

MVA-005

Self-powered intelligent Thermostatic Radiator Valve (iTRV)

battery-free, wireless,
maintenance-free

NEW!
With local set point
adjustment



micropelt

EH4 GmbH

Energy harvesting

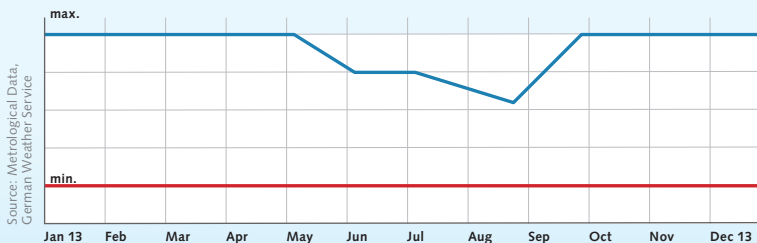
Self-powered intelligent Thermostatic Radiator Valve (iTRV)

MVA 005

Functions

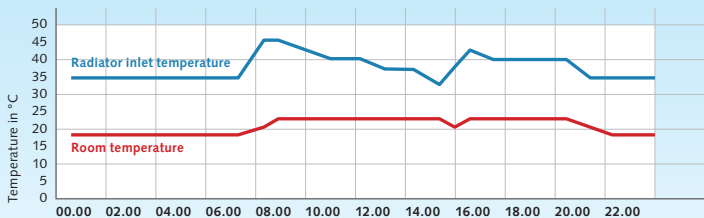
- Local +/- setpoint adjustment on the drive.
- The integrated thermogenerator converts heat into electrical energy that powers the actuator.
- Works completely maintenance-free 365 days a year.
- Configurable via Remote Management/Commissioning (ReMan/ReCom).
- Operation in valve position (%) or self-regulation (°C)
- Adjustable radio communication interval
- Transmission of the flow temperature
- Stand-by operation for unheated rooms
- Status feedback on energy management, radio quality, radio failure, motor status.

* Summer mode

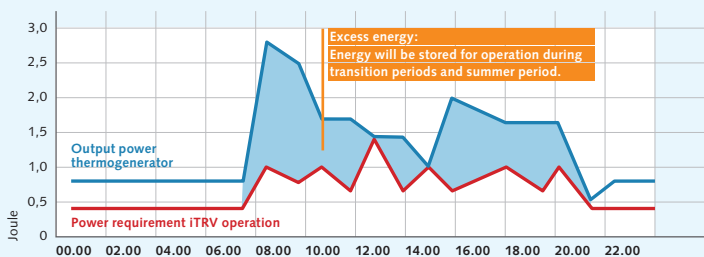




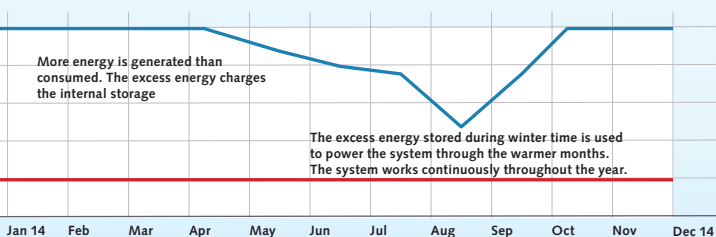
Temperature difference in buildings



Energy-budget



Charge level of internal energy storage



Application

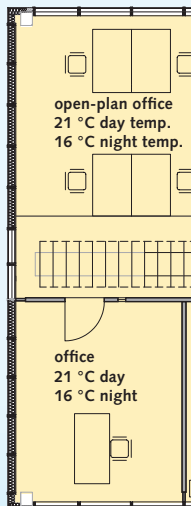
Individual room temperature control

by wireless and battery-free sensors and iTRV



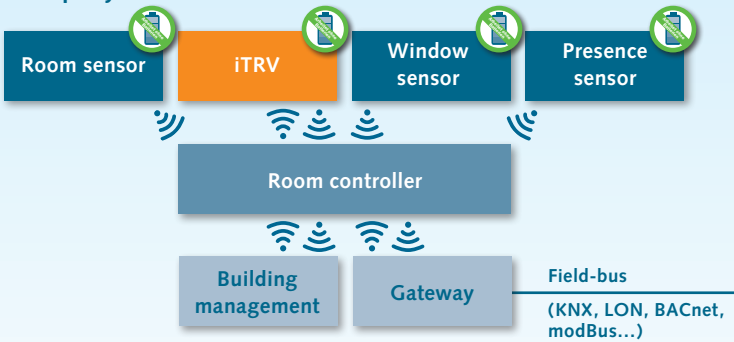
Benefits & Features

- Energy-savings!
- Maintenance-free system, deploy and forget. The iTRV operates without batteries and wires!
- Retro-fit installation
- On demand heating control for individual rooms.
- Compatible with building automation systems through EnOcean radio standard.

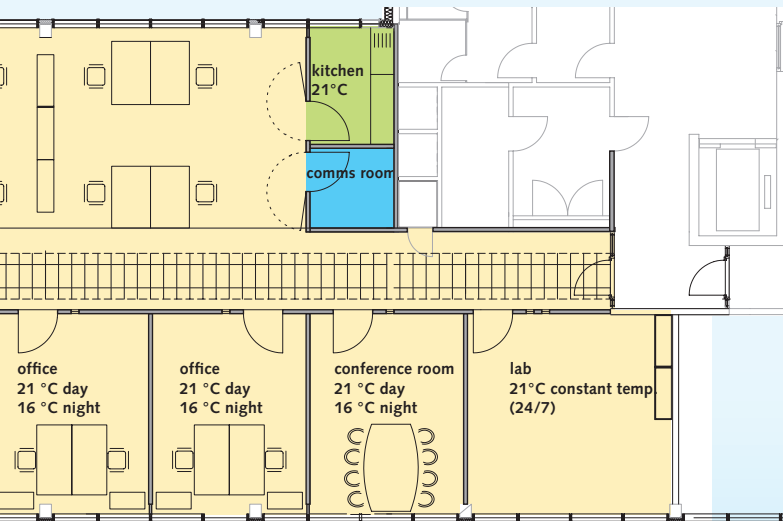


Compliant
with EN1 5232
Energy performance
of buildings

Exemplary installation



Individual room temperature control in office space:
each room is heated individually according to demand.

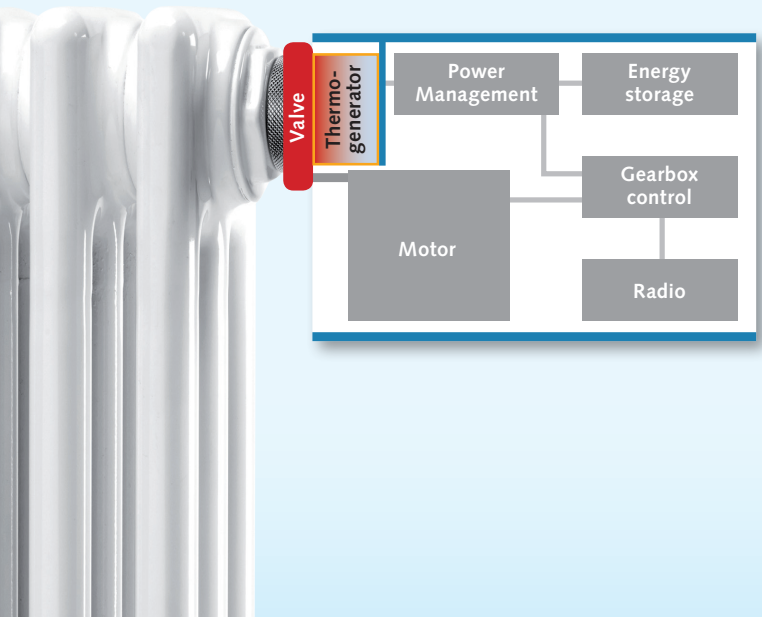


Energy Harvesting

with Thermogenerator

Thermoelectric principle

- Thermogenerator converts temperature difference between radiator intake and ambient air into electricity.
- Energy Harvesting enables battery-free, maintenance-free and wireless operation by using radiator heat.
- Perfect for wireless sensor and actuator equipment for building automation applications.



Technical Details



Technical details MVA 005:

Valve type:	M30 x 1,5
Adapters:	available for standard valve bodies
Ambient temperature, environment:	0 – 40 °C, max. 70 % rH
Inlet temperature max.:	75 °C max.
Temperature, transport and storage:	-10 – +45 °C, max. 70 % rH
Calibration range:	> 5 mm
Operating range (0–100 %):	2.5 mm typical
Step width min.:	1 %-steps (> 3 % change to last position)
Travel speed:	0.95 mm/sec typical
Force in normal operation:	100 N typical
Radio interval, normal operation:	Default: automatic or according to EEP A5-20-06
Radio interval after start-up:	every 2 mins during 30 mins
Ambient temperature:	Effective temperature value in the nearfield of the drive. After 30 minutes approximated temperature value.
Freeze protection:	< 6 °C valve on 95 % (< 0 °C for setpoint setting = 0 °C)
Window-open detection:	yes
Radio failure:	Internal controller with last setpoint temperature °C transmitted, otherwise default = 21 °C
EnOcean EEP:	A5-20-06 (valve position %, target temperature °C)
EnOcean ReMan/ReCom:	Yes, see datasheet
Status and maintenance functions:	Yes, see EEP
Local adjustment:	+/- 5 °C (+/- 5 relative at valve position)
Temperature sensor accuracy:	+/- 0,5 °C
Energy storage:	Designed for 365 days operation.
Energy production min.:	90 standard heating days flow > 40 °C
Frequency:	868.3 MHz
Dimensions:	55 x 95 mm (Ø x T)
Maximum radiated power:	+1,4 dBm (EN 300220-2:V3.1.1)
Receiver:	Category 2 (EN 300 220-1 V3.1.1)
Conformity:	CE

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