Maintenance indicator 1430 Smart indicator series

- Monitors appliance usage
- Preventative maintenance reminder
- Direct replacement for Neon indicator
- Counts time that mains power is applied
- Remembers accumulated time even if power is switched off
- Connecting 'reset' terminal to Neutral resets timer to zero
- Green LED indicates normal operation
- Flashing Red LED indicates service action is required
- Convenient snap-in design
- Choice of connection terminals
- Panel cut out:
  30.0 x 11.0

230Vac. 115Vac, 48V, 24V & 12V available.
Less than 1 watt (power consumption)

UL Recognised. File no. E311309

CE Mark

FCC compliant

RoHS compliant

C 1432 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR, TIME

TERMINAL

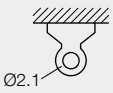
C

6.3 x 0.8

H

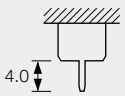
4.8 x 0.8

T



Solder

X

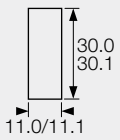


PCB 0.8Sq

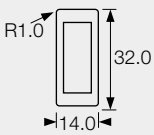
All dimensions in millimetres (mm)

BODY & DIMENSIONS

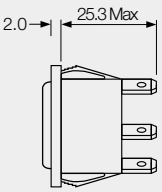
L Panel Cut-Out



Bezel



Dimensions



SPECIFICATION

Dimensions	Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm
Panel thickness	0.75mm to 2.5mm
Body	Nylon 6.6, matt finish, black colour is standard
Lens	Clear Polycarbonate, Softline matt finish
Terminals	Copper alloy, Silver plated
Flame retardancy	UL94V0
RoHS compliant	Yes
Operating supply	230V ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc & 12Vac available
Power consumption	Less than 1 Watt
Operating conditions (body)	-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)
Electromagnetic Compatibility	Compliant with directives 89/336/EEC & 92/31/EEC
EMC Immunity	EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments,10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions
EMC Emissions	EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments
Timing period	Any period from 1 minute to greater than 10 years
Timing accuracy	2% of scale
Approvals	UL Recognised CE Mark FCC Compliant
Standards	UL 508 CSA C22.2 No. 14-05

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APPLICATIONS

- Coffee machines – decalcification
- Deep fat fryer – oil change
- Air conditioning – filter change, bleaching
- Vacuum cleaner – filter cleaning
- Motorised equipment – preventative maintenance, lubrication, belt change
- Petrol/Diesel engine generator – engine service
- Central heating – gas appliance inspection
- Inspection/cleaning interval reminder – washrooms, kitchens
- Equipment calibration interval reminder
- Electrical safety check interval reminder

OPERATION

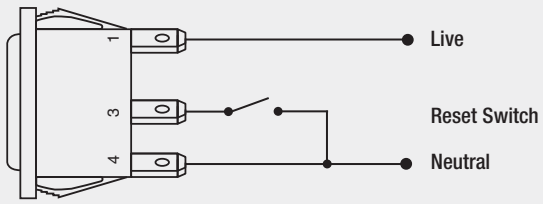
The smart indicator operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous Green LED illumination (contact sales for other colours).

When the accrued usage time exceeds the factory-set time limit, the LED illumination changes colour to Red (contact sales for other colours) and starts to flash on/off to attract user attention. The indicator will continue to flash on subsequent appliance use, until the maintenance operation is carried out and the reset procedure followed.

To reset the indicator after maintenance operations are completed, simply link terminal 3 to terminal 4 while the indicator is powered. This could be a key-operated switch or a service button within the appliance.

The service interval time is factory programmed, and can be any time period from as little as one minute, up to tens of years.

CONNECTIONS



PART NUMBER

1432AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1432AL
Specify Supply Voltage:	230Vac, 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc, 12Vac
Specify LED Colour:	Green/Red, Blue/Red
Specify Time Setting:	Time interval between 1 minute and 10 years. Specify the required time in minutes, hours, days, weeks or months.

Temperature monitor 1430 Smart indicator series

- Monitors refrigeration temperatures are within safe limits
- Monitors correct equipment operation
- Factory programmed window limits
- Direct replacement for Neon indicator
- Thermistor temperature sensor
- Blue LED indicates normal temperature
- Flashing Red LED indicates too hot
- Flashing Blue LED indicates too cool
- Convenient snap-in design
- Choice of connection terminals
- Panel cut out:
  30.0 x 11.0

230Vac, 115Vac, 48V, 24V & 12V available
Less than 1 watt (power consumption)

UL Recognised. File no. E311309

CE Mark

FCC compliant

RoHS compliant

C 1433 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR, TEMPERATURES

TERMINAL

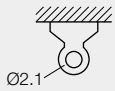
C

6.3 x 0.8

H

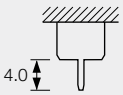
4.8 x 0.8

T



Solder

X

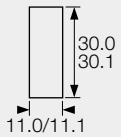


PCB 0.8Sq

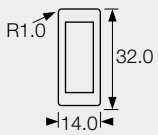
All dimensions in millimetres (mm)

BODY & DIMENSIONS

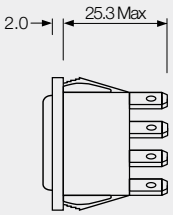
L Panel Cut-Out



Bezel



Dimensions



SPECIFICATION

Dimensions	Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm
Panel thickness	0.75mm to 2.5mm
Body	Nylon 6.6, matt finish, black colour is standard
Lens	Clear Polycarbonate, Softline matt finish
Terminals	Copper alloy, Silver plated
Flame retardancy	UL94V0
RoHS compliant	Yes
Operating supply	230Vac ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc & 12Vac available
Power consumption	Less than 1 Watt
Operating conditions (body)	–20°C to +70°C (–4°F to 158°F) 0 to 95% RH (non-condensing)
Electromagnetic Compatibility	Compliant with directives 89/336/EEC & 92/31/EEC
EMC Immunity	EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments,10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions
EMC Emissions	EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments
Measurement range	–30ºC to +80ºC (–22ºF to +176ºF)
Measurement accuracy	±1.0ºC (±1.8F)
Temperature sensor	NTC Thermistor, sealed sensor, cable length 1m
Approvals	UL Recognised FCC Compliant CE Mark
Standards	UL 508 CSA C22.2 No. 14-05

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APPLICATIONS

- Deep freeze monitoring - visual check of correct temperature
- Cold storage monitor - visual check of correct temperature
- Refrigeration monitoring - visual check of correct temperature
- Chiller monitor - visual check of correct temperature
- Air conditioning - status indicator
- Equipment check - without having to know exact temperature

INDICATIONS

Upper and lower temperature limits can be sales programmed to suit the application.

The smart indicator operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous Blue LED illumination (contact sales for other colours) while the monitored temperature is within the 'safe' range between lower and upper limits.

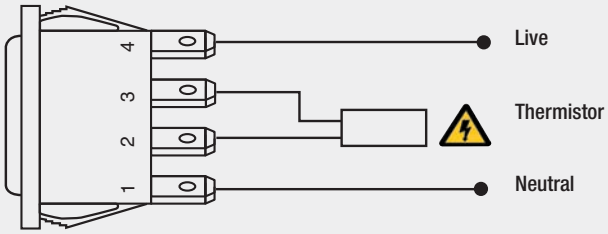
When the measured temperature falls outside of the 'safe' range, the LED illumination will start to flash or change colour. (contact sales for colour options).

Example temperatures (Freezer):

Above -14°C	Too warm (Flashing Red LED)
Between -14°C and -22°C	OK (Blue LED)
Below -22°C	Too cold (Flashing Blue LED)

Optional steady/flashing LED and colour combinations available – contact sales.

CONNECTIONS



PART NUMBER

1433AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1433AL
Specify Supply Voltage:	230Vac, 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc, 12Vac
Specify LED Colour:	Blue/Red, Green/Red
Specify Lower temperature limit:	–30ºC to +80ºC (–22ºF +176ºF)
Specify Upper temperature limit:	–30ºC to +80ºC (–22ºF +176ºF)

Status monitor 1430 Smart indicator series

- Monitors many NO switch contacts
- Monitors correct equipment operation
- Direct replacement for Neon indicator
- Green LED indicates normal status
- Flashing Red LED indicates alarm status
- De-bounce, time delay and latching options
- Convenient snap-in design
- Choice of connection terminals
- Panel cut out:
  30.0 x 11.0

230Vac, 115Vac, 48V, 24V & 12V available
Less than 1 watt (power consumption)

UL Recognised. File no. E311309

CE Mark

FCC compliant

RoHS compliant

C 1437 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR, FUNCTION

TERMINAL

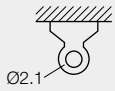
C

6.3 x 0.8

H

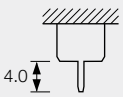
4.8 x 0.8

T



Solder

X

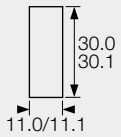


PCB 0.8Sq

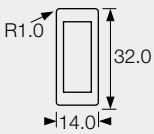
All dimensions in millimetres (mm)

BODY & DIMENSIONS

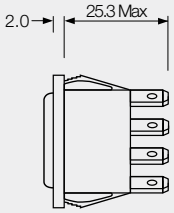
Panel Cut-Out



Bezel



Dimensions



SPECIFICATION

Dimensions	Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm
Panel thickness	0.75mm to 2.5mm
Body	Nylon 6.6, matt finish, black colour is standard
Lens	Clear Polycarbonate, Softline matt finish
Terminals	Copper alloy, Silver plated
Flame retardancy	UL94V0
RoHS compliant	Yes
Sensor/Switch Input	Non-isolated 4.2Vdc 1mA rating for detection of normally open, normally closed or open-collector sensors
Operating supply	230Vac ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc & 12Vac available
Power consumption	Less than 1 Watt
Operating conditions (body)	–20°C to +70°C (–4°F to 158°F) 0 to 95% RH (non-condensing)
Electromagnetic Compatibility	Compliant with directives 89/336/EEC & 92/31/EEC
EMC Immunity	EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments,10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions
EMC Emissions	EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments
Approvals	UL Recognised FCC Compliant CE Mark
Standards	UL 508 CSA C22.2 No. 14-05

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APPLICATIONS

- Limit switch detection and display – machine position
- Differential air pressure sensing - filter status indicator
- Latching and display of momentary sensor signals

INDICATIONS

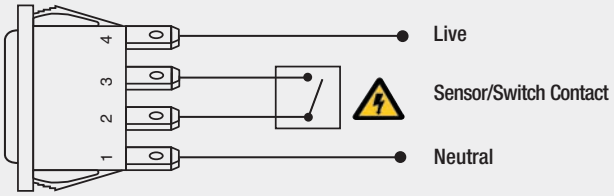
The smart indicator operates like a standard neon indicator, giving visible status indication for the application. Normal operation shows a continuous Green LED illumination (contact sales for other colours) while an error or fault condition results in a RED illumination. Fault condition indication can be factory configured as flashing.

Status indicators are commonly used on equipment and machinery to advise the operator that particular device conditions are normal, operational status is active or inactive, equipment is on-line or off-line. Various standard switches and sensors can be used to determine position, location, rotation speed, airflow, air pressure, vacuum level, interlock etc.

The indicators' sensing input provides a non-isolated DC voltage, current limited to 1mA, for detection of volt-free normally open or normally closed switch contacts, or open-collector type sensors.

Some switches can exhibit transient effects or require de-bounce functions, most of which can be masked by having a qualifying time period before the indication takes place. In some applications a hold-off delay could be useful to ignore any settling during initial operation, or indications may only be required after power-up and then latched. The indicator can be factory programmed to cater for many different requirements, please contact us with application details.

CONNECTIONS



PART NUMBER

1437AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1437AL
Specify Supply Voltage:	230Vac, 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc, 12Vac
Specify LED Colour:	Green/Red, Blue/Red
Specify application requirements:	Normally open/closed contact, time delay, latching etc.

Single phase mains supply checker 1430 Smart indicator series

- Monitors appliance and mains supply
- Direct replacement for Neon indicator
- Equipment safety indication
- Checks for swapped connections
- Checks for missing connections
- Green LED indicates normal operation
- Steady Red LED indicates connection fault
- Flashing Red LED indicates missing connection
- Live, Neutral and Earth connections
- Convenient snap-in design
- Fast-on terminals
- Panel cut out:
  30.0 x 11.0

230V 50Hz. 115Vac 60Hz available.
Less than 1 watt (power consumption)

UL Recognised. File no. E311309

CE Mark

FCC compliant

RoHS compliant

C 1431 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR

TERMINAL

C

6.3 x 0.8

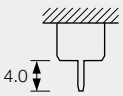
H

4.8 x 0.8

T

Solder

X

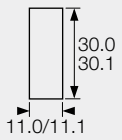


PCB 0.8Sq

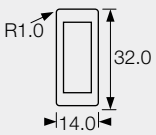
All dimensions in millimetres (mm)

BODY & DIMENSIONS

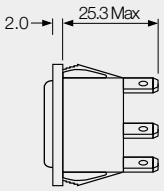
L Panel Cut-Out



Bezel



Dimensions



SPECIFICATION

Dimensions	Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm
Panel thickness	0.75mm to 2.5mm
Body	Nylon 6.6, matt finish, black colour is standard
Lens	Clear Polycarbonate, Softline matt finish
Terminals	Copper alloy, Silver plated
Flame retardancy	UL94V0
RoHS compliant	Yes
Operating supply	230V ±20% 50Hz. 115V 60Hz available
Power consumption	Less than 1 Watt
Operating conditions (body)	-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)
Electromagnetic Compatibility	Compliant with directives 89/336/EEC & 92/31/EEC
EMC Immunity	EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments,10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions
EMC Emissions	EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments
Approvals	UL Recognised FCC Compliant CE Mark
Standards	UL 508 CSA C22.2 No. 14-05

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APPLICATIONS

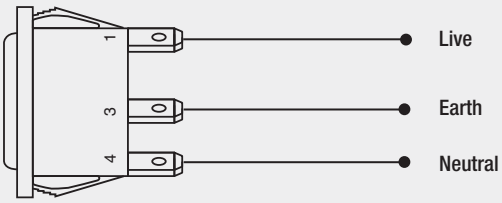
- Portable appliances
- Site equipment
- Power tools
- Commercial kitchens
- Stainless steel appliances
- Audio equipment
- Consumer units
- Extension cables/reels
- Garden equipment

INDICATIONS

The smart indicator can detect and display the following fault conditions:

Terminal 1	Terminal4	Terminal 3	Fault	LED Indication
L	N	E	Normal	Green
N	L	E	L/N Swapped	Red
E	N	L	L/E Swapped	Red
E	L	N	Wrong sequence	Red
N	E	L	Wrong sequence	Red
L	-	E	Neutral missing	Flashing Red
L	N	-	Earth missing	Flashing Red

CONNECTIONS



PART NUMBER

1431AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1431AL
Specify Supply Voltage:	115Vac, 230Vac
Specify LED Colour:	Green/Red, Blue/Red

Temperature Micro Logger 1430 Smart indicator series

- Intelligent temperature logger for refrigeration
- Wireless data communication
- Over 14,000 data readings stored
- Non-volatile memory
- Industry standard Thermistor supplied
- Configurable data log interval
- Monitors mains power interruptions
- Programmable upper/lower limit alarm
- Blue LED indicates normal operation
- Red LED indicates problem
- Snap-in mounting
- Panel cut out:
  30.0 x 11.0

100 to 230Vac ±20% 50/60Hz.
Less than 1 watt (power consumption)

UL Recognised. File no. E311309

CE Mark

FCC compliant

RoHS compliant

C 1435 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY COLOUR

TERMINAL

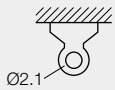
C

6.3 x 0.8

H

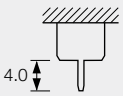
4.8 x 0.8

T



Solder

X

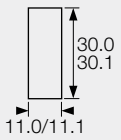


PCB 0.8Sq

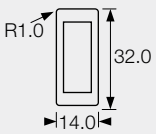
All dimensions in millimetres (mm)

BODY & DIMENSIONS

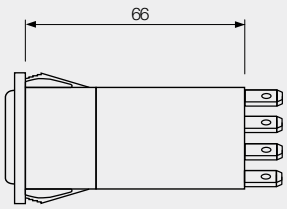
L Panel Cut-Out



Bezel



Dimensions



SPECIFICATION

Dimensions	Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm
Panel thickness	0.75mm to 2.5mm
Body	Nylon 6.6, matt finish, black colour is standard
Lens	Clear Polycarbonate, Softline matt finish
Terminals	Copper alloy, Silver plated
Flame retardancy	UL94V-0
RoHS compliant	Yes
Operating supply	100 to 230Vac ±20% 50/60Hz.
Power consumption	Less than 1 Watt
Operating conditions (body)	–20°C to +70°C (–4°F to 158°F) 0 to 95% RH (non-condensing)
Measurement range	–30ºC to +80ºC (–22ºF to +176ºF)
Measurement accuracy	±1.0ºC (±1.8F)
Measurement resolution	±0.5ºC (±0.9ºF)
Temperature sensor	NTC Thermistor, sealed sensor, cable length 1m
Communications method	Infrared serial data port
Logging Interval	Programmable 1 second to 12 hours per reading
Logging data capacity	>14,000 measurements stored
Data retention	>10 years without power
Electromagnetic Compatibility	Compliant with directives 89/336/EEC & 92/31/EEC
EMC Immunity	EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments,10 V/m EN 61000-4-2:1995 Electrostatic Discharges (ESD) EN 61000-4-3:2002 RF Electromagnetic fields EN 61000-4-4:2004 Fast Transients & Bursts EN 61000-4-5:1995 Surges EN 61000-4-6:1996 Conducted disturbances EN 61000-4-11:2004 Voltage dips & interruptions
EMC Emissions	EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments
Approvals	UL Recognised FCC compliant CE Mark
Standards	UL 508 CSA C22.2 No. 14-05

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APPLICATIONS

- Refrigeration temperature monitoring for food safety compliance
- Deep freeze monitoring
- Cold storage monitor
- Chiller monitoring
- Process control temperature monitoring
- Visual checking of correct temperature
- Control system verification – independent monitoring of controller
- Power quality indication – records power interruptions
- Equipment status check - simple indicator lights

INDICATIONS

An Intelligent temperature data logging device for refrigeration applications, ideal for monitoring that freezers and chillers are maintaining the required temperatures to comply with food safety guidelines.

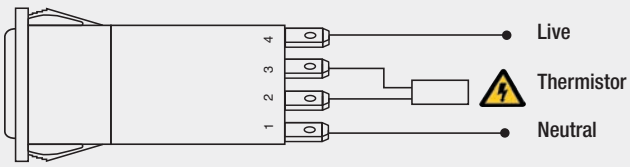
Designed to directly replace the standard neon indicator already fitted on many appliances, the front-panel mounted temperature logger operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous blue LED illumination (contact sales for other colours) while the monitored temperature is within the 'safe' range between lower and upper limits. The upper and lower temperature limits for alarm indication are fully user programmable.

The embedded microcontroller stores the temperature readings at regular intervals for retrieval and analysis. Over 14,000 readings can be stored in non-volatile memory (no battery is required). The data log interval is user configurable between 1 second and 12 hours. The logger also records the number of mains power interruptions. Stored data can be transferred to a collection device (PDA or Laptop) via a wireless infrared data link, a serial to infared communication adapter is available as an accessory.

The device is provided with an industry standard Thermistor temperature sensor.

PC and PDA software can be downloaded from www.arcolectric.co.uk/software

CONNECTIONS



PART NUMBERS

1435AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1435AL
Specify LED Colour:	Green/Red, Blue/Red

SOFTWARE

The PC software allows fast and simple configuration of the temperature micro logger device settings. The stored temperature data can be easily extracted using a serial port infrared data link.

With a single button press, the 'Download log' feature imports the stored temperature reading data directly into an Excel spreadsheet for easy analysis and display.

The logging time interval can be set to suit the end application.

Low and high alarm setpoints can be fully configured for LED indication on the logger front panel. When the measured temperature is between the low and high limits, the Blue LED illuminates to indicate that the measured temperature is acceptable. When the measured temperature falls outside of low or high alarm setpoint, the LED illumination changes colour to Red. Additionally, if the alarm memory box is checked, the only way to clear a temperature alarm is to press the 'Alarm Clear' button.

The Logger status is continually updated while the infrared data link is active, and the current measured temperature is displayed in °C or °F.

Memory usage can also be monitored.