



*Product Enclosure Subject to Change

SMART REPEATER

Mx-USR-RPT: SMART RULE-BASED REPEATER

APPLICATION:

Wireless Repeater which receives telegrams and re-sends them to enhance and increase the signal distance from the transmitter to the receiver. Typically a repeater will be used when the sensor has been mounted too far from the receiver or there are obstacles between the sensor and receiver which diminishes the signal. It can operate as a Level-1 or Level-2 repeater and selected telegrams can be defined using Magnum's AirConfig software to identify and select certain telegrams to be repeated. The parameters can be selected for sensor signals only or sensor signals and already repeated signals.

NOTE: AirConfig Software is mandatory for Smart Repeater implementation! All settings must be programmed using AirConfig.

SECURITY CAUTION:

The installation and assembly of electrical equipment should only be performed by authorized personnel. The product should only be used for the intended application. Unauthorized modifications are prohibited! Ensure all power is disconnected before installing. Do not connect to live / operating equipment.

CAUTION! Risk of electric shock due to live components within the enclosure, especially devices with mains voltage supply (usually between 90..265 V).

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet

CONFIGURATION OF SMART REPEATER WITH AIRCONFIG:

LEVEL-1 OR LEVEL 2 REPEATER

- Smart Repeater can be used as Level-1 or Level-2 repeater. Level-1 repeater repeats only telegrams received from a sensor directly, where Level -2 repeater repeats telegrams received from a sensor or a Level-1 repeater. If a telegram will be received from a sensor and a Level repeater, only the signal received first will be repeated.
- Level-1 and Level-2 Repeater repeat all telegrams received regardless of their need to be repeated. Therefore the number of telegrams in the air is doubled or tripled, because of a few sensors having range problems.

SMART LEVEL-1 RESPECTIVELY SMART LEVEL-2 REPEATER

- To repeat selected telegrams instead of all telegrams, Smart-L1 or Smart-L2 must be selected.
- This activates a 2nd tab which allows to define up to 10 parameters to identify the telegrams that are to be repeated.

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CONFIGURATION OF SMART REPEATER WITH AIRCONFIG: (CONTINUED)

There are 4 different types of parameters available from the drop down menu:

- Sensor-ID (EnOcean Radio ID of the sensor)
Drag and drop the desired sensor (with range problems) into the Filter of the smart repeater.
- Signal strength (RSSI-Level)
All telegrams received at a RSSI level lower than the specified threshold will be repeated. Higher RSSI telegrams identify weaker signals, i.e. -80dB is weaker than -60dB. The receiver's technical limit is approx. -90..95dB. Signals weaker than this can not be filtered from the ambient noise. To ensure a reliable transmission the signal must be 15..20 dB above the noise level – signals weaker than -75..-80db will not provide sufficient telegram information.
- RORG (Telegram-Type)
Standard EnOcean telegram types are RPS (Switches), 1BS (window contact, window handle), 4BS (4-Byte Sensors), MSC (manufacturer specific), VLD (Variable Length), UTE (Universal Teach-In).
- Destination-ID (EnOcean Radio ID)
Only for addressed telegrams (different to broadcasted telegrams). Sensor telegrams typically will be broadcast type telegrams. Addressed telegrams are included in the EnOcean standard, but rarely used. .

Each parameter can be applied or blocked. Blocking inverts the rule – a certain telegram or a certain type of telegram (RORG) would not be repeated.

In case of multiple conditions / the parameters can be AND or OR scenario

Select OR for all telegrams and parameters to be processed independently. When selecting AND the telegram will be repeated only if all conditions are met.

10 parameters / conditions can be selected in total.

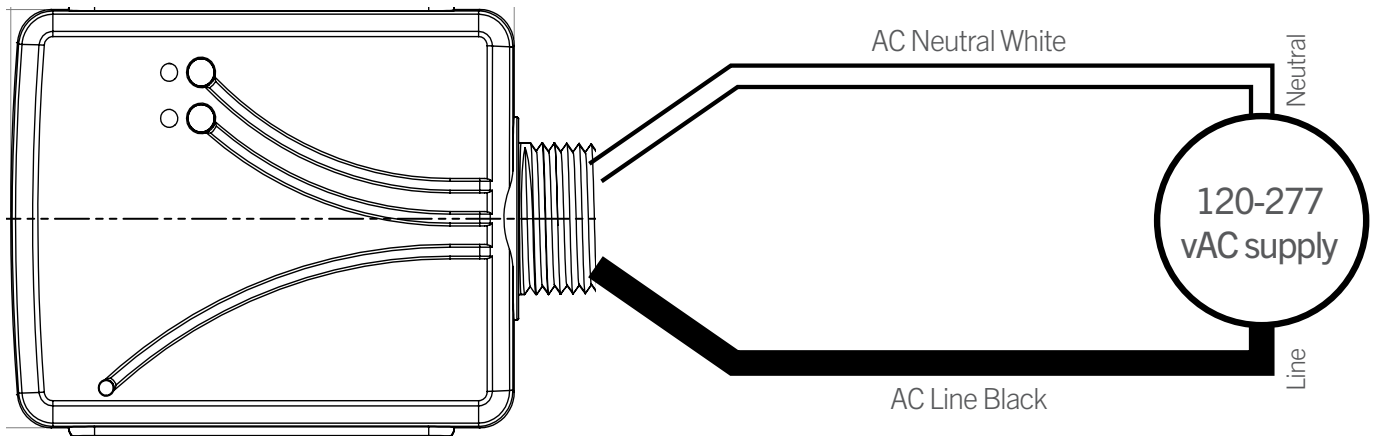
TECHNICAL DATA:

Radio Technology	EnOcean (IEC 14543-3-10)
Frequency	902 MHz , 868 MHz
Antenna	Internal
Data Transmission	Bidirectional
Power Supply	120-277VAC
Power Consumption	< 1 W
Functions	Level-1, Level-2, Smart-mode, rule-based, max. 10 rules
Protection	IP65 according to EN 60529
Electrical Connection	Terminal block, max. 1,5 mm ²
Ambient Condition	-20..+60 °C, max. 70% rH, non-condensing
Weight	110 g

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WIRING DIAGRAM



AC Power In (Neutral): White | AC Power In (Line): Black

NOTE: Magnum Wireless device antenna cannot be enclosed inside a metal box. Wireless range will be greatly limited with enclosed antenna.