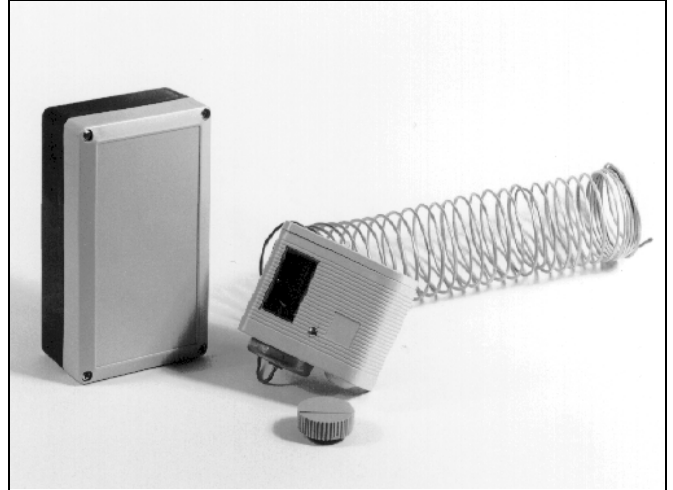


### FREEZE THERMOSTATS

The range of TCL freeze thermostats covers both outside, heater battery and water pipe freeze protection.

The TCL 1601 wall mounting freeze thermostat is suitable for outside mounting.

The TCL 1602 and TCL 1603 have a capillary that will sense the lowest temperature on the face of the battery or the surface of a pipe. They are available in both automatic and manual reset versions.



## SPECIFICATION

<b>Types:</b>	<b>TCL 1601</b>	-15 to + 10°C, Freeze Thermostat, wall mounting - Specification Number 141-1-601
	<b>TCL 1602</b>	-18 to + 13°C Coil and Pipe Freeze Thermostat, Capillary, manual reset,
	<b>TCL 1603</b>	Specification No. 141-1-602 -18 to + 13°C Coil and Pipe Freeze Thermostat, Capillary, automatic reset, Specification No. 141-1-603
<b>Factory Temperature Setting:</b>	<b>TCL 1601:</b>	None
	<b>TCL 1602:</b>	Cut out + 2°C +/- 1.2K
	<b>TCL 1603:</b>	Cut out + 2°C, cut in + 3.5°C, +/- 1.2K
<b>Temperature Differential:</b>	<b>TCL 1601:</b>	2K
	<b>TCL 1602:</b>	None, manual reset
	<b>TCL 1603:</b>	3K at factory default temperature setting
<b>Contact :</b>	<b>TCL 1601:</b>	Single Pole Double Throw
	<b>TCL 1602/3:</b>	Single Pole Single Throw
<b>Contact Rating:</b>	<b>TCL 1601:</b>	Heating Contact 10A resistive, 3A inductive @ 230Vac Cooling Contact 3A resistive, 1A inductive @ 230Vac
	<b>TCL 1602/3:</b>	16A resistive, 16A inductive @ 250Vac
<b>Ambient Temperature Limits:</b>	<b>Maximum Head Temperature:</b> 20°C	
	<b>Maximum Bulb Temperature:</b> 200°C	

## CONSTRUCTION

<b>Cable Entry:</b>	<b>TCL 1601:</b>	3 x PG 7, 3 x PG 9, 1 x PG 13.5
	<b>TCL 1602/3:</b>	Grommet 6.35 mm diameter hole
<b>Head Protection Class:</b>	<b>TCL 1601:</b>	IP 65
	<b>TCL1602/3:</b>	IP 43
<b>TCL 1602/3 Capillary Length:</b>	6000 mm	

**ISOLATE ALL WIRING BEFORE REMOVING THE COVER AS MAINS VOLTAGES ARE PRESENT AT THE TERMINALS.**

#### INSTALLATION

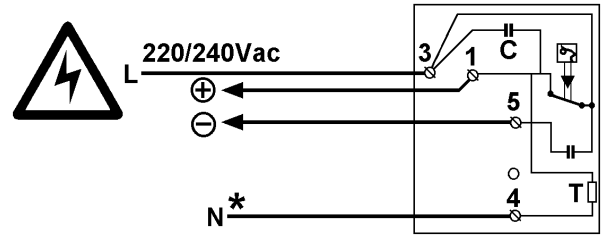
##### TCL 1601 - WALL MOUNTING

1. Choose a location representative of the temperature of the area to be protected from freezing.
2. Remove the cover for access and mount the thermostat to the wall using the fixing holes provided. The wall must be flat to avoid case distortion.
3. Connect the wires as required, see Fig.1.
4. Replace the cover and tighten the fixing screws.

##### TCL 1602, TCL 1603 - DUCT/PIPE MOUNTING

1. Select a location representative of the battery or pipe to be protected by the thermostat.
2. Mount the body of the thermostat on a flat surface that is not subject to vibration. Ensure enough room is left to allow wiring and access to the manual reset where applicable.
3. The capillary must be secured to prevent excessive vibration.
4. **Duct:-** String the capillary across the face of the battery to be protected fixing it with ties as required. **Do not** kink the capillary, any bends must have a radius of at least 25 mm to avoid this.  
**Pipe:-** Wrap the capillary around the area of pipe to be protected. **Do not** kink the capillary, any bends must have a radius of at least 25 mm to avoid this.
5. Remove the cover to give access to the terminals. Connect the wiring to the terminals as required, see Fig.2. **The Earth must be connected.**
6. Replace the cover and tighten the fixing screws.
7. Use the setting knob supplied to adjust the switching temperature if the factory setting is incorrect for your application. If the thermostat is to be tamperproof remove the knob and fit the toplate (supplied).

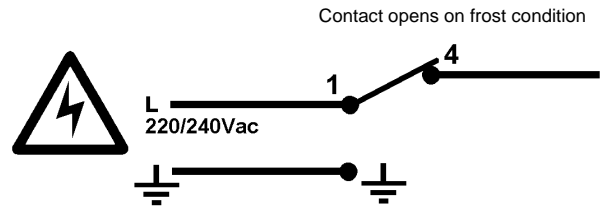
##### TCL 1601 BASIC CONNECTIONS - AUTOMATIC RESET



\* T = Thermal feedback/accelerator heater do not connect 4 to Neutral if used in an open loop system, e.g. if the thermostat is outside.

Fig.1

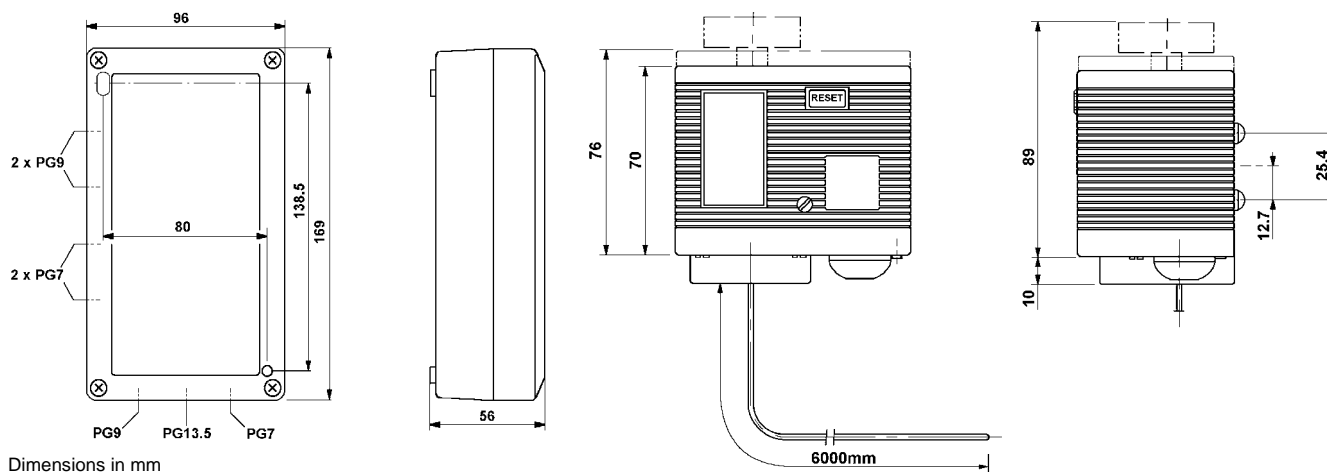
##### TCL 1602/1603 - BASIC CONNECTIONS



TCL 1602 - MANUAL RESET  
TCL 1603 - AUTOMATIC RESET

Fig.2

## DIMENSION DRAWINGS



### WARNINGS -

THESE THERMOSTATS ARE MAINS OPERATED DEVICES. LOCAL WIRING REGULATIONS AND USUAL SAFETY PRECAUTIONS MUST BE OBSERVED. NOTE EARTHING REQUIREMENTS.

ISOLATE ALL WIRING BEFORE REMOVING THE COVER AS MAINS VOLTAGES ARE PRESENT AT THE TERMINALS.

#### Cautions

- Do not apply any voltages until a qualified technician has checked the system and the commissioning procedures have been completed.
- If any equipment covers have to be removed during the installation of this equipment, ensure that they are refitted after installation to comply with UL and CE safety requirements.
- Do not exceed the maximum ambient temperature.
- Interference with parts under sealed covers invalidates the guarantee.
- Design and performance of TAC Satchwell equipment is subject to improvement and therefore liable to alteration without notice.
- Information is given for guidance only and TAC Satchwell does not accept responsibility for the selection and installation of its products unless information has been given by the Company in writing relating to a specific application.
- A periodic system and tuning check of the control system is recommended. Please contact your local sales office for details.

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