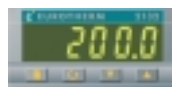**Model 2132FM**
1/32 DIN
(48 x 24mm)

Model 2116FM
1/16 DIN
(48 x 48mm)

Model 2208FM
1/8 DIN
(48 x 96mm)

Model 2204FM
1/4 DIN
(96 x 96mm)

EUROTHERM CONTROLS

Series 2000FM Alarm Units

- **Standard 1/4, 1/8, 1/16, 1/32 DIN panel cutout**

- **Plug-in from the front**

- **Independent alarm outputs**

- **User defined operator interface**

- **Digital input for alarm reset or simple front panel acknowledgment and reset of alarms**

- **EIA-485 communications**

- **IP 65 panel sealing (NEMA 4X)**

- **Compliant with European EMC and low voltage safety directives**

The Series 2000FM Family of alarm units is UL and FM approved. The family consists of four instruments; 2132FM, 2116FM, 2208FM and 2204FM.

Universal input

A universal input circuit with an advanced analog to digital convertor samples the input and continuously corrects it for drift. This gives high stability and rapid response to process changes. High noise immunity is achieved by rejection of 50/60Hz pick-up and other sources of noise. The input covers all thermocouple types, Pt100 RTD linear millivolts or milliamps or DC volts. Input filtering from 1.0 to 999.9 seconds is included.

Customized operation

Front panel LEDs provide a bright, clear display of the process value. Tactile push buttons insure positive operation.

Access to other parameters is simple and easy to understand and can be customized to present only those parameters that need to be viewed or adjusted. All other parameters are locked away under password protection.

A digital input for alarm acknowledgement/reset is included as standard.
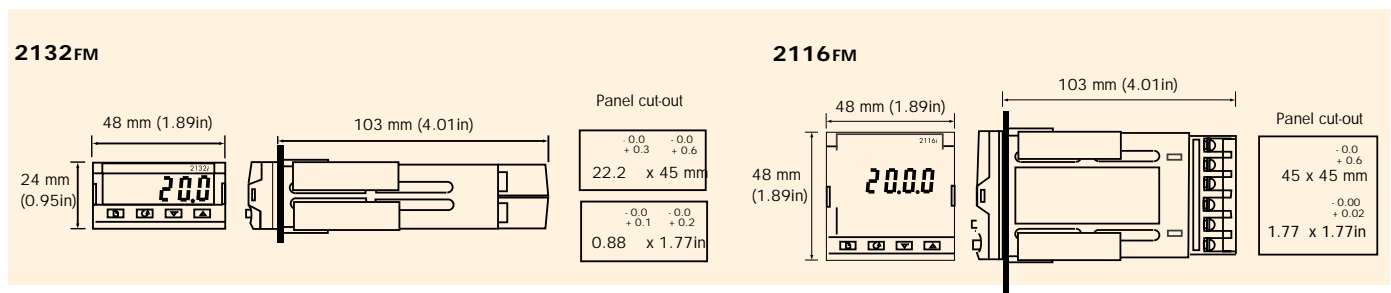
Alarm Operation

The alarms do not require acknowledgement during power up unless you are in an alarm condition. The alarms can only be acknowledged when the unit is out of the alarm condition. If the alarm is acknowledged before the unit is out of an alarm condition, the unit will ignore the acknowledgements.
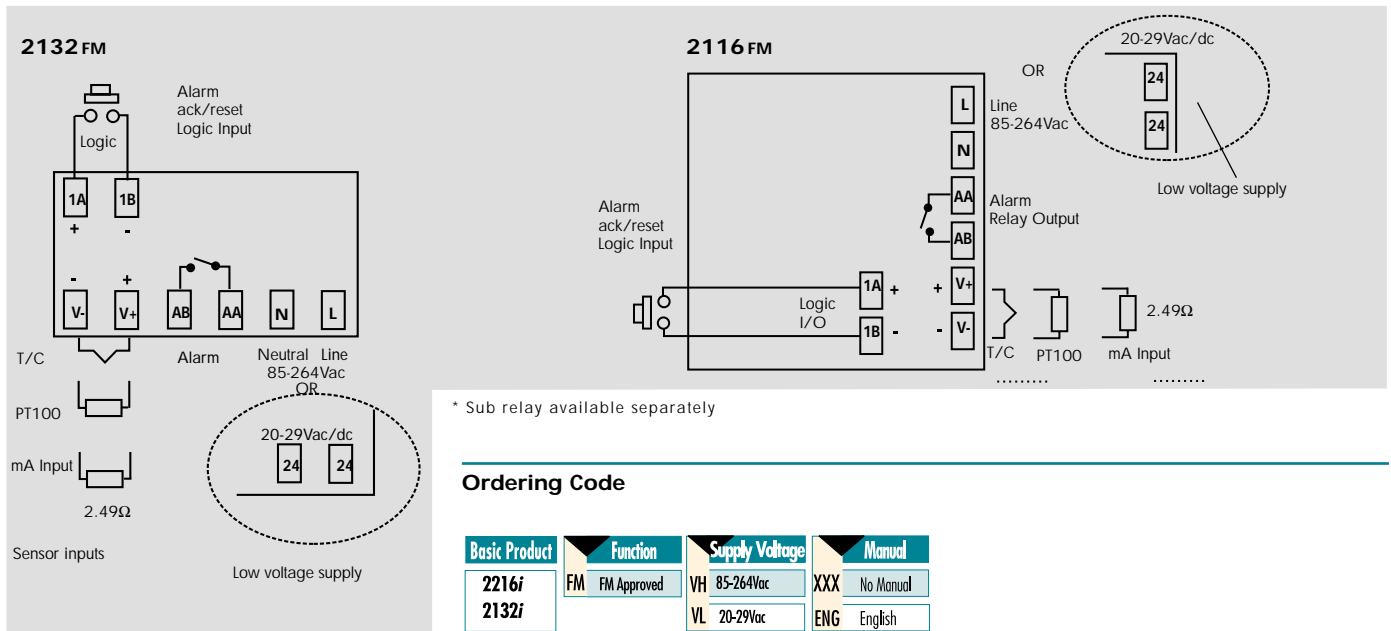
C E

UL ®

c UL ®

F M
APPROVED

invensys
An Invensys company
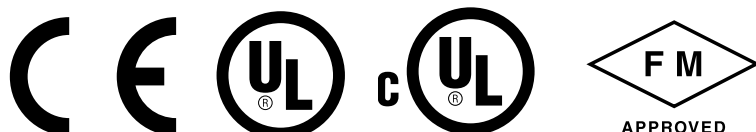
Sensor inputs and display ranges (Temperature scales conform to the ITS90 standard)

	Celsius		Fahrenheit	
Standard Sensor Inputs	Min	Max	Min	Max
J thermocouple	-210	1200	-350	2192
K thermocouple	-200	1372	-325	2500
T thermocouple	-200	400	-325	750
L thermocouple	-200	900	-325	1650
N thermocouple	-200	1300	-325	2370
C thermocouple - W5%Re/W26%Re (Hoskins)	0	2319	32	4200
R thermocouple	-50	1768	-60	3200
S thermocouple	-50	1768	-60	3200
B thermocouple	0	1820	32	3310
Platinell II thermocouple	0	1369	32	2500
RTD/PT100DIN 43760	-200	850	-325	1560
Custom Sensor Inputs (Replaces type C thermocouple)				
E thermocouple	-200	1000	-325	1830
Ni/Ni18%Mo thermocouple	0	1100	32	2012
Pt10%Rh/P140%Rh thermocouple	200	1800	392	3272
Pt20%Rh/Pt40%Rh thermocouple	0	2000	32	3632
W/W26%Re (Englehard) thermocouple	0	2000	32	3632
W/W26%Re (Hoskins) thermocouple	0	2010	32	3650
W5%Re/W26%Re (Englehard) thermocouple	10	2300	50	4172
W5%Re/W26%Re (Bucose) thermocouple	0	2000	32	3632
D thermocouple - W3%Re/W25%Re	0	2400	32	4352
Linear Inputs	-999	9999		

Dimensions

2132FM

48 mm (1.89in) 103 mm (4.01in)

24 mm (0.95in)

2132i
20.0.0

Panel cut-out

- 0.0 - 0.0
+ 0.3 + 0.6
22.2   x 45 mm

- 0.0 - 0.0
+ 0.1 + 0.2
0.88   x 1.77in

2116FM

48 mm (1.89in)   103 mm (4.01in)

48 mm (1.89in)

2116i
20.0.0

Panel cut-out

- 0.0
+ 0.6
45 x 45 mm

- 0.00
+ 0.02
1.77 x 1.77in

Electrical connections

2132 FM

Alarm ack/reset Logic Input

Logic

1A 1B
+   -

-   +
V- V+ AB AA N L

T/C

Alarm   Neutral Line
85-264Vac
OR

PT100

mA Input

2.49Ω

20-29Vac/dc
24 24

Sensor inputs

Low voltage supply

2116 FM

OR

20-29Vac/dc
24
24

Low voltage supply

L Line 85-264Vac
N

AA Alarm Relay Output
AB

Alarm ack/reset Logic Input

1A +   + V+
Logic I/O
1B -   - V-

T/C   PT100   mA Input   2.49Ω

* Sub relay available separately

Ordering Code

Basic Product	Function	Supply Voltage	Manual
2216i	FM — FM Approved	VH — 85-264Vac	XXX — No Manual
2132i		VL — 20-29Vac	ENG — English

2208 Outline Dimensions

1.89in (48mm)

3.78in (96mm)

4.06in (103mm)

200.0

Panel cut-out

3.62in x 1.77in
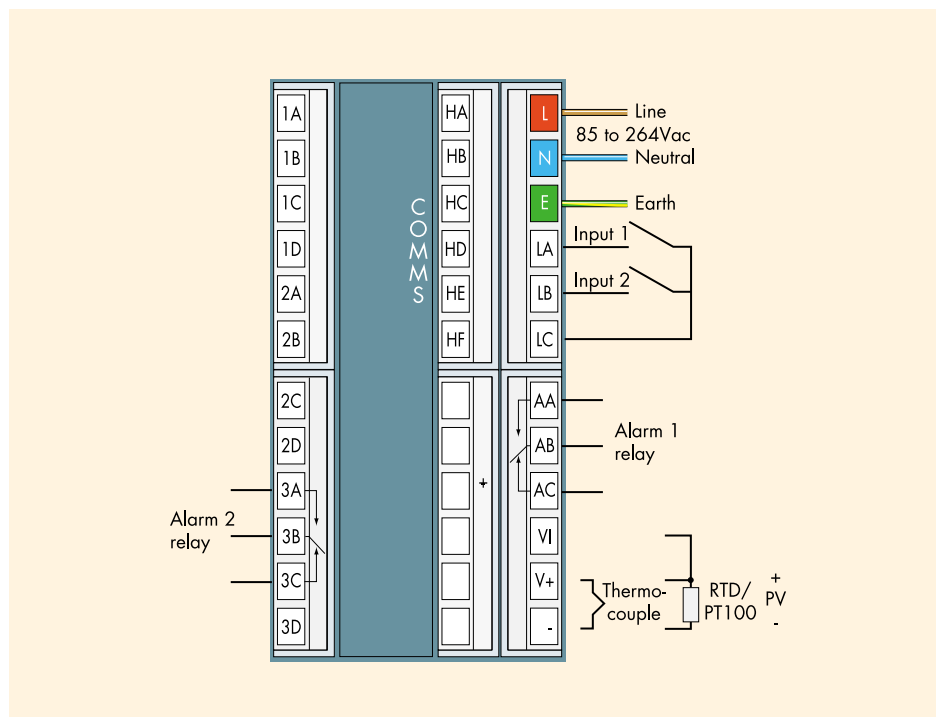(92mm x 45mm)

-0.0   -0.0
+0.8   +0.8
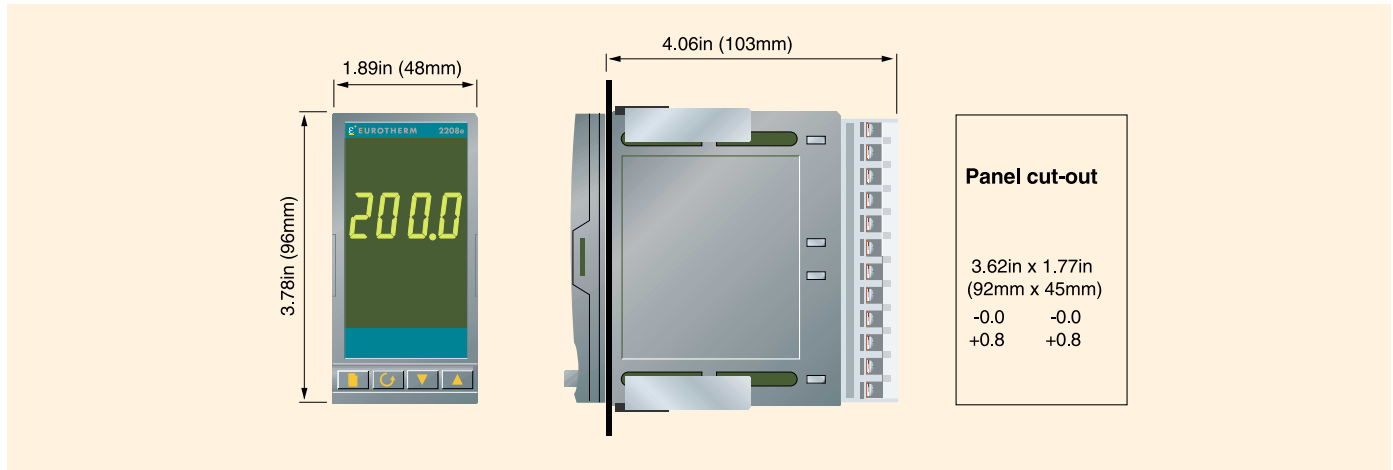
Rear Terminal Connections

Alarms 3 and 4 are optional latching
and non-latching outputs which
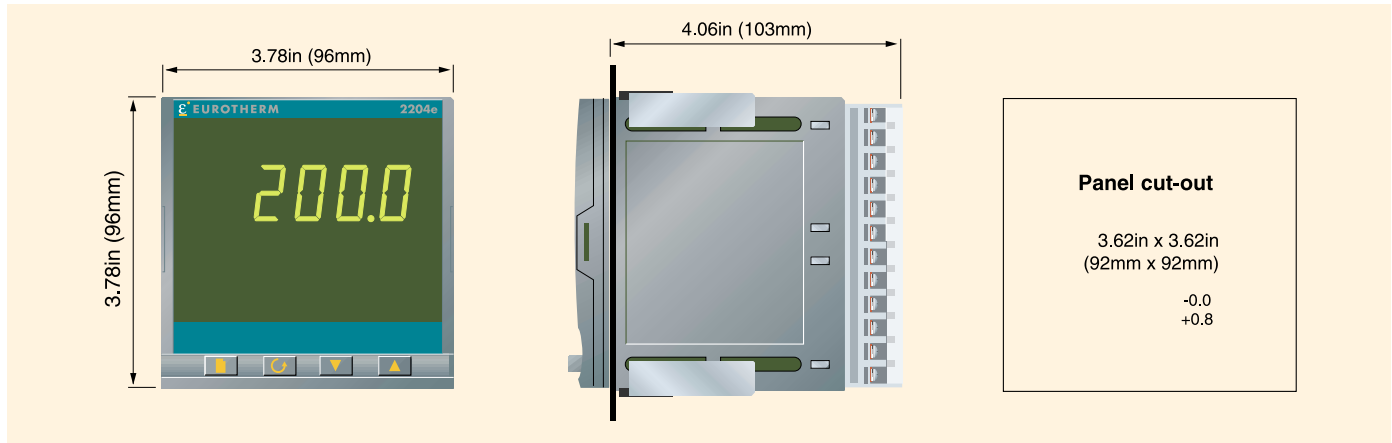are shown in the ordering
code below.

Alarm 3	Relay
1A	
1B	

Alarm 4	Relay
2A	
2B	

Line
85 to 264Vac
Neutral
Earth
Input 1
Input 2

Alarm 1
relay

Alarm 2
relay

Thermo-
couple

RTD/
PT100

+
PV
-

Ordering Code

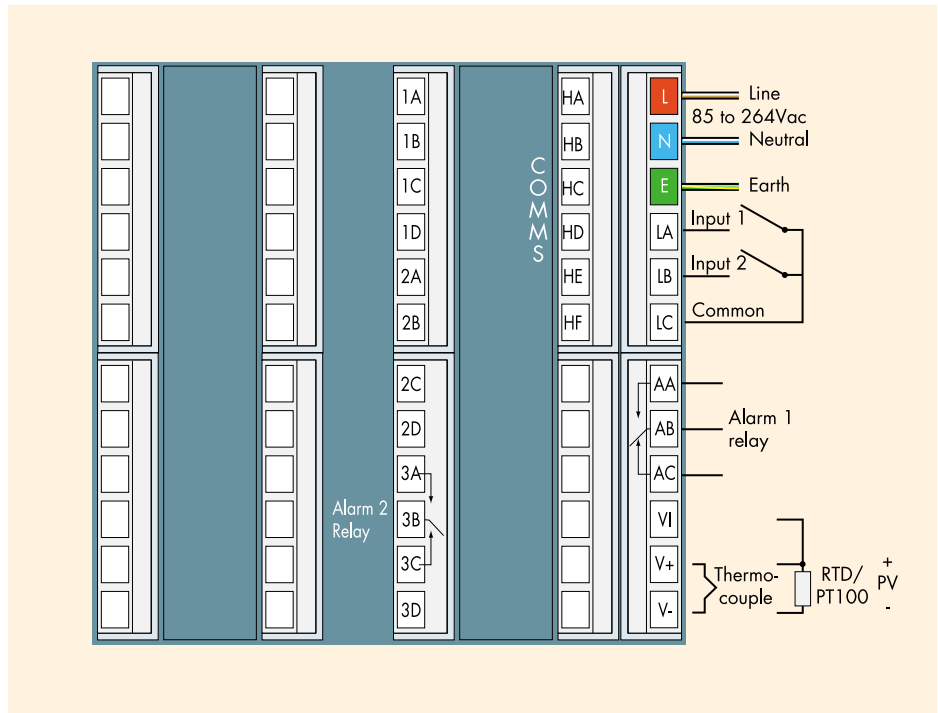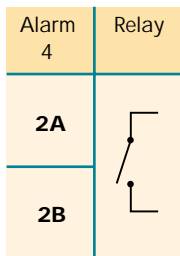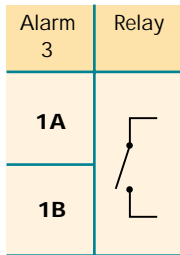| Basic Product		Function	Supply Voltage		Alarm 3		Alarm 4		Alarm 1		Alarm 2		Comms		Manual		FM Approval
2208	NS	Alarm	VH 85-264Vac	XX	Not used	XX	Not used	RF	Relay: change over	RF	Relay: change over	XX	Not used	XXX	No Manual		@AU91
				R1	Relay: 2-pin	R1	Relay: 2-pin					YM	485 Modbus	ENG	English		

The above ordering code specifies only the hardware build. The input
type and output control functions must then be configured
on-site to suit a particular application.

2204FM Outline Dimensions

3.78in (96mm)

4.06in (103mm)

3.78in (96mm)

Panel cut-out

3.62in x 3.62in
(92mm x 92mm)

-0.0
+0.8

Rear Terminal Connections

Alarm 3 and 4 are optional latching and non-latching outputs which are shown in the ordering code below.

Alarm 3	Relay
1A	
1B	

Alarm 4	Relay
2A	
2B	

Ordering Code

Basic Product	Function	Supply Voltage	Alarm 3	Alarm 4	Alarm 1	Alarm 2	10A Relay	Comms	Manual	FM Approval
2204	NS Alarm	VH 85-264Vac	XX Not used	XX Not used	RF Relay: change over	RF Relay: change over	XX Not used	XX Not used	XXX No Manual	@AU91
			R1 Relay: 2-pin	R1 Relay: 2-pin				YM 485 Modbus	ENG English	

The above ordering code specifies only the hardware build. The input type and output control functions must then be configured on-site to suit a particular application. If preconfiguration is required, ask for details on the full ordering code.

For more information contact your local representative: