

SiMAP® -radio sensor network base station router

ACR-1

ACR-1 is a base station router for connecting SiMAP radio sensors to SiMAP-cloud server or third party automation systems. The base station router has two independent transceivers to maximise the operation range and the radio operates in 433 MHz frequency band.

The base station router receives data from the radio sensors and transmits service data to the sensors to maintain the radio network. In normal conditions the base station router average power consumption is less than 1 W.

The base station router is always configured to one specific radio network. In rare cases to cover a very large real estate it may be needed to install another base station to cover the area. The second base station is connected to the base station router with RS485 -bus and configured to the same radio network.

To one radio network up to 1000 wireless radio sensors can be connected.

Data connection to the cloud server

Connection to the cloud server using internet can be made either using wired Ethernet connection or using USB mobile data modem. Data modem requires SIM-card from the local mobile network operator.

Data transmission is secured by using VPN-connection.

MODBUS connections

The base station router can also be connected straight to local automation system either by using MODBUS/RTU or MODBUS/TCP connections.

Power connection

The base station router is equipped including power cord with CEE7/7 plug.



Technical specifications:

Power supply	110 .. 230 Vac
Power consumption	< 1000 mW
Operating temp.	0..50 °C
Operating humid.	0..100%(non condensing)

Radio:

Frequency	432 - 434 MHz
Tx power	10 mW (period < 1%)
Rx sensitivity:	-134 dBm
Modulation	spread spectrum
Range	> 5 km in free air;
indoors	depending on structures

Enclosure:

Measures (WxHxD)	370 x 313 x 62 mm
Weight	1450 g
Material	Aluminium
IP class	IP20

Full fills directives 2004/108/EC, 2006/95/EC, 1999/5/EC ja 2000/299/EC demands, and is according to standards EN61000-6-3 (Emission), EN61000-6-2 (Immunity), EN60730, EN300220-2 class 3 and EN301489-3.

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