (outputs 3 & 5)	
		SSr	SSR drive output	
		L in	Linear DC voltage / current output	
		dc24	24V DC Transmitter power supply	
Auxiliary Option A module type fitted	OPnA	nonE	No option fitted	A
		r485	RS485 communications	
		d iG i	Digital Input	
Firmware type	FWJ	Value displayed is firmware type number		F
Firmware issue	ISS	Value displayed is firmware issue number		n
Product Rev Level	PrL	Value displayed is Product Revision Level		r
Manufactured Date	dOMY	Month & year of manufacture. Format *mmyy*		d
Serial number 1	Sn 1	First four digits of serial number		A
Serial number 2	Sn2	Middle four digits of serial number		b
Serial number 3	Sn3	Last four digits of serial number		c

8. SERIAL COMMUNICATIONS

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

9. SPECIFICATIONS

UNIVERSAL INPUT

Thermocouple Calibration:	±0.1% of full range, ±1LSD (±1°C for Thermocouple CJC). BS4937, NBS125 & IEC584.
PT100 Calibration:	±0.1% of full range, ±1LSD. BS1904 & DIN43760 *(0.00385Ω/Ω/°C).*
DC Calibration:	±0.1% of full range, ±1LSD.
Sampling Rate:	4 per second.
Impedance:	>10MΩ resistive, except DC mA (5Ω) and V (47kΩ).
Sensor Break Detection:	Thermocouple, RTD, 4 to 20 mA, 2 to 10V and 1 to 5V ranges only. *High alarms activate for thermocouple/RTD sensor break, low alarms activate for mA/V DC sensor break.*
Isolation:	Isolated from all outputs (except SSR driver). Universal input must not be connected to operator accessible circuits if single relay outputs are connected to a hazardous voltage source. Supplementary insulation or input grounding would then be required.

DIGITAL INPUT

Voltage Input: Volt-free Contacts:	Reset or Tare occurs on high (2 to 24VDC) to low <0.8VDC, or Open to Closed transition.
Isolation:	Reinforced safety isolation from inputs and other outputs.

OUTPUTS

Relay

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

Dual Relay

Contact Type & Rating:	Single pole single throw (SPST), latching or non-latching action (selectable); 2A resistive at 120/240VAC.
Lifetime:	>200,000 operations at rated voltage/current.
Isolation:	Reinforced safety isolation from inputs and other outputs.

SSR Driver

Drive Capability:	SSR drive voltage >10V into 500Ω min.
Isolation:	Not isolated from universal input or other SSR driver outputs.

Triac

Operating Voltage:	20 to 280Vrms (47 to 63Hz).
Current Rating:	0.01 to 1A (full cycle rms on-state @ 25°C); derates linearly above 40°C to 0.5A @ 80°C.
Isolation:	Reinforced safety isolation from inputs and other outputs.

Linear DC

Accuracy:	±0.25% (mA @ 250Ω, V @ 2kΩ). Degrades linearly to ±0.5% for increasing burden (to specification limits).
Resolution:	8 bits in 250mS (10 bits in 1s typical, >10 bits in >1s typical).
Isolation:	Reinforced safety isolation from inputs and other outputs.

Transmitter PSU

Power Rating:	24V Tx PSU Module; Unregulated 20 to 28V DC into 910Ω min Linear output Module; Regulated 0.0 to 10.0V into 500Ω min.
Isolation:	Reinforced safety isolation from inputs and other outputs.

SERIAL COMMUNICATIONS (RS485)

Physical:	1200, 2400, 4800, 9600 or 19200 bps.
Protocols:	Modbus & West ASCII.
Isolation:	Reinforced safety isolation from all inputs and outputs.

You cannot connect both configuration port & RS485 port at the same time.

OPERATING CONDITIONS (FOR INDOOR USE)

Ambient Temp.:	0°C to 55°C (Operating), –20°C to 80°C (Storage).
Relative Humidity:	20% to 95% non-condensing.
Altitude:	<2000m
Supply Voltage and Power:	100 to 240VAC ±10%, 50/60Hz, 7.5VA (*for mains powered versions*), or 20 to 48VAC 50/60Hz 7.5VA or 22 to 65VDC 5W (*for low voltage versions*).

ENVIRONMENTAL

Standards:	CE, UL & cUL
EMI:	Complies with EN61326-1:2013.
Safety Considerations:	EN61010 version 2010, UL61010-1 Edition 3 & CSA 22.2 No 1010.192. Pollution Degree 2, Installation Category II.
Front Panel Sealing:	To IP66 & NEMA 4X when correctly mounted – refer to section 1.

PHYSICAL

Front Bezel Size:	1/16 Din = 48 x 48mm, 1/8 Din = 96 x 48mm
Depth Behind Panel:	1/16 Din = 110mm, 1/8 Din = 100mm.
Weight:	0.21kg maximum.