

32h8e EPower Remote Panel



Model number 32h8e is a horizontal 1/8DIN indicator and alarm unit that performs the dual function of remote display for EPower and independent 'policeman'. The latter is intended to disconnect should an overtemperature (or other excess process condition) occur. 32h8e communicates with EPower using Modbus protocol via the EIA485 RJ45 connector located on the underside of the EPower controller.

The remote panel is normally ordered as an option with EPower units. It is a fixed hardware build consisting of a relay output in OP1 and an analogue output in OP3. There are no user communications since this is used to communicate with EPower and the supply is high voltage only (100-240Vac). The unit is configured using 'QuickStart' code on initial start up.

The 32h8e is based on a 32h8i indicator and has the same and additional features as this instrument. For features not covered please refer to HA029005.

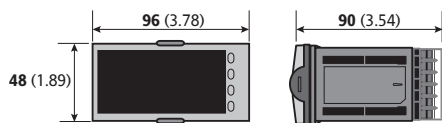
The 32h8e displays EPower Current, Voltage, Power and Setpoint parameters for each EPower Network. The Setpoint of the EPower networks can be adjusted via the 32h8e HMI. Indication of selected setpoint is included: local or remote.

Wire sizes

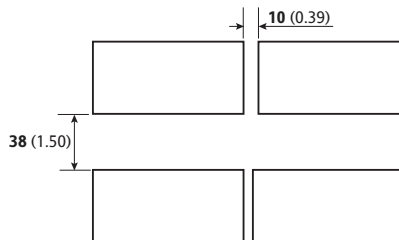
The screw terminals accept wire sizes from 0.5 to 1.5mm (16 to 22AWG). Hinged covers prevent hands or metal making accidental contact with live wires. The rear screws should be tightened to 0.4Nm (3.3lb in).

⚠ Ensure that the supply to the unit does not exceed 240Vac +10%

Mechanical Details



Panel cut-out 45 (1.77) (-0.0 +0.6) x 92 (3.62) (-0.0 +0.8)

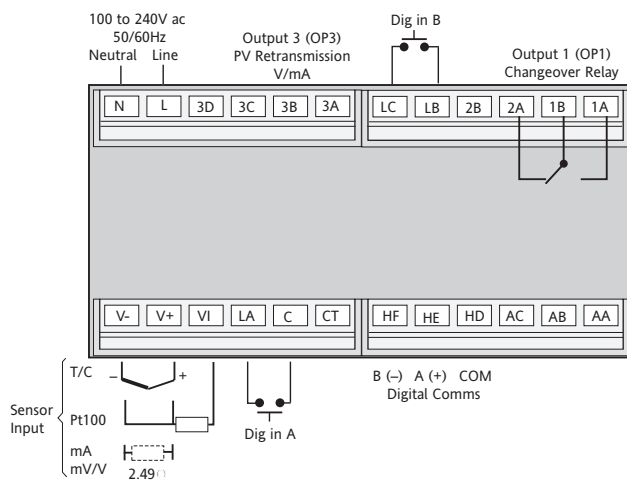


Dimension mm (inches)

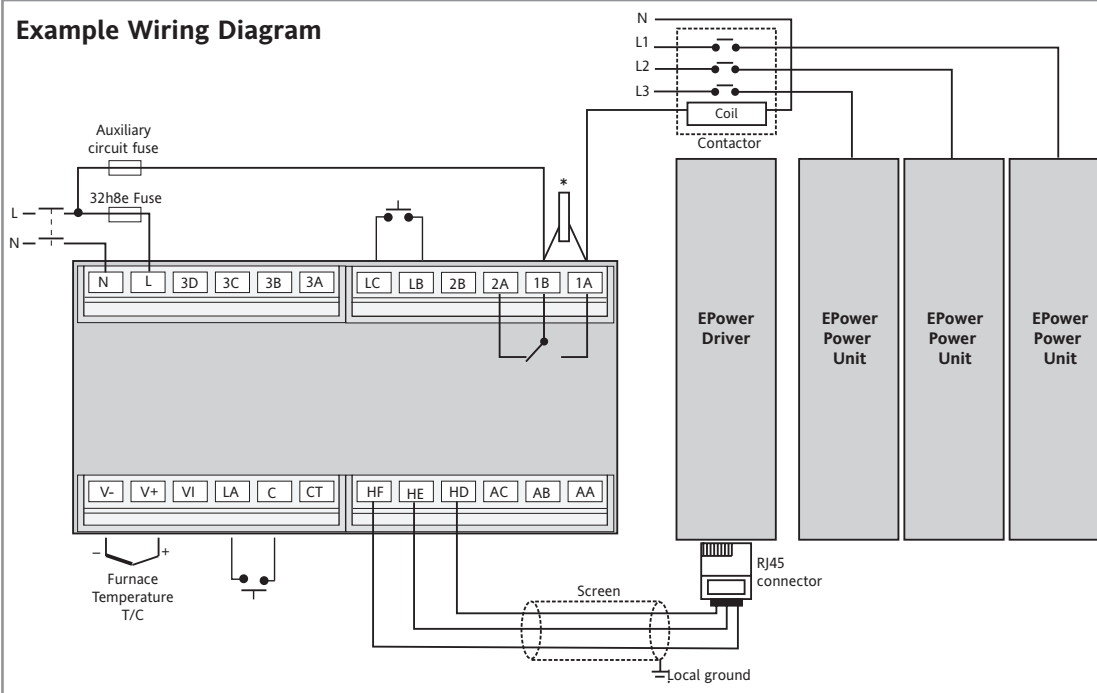
Recommended minimum spacing

If more than one unit is mounted in the same panel they should be spaced to allow sufficient air flow between them.

Rear Terminals



Example Wiring Diagram



* General notes about relays and Inductive Loads

When switching inductive loads such as contactors or solenoid valves, wire the 22nF/100 'snubber' supplied across normally open relay terminals.

This will prolong contact life and reduce interference.

⚠ Snubbers pass 0.6mA at 110V and 1.2mA at 230Vac, which may be sufficient to hold on high impedance loads.

Specification - 32h8e Remote display

Environmental performance

Temperature limits	Operation:	0 to 55°C
	Storage:	-10 to 70°C
Humidity limits	Operation:	5 to 85% RH non condensing
	Storage:	5 to 85% RH non condensing
Panel sealing:		IP65, Nema 4X
Shock:		BS EN61010
Vibration:		2g peak, 10 to 150Hz
Altitude:		<2000 metres
Atmospheres:		Not suitable for use in explosive or corrosive atmosphere

Electromagnetic compatibility (EMC)

Emissions and immunity: BS EN61326

Electrical safety

(BS EN61010): Installation cat. II; Pollution degree 2

INSTALLATION CATEGORY II

The rate impulse voltage for equipment on nominal 230V mains is 2500V.

POLLUTION DEGREE 2

Normally, only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation shall be expected

Physical

Panel mounting:	1/8 DIN, horizontal
Dimensions and weight:	96mm (3.78") W x 48mm (1.89") H x 90mm (3.54 inches) D, 350g (0.77lbs)
Panel cut-out dimensions:	92mm (1.77 inches W x 45mm (3.62 inches) H

Operator interface

Type:	LCD TN with backlight
Main PV display:	5 digits, green or red
Lower display:	9 character starburst, green
Status beacons:	Units, outputs, alarms

Power requirements

Voltage:	100 to 240V ac, -15%, +10%, max 9W
Frequency:	48 to 62Hz

Approvals

CE, cUL listed (file E57766)

Communications

Serial communications option	
Protocol:	Modbus RTU Master
Isolation:	264V ac, double insulated
Transmission standard:	EIA485 (2 wire)

The 32h8e has Modbus Master RS485 Comms with a fixed set of EPower Modbus addresses. Power up the display for the first time, configure the QuickStart code for the standard indicator functions, and the process values and alarm messages are immediately displayed, automatically configured to match the EPower display - for example RMS values or average values for current, voltage and power displayed as 3 phase or as several times single phase as defined by the EPower configuration.

32h8e Terminal			RJ45 Pin Number
HD	White/Green	Common	3
HE	Orange	Rx A(+)	2
HF	White/Orange	Tx B(-)	1

Process variable input

Calibration accuracy:	<±0.25% of reading ±1LSD (Note 1)
Sample rate:	9Hz(110ms)
Isolation:	264V ac double insulation from the PSU and communication
Resolution (µV):	<0.5µV with 1.6s filter (mV range) <0.25mV with 1.6s filter (Volts range)
Resolution (effective bits):	>17 bits
Linearisation accuracy:	< 0.1% of reading
Drift with temperature:	<50ppm (typical) <100ppm (worst case)
Common mode rejection:	48-62Hz, >-120db
Series mode rejection:	48-62Hz, >-93dB
Input impedance:	100MΩ (200KΩ on volts range C)
Cold junction compensation:	>30/1 rejection of ambient change
External cold junction:	Reference of 0°C
Cold junction accuracy:	<±1°C at 25°C ambient
Linear (process) input range:	-10 to 80mV, 0 to 10V
Thermocouple types:	K, J, N, R, S, B, L, T, C, custom download (Note 2)

Resistance thermometer types:	3-wire Pt100 DIN 43760
Bulb current:	0.2mA
Lead compensation:	No error for 22 ohms in all leads
Input filter:	Off to 100s
Zero offset:	User adjustable over full range
User calibration:	2-point gain & offset

Notes

- (1) Calibration accuracy quoted over full ambient operating range and for all input linearisation types
- (2) Contact Eurotherm for details of availability of custom downloads for alternative sensors

OP 1

Type:	Form C (changeover)
Rating:	Min 100mA @12V dc, max 2A@240Vac resistive
Functions:	Alarms, events

OP 3

Isolation:	264V ac double insulated
Functions:	Retransmission
Current output	Rating: 0-20mA into <500Ω Accuracy: ±(<0.25% of Reading + <50µA) Resolution: 13.6 bits
Voltage output	Rating: 0-10V into >500Ω Accuracy: ±(<0.25% of Reading + <25mV)
Resolution:	13.6 bits

Software features

Alarms

Number:	4
Type:	Absolute high & low, Rate of change (rising or falling)
Latching:	Auto or manual latching, non-latching, event only
Output assignment:	Up to four conditions can be assigned to one output
EPower Alarms:	Missing mains, Thyristor short circuit, Open thyristor, Fuse blown, Over temperature, Voltage dips, Frequency fault, Power module 24V fault, Total load failure, Chop off, Partial Load Failure, Partial Load Unbalance, Volt fault, Temperature pre alarm, Power module wdog fault, Power module comms error, Power module timeout, Closed loop, Output fault

The pre-set alarms have a fixed medium priority enables indicator alarms to be configured as lower, the same or higher priority.

EPower alarms can be globally acknowledged via the 32h8e HMI.

Other status outputs

Functions:	Including sensor break, power fail, new alarm, pre-alarm
Output assignment:	Up to four conditions can be assigned to one output

Custom messages

Number:	15 scrolling text messages
No of characters:	127 characters per message max
Languages:	English, German, French, Spanish, Italian
Selection:	Active on any parameter status using conditional command

Recipes

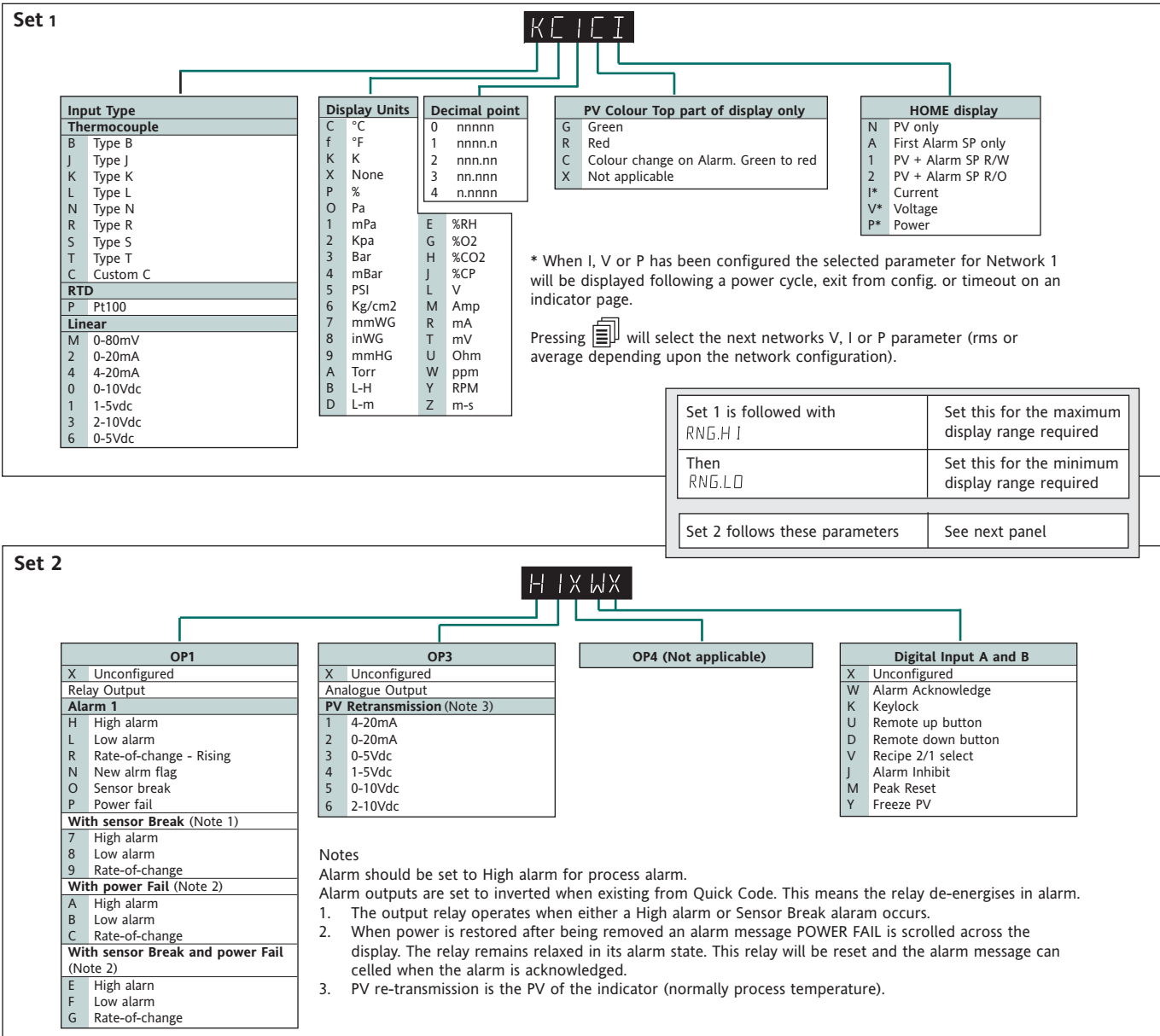
Number:	5 recipes with 19 parameters
Selection:	HMI interface, communications or digital IO

Other features

Display colour:	Upper display selectable green or red or change on alarm
Scrolling text:	Parameter help, custom messages
Display filter:	Off to zero last 2 digits
Peak monitor:	Stores high and low values

32h8e Initial configuration

If it has not previously been configured (e.g. a new instrument) it will start up showing the 'QuickStart' configuration codes. This consists of two 'Sets' of five characters. The upper section of the display shows the set selected, the lower section shows the five which make up the set.



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