ENGINEERING
TOMORROW

Data Sheet

TPOne OpenTherm Series
Programmable Room Thermostat

Application



TPOne OpenTherm Programmable Room Thermostat platform delivers new levels of user friendly interaction. The flexible dot matrix display uses easy read icons and text information to provide feedback on status and settings to the installer and user. When the display is activated the backlight illuminates and guides the user for adjusting temperatures or navigate through menus.

Chrono Proportional, Load Compensation control is the default heat regulation algorithm that will deliver increased comfort and improved economy over standard on/off control. Standard On/Off can also be selected.

When chrono-proportional mode is set, the thermostat introduces a fixed cycle rate on the system and then determines the duration of the On and Off periods within each cycle in proportion to load.

The control algorithm used to determine the on/off periods uses a proportional + integral (PI) routine to eliminate offset normally associated with on/off or simple proportional control.

Chrono-proportional control significantly improves comfort and generally improves boiler efficiency by optimising water temperature.

For **TPOne OpenTherm** we have redesigned the heating startup options. Standard startup is default giving instant heat at the scheduled time. New dynamic Delayed and Optimised start features are also selectable. Delayed start will pause the heating startup at the scheduled time dependant on the difference between ambient and required temperature which will decrease energy usage. Optimised start will monitor the difference between ambient and required temperature and will calculate the best time to start heating to hit setpoint at the scheduled time.

Both features dynamically adjust according to performance accuracy each day to ensure most acurate control and remove the need for manual setting and adjustment.

Additional **TPOne OpenTherm** features include:
- Seperate User & Installer Setting Menus
- Holiday Scheduler
- Upper and Lower Temperature Limits
- Capacitive Touch Button Control
- Push Button Lock
- °C or °F Selectable Display
- Audible Button Click (selectable)
- Frost Protect Temperature Setting
- Selectable Domestic Hot Water Channel (Mains Variant only)
- Clear Text Display (7 Languages)
- External Sensor/Window Switch input
- Boiler service interval timer (400 days)
- Hysteresis adjustment
- OpenTherm v. 4.1/5.0 certified

TPOne OpenTherm Comfort Modes



TPOne OpenTherm Programmable Room Thermostat introduces the quick access Scenario interface. To the left of the display are 4 dedicated user buttons. As a programmable device heating is controlled by a preset schedule but sometimes our schedules change intermittently so we have made it easy for the user to adapt their heating needs.

The Home, Away & Asleep buttons allow the user to quickly change the current setting to either save energy or deliver comfort when needed. These manual overrides stay until the next scheduled heating change so no need to remember to switch back to automatic control.

The additional standby button also gives the control to stop the heating completely, this will save energy when airing the home or can be used to switch off during summer months without having to change the schedule. Standby remains until the user chooses to switch back on.

TPOne supports OpenTherm boilers. If an OT boiler is connected to TPOne, it automatically starts controlling the boiler by this efficient control algorithm. User interface is unchanged no matter if OpenTherm feature is used.

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Ordering

Product	Type	Code no.
TPOne OpenTherm-M	Programmable Thermostat	**087N7852**
TPOne OpenTherm-B	Programmable Thermostat	**087N7851**
TPOne OpenTherm-RF + RX1-S V2	RF Programmable Thermostat	**087N7858**
RX1-S V2	Receiver ONLY	**087N7775**

Technical specifications

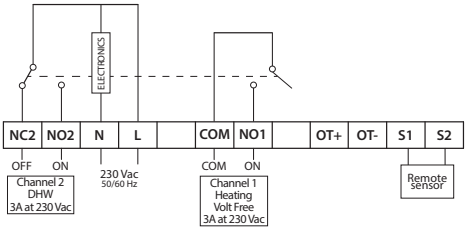
Feature	TPOne-M OpenTherm	TPOne-B OpenTherm	TPOne-RF OpenTherm + RX1-S V2
Type	Programmable Thermostat		RF Programmable Thermostat
Setting temperature range	5-35 °C		
Operating temperature range	0-45 °C		
Fault indication	Yes		
Output Channel 1	Volt free, SPDT type 1B		Volt free, SPDT type 1B (RX1-S V2)
Switch Rating Channel 1	3A at 230Vac		3A at 230Vac (RX1-S V2)
Output Channel 2	3A at 230Vac	-	
Battery Life	n/a	Min 2 years	
Power Supply	230Vac, 50/60Hz	2.5 - 3VDC (2x AA Alkaline Batteries)	
Power Supply RX1-S V2	-		230Vac, 50/60Hz
RF frequency	-		433.92MHz
Maximum Range	-		0.5 - 30 meters
Switch type	SPST		-
IP Rating	IP20		
Industry standard back plate	-		RX1-S V2
On/Off Control	Yes		
Chrono-proportional control	Yes		
Approval	CE marking, EN60730-2-9		
Control pollution situation	Degree 2		
Software classification	A		
Rated impulse voltage	4kv	-	-
Storage conditions	Relative Humidity 5 - 95% Ambient (storage and shipping) -10 to 60°C		

ErP Class

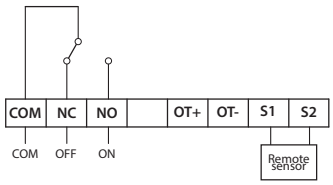
ERP Class		
The products represented within this document are classified according to, and allow completion of, the Energy Related Product (ErP) Directive System Package fiche and the ErP system data label. ErP Labelling obligation is applicable from 26th September 2015.		
ErP Class	Product Function and ErP Description	Additional efficiency gain
V	**Adjustable room thermostat regulating a modulating heat source.** Modulating electronic room thermostat, intended for use with modulating heating appliances, which varies the temperature of the water flow. The heating appliance depends on the deviation between measured temperature and the setpoint of the thermostat. The control is carried out by modulating the output of the boiler and hereby enhance the system efficiency.	3%

Wiring Details

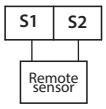
TPOne-M OpenTherm



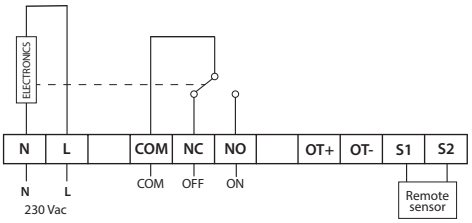
TPOne-B OpenTherm



TPOne-RF OpenTherm

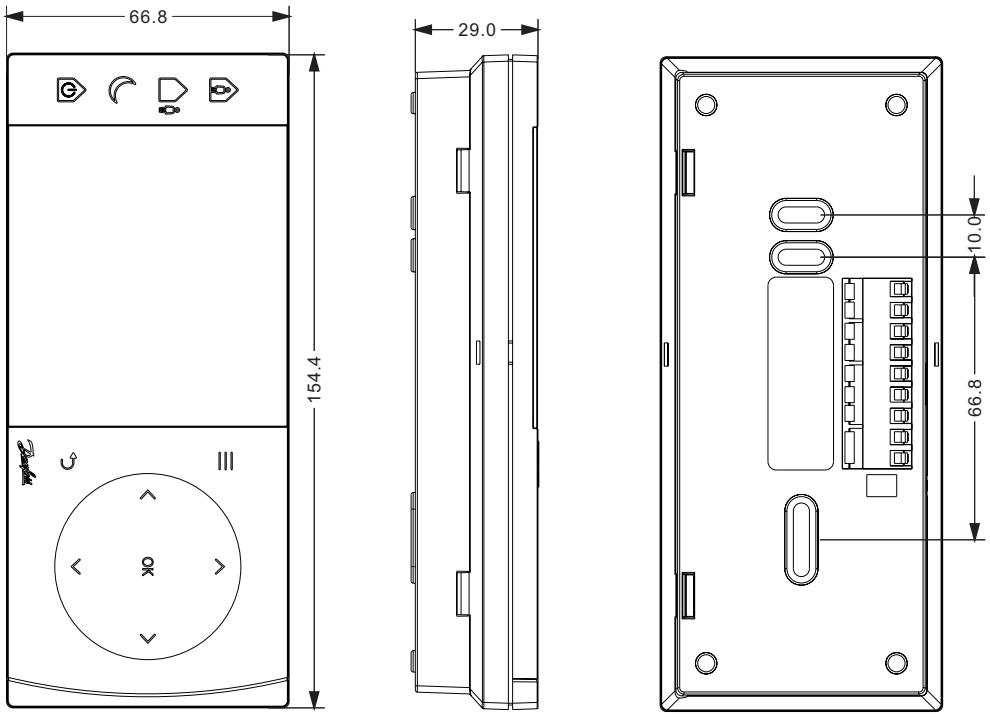


RX1-S V2 OpenTherm

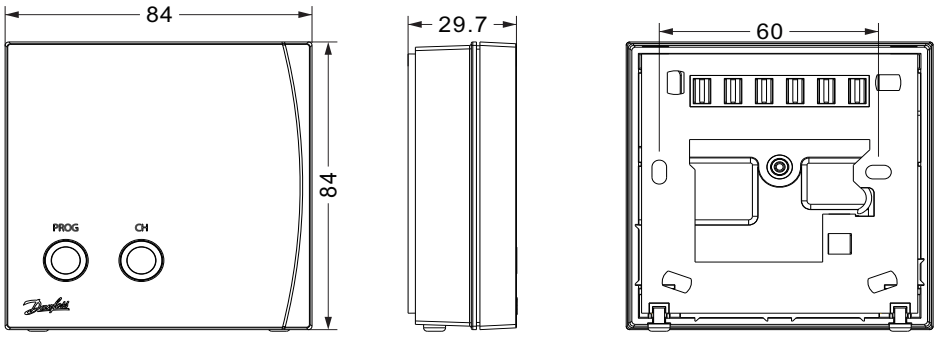


Dimensions

TPOne OpenTherm



RX1-S V2 OpenTherm



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