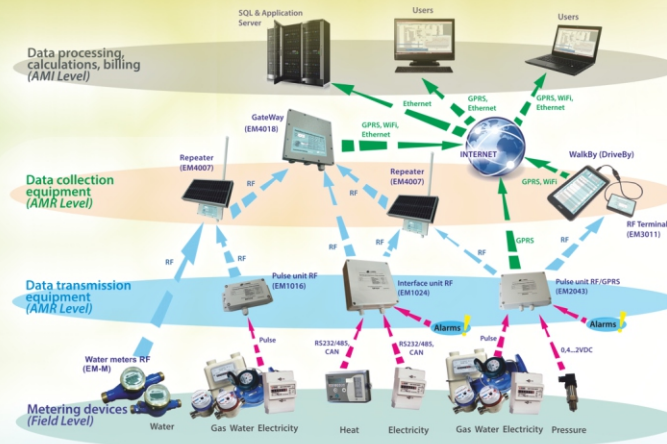


Equipment manufacturing,  
installation, maintenance

## Automatic Meter Reading (AMR), Advanced Metering Infrastructure (AMI) systems

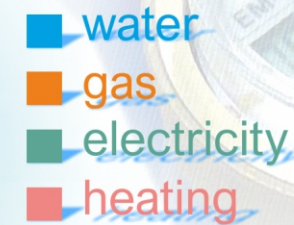


advanced  
resources  
management  
solutions



### ECOMATRIX AMR/AMI systems:

- Wireless technologies for automated data collection;
- Data transfer from any metering devices (water, gas, etc.);
- WalkBy/DriveBy and Fixed Reading Management Systems;
- Wireless radio frequency platform 433/865/868/902 MHz;
- Data transmission into a central database (SQL Server);
- Consumption data collection in real-time;
- Lets to track the consumption from the home;
- Can alert the costly leaks and theft detection;
- Improved asset management.



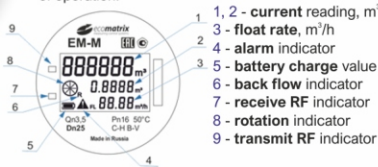
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info@ecomatrix.pro www.ecomatrix.pro

# Data Transmitting AMR equipment



## Class C water meters with RF radio transmitters (EM-M)

RF transmitters are integrated into an electronic registers of water meters - MultyJet, IP68, class C, Dn15, 20, 25, 32, 40, 50 mm. Meter accurately transmits the water consumption data, eliminates need for external wiring. EM-M meters provide accurate capabilities for water management - reading online, back flow consumption, tampering and sabotage alarm, waters leakage report etc. EM-M meter has the lithium battery for more then 12 years of operation.



## External RF radio transmitter Pulse RF unit (EM1016)

External RF radio transmitter is used for data transmission from meters of water, electricity and gas with pulse outputs. The unit has 4 built-in pulse inputs and the lithium battery for more then 12 years of operation. Each input has its own programming parameters, which are configured by RF Terminal (EM3011).



## External RF/GPRS transmitter Pulse RF/GPRS unit (EM2043)

External unit for transferring data by RF and/or by cellular communication (GPRS, 2 SIM cards) from water, electricity and gas meters, with pulse outputs, and from the connected pressure sensor. The unit has 3 built-in pulse inputs and 1 analog input from pressure sensor. Each input has its own programming parameters, which are configured by RF Terminal (EM3011). Internal lithium battery for more then 6 years of operation.



## External RF transmitter Interface RF unit (EM1024)

External radio transmission unit is used for data transfer from meters of water, heat, electricity and gas or other devices with RS232/485/CAN interfaces. Power supply 220/110 VAC, 120mA. The unit has built-in RS232, RS485, CAN interfaces, and also 4 digital inputs - from alarm systems devices.



# Data Collection AMR equipment



## Repeater RF (EM4007)

In Fixed Reading Management System Repeater RF can receive RF transmissions from meters and retransmit them to the concentrator GateWay. Repeater RF works on battery with 2 options of charging - from 220/110 VAC or from solar battery.



## Concentrator Gateway (EM4018)

The concentrator GateWay is used for data collection by radio channel from meters and repeaters, for storage in non-volatile memory and for transfer by various communication channels (GPRS, WiFi, Ethernet etc.) to the system server. The concentrator GateWay can receive data from thousands of meters.



## WalkBy/DriveBy Reading Systems (RF Terminal EM3011)

In WalkBy Reading System a user collects data from AMR meters using RF Terminal (EM3011) - the portable RF transceiver with the built-in antenna. EM3011 is connected to the computer or a tablet with usb cable. DriveBy Reading System is installed in a vehicle. The reading device automatically collects the meter readings while driving.

Date/Time	Module ID	Param	Parameter type	Value	Units	Source
15.07.2016 1:37:11	572595	572595	t° heating direct	23.839	°C	Repeater 1
15.07.2016 1:36:11	572596	572596	t° heating return	24.333	°C	Repeater 1
15.07.2016 1:37:14	572598	572598	T operating	4 721.166	hour	Repeater 1
15.07.2016 1:33:13	573244	573244	Q heating	906.670	Gcal	Repeater 1
15.07.2016 1:28:39	573245	573245	V heating direct	26 951.862	m.cube	Repeater 1
15.07.2016 1:30:04	573244	573246	V heating return	23 577.000	m.cube	Repeater 1
15.07.2016 1:37:17	573244	573249	M heating return	23 315.256	ton	Repeater 1
15.07.2016 1:35:46	573244	573251	t° heating direct	25.299	°C	Repeater 1
15.07.2016 1:38:10	573244	573253	d° heating	0.875	°C	Repeater 1
15.07.2016 1:35:48	573244	573254	T operating	4 874.800	hour	Repeater 1
15.07.2016 1:37:15	573452	573452	Q heating	163.794	Gcal	Repeater 1
15.07.2016 1:28:05	573452	573453	V heating direct	6 647.636	m.cube	Repeater 1
15.07.2016 1:40:30	573452	573455	d° heating	0.956	°C	Repeater 1
15.07.2016 1:37:26	573452	573461	d° heating	0.034	°C	Repeater 1
15.07.2016 1:40:14	573452	573462	T operating	3 982.800	hour	Repeater 1
15.07.2016 1:31:30	870146	870146	U battery	12.940	V	Repeater 1
15.07.2016 1:31:41	737070	737070	V cold water	1 779.988.660	m.cube	Repeater 1
15.07.2016 1:36:11	7370670	7370670	V cold water	47 169.800	m.cube	Repeater 1
15.07.2016 1:36:21	7371193	7371193	V cold water	36 424.200	m.cube	Repeater 1
15.07.2016 1:40:07	7371227	7371227	V cold water	35 567.100	m.cube	Repeater 1
15.07.2016 1:36:40	7371419	7371419	V cold water	21 963.300	m.cube	Repeater 1
15.07.2016 1:37:54	7371768	7371768	V cold water	44 099.200	m.cube	Repeater 1
15.07.2016 1:36:09	7371876	7371876	V cold water	21 617.130	m.cube	Repeater 1

# Data Processing, billing, calculations, AMI Software

