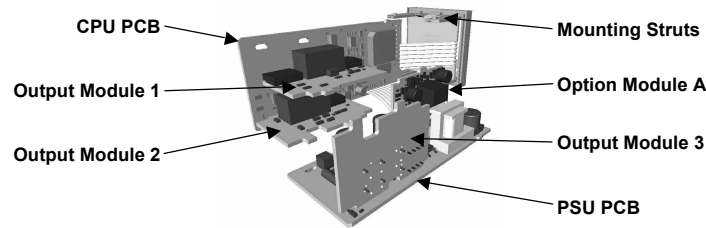


1/16 DIN Controller with HBA Quick Start Manual PK506 (0037-75487)

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

1. INSTALLATION

Installing Option Modules

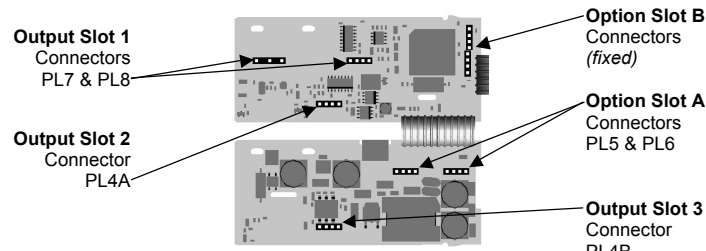


To access modules 1 or A, first detach the PSU and CPU boards from the front by lifting first the upper, and then lower mounting struts. Gently separate the boards.

- 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 relocating back on the mounting struts.
- 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.

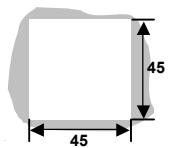
Option Module Connectors



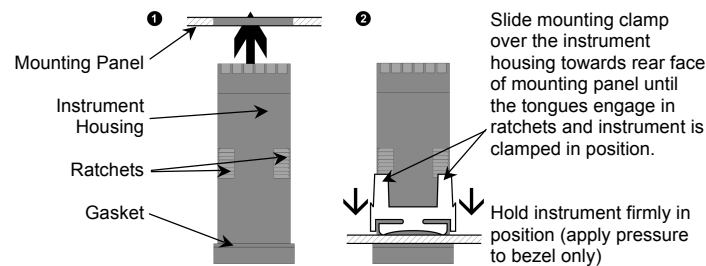
Panel-Mounting

The mounting panel must be rigid, and may be up to 6.0mm (0.25inch) thick.

For *n* multiple instruments mounted side-by-side, cut-out is 48*n*-4mm wide.



Tolerance +0.5, -0.0mm

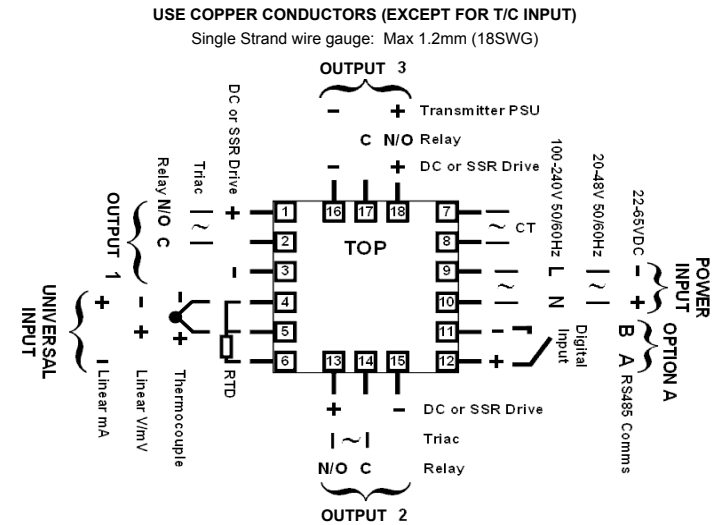


CAUTION: Do not remove the panel gasket; it is a seal against dust and moisture.



PK504
0037-75490
November, 2014

Rear Terminal Wiring



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

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

Note: At first power-up the message 90b0 ConF is displayed, as described in section 7 of this manual. Access to other menus is denied until configuration mode is completed.

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 **2** and pressing **1**. In select mode, press **1** or **2** to choose the required mode, press **2** to enter. An unlock code is required to prevent unauthorized entry to Configuration, & Setup modes. Press **1** or **2** to enter the unlock code, then press **2** to proceed.

Mode	Upper Display	Lower Display	Description	Default Unlock Codes
Operator	DPt r	SLC t	Normal operation	None
Set Up	SEt P	SLC t	Tailor settings to the application	10
Configuration	ConF	SLC t	Configure the instrument for use	20
Product Info	inF o	SLC t	Check manufacturing information	None
Auto-Tuning	AtUn	SLC t	Invoke Pre-Tune or Self-Tune	0

Note: The instrument will always return automatically to Operator mode if there is no key activity for 2 minutes.

3. CONFIGURATION MODE

First select Configuration mode from Select mode (refer to section 2). Press **2** to scroll through the parameters, then press **1** or **2** to set the required value. Press **MAN/AUTO** to accept the change, otherwise parameter will revert to previous value. To exit from Configuration mode, hold down **2** and press **1**, to return to Select mode.

Note: Parameters displayed depends on how instrument has been configured. Refer to user guide (available from your supplier) for further details. Parameters marked * are repeated in Setup Mode.

Parameter	Lower Display	Upper Display	Adjustment range & Description	Default Value	
Input Range/Type	inPt		See following table for possible codes	JC	
Code	Input Type & Range	Code	Input Type & Range	Code	Input Type & Range
bC	B: 100 - 1824 °C	LC	K: -128.8 - 537.7 °C	P24F	PTRh20% vs 40%: 32 - 3362 °F
bF	B: 211 - 3315 °F	LF	K: -199.9 - 999.9 °F	PtC	PT100: -199 - 800 °C
CC	C: 0 - 2320 °C	nC	N: 0 - 1399 °C	PtF	PT100: -328 - 1472 °F
CF	C: 32 - 4208 °F	nF	N: 32 - 2551 °F	PtLC	PT100: -128.8 - 537.7 °C
EC	E: -100 - 1000 °C	rC	R: 0 - 1759 °C	PtLF	PT100: -199.9 - 999.9 °F
EF	E: -148 - 1832 °F	rF	R: 32 - 3198 °F	0_20	0 - 20 mA DC
E_C	E: -100.0 - 999.9 °C	5C	S: 0 - 1762 °C	4_20	4 - 20 mA DC
E_F	E: -148.0 - 999.9 °F	5F	S: 32 - 3204 °F	0_50	0 - 50 mV DC
JC	J: -200 - 1200 °C	tC	T: -240 - 400 °C	10_50	10 - 50 mV DC
JF	J: -328 - 2192 °F	tF	T: -400 - 752 °F	0_5	0 - 5 V DC
J_C	J: -128.8 - 537.7 °C	t_C	T: -128.8 - 400.0 °C	1_5	1 - 5 V DC
J_F	J: -199.9 - 999.9 °F	t_F	T: -199.9 - 752.0 °F	0_10	0 - 10 V DC
LC	K: -240 - 1373 °C	P24C	PTRh20% vs. 40%: 0 - 1850 °C	2_10	2 - 10 V DC
LF	K: -400 - 2503 °F				

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

Parameter	Lower Display	Upper Display	Adjustment range & Description	Default Value
Scale Range Upper Limit	rUL		Scale Range Lower Limit +100 to Range Maximum	Range max (Lin=1000)
Scale Range Lower Limit	rLL		Range Minimum to Scale Range Upper Limit -100	Range min (Linear=0)
Decimal Point Position	dPoS		0=XXXX, 1=XXX.X, 2=XX.XX, 3=X.XXX (non-temperature ranges only)	1
Control Type	CtYP	5n9L	Primary only	5n9L
Primary Output Control Action	CtrL	rEU	Reverse Acting	rEU
Alarm 1 Type	ALR1	d ir	Direct Acting	P_H i
		P_H i	Process High Alarm	
		P_L o	Process Low Alarm	
		dE	Deviation Alarm	
High Alarm 1 Value*	PhR1	Range Minimum to Range Maximum in display units		Range Max
		PLR1	Range Min	
Band Alarm 1 Value*	bAL1	1 LSD to span from setpoint in display units		5
Dev. Alarm 1 Value*	dAL1	+/- Span from setpoint in display units		5
Alarm 1 Hysteresis*	AHY1	1 LSD to full span in display units		1
Alarm 2 Type*	ALAR2			P_L o
High Alarm 2 Value*	PhR2	Options as for alarm 1		Range Max
Low Alarm 2 Value*	PLR2	Options as for alarm 1		
Band Alarm 2 Value*	bAL2	Options as for alarm 1		5
Dev. Alarm 2 Value*	dAL2	Options as for alarm 1		5
Alarm 2 Hysteresis*	AHY2	Options as for alarm 1		1
Loop Alarm Time Type	LAE n	d,5R (disabled), AUto (2x Ar-5t time) or inRn (LAR: time value)		d,5R
Manual Loop Alarm Time*	LAR t	0.0 1 to 99.59 (1s to 99m 59s)		99.59
Alarm Inhibit	Inh i	nonE	No alarms inhibited	nonE
		ALR1	Alarm 1 inhibited	
		ALAR2	Alarm 2 inhibited	
		both	Alarm 1 and alarm 2 inhibited	
Output 1 Usage	USE 1	P_r i	Primary Power	P_r i
		SEc	Secondary Power	
		AL_d	Alarm 1, Direct	
		AL_r	Alarm 1, Reverse	
		AR_d	Alarm 2, Direct	
		AR_r	Alarm 2, Reverse	
		LP_d	Loop Alarm, Direct	
		LP_r	Loop Alarm, Reverse	
		DR_d	Logical Alarm 1 OR 2, Direct	
		DR_r	Logical Alarm 1 OR 2, Reverse	
Linear Output 1 Range	tYP 1	0_5	0 to 5 V DC output	0_10
		0_10	0 to 10 V DC output	
		2_10	2 to 10 V DC output	
		0_20	0 to 20 mA DC output	
Retransmit Output 1 Scale Maximum	roIH	-1999 to 9999 (display value at which output will be maximum)		Range max
		-1999 to 9999		
		(display value at which output will be minimum)		
		-1999 to 9999		
Output 2 Usage	USE 2	As for output 1		Sec or AI2
		As for output 1		
		As for output 1		
		As for output 1		
Retransmit Output 2 Scale Maximum	ro2H	-1999 to 9999 (display value at which output will be maximum)		Range max
		-1999 to 9999		
		(display value at which output will be minimum)		
		-1999 to 9999		
Output 3 Usage	USE 3	As for output 1		AL_d
		As for output 1		
		As for output 1		
		As for output 1		

Parameter	Lower Display	Upper Display	Adjustment range & Description	Default Value
Linear Output 3 Range	tYP 3		As for output 1	0_10
Retransmit Output 3 Scale Maximum	ro3H		-1999 to 9999 (display value at which output will be maximum)	Range max
Retransmit Output 3 Scale Minimum	ro3L		-1999 to 9999 (display value at which output will be minimum)	Range min
Display Strategy	d,5P	1, 2, 3, 4, 5 or 6	(refer to section 8)	1
Serial Communications Protocol	Pr o t	inbn	Modbus with no parity	inbn
		inbE	Modbus with Even Parity	
		inbo	Modbus with Odd Parity	
Serial Communications Bit Rate	bR Ud	1_2	1.2 kbps	4_8
		2_4	2.4 kbps	
		4_8	4.8 kbps	
		9_6	9.6 kbps	
Comms Address	Addr	1 to 255		1
		r_0	Read/Write	
Comms Write	CoEn	Read only		r_0
		d,5I	Setpoint 1 / Setpoint 2 select	
Digital Input 1 Usage	d,9 i	d,15 I	Automatic / Manual select	d,5I
Configuration Lock Code	CLoc		0 to 9999	20

4. SETUP MODE

Note: Configuration must be completed before adjusting Setup parameters. First select Setup mode from Select mode (refer to section 2). The MANUAL LED will light while in Setup mode. Press **2** to scroll through the parameters, then press **1** or **2** to set the required value.

To exit from Setup mode, hold down **2** and press **1** to return to Select mode. **Note:** Parameters displayed depends on how instrument has been configured.

Parameter	Lower Display	Upper Display	Adjustment Range & Description	Default Value
Input Filter Time Constant	F,LT		OFF or 0.5 to 100.0 secs	2_0
Process Variable Offset	OFF 5		±Span of controller	0
Primary Power	PP		Current power levels (read only)	N/A
Secondary Power	SP		Current power levels (read only)	N/A
Primary Proportional Band	Pb_P		0.0% (ON/OFF) and 0.5% to 999.9% of input span	10_0
Secondary Proportional Band	Pb_S		0.0% (ON/OFF) and 0.5% to 999.9% of input span	10_0
Automatic Reset (Integral Time)	AR-5t		1 sec to 99 mins 59 secs and OFF	5_00
Rate (Derivative Time)	r,AR E		00 secs to 99 mins 59 secs	1_15
Overlap/Deadband	OL		-20 to +20% of Primary and Secondary Proportional Band	0
Manual Reset (Bias)	b,AS		0% (-100% if dual control) to 100%	25
Primary ON/OFF Differential	d,IFP		0.1% to 10.0% of input span centered about the setpoint.	0_5
Secondary ON/OFF Diff.	d,IFS		(Entered as a percentage of span)	
Prim. & Sec. ON/OFF Differential	d,IFF		(Entered as a percentage of span)	0_5
Setpoint Upper Limit	SPUL		Current Setpoint to Range max	R/max
Setpoint Lower limit	SPLL		Range min to Current Setpoint	R/min
Primary Output Power Limit	OPUL		0% to 100% of full power	100
Output 1 Cycle Time	Ct 1		0.5, 1, 2, 4, 8, 16, 32, 64, 128, 256 or 512 secs.	32
Output 2 Cycle Time	Ct 2			
Output 3 Cycle Time	Ct 3			
High Alarm 1 Value	PhR1		Range Minimum to Range Maximum	R/max
Low Alarm 1 Value	PLR1		Range Minimum to Range Maximum	R/min
Deviation Alarm 1 Value	dAL1		±Span from SP in display units	5
Band Alarm 1 Value	bAL1		1 LSD to span from setpoint	5
Alarm 1 Hysteresis	AHY1		1 LSD to full span in display units	1
High Alarm 2 Value	PhR2		Range Minimum to Range Maximum	R/max
Low Alarm 2 Value	PLR2		Range Minimum to Range Maximum	R/min
Deviation Alarm 2 Value	dAL2		±Span from SP in display units	5
Band Alarm 2 Value	bAL2		1 LSD to span from setpoint	5
Alarm 2 Hysteresis	AHY2		1 LSD to full span in display units	1
Manual Loop Alarm Time*	LAR t		0.0 1 to 99.59 (1s to 99m 59s)	99.59
Auto Pre-tune	APt			
Auto/Manual Control Selection	PaEn		d,5R (disabled) or EnRb (enabled)	d,5R
Setpoint Select Shown In Operator Mode	5SE n			
Setpoint Ramp Adjustment Shown In Operator Mode	5Pr		d,5R (disabled) or EnRb (enabled)	d,5R

Continued on next page...

Parameter	Lower Display	Upper Display Adjustment Range & Description	Default Value
SP Ramp Rate Value	rP	1 to 9999 units/hour or Off (blank)	Off
Setpoint Increment Value	SP _{in}	0 to +input span	I
Programmable Sensor Break	PS _b	d.5A (disabled) or EnAb (enabled)	EnAb
Preset Power Output	PP _o	0% (-100% if dual control) to 100%	0
Heater Current High Scale Limit	H _{trH}	0.0 to 100.0	0.0
Low Heater Break Alarm Value	L _{hb}	0 to Heater Current High Scale Limit	0.0
High Heater Break Alarm Value	H _{hb}		0.0
Short Circuit Heater Break Alarm	S _{hb}	d.5A (disabled) or EnAb (enabled)	EnAb
Soft Start Setpoint	55SP	Setpoint upper limit to setpoint lower limit*	R/min
Soft Start Time	55t _i	0 to 99min 59secs	0
Soft Start Output Power Limit	55OL	0 to Output Power Limit	Output Power Limit
Setpoint Value	SP	Scale range upper to lower limits. (when dual or remote setpoint options are used, SP is replaced by SP1 or SP2)	Scale Range Minimum
Setpoint 1 Value	.SP1		
Setpoint 2 Value	.SP2		
Setup Lock Code	SLoc	0 to 9999	0

*Note: Soft start will not run if the process variable is greater than the soft start setpoint. Soft start will be held if Pre-tune does not complete by the soft start time

5. AUTOMATIC TUNING MODE

First select Automatic tuning mode from Select mode (refer to section 2). Press **2** to scroll through the modes, then press **↑** or **↓** to set the required value.

To exit from Automatic tuning mode, hold down **2** and press **↑**, to return to Select mode.

Pre-tune is a single-shot routine and is thus self-disengaging when complete.

If **APL** in Setup mode = **EnAb**, Pre-tune will attempt to run at every power up*.

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

Parameter	Lower Display	Upper Display	Default Value
Pre-Tune	PtUn	On or OFF. Indication remains OFF if automatic tuning cannot be used at this time*	OFF
Self-Tune	StUn		
Tune Lock	tLoc	0 to 9999	0

* Note: Automatic tuning will not engage if either proportional band = 0. Also, Pre-tune will not engage if setpoint is ramping, the PV is less than 5% of input span from the setpoint.

6. PRODUCT INFORMATION MODE

First select Product information mode from Select mode (refer to section 2).

Press **2** to view each parameter. To exit from Product Information mode, hold down **2** and press **↑** to return to Select mode.

Note: These parameters are all read only.

Parameter	Lower Display	Upper Display	Description
Input type	In _i	Un _i	Universal input
Output 1 Module Type Fitted	OP _{n1}	nanE	No option fitted
		rLY	Relay output
		55r	SSR drive output
		t _{ri}	Triac output
Output 2 Module Type Fitted	OP _{n2}	L _{in}	Linear DC voltage / current output
			As Option 1
Output 3 Module Type Fitted	OP _{n3}	nanE	No option fitted
		rLY	Relay output
		55r	SSR drive output
		L _{in}	Linear DC voltage / current output
		dc24	Transmitter power supply
Auxiliary Option A Module Type Fitted	OP _{nA}	nanE	No option fitted
		r4B5	RS485 communications
		d.9 _i	Digital Input*
Auxiliary Option B Module Type Fitted	OP _{nB}	nanE	No option fitted
		H _C rP	Heater Current input
Firmware Type	FL _U		Value displayed is firmware type number
Firmware Issue	I55		Value displayed is firmware issue number
Product Revision Level	PrL		Value displayed is Product Revision level
Date Of Manufacture	d0 _{iii}		Manufacturing date code (mmyy)
Serial Number 1	S _{n1}		First four digits of serial number

Parameter	Lower Display	Upper Display	Description
Serial Number 2	S _{n2}		Middle four digits of serial number
Serial Number 3	S _{n3}		Last four digits of serial number

7. MESSAGES & ERROR INDICATIONS

These messages indicate that an error has occurred or there is a problem with the process variable input signal or its wiring.

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

Parameter	Upper Display	Lower Display	Description
Instrument Parameters Are In Default Conditions	90to	ConF	Configuration & Setup required. This screen is seen at first turn on, or if hardware configuration has been changed. Press 2 to enter the Configuration Mode, next press ↑ or ↓ to enter the unlock code number, then press 2 to proceed
Automatic Loop Alarm Overridden	RErr	LREn	Loop Alarm set for ALto but Pb.P is set to 0.0% (ON/OFF control). Loop Alarm uses the manual Loop Alarm Time until PID control is restored. Ensure LRE_i is set correctly
Input Over Range	CHHJ	Normal	Process variable input > 5% over-range
Input Under Range	CLLJ	Normal	Process variable input > 5% under-range
Input Sensor Break	DPEn	Normal	Break detected in process variable input sensor or wiring
Output 1 Error	Err	DPn1	Option 1 module fault
Output 2 Error		DPn2	Option 2 module fault
Output 3 Error		DPn3	Option 3 module fault
Option A Error		DPnA	Option A module fault
Option B Error		DPnB	Option B module fault

8. 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 **2** to scroll through the parameters, then press **↑** or **↓** to set the required value.

Note: All Operator Mode parameters in Display strategy 6 are read only (see in configuration mode), they can only be adjusted via Setup mode.

Upper Display	Lower Display	Display Strategy and When Visible	Description
PV Value	Active SP Value	1 & 2 (initial screen)	PV and target value of selected SP Local Setpoints are adjustable in Strategy 2
PV Value	Actual SP Value	3 & 6 (initial screen)	PV and actual value of selected SP (e.g. ramping SP value). Read only
PV Value	Heater Current	1 & 2 (initial screen)	PV and heater current value. ---A shown when soft start running
PV Value	(Blank)	4 (initial screen)	Process variable only Read only
Active SP Value	(Blank)	5 (initial screen)	Target value of selected setpoint only. Read only
SP1 Value	.SP1	- lit if active SP = SP1	Target value of SP1 Adjustable except in Strategy 6
SP2 Value	.SP2	lit if active SP = SP2	Target value of SP2 Adjustable except in Strategy 6
Actual SP Value	SP _{rP}	rP is not blank	Actual (ramping) value of selected SP. Read only
Ramp Rate	rP	5Pr enabled in Setup mode	SP ramping rate, in units per hour Adjustable except in Strategy 6
Soft Start Time Remaining	55rE	Only visible when soft start is running	The time remaining until soft start finishes
Active Alarm Status	ALSt	When one or more alarms are active. The ALARM indicator will also flash	<ul style="list-style-type: none"> HL2 Alarm 2 active Alarm 1 active Loop Alarm active L / Short Circuit Alarm 5 High HB Alarm H / Low HB Alarm L

Manual Control

If **PoEn** is set to **EnAb** in Setup mode, manual control can be selected/de-selected

by pressing the **MAN** key in Operator mode, or by changing the status of a digital input if **d.9_i** has been configured for **d.9_i** in Configuration mode.

While in Manual Control mode, the **MAN** indicator will flash and the lower display will show **Pxxx** (where xxx is the current manual power level). Switching to/from manual mode is via Bumpless Transfer. Press **↑** or **↓** to set the required output power.

Caution: Manual power level is not restricted by the **OPUL** or **55OL** power limit.

9. SOFT START FEATURE

Soft start is used when a gentle start-up phase is required before rising to the full working temperature. During soft-start, a dedicated soft start setpoint (**55SP**) is used that controls the process to a lower temperature. The period for which the soft start setpoint is applied is set by Soft Start Time (**55t_i**). During the soft start time the output power is limited by the Soft Start Output Power Limit (**55OL**) and setpoint ramping is inhibited.

Start-up Setpoint: Bounded by Scale Range Maximum and Scale Range Minimum. Setpoint ramping is not applied

Time Remaining: 0 (Soft start disabled) to 99mins 59secs in 1 second increments

Soft Start Power: Primary output power limit used during soft start -100% to 100% Limit:

Cycle Time: Cycle time used during soft start equals ¼ displayed cycle time, but is never less than 0.5 seconds.

Operating mode: Assumes reverse-acting control. Heater current monitoring is suspended while soft start is running.

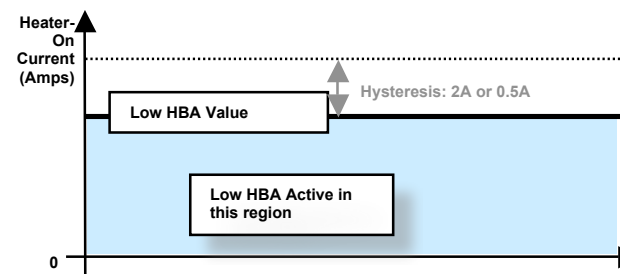
10. PROGRAMMABLE SENSOR BREAK

When the Programmable Sensor Break feature is enabled, and a sensor break is detected, the output is set to an average power value calculated by the instrument. When the Programmable Sensor Break (**PS_b**) feature is disabled, and a sensor break is detected, the output is set to the Preset Power Output value (**PP_o**).

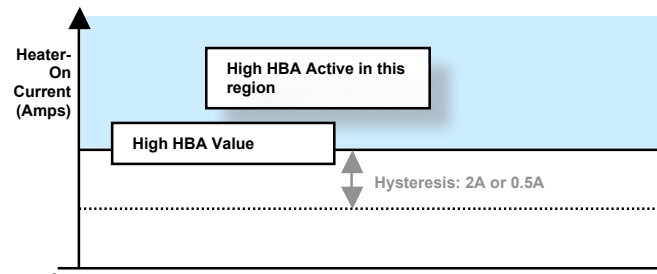
11. HEATER BREAK ALARMS

The heater current monitor is used to diagnose faults in the heater elements. A Low Heater Break Alarm is typically used for early detection of heater element failure; it detects whether the heater current is lower than it should be. A High Heater Break Alarm can sometimes be useful for detecting partial shorts between heater elements, etc; it detects whether the heater current is higher than it should be. Short Circuit Heater Break Alarm is typically used to detect if the heater control device is stuck in the ON condition - welded relay contacts, failed SSR etc. This alarm is based on the heater current acquired whilst the Output is off. When soft start is running Heater current monitoring is suspended. This is because for soft start the output is cycled very fast, and a valid heater current reading may not be possible.

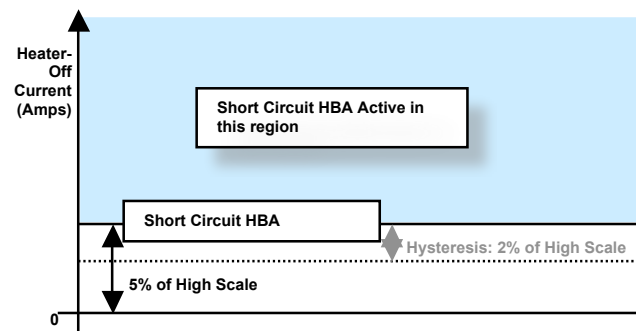
Low Heater Break Alarm



High Heater Break Alarm



Short Circuit Heater Break Alarm



12. SERIAL COMMUNICATIONS

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

13. SPECIFICATIONS

UNIVERSAL INPUT

Thermocouple: ±0.1% of full range, ±1LSD (±1°C for Thermocouple CJC). Calibration: 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. Control outputs go to a calculated average power value or to the programmable output power.

Isolation: Isolated from all outputs (except SSR driver). Universal input must not be connected to operator accessible circuits if relay outputs are connected to a hazardous voltage source. Supplementary insulation or input grounding would then be required.

HEATER CURRENT INPUT

Accuracy: ±2% of input range ±1 LSD.

Sampling Rate: 2 per second.

Internal burden: 15Ω

Heater current span: 0 to 50mA, rms (sinusoidal input waveform). Scaleable up to 100A

Isolation: Via external current transformer.

DIGITAL INPUTS

Volt-free(or TTL): Open(2 to 24VDC) = SP1, Local SP or Auto Mode. Closed(<0.8VDC) = SP2, Remote SP or Manual Mode.

Isolation: Reinforced safety isolation from inputs and other outputs.

OUTPUTS

Relay

Contact Type & Rating: Single pole (SP); 2A resistive at 120/240VAC.

Lifetime: >500,000 operations at rated voltage/current.

Isolation: Isolated from input 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

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: 19 to 28V DC (24V nominal) into 910Ω minimum resistance.

Isolation: Reinforced safety isolation from inputs and other outputs.

SERIAL COMMUNICATIONS

Physical: RS485, at 1200, 2400, 4800, 9600 or 19200 bps.

Protocols: Modbus/RTU.

Isolation: Reinforced safety 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 powered versions), or 20 to 48VAC 50/60Hz 7.5VA or 22 to 65VDC 5W (for low voltage versions).

Isolation: Reinforced safety isolation from all inputs and outputs.

ENVIRONMENTAL

Standards: CE, UL, cUL.

EMI: Complies with EN61326 (Susceptibility & Emissions).

Safety: Complies with EN61010-1 & UL3121.

Pollution Degree 2, Installation Category II.

Front Panel Sealing: To IP66 (IP20 behind the panel).

PHYSICAL

Front Bezel Size: 48 x 48mm

Depth Behind Panel: 110mm

Weight: 0.21kg maximum.