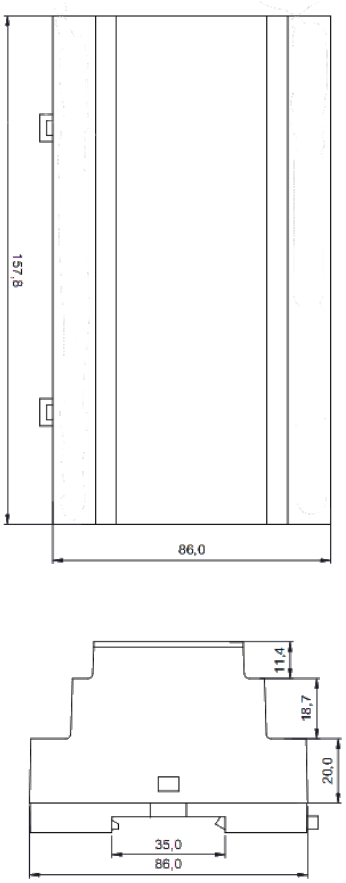
Heating System Controller T-ION

- Microcontroller based digital technology
- 2x16 LCD user interface
- High resolution analog-to-digital conversion
- Protected inputs&outputs
- Easy to use templates for standard applications
- Standard PT1000 temperature sensors
- Pre-configured parameters for standard heating systems
- Optional Modbus RTU communication protocol allows BMS connection.

Advanced functions

- Soft start
- DHWS sterilization
- Independent time scheduling for heating and DHWS
- Pump and valve de-blocking function
- Freeze protection
- Automatic daylight savings time changeover

Dimensions (mm)



Specifications

General	8 bit microcontroller, 13-bit A/D converter EEPROM memory, LCD with back-light
Nominal voltage Power consumption	220 V AC +%10-%20, 50 Hz 6VA
Memory retention time	Unlimited
Inputs	PT1000 (1000 Ohm @ 0° C)
Outputs	7 relays, 2A 230 VAC
Ambient temperature range Non-operating range Humidity range	0..50 °C -25..+75 °C 5...95% rh, non-condensing
Weight Dimensions Mounting	450 gr (Gross 500 gr) 157 x 86 x 60 For 35 mm DIN rail mounting
Degree of protection	IP20, EN 60529
Connections	Plug-in, max 1 x 2.5 mm²

Properties

General T-ION temperature controllers can be used to manage a variety of heating systems . Advanced control strategies are available for optimized performance. A comprehensive set of templates assure easy start-up.

Functions Along with outside temperature compensation, T-ION offers a wide range of advanced functions. Mixing valve control and DHWS control assures maximum comfort levels with minimum energy consumption. Soft start function prevents pipe noise problems during startup. Pump and valve de-blocking functions and freeze protection assures safe and trouble free operation. Automatic summer/winter changeover is executed based on an averaged outdoor temperature.

Configuration T-ION can be configured to control two level burner, mixing valve, circulation pump, DHWS pump and a by-pass pump.

All the parameters are set using the buttons and display on the controller. Instead of setting all the parameters from scratch, templates are available for a wide range of common systems. Predefined settings can then be optimized for the applied system.

The configurations are saved in non-volatile memory, thus pre-configuration is possible prior to shipment

Time schedules Time schedules allow the system to be operated on desired periods. Weekly programming is possible. Independent schedules are available for heating and DHWS.

Communication (Optional) Modbus RTU protocol over RS485 is provided to communicate with Building Management Systems.

System selection chart

	Scenarios	Burner 1	Burner 2	Bypass Pump	DHWS	Sensors
Systems with mixing valves	Scenario 1	✓	✓	✓	✓	1 ea. outside type 4 ea. pipe type
	Scenario 2	✓	-	✓	✓	
	Scenario 3	✓	✓	✓	-	1 ea. outside type 3 ea. pipe type
	Scenario 4	✓	-	✓	-	
	Scenario 5	✓	✓	-	✓	
	Scenario 6	✓	-	-	✓	
	Scenario 7	✓	✓	-	-	1 ea. outside type 2 ea. pipe type
	Scenario 8	✓	-	-	-	
Systems without mixing valves	Scenario 9	✓	✓	✓	✓	1 ea. outside type 3 ea. pipe type
	Scenario 10	✓	-	✓	✓	
	Scenario 11	✓	✓	✓	-	1 ea. outside type 2 ea. pipe type
	Scenario 12	✓	-	✓	-	
	Scenario 13	✓	✓	-	✓	
	Scenario 14	✓	-	-	✓	
	Scenario 15	✓	✓	-	-	1 ea. outside type 1 ea. pipe type
	Scenario 16	✓	-	-	-	
Heat exchanger	Scenario 17	-	-	-	-	
Heat exhanger/ DHWS	Scenario 18	-	-	-	✓	1 ea. outside type 2 ea. pipe type

Electrical connections

Notes

- 1. stage thermostat (T1)
- 2. stage thermostat (T2)
- Output contacts: 230 VAC 2A
- Pumps and fans should be connected throgh a control circuit, not to be connected directly to relay outputs.
- Zone 2 and 3 temperature control is not available