

# 2408i

## Universal Process Indicator and Alarm Unit



Accurate, stable measurement of temperature, pressure, level, flow and other process variables is provided by the 2408i universal indicator. An optional second process value input allows the average, difference, minimum or maximum of two values to be displayed. Large red or green displays ensure good visibility in high and low ambient lighting.

Temperature linearization functions for nine thermocouple types and Pt100 resistance thermometers are selectable. Other input linearizations can be factory downloaded.

Strain gauge and pressure sensor inputs can be energized from an internal 5 or 10Vdc supply. An automatic calibration routine is provided to remove zero and span offsets.

For liquid level measurement using pressure sensors, a custom 15-point fit can be applied to the input signal to give an accurate displayed value.

### Features

- Four alarm setpoints - for plant protection and operating warning
- Serial communications - for supervisory monitoring and data acquisition
- DC retransmission - fully isolated retransmission to remote control and monitoring equipment

### Ideal for

- temperature indication
- pressure, flow and level
- differential measurement
- weighing platforms and strain gauges
- process protection/monitoring

### Specifications

#### Dimensions:

96W x 48H x 150D mm

#### Display:

Red or green, 5 digit 15.9 mm LED

#### Supply voltages:

85-264Vac, 20-29Vac/dc, 15 watts max.

#### Operating ambient:

0-55°C, 5-95% RH non-condensing

#### Inputs:

Single or dual; Nine standard thermocouple types, Pt100, Strain gauge, Linear mV/mA

#### Sample rate:

9Hz

#### Relay output ratings:

2A, 264V resistive

#### Digital communications:

RS232, 2-wire RS485 and 4-wire RS422 Modbus®, Eurotherm ASCII, DeviceNet and Profibus

#### Panel sealing:

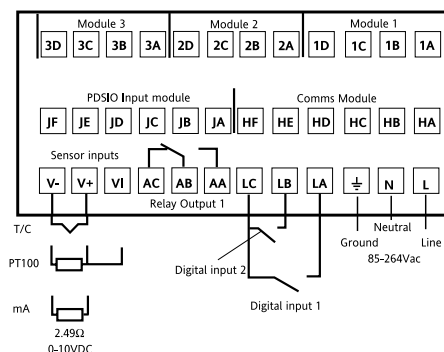
IP65, plug-in from front

#### Data sheet:

HA026172

### Rear terminal connections

#### Model 2408i





# Ordering codes

Hardware coding	Model Number	Function	Display Color	Supply Voltage	Module 1	Module 2	Module 3	Relay Output 1	Comms Module	PDS Module	Manual
	2408i										

Function	Module 1, 2 & 3	Relay Output 1	Comms Module	Manual
<b>AL</b> Indicator/Alarm unit <b>AP</b> Profibus Indicator/Alarm unit	<b>XX</b> None <b>RA</b> Relay (change over) Fitted unconfigured OR Select alarm configuration from table A <b>DC</b> Retransmission <b>D6</b> Fitted unconfigured First character V- PV retrans S- Setpoint retrans Z- Error retrans Second character -1 0-20mA -2 4-20mA -3 0-5V -4 1-5V -5 0-10V <b>Dual relay</b> (note 2) <b>RR</b> Fitted unconfigured	<b>XX</b> Not fitted <b>RF</b> Fitted unconfigured OR select alarm configuration from Table A  <b>Table A</b> <b>Alarm relay configuration (note 1)</b> <b>Non-latched alarm</b> <b>FH</b> High alarm <b>FL</b> Low alarm <b>DB</b> Dev. band alarm <b>DL</b> Dev. low alarm <b>DH</b> Dev. high alarm <b>RA</b> Rate-of-change alarm <b>Latched alarm</b> <b>HA</b> High alarm <b>LA</b> Low alarm <b>BD</b> Dev. band alarm <b>WD</b> Dev. low alarm <b>AD</b> Dev. high alarm <b>RT</b> Rate-of-change alarm <b>NW</b> New alarm	<b>XX</b> Module not fitted <b>RS232</b> <b>A2</b> Fitted unconfigured <b>AM</b> Modbus protocol <b>AE</b> El-Bisynch protocol* <b>RS485 (2-wire)</b> <b>Y2</b> Fitted unconfigured <b>YM</b> Modbus protocol <b>YE</b> El-Bisynch protocol* <b>RS422 (4-wire)</b> <b>F2</b> Fitted unconfigured <b>FM</b> Modbus protocol <b>FE</b> El-Bisynch protocol* <b>Profibus Module</b> <b>PB</b> High speed RS485 <b>DeviceNet®</b> <b>DN</b> DeviceNet  * Not available with Profibus units	<b>XXX</b> No manual <b>ENG</b> English <b>FRA</b> French <b>GER</b> German <b>NED</b> Dutch <b>SPA</b> Spanish <b>SWE</b> Swedish <b>ITA</b> Italian

**Note 1:**  
By default, alarm 1 will be assigned to relay output 1 and alarms 2, 3 and 4 to modules 1, 2 and 3 respectively.

**Note 2:**  
The allocation of alarms to the dual relay outputs is performed in configuration by the customer.

Configuration coding (optional)	Configuration of Main Input				Config of 2nd Analog Input (requires D5 in Module 3)						
	Sensor Input	Setpoint Min	Setpoint Max	Display Units	Digital Input 1	Digital Input 2	2nd DC Input	PV Function	2nd Input Display Min	2nd Input Display Max	Config Options
		note 6	note 6				note 7		note 8	note 8	

Sensor Input	Setpoint Min	Setpoint Max	Display Units	Config Options
<b>Standard Sensor Inputs</b>				
J Thermocouple	Min	Max	°C	
K Thermocouple	-210	1200		
T Thermocouple	-200	1372		
L Thermocouple	-200	400		
N Thermocouple	-200	900		
N Thermocouple-Nicrosil/Nisil	-200	1300		
R Thermocouple-Pt/Pt13%Rh	-50	1700		
S Thermocouple-Pt /Pt10%Rh	-50	1768		
B Thermocouple-Pt/Pt30%Rh	0	1820		
P Platinel II Thermocouple	0	1369		
Z RTD/PT100 DIN 43760	-200	850		
<b>Factory Downloaded Input</b>				
C Thermocouple - W5%Re/W26%Re (Hoskins)	0	2319		
D Thermocouple - W3%Re/W25%Re	0	2399		
E Thermocouple	-250	1000		
1 Ni/Ni18%Mo Thermocouple	0	1399		
2 Pt20%Rh/Pt40%Rh Thermocouple	0	1870		
3 W/W26%Re (Engelhard) Thermocouple	0	2000		
4 W/W26%Re (Hoskins) Thermocouple	0	2010		
5 W5%Re/W26%Re (Engelhard) Thermocouple	10	2300		
6 W5%Re/W26%Re (Bucose) Thermocouple	0	2000		
7 Pt10%Rh/Pt40%Rh Thermocouple	200	1800		
8 Exergen K80 I.R. pyrometer	-45	650		
<b>Process Inputs (Scaled to setpoint min and max)</b>				
M -9.99 to 80.00mV linear	-999	9999		
Y 0 to 20mA linear (note 4)	-999	9999		
A 4 to 20mA linear (note 4)	-999	9999		
W 0 to 5Vdc linear	-999	9999		
G 1 to 5Vdc linear	-999	9999		
V 0 to 10Vdc linear	-999	9999		

Digital Inputs 1 & 2
<b>XX</b> Disabled (telemetry only) <b>AC</b> Alarm acknowledge <b>KL</b> Keylock <b>SR</b> Remote setpoint select <b>PV</b> Select process value I/P 2 <b>J1</b> Initial tare correction on strain gauge input 1 <b>J2</b> Initial tare correction on strain gauge input 2 <b>J3</b> Automatic zero and span calibration for strain gauge, input 1 <b>J4</b> Automatic zero and span calibration for strain gauge, input 2
PV Function
<b>XX</b> None, PV = main input <b>LO</b> PV = the lowest of input 1 & input 2 <b>HI</b> PV = the highest on input 1 & input 2 <b>FN</b> PV derived from input 1 & 2 <b>RS</b> Remote setpoint

**Note 3:**  
Triple contact or logic inputs can be configured, by the user, for any of the functions listed under Digital Inputs 1 and 2.

**Note 4:**  
The triple logic outputs can be configured as alarm outs or as telemetry outs via digital comms.

**Note 5:**  
By default, the transducer supply for input 1 will be installed in module position 2 and the transducer supply for input 2 in module position 1.

**Note 6:**  
Setpoint min and max: Include the decimal points required in the displayed value; up to one for temperature inputs, up to two for process inputs.

**Note 7:**  
Select code required from the Sensor Input table.

**Note 8:**  
These two fields are used to scale the 2nd DC Input if it is a linear process input, otherwise it should be left blank.

**Note 9:**  
For mA inputs, a 1% 2.49ohm current sense resistor is supplied as standard. If greater accuracy is required a 0.1% resistor can be ordered as part number: SUB2K/249R.1

### Example ordering code

2408i - AL - GN - VH - RR - RR - XX - XX - YM - XX - ENG - K - 0 - 1000 - C - AC - KL

2408i, Indicating alarm unit, green display, 85 to 264Vac, Dual relay, Dual relay, RS485, Modbus® comms, English manual, Type K thermocouple, 0 to 1000°C, Alarm acknowledge, Keylock