

Control T Electrothermic Heads

How do they work?

At the heart of the electrothermic head is an electrothermic element. The element uses a wax compound that expands when it takes on heat. This expansion drives a small piston in a linear direction. The heat is created when current is passed through a PTC resistor attached to the element body.

Both N/O and N/C valves use the same electrothermic element but in slightly different ways. In the N/C valve the element sits in a plastic cradle surrounded by a spring. The spring pressure forces the element down onto a black plastic plunger which in turn pushes down on a spring loaded mechanical pin projecting from the manifold electrothermic body. When power is applied to the valve, current passes

through the PTC warming the wax compound, this causes the piston to move, forcing the element to compress the spring. This removes pressure on the black plunger allowing the manifold pin to push the plunger back up into the valve head.

The N/O valve element again sits in a spring loaded plastic cradle, this time when power is applied to the valve the element piston acts directly on the plastic plunger pushing down on the mechanical pin contained within the electrothermic body. When not actuated, the counter spring gradually pushes the piston back into the element. This spring also absorbs any over stroke, when on full actuation.

Components



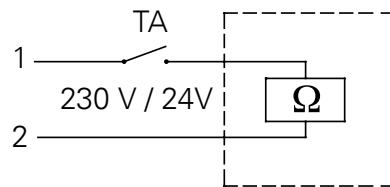
- 1 Polycarbonate case
- 2 Stainless steel spring
- 3 Indicator PPA (35% FV)
- 4 Steel radial stop ring
- 5 Brass shelf TN UNI EN 12164 CW614N
- 6 Polycarbonate base
- 7 M30x1.5 ring nut PA 66 (50% FV)
- 8 PVC cable
- 9 Microswitch 5A
- 10 Wax expansion electrothermal actuator

Features and Benefits

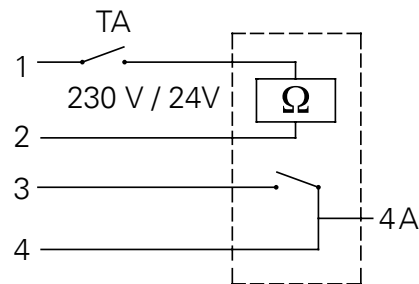
- Unique oval shape allows finger access either side of the head when mounting the electrothermic head onto the manifold body (this is done by screwing the loose ring).
- Black pop up indicator, which tells you whether the valve is opened or closed. This pop up indicator is in a separate channel, to avoid ingress of water into the electrical parts.
- IP44 in vertical position, IP40 horizontal or inverted.
- Reaction time – it responds in a linear fashion, taking 5 minutes (80% of travel is completed in 3 minutes)
- Low energy input approx. 3W – 3.5W, therefore a low cost, energy efficient device
- Breakaway current: 0.35A (24V) 0.25A (230V)
- 24V can be supplied from either an AC or DC source
- It exerts a strong force, overcoming between 45 N to 140 N spring resistance
- Pin travel 3.6mm
- Maintenance free.
- They are silent running.
- Micro switch facility (4A switching capacity) 4-wire version (01213252 or 01213212)
- PVC cable 1m length

Wiring Diagrams

NC 24V / 230V
NO 24V / 230V



NC 24V / 230V - c/micro (*)



Cable identification: 1: Brown / 2: Blue / 3: Black / 4: Black

Coil resistance:
24V: 115 Ohms +/-29
230V: 6000 Ohms +2100/-1500

Electrothermic Heads

Control T Electrothermic Heads

ControlT - electrothermic head normally closed



Type	Pcs/Pack	Code
230V NC	1	01213242
24V NC	1	01213202

Note: The electrothermic heads can be used in conjunction with: Topway T2, FCU Floor Control Unit and FMU2 Floor Mixing Unit. Supplied with 1m cable. 2 wire.

ControlT - electrothermic head normally closed with end switch (4 A 230 V)



Type	Pcs/Pack	Code
230V with micro switch NC	1	01213252
24V with micro switch NC	1	01213212

Note: The electrothermic heads can be used in conjunction with: Topway T2, FCU Floor Control Unit and FMU2 Floor Mixing Unit. Supplied with 1m cable. 4-wire. The two additional cores are connected to an auxiliary switch, which allows an external load to be energised on operation of the head.

ControlT - electrothermic head normally open



Type	Pcs/Pack	Code
230V NO	1	01213280
24V NO	1	01213260

Note: The electrothermic heads can be used in conjunction with: Topway T2, FCU Floor Control Unit and FMU2 Floor Mixing Unit. Supplied with 1m cable. 2-wire.

Adaptor for ControlT electrothermic heads



Size	Pcs/Pack	Code
Spacing disc c. 9mm dia. X 1mm thick	12	90039364

To be fitted to electrothermic heads in order to give additional travel when fitted to non-Emmeti manifolds.