

EM1016

pulse RF module

Technical description

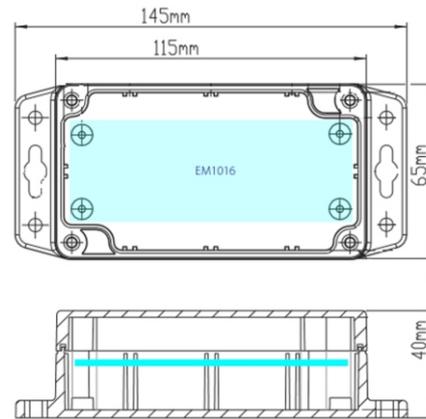
The EM1016 pulse radio frequency (RF) transmission module is designed for collecting, storing, and transmitting consumption parameters (current, hourly, and daily) via a radio channel from water, electricity, and gas meters equipped with pulse outputs, as well as from signaling devices with digital outputs.

The module has 4 pulse/digital inputs for connecting signal sources. The EM1016 is powered by a built-in lithium battery, providing more than 10 years of uninterrupted operation.

The built-in archiving system stores current values for each input for up to 6 months and enables retrieval, upon user request via the radio channel, of data for any desired period in the form of current, hourly, or daily parameter records.

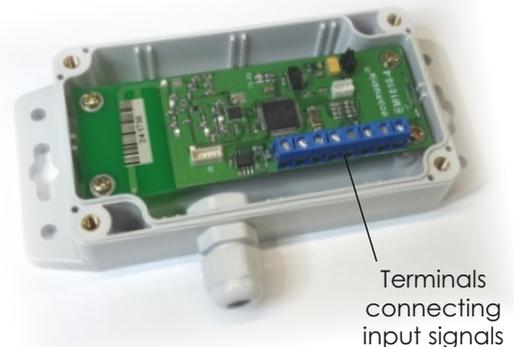


Main dimensions:



Technical specifications:

Description	Pulse RF unit EM1016
Input Connection Types	4 programable independent inputs from meters with pulse outputs (dry contact, open collector)
Inputs Specification	Input type – "dry contact", "open collector"; Pulse frequency – up to 128 Hz
Box Size	145x65x40mm
Unit Weight	150 grams
Power Supply	1 or 2 lithium batteries, "AA" size, 3,6 VDC, 2400 mA*h
Operational Life	more than 10 years
Settings time intervals between transmissions	10 sec... 18 hours
Maximum trend numbers of each input	storage of hourly and daily values for each input for up to 6 months
RF frequencies (ranges)	FSK 430/860/900 MHz
RF Transmit Bitrate	10.0 kbps
Wakeup	Periodic – internal timer
Configuration Storage	Non-volatile memory
Environmental	IP-65
Operating Temperatures	-40° C to +70° C
Humidity	Max. 90%



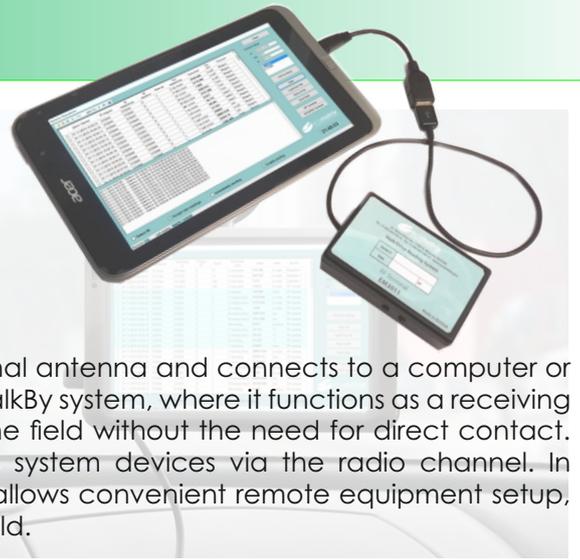
Input terminal assignment:

IN1	Input 1	Signals from metering devices with pulse outputs and from devices and equipment with discrete outputs
COM	Common	
IN2	Input 2	
COM	Common	
IN3	Input 3	
COM	Common	
IN4	Input 4	
COM	Common	

Pulse RF EM-1016 module

Settings and data reading from the EM-1016

Programming of EM1016 settings (both general and for each individual input), as well as data and archive reading, is carried out via radio channel using the RF Terminal device (EM3011) and specialized software.



The Terminal is a transceiver equipped with a built-in or external antenna and connects to a computer or tablet via a USB cable. This device is designed for use in the WalkBy system, where it functions as a receiving module, enabling data collection from devices located in the field without the need for direct contact. Additionally, the RF Terminal is used for configuring various system devices via the radio channel. In combination with the appropriate software, the RF Terminal allows convenient remote equipment setup, significantly simplifying system maintenance processes in the field.

The "Data Collection Terminal" program – data reading and mode settings:

Date / Time	Module ID	Parameter ID	Factor	Parameter type	Value	Units	Source	Repeater
02-08-2016 16:42	243460	243477	1	Q heating	1 701.5280	Gcal	RF Module	0
02-08-2016 16:42	243460	243479	1	M heating direct	114 292.9600	ton	RF Module	0
02-08-2016 16:42	243460	243480	1	M heating return	113 128.4080	ton	RF Module	0

Programming of the module configuration modes

User ID: 0, TX Timeout: 10

Digital input 0: Chan.№ 0, Value 0, Factor 0 (100 pulse / unit), Type V cold water

Digital input 1: Chan.№ 1, Value 0, Factor 0 (100 pulse / unit), Type V cold water

Digital input 2: Chan.№ 2, Value 0, Factor 0 (100 pulse / unit), Type V cold water

Digital input 3: Chan.№ 3, Value 0, Factor 0 (100 pulse / unit), Type V cold water

Connection settings: IP 189.23.14.205, Port 3209, ID 5371428

COM port settings: COM4 (selected)

Buttons: Read from device, Send to device, Cancel, Exit, Clear list, Load from file, Save to file, Export to Excel, Send data, RF Terminal, RFGPRS Terminal

Connection settings for transmitting selected data to the server

Data upload/download, export of selected data to Excel

Sending selected data to the server

Launching the program for configuring the EM1016 module modes

The "Archive Collection Terminal" program – retrieval of archived data:

Date / Time	Module ID	Parameter ID	Factor	Parameter type	Value	Units	Source	Repeater
30-06-2016 19:00:00	7371171	7371171	10	V cold water (h...	19 729.8900	m cube	RF Module	0
30-06-2016 20:00:00	7371171	7371171	10	V cold water (h...	19 731.0900	m cube	RF Module	0
30-06-2016 21:00:00	7371171	7371171	10	V cold water (h...	19 732.1800	m cube	RF Module	0
30-06-2016 22:00:00	7371171	7371171	10	V cold water (h...	19 733.5000	m cube	RF Module	0
30-06-2016 23:00:00	7371171	7371171	10	V cold water (h...	19 734.3400	m cube	RF Module	0

Archive request

Module ID: 2220600, Channel: 0

Summary (selected), Hourly archive, Daily archive

Initial date: [calendar icon], Final date: [calendar icon]

Mobile device: [checkbox]

Buttons: OK, Cancel, Archive

Connection settings: IP 189.23.14.205, Port 3209, ID 5371428

COM port settings: COM4 (selected)

Buttons: Clear list, Load from file, Save to file, Export to Excel, Send data, Archive

Connection settings for transmitting selected data to the server

Data upload/download, export of selected data to Excel

Sending selected data to the server

Request for retrieving archived data