

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
- ▶ Fast-on terminals
- ▶ Panel cut out:
30.0 x 11.0



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



CE Mark






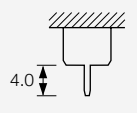
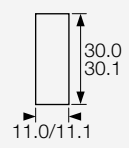
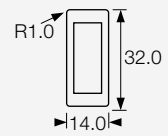
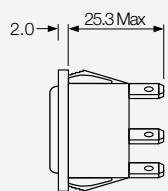
FCC compliant



RoHS compliant

C 1432 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR, TIME

▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p>  <p>6.3 x 0.8</p> <p>H</p>  <p>4.8 x 0.8</p> <p>T</p>  <p>Ø2.1 Solder</p> <p>X</p>  <p>4.0 PCB 0.8Sq</p>	<p>L Panel Cut-Out</p>  <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p>  <p>R1.0 32.0 14.0</p> <p>Dimensions</p>  <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body</p> <p>Lens</p> <p>Nylon 6.6, matt finish, black colour is standard Clear Polycarbonate, Softline matt finish</p> <p>Terminals</p> <p>Copper alloy, Silver plated</p> <p>Flame retardancy</p> <p>UL94V0</p> <p>RoHS compliant</p> <p>Yes</p> <p>Operating supply</p> <p>230V ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc & 12Vac available</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>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</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Timing period</p> <p>Any period from 1 minute to greater than 10 years</p> <p>Timing accuracy</p> <p>2% of scale</p> <p>Approvals</p> <p>UL Recognised CE Mark FCC Compliant</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

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

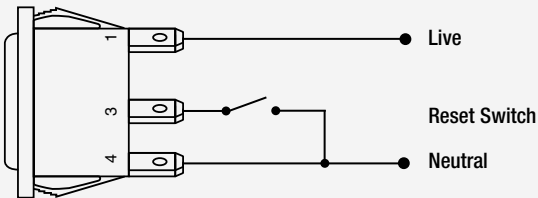
The smart indicator operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous Green LED illumination (contact sales for other colours).

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 **US** UL Recognised. File no. E311309

CE CE Mark

FCC FCC compliant

RoHS RoHS compliant

C 1433 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR, TEMPERATURES

▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p> <p>6.3 x 0.8</p> <p>H</p> <p>4.8 x 0.8</p> <p>T</p> <p>Ø2.1 Solder</p> <p>X</p> <p>4.0 PCB 0.8Sq</p>	<p>L Panel Cut-Out</p> <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p> <p>R1.0 32.0 14.0</p> <p>Dimensions</p> <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body</p> <p>Nylon 6.6, matt finish, black colour is standard</p> <p>Lens</p> <p>Clear Polycarbonate, Softline matt finish</p> <p>Terminals</p> <p>Copper alloy, Silver plated</p> <p>Flame retardancy</p> <p>UL94V0</p> <p>RoHS compliant</p> <p>Yes</p> <p>Operating supply</p> <p>230Vac ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc & 12Vac available</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>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</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Measurement range</p> <p>-30°C to +80°C (-22°F to +176°F)</p> <p>Measurement accuracy</p> <p>±1.0°C (±1.8°F)</p> <p>Temperature sensor</p> <p>NTC Thermistor, sealed sensor, cable length 1m</p> <p>Approvals</p> <p>UL Recognised FCC Compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

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.

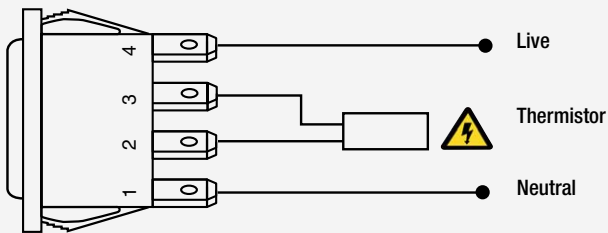
When the measured temperature falls outside of the 'safe' range, the LED illumination will start to flash or change colour. (contact sales for colour options).

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:	-30°C to $+80^{\circ}\text{C}$ (-22°F to $+176^{\circ}\text{F}$)
Specify Upper temperature limit:	-30°C to $+80^{\circ}\text{C}$ (-22°F to $+176^{\circ}\text{F}$)

Status monitor 1430 Smart indicator series



- ▶ Monitors many switches and sensors
- ▶ 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**





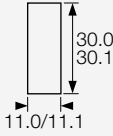
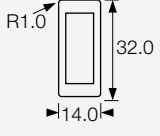
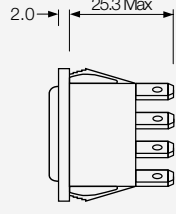
 **CE Mark**

 **FCC compliant**

 **RoHS compliant**

C 1437 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR, FUNCTION

▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p>  <p>6.3 x 0.8</p> <p>H</p>  <p>4.8 x 0.8</p> <p>T</p>  <p>Ø2.1 Solder</p> <p>X</p>  <p>4.0 PCB 0.8Sq</p>	<p>Panel Cut-Out</p>  <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p>  <p>R1.0 32.0 14.0</p> <p>Dimensions</p>  <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body Lens Terminals Flame retardancy RoHS compliant</p> <p>Nylon 6.6, matt finish, black colour is standard Clear Polycarbonate, Softline matt finish Copper alloy, Silver plated UL94V0 Yes</p> <p>Sensor/Switch Input</p> <p>Non-isolated 4.2Vdc 1mA rating for detection of normally open, normally closed or open-collector sensors</p> <p>Operating supply</p> <p>230Vac ±20% 50/60Hz. 115Vac, 48Vdc, 48Vac, 24Vdc, 24Vac, 12Vdc & 12Vac available Less than 1 Watt</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>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</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised FCC Compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

APPLICATIONS

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

INDICATIONS

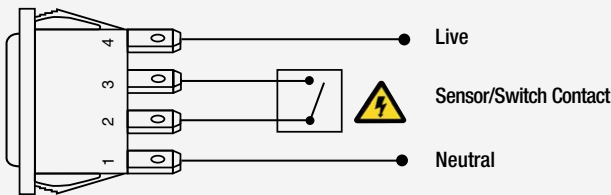
The smart indicator operates like a standard neon indicator, giving visible status indication for the application. Normal operation shows a continuous Green LED illumination (contact sales for other colours) while an error or fault condition results in a RED illumination. Fault condition indication can 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	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p> <p>6.3 x 0.8</p> <p>H</p> <p>4.8 x 0.8</p> <p>T</p> <p>Ø2.1 Solder</p> <p>X</p> <p>4.0 PCB 0.8Sq</p>	<p>L Panel Cut-Out</p> <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p> <p>R1.0 32.0 14.0</p> <p>Dimensions</p> <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body</p> <p>Nylon 6.6, matt finish, black colour is standard</p> <p>Lens</p> <p>Clear Polycarbonate, Softline matt finish</p> <p>Terminals</p> <p>Copper alloy, Silver plated</p> <p>Flame retardancy</p> <p>UL94V0</p> <p>RoHS compliant</p> <p>Yes</p> <p>Operating supply</p> <p>230V ±20% 50Hz. 115V 60Hz available</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>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</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised FCC Compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

APPLICATIONS

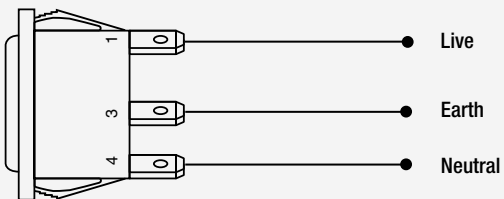
- ▶ Portable appliances
- ▶ Site equipment
- ▶ Power tools
- ▶ Commercial kitchens
- ▶ Stainless steel appliances
- ▶ Audio equipment
- ▶ Consumer units
- ▶ Extension cables/reels
- ▶ Garden equipment

INDICATIONS

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

Terminal 1	Terminal 2	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

Two phase supply monitor 1430 Smart indicator series



- ▶ Monitors appliance and incoming supply
- ▶ Direct replacement for Neon indicator
- ▶ Simple equipment safety indication
- ▶ Checks for swapped connections
- ▶ Checks for missing connections
- ▶ Checks for blown fuses
- ▶ Green LED indicates normal operation
- ▶ Flashing Red LED indicates a fault
- ▶ Convenient snap-in design
- ▶ Fast-on terminals
- ▶ Panel cut out:
30.0 x 11.0

120V Phase/Neutral $\pm 20\%$.
208V & 240V Phase/Phase
Less than 1 watt (power consumption)

C **US** UL Recognised. File no. E311309



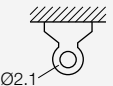
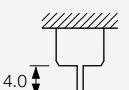
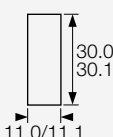
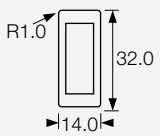
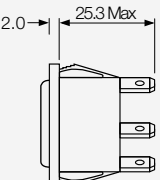
CE Mark

FCC compliant

RoHS compliant

C 1436 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR

▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p>  <p>6.3 x 0.8</p> <p>H</p>  <p>4.8 x 0.8</p> <p>T</p>  <p>Ø2.1 Solder</p> <p>X</p>  <p>4.0 PCB 0.8Sq</p> <p>All dimensions in millimetres (mm)</p>	<p>L Panel Cut-Out</p>  <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p>  <p>R1.0 32.0 14.0</p> <p>Dimensions</p>  <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body Lens Terminals Flame retardancy RoHS compliant</p> <p>Nylon 6.6, matt finish, black colour is standard Clear Polycarbonate, Softline matt finish Copper alloy, Silver plated UL94V0 Yes</p> <p>Operating supply</p> <p>120V Phase/Neutral $\pm 20\%$ 50/60Hz. 208V & 240V Phase/Phase Less than 1 Watt</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>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</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised FCC Compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

APPLICATIONS

- ▶ **Monitoring of two phases and Neutral**
- ▶ **Indication that the service is wired correctly**
- ▶ **Blown fuse indication – detects loss of one phase**
- ▶ **Power Distribution Units/Switchboards – Monitoring incoming supply**
- ▶ **Portable or Site equipment – Monitoring of temporary supply connections**

INDICATIONS

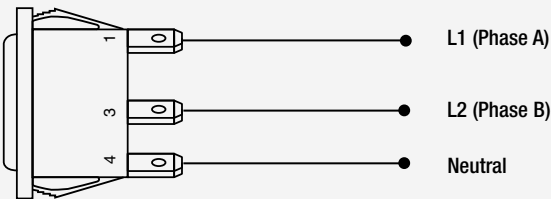
High-power loads such as cooking equipment, heaters, or air conditioning can be connected across two phases to operate at 208V or 240V. Some appliances require 120V phase/neutral and 208/240V phase/phase connections, and can be damaged if incorrectly connected. Often equipment can exhibit unusual behavior if one phase is lost (for example, due to a blown fuse).

The Smart Indicator connects directly to Neutral and the two phases, continuously monitoring the presence of all three conductors and ensuring that phase and neutral wires have not been wrongly connected. Faulty connections could result in 208 or 240 Volts being applied to 120V rated circuits, leading to equipment damage.

Only when the correct electrical connections are made will the Green LED illuminate, giving a clear indication of normal operation. Incorrect or missing connections will illuminate and flash the Red LED. Additionally, the loss of one phase connection will flash the Red LED, useful for indicating fuse failure.

The Smart indicator can replace any standard neon indicator, maintaining the minimal on/off indication that is usually found on equipment, whilst adding essential diagnostic display information for common problems such as incorrect or missing connections and blown fuses.

CONNECTIONS



PART NUMBER

1436AL

Specify Terminal Type:	C, H, T, X
Specify Model Code:	1436AL
Specify Supply Voltage:	120V Ph./N (208V/240V Ph./Ph.)
Specify LED Colour:	Green/Red, Blue/Red

Three phase supply monitor 1430 Smart indicator series



- ▶ Monitors appliance and incoming supply
- ▶ Direct replacement for Neon indicator
- ▶ Simple equipment safety indication
- ▶ Checks for swapped connections
- ▶ Checks for missing connections
- ▶ Checks for blown fuses
- ▶ Checks for correct phase sequence
- ▶ Green LED indicates normal operation
- ▶ Flashing Red LED indicates a fault
- ▶ Convenient snap-in design
- ▶ Fast-on terminals
- ▶ Panel cut out:
30.0 x 11.0



208V Phase/Phase
380V Phase/Phase

Less than 1 watt (power consumption)

UL Recognised. File no. E311309



CE Mark







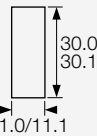
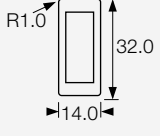
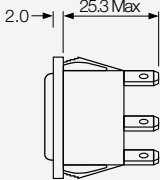
FCC compliant



RoHS compliant

C 1434 A L - - -

TERMINAL FUNCTION SOFTLINE LENS BODY VOLTAGE, COLOUR

▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p>  <p>6.3 x 0.8</p> <p>H</p>  <p>4.8 x 0.8</p> <p>T</p>  <p>Ø2.1 Solder</p> <p>X</p>  <p>4.0 PCB 0.8Sq</p>	<p>L Panel Cut-Out</p>  <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p>  <p>R1.0 32.0 14.0</p> <p>Dimensions</p>  <p>2.0 25.3 Max</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body</p> <p>Nylon 6.6, matt finish, black colour is standard</p> <p>Lens</p> <p>Clear Polycarbonate, Softline matt finish</p> <p>Terminals</p> <p>Copper alloy, Silver plated</p> <p>Flame retardancy</p> <p>UL94V0</p> <p>RoHS compliant</p> <p>Yes</p> <p>Operating supply</p> <p>208V Phase/Phase ±20% 50/60Hz 380V Phase/Phase available</p> <p>Power consumption</p> <p>Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Electromagnetic Compatibility</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity</p> <p>EN 55014-2:1997 Household appliances EN 61000-6-2:2005 Industrial Environments, 10 V/m</p> <p>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</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised (208V version only) FCC Compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

APPLICATIONS

- ▶ **Monitoring of three phase, 3 or 4-wire supply systems**
- ▶ **Power Distribution Units/Switchboards – Monitoring incoming supply**
- ▶ **Portable or Site equipment – Monitoring of temporary supply connections**
- ▶ **Motorised equipment - monitoring correct direction of rotation**
- ▶ **Blown fuse indication – loss of one phase**
- ▶ **Motors - Single phasing indication**

INDICATIONS

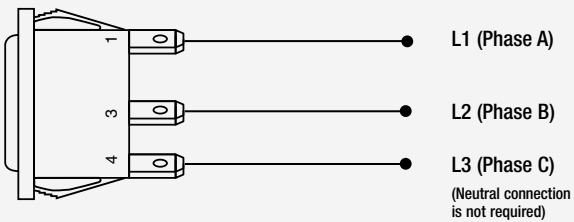
The phase sequence is particularly important for all three-phase motorised machinery, since incorrect connections can result in motors rotating in the wrong direction, risking equipment damage or injury to personnel. Motors can continue to operate even if one phase is lost (for example, due to a blown fuse) but prolonged operation can result in damage.

The Smart Indicator connects directly to the three-phase supply, continuously monitoring the presence of all three phases and ensuring that the phase sequence is correct.

The proper phase sequence "ABC" will illuminate the Green LED, clearly indicating correct connections. A reversed sequence, such as "BAC" will illuminate and flash the Red LED. Additionally, the loss of one phase connection will flash the Red LED, useful for indicating fuse failure.

The Smart indicator can replace any standard neon indicator, maintaining the minimal on/off indication that is usually found on equipment, whilst adding essential diagnostic display information for common problems such as incorrect or missing connections.

CONNECTIONS



PART NUMBER

1434AL

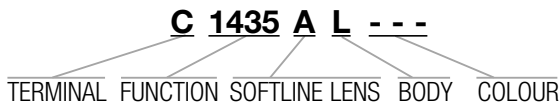
Specify Terminal Type:	C, H, T, X
Specify Model Code:	1434AL
Specify Supply Voltage:	208V Ph./Ph. (380V Ph./Ph. available)
Specify LED Colour:	Green/Red, Blue/Red

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:

- 100 to 230Vac $\pm 20\%$ 50/60Hz.
Less than 1 watt (power consumption)
- UL** US UL Recognised. File no. E311309
- CE** CE Mark
- FCC** FCC compliant
- RoHS** RoHS compliant



▶ TERMINAL	▶ BODY & DIMENSIONS	▶ SPECIFICATION
<p>C</p> <p>6.3 x 0.8</p> <p>H</p> <p>4.8 x 0.8</p> <p>T</p> <p>0.2</p> <p>Solder</p> <p>X</p> <p>4.0</p> <p>PCB 0.8Sq</p>	<p>L Panel Cut-Out</p> <p>30.0 30.1 11.0/11.1</p> <p>Bezel</p> <p>R1.0 32.0 14.0</p> <p>Dimensions</p> <p>66</p>	<p>Dimensions</p> <p>Bezel 32.0mm x 14.0mm Panel cut-out 11.0/11.1mm x 30.0/30.1mm 0.75mm to 2.5mm</p> <p>Panel thickness</p> <p>0.75mm to 2.5mm</p> <p>Body Lens Terminals Flame retardancy RoHS compliant</p> <p>Nylon 6.6, matt finish, black colour is standard Clear Polycarbonate, Softline matt finish Copper alloy, Silver plated UL94V-0 Yes</p> <p>Operating supply Power consumption</p> <p>100 to 230Vac $\pm 20\%$ 50/60Hz. Less than 1 Watt</p> <p>Operating conditions (body)</p> <p>-20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Measurement range Measurement accuracy Measurement resolution Temperature sensor</p> <p>-30°C to +80°C (-22°F to +176°F) $\pm 1.0^\circ\text{C}$ ($\pm 1.8^\circ\text{F}$) $\pm 0.5^\circ\text{C}$ ($\pm 0.9^\circ\text{F}$) NTC Thermistor, sealed sensor, cable length 1m</p> <p>Communications method Logging Interval Logging data capacity Data retention</p> <p>Infrared serial data port Programmable 1 second to 12 hours per reading >14,000 measurements stored >10 years without power</p> <p>Electromagnetic Compatibility EMC Immunity</p> <p>Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>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</p> <p>EMC Emissions</p> <p>EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>Approvals</p> <p>UL Recognised FCC compliant CE Mark</p> <p>Standards</p> <p>UL 508 CSA C22.2 No. 14-05</p>

All dimensions in millimetres (mm)

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.

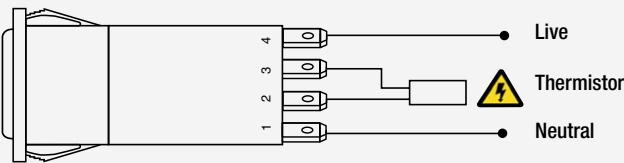
Designed to directly replace the standard neon indicator already fitted on many appliances, the front-panel mounted temperature logger operates like a standard neon indicator, giving visible status indication for the appliance or application. Normal operation will show continuous blue LED illumination (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 infrared 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.arcoelectric.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.

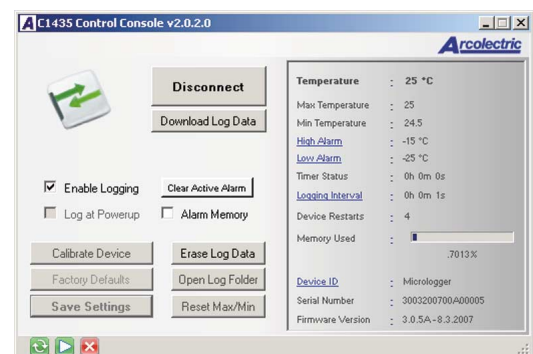
With a single button press, the 'Download log' feature imports the stored temperature reading data directly into an Excel spreadsheet for easy analysis and display.

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.

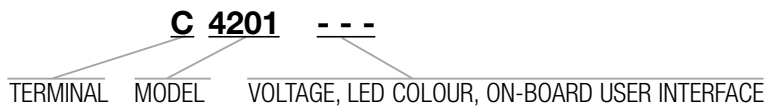



Compact Cooker Hood Controller



- ▶ Solid state electronic control module
- ▶ Microprocessor based
- ▶ Two-button operation
- ▶ Variable lamp brightness
- ▶ Lamp load up to 100W
- ▶ Variable fan speed
- ▶ Motor load up to 300W
- ▶ Status LED output
- ▶ Low standby power <1W
- ▶ Low profile module
- ▶ Open frame construction

230Vac, 115Vac
Less than 1 watt (standby power consumption)



▶ TERMINAL	▶ SPECIFICATION
<p>C</p>  <p>6.3 x 0.8</p>	<p>Operating supply 230Vac ±10% 50Hz 115Vac ±10% 60Hz</p> <p>Standby power consumption Less than 1 Watt</p> <p>Illumination rating (Lamp) 100 Watts continuous (0.45A)</p> <p>Motor rating (Fan) 300 Watts continuous (1.3A)</p> <p>Operating conditions -20°C to +70°C (-4°F to 158°F) 0 to 95% RH (non-condensing)</p> <p>Construction Low profile open-frame printed circuit board designed for chassis mounting, with integral heatsink</p> <p>Connections 7-Pole mains power connector: Mains power input, lamp output, fan motor output 4-Pole control connector: For remote mounting of momentary switches and LED indicator</p> <p>Dimensions 65mm(w) x 91mm(l) x 29mm(h)</p> <p>Mounting Multiple fixing holes are provided</p> <p>Heatsink Aluminium plate, with isolation from ac supply</p> <p>Flame retardancy UL94V-2</p> <p>Electromagnetic Compatibility Compliant with directives 89/336/EEC & 92/31/EEC</p> <p>EMC Immunity EN 55014-2:1997 Household appliances</p> <p>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</p> <p>EMC Emissions EN 55014-1:2001 Household appliances EN 55022 Class B:1998 Domestic environments</p> <p>RoHS Compliance Yes</p> <p>Approvals CE Mark</p>

USER INTERFACE

The board is supplied with two momentary push buttons already fitted, and is ready to install. The tactile buttons have a short-stroke, and can be directly operated by cosmetic front panel actuators or via springs and actuators while maintaining useful tactile click.

Each 'click' of the Lamp button adjusts the brightness, until 100% is achieved. By default the module provides 3 brightness levels.

Each 'click' of the Fan button adjusts the fan speed, starting at the lowest speed, speed can be increased in discrete steps until 100% is achieved. By default the module provides 5 fan speeds. When the fan is running, the LED is illuminated.

The remote user interface connector can be used to connect with remotely mounted control switches in place of using the on-board controls.

OPERATION

This intelligent cooker hood control uses solid-state electronics to operate the fan motor and the lamps. Designed as an OEM solution for hood manufacturers, the open frame construction has a low profile and can be easily integrated into existing hood designs. Digital microprocessor technology allows hood feature sets to be brought right up to date, providing many benefits that cannot be achieved with conventionally switched hood controls.

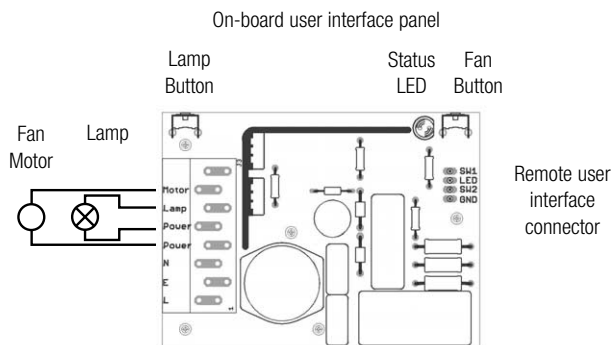
Most cooker hoods have a lamp and three fan speed settings, usually operated by slide switches or push buttons. While more than three fan speeds is desirable, having more than four or five buttons can be confusing. Simple appliances require that the fan motor has separate windings or taps for each speed selection, making the motor more bulky and expensive for more than three speeds.

The intelligent control uses only two momentary switch buttons, one for the fan and one for the lamp. Up to ten fan speeds settings are available using only a single winding fan motor; multi-tapped fan motors are not required as the speed is electronically controlled - each button press increases the speed.

The lamp brightness can be adjusted, allowing high intensity halogen lamps to be used whilst cooking, but reduced intensity for ambient lighting or to create a particular mood in a room. Each button press increases the lamp brightness, and the electronic 'soft start' feature can prolong the working life of halogen bulbs.

Connecting to the module is a very quick and simple process; multi-pole industry standard RAST5 connectors can be used.

SCHEMATIC



CONNECTIONS

The controller is available with a wide variety of power connection options for large volume orders. For the mains power connections, the board is compatible with industry standard RAST5 style connectors from many popular brands, which are generally available as two part plug/sockets, and also as single part board-edge connectors. Alternatively the board can be supplied with individual 6.3mm tab terminals for mains power connections. A list of compatible connector part numbers from is available on request. Please provide details on the preferred connector type and supplier at time of ordering.

If the on-board user interface buttons are not required, the remote user interface connector can be used to connect with remotely mounted control switches. This connector is RAST2.5 style, available from many popular brands as two part plug/sockets and board-edge connectors.

PART NUMBER

4201

Specify Terminal Type:	6.3 x 0.8mm tabs (Default) Contact sales for RAST5 options
Specify Model Code:	4201
Specify Supply Voltage:	230Vac, 115Vac
Specify LED Colour:	Red, Green, Blue, Yellow
On-board user interface:	Yes, No