ALARM INTEGRATOR

EAL..

- EAL.. Provides a common alarm output for up to 9 separate alarm input signals. Parallel connection is possible for additional alarm inputs.
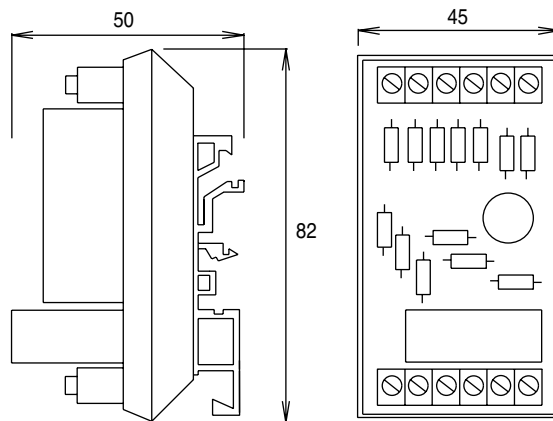
EAL..

Volt free contacts
Terminals 0.5-2.5mm rising clamps
Max ambient 50 C
Enclosure Flammability = UL94-V0

Type	Input	Max No of Inputs	Output Switch 230VAC SPST	Consumption	Mounting	Enclosure
EAL-24	24VAC	9	10(3)A	<1VA	Din Rail	IP00
EAL-110	110VAC	9	10(3)A	<1VA	Din Rail	IP00
EAL-230	230VAC	9	10(3)A	<2.5VA	Din Rail	IP00

DIMENSIONS

EAL..

50

45

82

WIRING:

EAL..

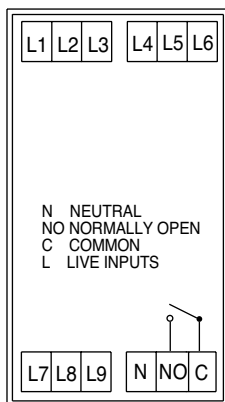L1 L2 L3 L4 L5 L6

N   NEUTRAL
NO NORMALLY OPEN
C   COMMON
L   LIVE INPUTS

L7 L8 L9   N NO C

When a signal is received on any input - volt free contacts C-NO close

All alarm inputs L1 to L9 must be same voltage and phase

The neutral must be common to all alarm inputs

Each input is isolated to prevent backfeed between inputs

Connect output C-NO in parallel to additional units if more than 9 inputs are required.

EMERGENCY PRODUCTS

REMOTE ALARM PANEL

ERA..
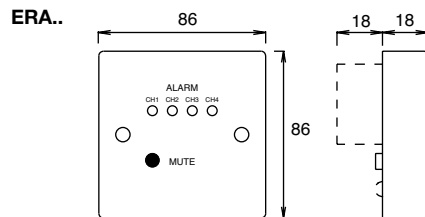
■ This product accepts a switched input 230 VAC, 24VAC/DC or a 0-10VDC adjustable input signal to provide an audible and visual alarm.

ERA..2

ERA..4

ERA..1 / ERA-230

Flush Mounting

Fits square single gang BS box

Protrudes 18mm from wall

Buzzer 70dB at 1m

Enclosure Colour : White suitable for room mounting.
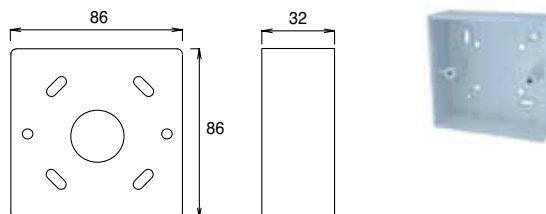
Enclosure Flammability = UL94-HB

Type	Description	Input ±15%	Supply	Operation	Consumption	Time Delay	Mounting	Enclosure
ERA-230	1 Channel	1 x 230VAC		Light & Buzzer	70mA	-	Flush	IP40
ERA-10-1	1 Channel	1 x 0-10VDC	24VAC/DC	Light & Buzzer	70mA	0-30s adj.	Flush	IP40
ERA-24-1	1 Channel	1 x 24VAC/DC		Light & Buzzer	70mA	0-30s adj.	Flush	IP40
ERA-10-2	2 Channel	2 x 0-10VDC	24VAC/DC	Light & Buzzer	70mA	0-30s adj.	Flush	IP40
ERA-24-2	2 Channel	2 x 24VAC/DC		Light & Buzzer	70mA	0-30s adj.	Flush	IP40
ERA-10-4	4 Channel	4 x 0-10VDC	24VAC/DC	Light & Buzzer	70mA	0-30s adj.	Flush	IP40
ERA-24-4	4 Channel	4 x 24VAC/DC		Light & Buzzer	70mA	0-30s adj.	Flush	IP40

DIMENSIONS

ERA..

86

ALARM
CH1 CH2 CH3 CH4

MUTE

86

18 18

ACCESSORIES:

EE-BP5 Surface mounting backbox for ERA..

86

86

32

WIRING:

L
230 VAC
N

Drawing shows input terminals, links & time delays for all versions. These vary according to the model ordered.

24V
CH4 CH3 CH2 CH1 0V

0V +24V CH1 CH2 CH3 CH4
0-10VDC

Sound
J5

J4 J3 J2 J1

24V
10-0V
0-10V

Switch Point

Time Delays
CH1   CH2   CH3   CH4

1   10
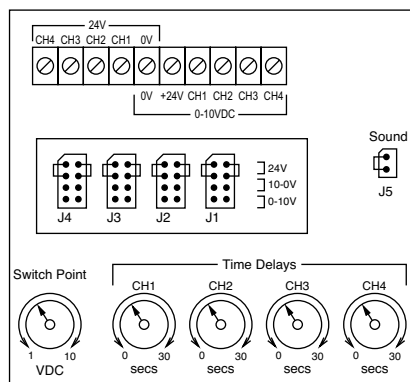VDC

0   30
secs

0   30
secs

0   30
secs

0   30
secs
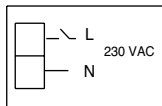
ERA-230

Alarm condition is indicated by the LED and buzzer switching on.
Pressing the mute button switches off the buzzer.
The LED only switches off when the fault is rectified.

ERA-10/24

Link J1 - J4 settings:

If the alarm input is a 24V signal, position links here:

24V

If the alarm input is a rising 0-10VDC signal, position links here:

0-10V

If the alarm input is a falling 10-0VDC signal, position links here:

10-0V

For 24VAC/DC alarm wire 0V and the 24V switched inputs to CH1, CH2, etc.
For 0-10VDC alarm wire 0V and +24V and all 0-10VDC inputs to CH1,CH2, etc.
Fit link to 0-10 or 24V according to input required. For 0-10vdc the switch point is adjustable.
If the buzzer is not required, remove the SOUND link J5.
If using 0-10vdc input the unit can be set to switch on rising or falling signal via the links J1-J4.
The time delay allows a time period before the unit switches on thus preventing nuisance switching.
Set to zero if not required. Alarm condition is indicated by LED and Buzzer switching on.
Pressing the mute button switches off the buzzer.
The LED only switches off when the input returns to normal.
Terminals 0.5-2.5mm rising clamps Min signal cable size 7/0.2mm Max length 100m.
Screened cable is recommended. The screen should be earthed at controller end only.
Keep control signal wires away from power cables/units which may cause interference.

WATTS®

PLANT EXTENSION TIMER 0-7 HOURS

EPX..

This device can be used to turn units on for a fixed time period or to extend the normal run time of a system.
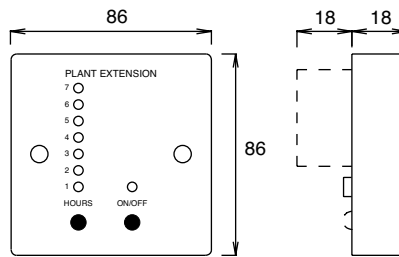
EPX..

Flush Mounting

Fits single gang box

Protrudes 18mm from wall

Volt free contact

Enclosure Colour : White - suitable for room mounting.

Terminals 0.5-2.5mm rising clamps.

Enclosure Flammability = UL94-HB

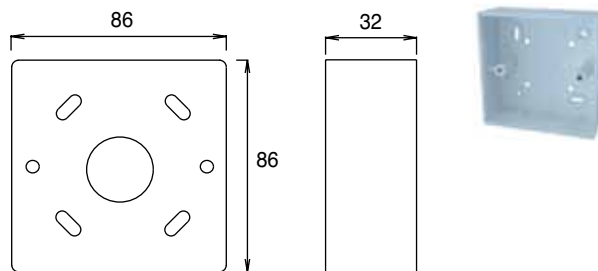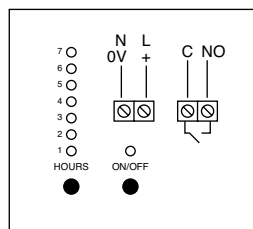| Type	Description	Supply ±15%	Output Switch 230VAC	Power Consumption	Indication	Time Setting	Enclosure
EPX-24	Plant Extension	24VAC	5(3)A SPST	1VA	LED	0 - 7 hrs	IP40
EPX-230	Plant Extension	230VAC	5(3)A SPST	2.5VA	LED	0 - 7 hrs	IP40
	PLEASE NOTE NOW SINGLE GANG		For plant extension without adjustable run time see model EXU..				

DIMENSIONS

EPX..

86

18 18

86

PLANT EXTENSION
7
6
5
4
3
2
1
HOURS ON/OFF

ACCESSORIES:

EE-BP5 Surface mounting backbox for EPX..

86

32

86

WIRING:

EPX..

7
6
5
4
3
2
1
HOURS ON/OFF

N L
0V +   C NO

Select the run time required by repeatedly pressing the HOURS button and the corresponding LEDs will turn on. These LEDs will also turn off in sequence during the countdown period. Push the ON/OFF button, contacts C-NO close and the ON/OFF LED turns on to indicate run time has been extended.

When the selected time period expires, contact C-NO opens and the ON/OFF LED turns off.
The ON/OFF button can be pressed at any time to stop the extended run time - contact C-NO will open and all LEDs will turn off.

EMERGENCY PRODUCTS

PLANT EXTENSION UNIT

EXU..

This unit can be wired to a time switch or other device to extend the normal running time of a system.
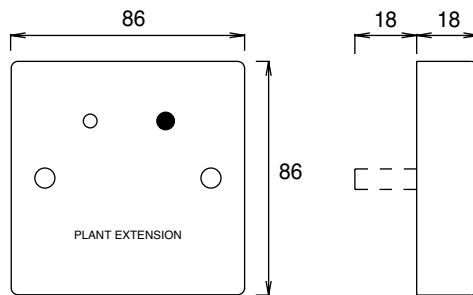
EXU..

Flush Mounting

Fits single gang BS box

Protrudes 18mm from wall

Enclosure Colour : White - suitable for room mounting.

Enclosure Flammability = UL94-HB

Type	Description	NEON Voltage	Indication Light	Push Button 24/230VAC	Enclosure Setting
EXU-24	Plant Extension	24VAC	NEON	0.5A	IP40
EXU-230	Plant Extension	230VAC	NEON	0.5A	IP40

For adjustable run time 0-7 hours, see model EPX..

DIMENSIONS

EXU..

86

18 18

86

86

PLANT EXTENSION

ACCESSORIES:

EE-BP5   Surface mounting backbox for EXU..

86

32

86

WIRING:

EPX..

NEON LIGHT

L   N

PUSH BUTTON

L   L
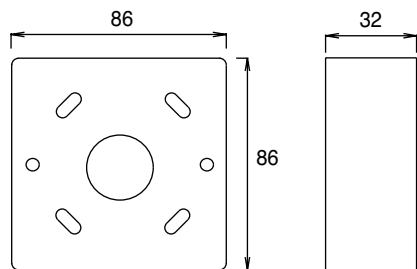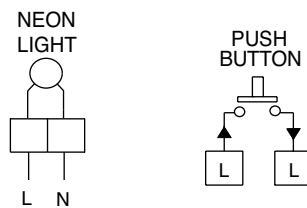
When the momentary action push button is pressed a circuit is made.
This can be wired to a time switch which extends the plant running time.
The NEON Light can be wired to show that running time has been extended.

WATTS®

FIREMANS SWITCH

EFM.. EKFM

Firemans Switch for remote override of ventilation plant in the event of fire. All standard types have red colour enclosures.

EFM-1
Fits square outlet box
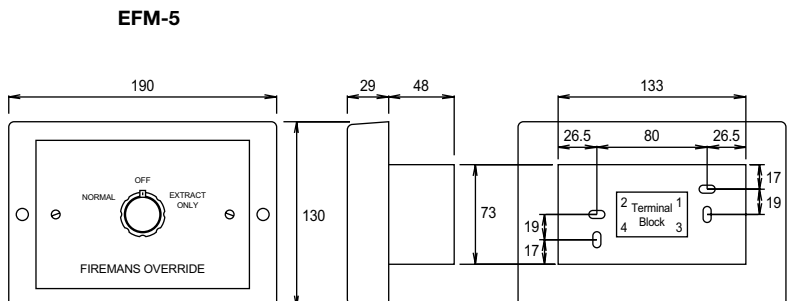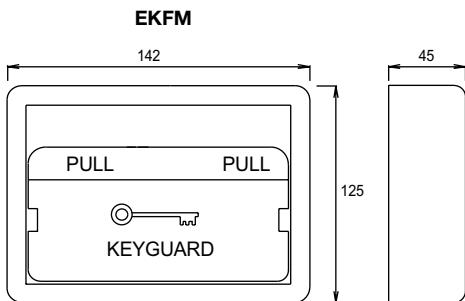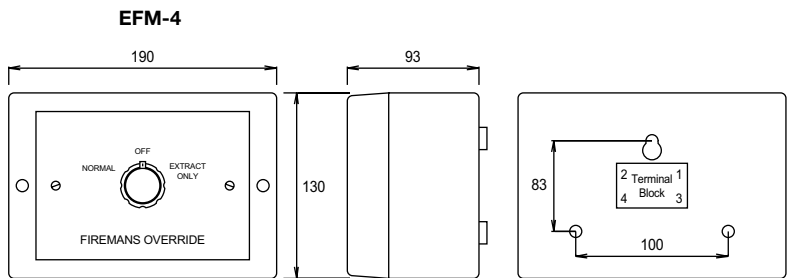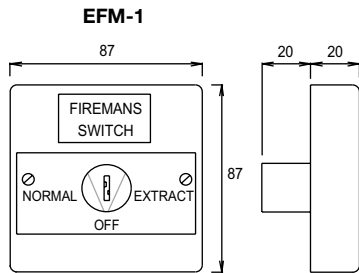Protrudes 20mm from wall.
Enclosure Flammability = UL94-V0

EFM-4/5
Enclosure Flammability = Metal

EKFM
Transparent Plastic lid.
Enclosure Flammability = UL94-HB

EXU..

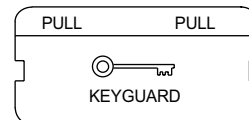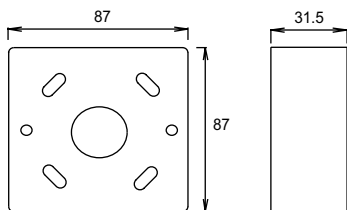| Type	Description	Mounting	Switch rating 230VAC	Operation 3 position	Enclosure Setting
EFM-1	Key Operated (includes 2 keys)	Flush	2 x 10(2)A SPST Volt Free	Normal - Off – Extract	IP40
EKFM	Keyguard for EFM-1	Surface	Once fitted, break lid to access key - see accessories for replacement		IP00
EFM-4	Knob Operated (safe breakglass)	Surface	1 x 10(2)A SPDT Volt Free	Normal - Off – Extract	IP43
EFM-5	Knob Operated (safe breakglass)	Flush	1 x 10(2)A SPDT Volt Free	Normal - Off – Extract	IP40

Special Versions available on request.

DIMENSIONS

EFM-1

FIREMANS SWITCH
NORMAL EXTRACT
OFF

87 · 20 · 20 · 87

EFM-4

OFF
NORMAL EXTRACT ONLY
FIREMANS OVERRIDE

190 · 93 · 130 · 83 · 100 · 2 Terminal Block 1 · 4 3

EKFM

PULL PULL
KEYGUARD

142 · 45 · 125

EFM-5

OFF
NORMAL EXTRACT ONLY
FIREMANS OVERRIDE

190 · 29 · 48 · 130 · 73 · 133 · 26.5 · 80 · 26.5 · 17 · 19 · 19 · 17 · 2 Terminal Block 1 · 4 3

ACCESSORIES:

* EE-BP6 - Surface mounting backbox for EFM-1

87 · 31.5 · 87

EE-KF - Replacement Lid for EKFM   4 per packEFM-1

PULL PULL
KEYGUARD

WIRING:

EFM-1

NORMAL 1 2 3 4   OFF 1 2 3 4   EXTRACT 1 2 3 4

Terminal Layout
NO   C

C   NO

EFM-4/5

3 NORMAL
2
4 OFF
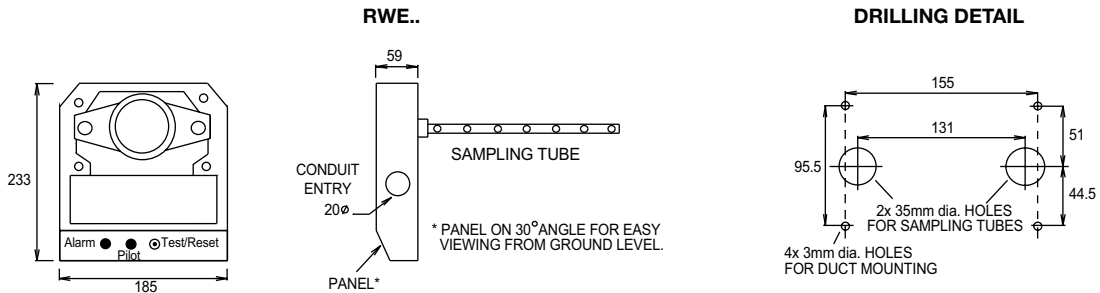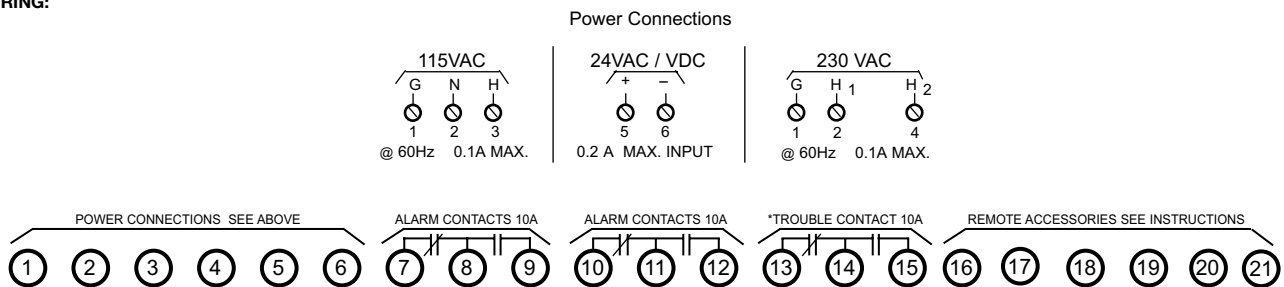1 EXTRACT
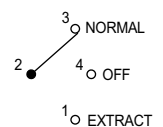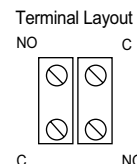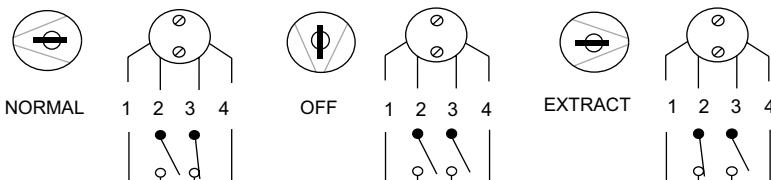
DUCT SMOKE DETECTORS

RWE..

Detects smoke / combustion products in air moving through HVAC ducts. Ionisation Model - detects small smoke particles 0.1-1 micron and combustion gases as in fast burning fires. Photoelectric Model - best suited to detect large smoke particles 1-10 micron e.g. PVC insulation, fabrics & furnishings.

RWE..

Humidity 10% to 85% RH no condensation
Ambient temp: RWE-N 0-70°C
                       RWE-P 0-60°C

Volt Free Contacts

Power Consumption:-
Standby: 230VAC 12mA 24VAC 35mA 24VDC 15mA
Alarm: 230VAC 16mA 24VAC 74mA 24VDC 56mA

Remote test & reset facility

Alarm indication light   Steel Backbox

Plastic ABS cover   Terminals 0.5-2.5mm²

Enclosure Flammability = UL94-V0

Type	Detector head	Supply ± 10%	Fault Contact SPDT	2 x Alarm Contacts 230VAC	230VAC	Air Velocity min m/s max		Enclosure
RWE-N	Ionisation	230 VAC or 24VAC/DC	5(2)A 230VAC	10(2)A SPDT	10(2)A SPDT	1.5	20	IP43
RWE-P	Photoelectric INCLUDES 150MM SAMPLING TUBE	230 VAC or 24VAC/DC	5(2)A 230VAC	10(2)A SPDT	10(2)A SPDT	1.5	20	IP43
ST750	750mm	Sampling Tube						
ST1500	1500mm	Sampling Tube	ORDER SAMPLING TUBE ACCORDING TO DUCT WIDTH & CUT TO SUIT					
ST3000	3000mm	Sampling Tube						

DIMENSIONS

RWE..

233

185

Alarm ● ● Test/Reset
Pilot

59

CONDUIT ENTRY 20Ø

SAMPLING TUBE

* PANEL ON 30°ANGLE FOR EASY VIEWING FROM GROUND LEVEL.

PANEL*

DRILLING DETAIL

155
131
95.5
51
44.5

2x 35mm dia. HOLES FOR SAMPLING TUBES

4x 3mm dia. HOLES FOR DUCT MOUNTING

WIRING:

Power Connections

115VAC
G N H
1 2 3
@ 60Hz   0.1A MAX.

24VAC / VDC
+ −
5 6
0.2 A MAX. INPUT

230 VAC
G H 1   H 2
1 2   4
@ 60Hz   0.1A MAX.

POWER CONNECTIONS SEE ABOVE
① ② ③ ④ ⑤ ⑥

ALARM CONTACTS 10A
⑦ ⑧ ⑨

ALARM CONTACTS 10A
⑩ ⑪ ⑫

*TROUBLE CONTACT 10A
⑬ ⑭ ⑮

REMOTE ACCESSORIES SEE INSTRUCTIONS
⑯ ⑰ ⑱ ⑲ ⑳ ㉑

INSTALLATION:

AIR FLOW

PLUG

SAMPLING TUBE

EXHAUST TUBE

TOP OF SMOKE DETECTOR

Fit the sampling tube across the entire width of the duct.

The tube can be cut to the required length. Minimum duct width 200mm.

FIT THE PLUG PROVIDED TO THE END OF THE SAMPLING TUBE.

The holes in the sampling tube should face towards the air flow.

ΔP between input & exhaust tubes should be between 0.024 to 3.0 mbar

An exhaust tube is provided – this must not be blocked.

The tubes & air flow direction can be reversed.

To prevent false alarms, avoid mounting in areas of extreme high/low temperature, in areas of high humidity or a dusty environment.

The unit should be mounted in a straight duct away from bends or other deflections or turbulent areas.

OPERATION:

Normal / Power On	Pilot light on. Fault contacts 14 - 15 close. Alarm light off. Alarm contacts 8-9 & 11-12 open.
Smoke / Power On	Pilot light on. Fault contacts 14 - 15 close. Alarm light on. Alarm contacts 8-9 & 11-12 close.
Detector Out/ Power Off	Pilot light off. Fault contacts 14 - 13 close. Alarm light off. Alarm contacts 8-9 & 11-12 open.
Testing	By keeping the reset/test button depressed a smoke condition is simulated.
Resetting	Allow approximately 5 minutes for the smoke to clear from the detector head and then press and release the reset/test button. The unit returns to a normal condition.

MAINTENANCE: Periodically clean the tubes & detector head by vacuuming or blowing with compressed air. Do not use chemicals.

RAIN / WATER / LEAK DETECTOR

EW..

EW-230/24

EW-06

EW-01

EW-03

- Detects conductive non corrosive liquid/water in plant rooms, boiler houses, under floors, roofs etc. DO NOT use with combustible liquids ie fuels. AC sensor excitation is used for reliable operation which eliminates the sensor degradation problems found with DC systems.

Volt free contacts

Max ambient 70°C

Adjustable sensitivity

LED indication - light ON when the sensor is wet.

Type	Unit	Supply ± 15%	230 VAC SPDT	Power Consumption	Maximum No of Sensors EW-01	EW-03	EW-06	Mounting	Enclosure
EW-230	Switch unit	230VAC	10(3)A	<2.5 VA	10 in parallel	200m	6	Din Rail	IP00
EW-24	Switch unit	24VAC	10(3)A	<1.4 VA	10 in parallel	200m	6	Din Rail	IP00
					Max cable length from the switch unit 200m				
EW-01	Probe Sensor	For use with above switch unit		2 wire	Box can be fitted in various locations				IP40
EW-03	Cable Sensor	For use with above switch unit		2 wire	3mm dia (Max 200m)		**ORDER PER METRE**		IP00
EW-06	Rain Sensor	For use with above switch unit		4 wire	2 sensor & 2 heater wires 24VAC 1 watt 24VAC Transformer Available)				IP65

DIMENSIONS

EW-230 / EW-24

50   66   82

EW-01

44   28   81

EW-06

Rain Sensor Grid

55   89   72   20 ⌀ CONDUIT ENTRY
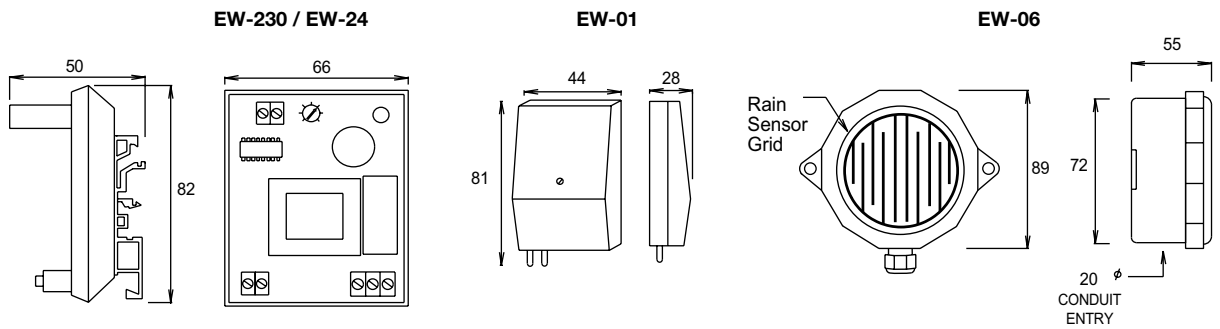
ACCESSORIES: **EE-M1T** Enclosure for EW-230 and EW-24   Dims : 125 H x 75 W x 75 D   IP65   Enclosure Flammability UL94- -V2

WIRING:

EW-230 / EW-24

Sensor   - ⌀ +   Sensitivity Adj   LED

N   L   NC NO C

− +

Sensor Dry = C - NC, Sensor Wet = C - NO

EW-01

Wiring

Sensor

EW-03

Use the 2 bare metal wires as shown. Do NOT connect the 2 PVC coated wires.

Before laying the cable ensure damage has not been caused by handling - make a continuity test across the 2 bare metal wires which should be open circuit.

DO NOT USE SCREENED CABLE.

EW-06

Red	Red	White	White
⊘	⊘	⊘	⊘
24VAC/DC Heater		Sensor	

Polarity is not important

INSTALLATION: Terminals 0.5-2.5mm² Max combined length 200m including sensor cable. Sensitivity may need reducing with long runs. DO NOT USE SCREENED CABLE. SENSOR CABLE MAY BE EXTENDED USING STANDARD PVC CABLE 7/0.2mm

EW-230/24 With power on and sensor connected, adjust sensitivity until LED is on, then turn back until LED just switches off. Short circuit the sensor at the furthest point from the switching unit. The LED and relay should switch on. To short circuit the sensor, press wet fingers or tin foil on to the sensor.

EW-01 The switch operates when the liquid touches both probes.

EW-03 The cable senses at any point along its entire length. Dirt on the cable can affect the switching. Fix the cable into position using plastic clips. Separate the two bare metal wires & connect them to the switching unit via standard 2 core unscreened PVC cable. DO NOT connect the 2 sensor PVC coated wires to the switching unit. Insulate any metallic parts before laying the sensor cable.

EW-06 The heater can be used to dry the surface after rainfall and to prevent false alarms when dew forms. Mount the unit at approx 45° to allow rain to fall off. Keep the sensor grid clean and protect from birds.

EMERGENCY PRODUCTS

## CONDENSATION SENSOR CHILLED CEILINGS / BEAMS

ECB-02

Used to prevent 'indoor rain' with chilled beam / ceiling systems etc by detecting the early onset of condensation. Condensation is detected by a specially treated sensing element fixed directly to an aluminium sensing plate.

ECB-02

Volt free contacts

Max ambient 0-60 C

Accuracy ± 3%

Screw Terminals 0.5-2.5mm

For chilled ceilings recommended setting is approx 80%

Enclosure Flammability = UL94-V0

Type	Description	Operation	24V SPDT	Enclosure
ECB-02	Switch & sensor	Switch closes on detection of moisture and opens when dry.	5(2)A	IP30

DIMENSIONS

ECB-02
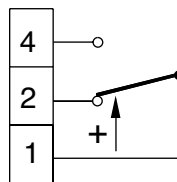
85

55

33

Sensing Plate

Hole for electrical cable
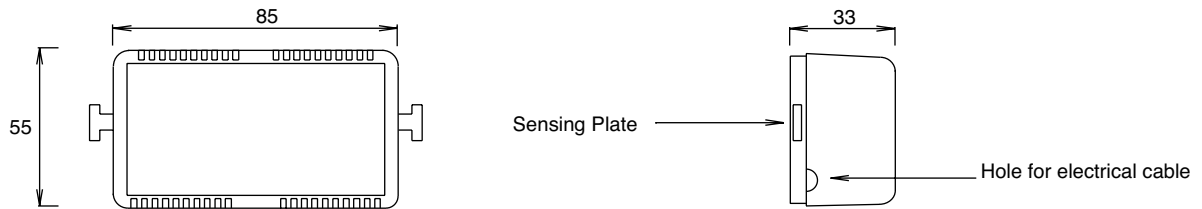
The set point adjuster is under the cover.

WIRING:

ECB-02

4

2

1

+

On detection of condensation contacts 1-2 open and 1-4 close.

INSTALLATION: The unit should be mounted directly onto the coldest part of the pipe/beam.

The unit can be fixed into position by using the cable ties around the mounting bracket. Ensure that good thermal contact is maintained between the sensing plate and the pipe/beam. Do not allow any space between the contact area.

WATTS®