



connectivity, monitoring and remote management systems
remote management and communication solutions



rTM SE system wireless monitoring devices

The CAREL rTM SE (Remote Temperature Monitoring) monitoring system is used to monitor the temperature, humidity, lighting, count pulses from energy meter modules, measure electricity consumption and monitor the operation of generic devices.

Specific wireless devices have been developed for:

- temperature measurement on showcases and cold rooms (°C);
- room temperature, humidity and light intensity measurement (°C - rH% - Lux);
- counting impulses from energy meter modules (for monitoring electricity, water and gas consumption);
- I/O modules for monitoring the status of inputs and activate generic loads;

- energy module and management of electrical loads.

By connecting a network of wireless devices to a supervisor, the physical values measured and alarm events can be recorded.

The devices require no electrical connection, being powered by long life batteries (5/8 years) and operating over a ZigBee™ 2.4 GHz wireless connection. The devices are installed directly inside the cabinet, cold room or space being monitored, and are ideal for use in retrofit installations or new stores where access using wired networks is not possible. Sensors are available with 12-24 Vac power supply.

Compliant with standard EN 13485.

BP SE version

- protective shielding and thermally insulated from cold surfaces;
- clean mode button with local signal;
- automatic recognition of cabinet temperature and automatic setting the alarm parameters



being patented

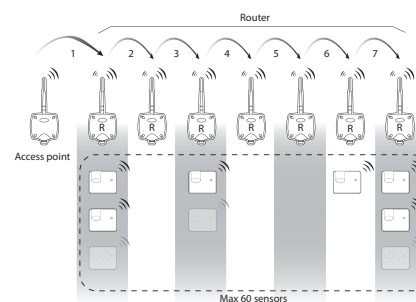
General technical specifications

Distance between Access Point/ Router and Sensors	around 30 m
Transmission frequency	selectable from 2405 to 2480 MHz
Number of channels available	16
Wireless protocol	ZigBee™
Standard	802.15.4.
Maximum HOP levels	7 (hops)
Maximum number of wireless network devices	<ul style="list-style-type: none"> • 30 for each Access point (with 1 Router up to 60 units); • 16 Routers connectable directly to the Access Point, up to a maximum of 60 devices on the same network; • 16 Routers connectable directly to each Router, up to a maximum of 60 devices in the same network;

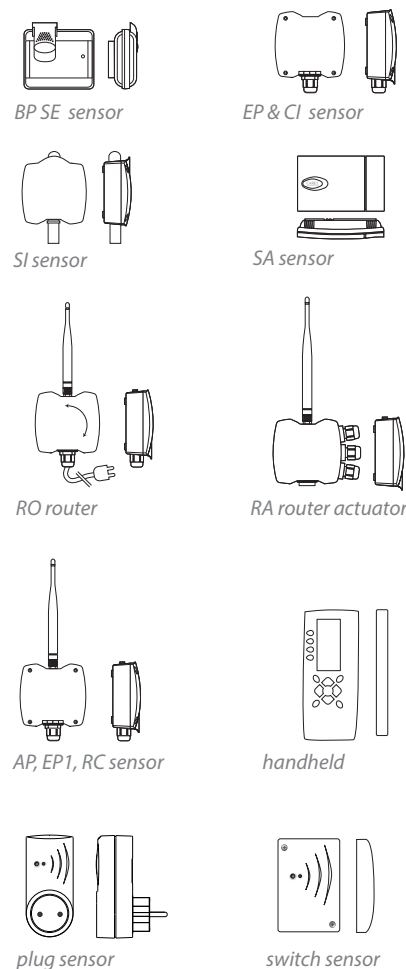
System component codes

Code	Description	Power supply
Receiver		
WS01AB2M20	AP Access Point Modbus®	12 to 24 Vac/Vdc
Router		
WS01RC1M20	RO Router	230 Vac
WS01RB2M20	RB Router-Bridge	12 to 24 Vac/Vdc
WS01VB2M10	EP1 Router-sensor - 2 NTC, 2 digital inputs	12 to 24 Vac/Vdc
WS01NO2M20	RC Router-counter - 2 NTC, 2 digital inputs	12 to 24 Vac/Vdc
WS01HO2M20	RA Router-Actuator - 2 NTC, 2 digital inputs, 2 digital outputs	12 Vac/Vdc
Router Plug and Switch (10 A 250 Vac)		
WS01C010*0	single-phase energy meter *: indicates the type of plug available X= universal; I= Italian; G= British; F= French; E= Schuko	85 to 250 Vac
Sensors		
WS01U01M00	BP temperature sensor -40T50 °C	battery
WS01W02M00	EP temperature sensor -50T90°C 2 NTC, 2 digital inputs	battery
WS01G01M00	SA room temperature/humidity sensor -10T60 °C	battery
WS01F01M00	SI industrial temperature/humidity/light sensor -20T70 °C	battery
Pulse counter		
WS01E02M00	CI counter - 2 NTC, 2 digital inputs	battery
Accessories		
WS01L01M00	rTM SE ZigBee handheld	battery
WS01M02M20	rTM SE router sniffer	via USB
WS00BAT000	battery, single package	---
TRASP3E120	3 VA plug-in transformer, 230/12 Vac power supply	---
TRADR4W012	4 VA transformer for DIN rail assembly, 230/12 Vac power	---

HOP connection example



Models



No electrical wiring and flexibility to move the showcase.



Monitoring independent of the existing controller.



Integration with most commonly-used BMS.

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