WM-E2S

Cellular modem specifically designed for Itron® ACE6000, ACE8000 and ACE SL7000 electricity meters

UPGRADE THE MODEMS NOT THE SMART METERS!

All around the world mobile operators are shutting down 2G/3G networks in order to give way to 5G. Companies that operate smart meters with 2G/3G connectivity must plan the migration to the latest 4G LTE network which is well-positioned to dominate smart metering communication technologies in the upcoming years. The migration from GSM / UMTS to LTE has many advantages, for example, a shorter readout time due to the high-speed network with low latency.

Utilities have two options for migration: replace the meters or upgrade the modems! The 1st option comes with a high CAPEX, while the 2nd option is a future-proof solution that reduces TCO. This cellular modem represent a future-proof migration solution to the LTE network with the same functionality, on higher data speed. Configuration and firmware updates can be done remotely, minimizing the need for costly site visits. As part of an AMR/AMI solution, the modem provides a stable, transparent connection to the meter through which the HES can pull consumption data from the meter.

Our cellular modem works smoothly and is fully compatible with Itron® ACE6000, ACE8000 and SL7000 electricity meters. The case was designed to fit under the terminal cover of the meter and is fully compliant with Itron standards. It connects to the meter through it RS232 or RS485 connector. The modem can send data by CSData call (2G) also. It can be mounted externally on a DIN-rail. It is fully configurable by our powerful and easy-to-use WM-E Term® software. The ideal solution for remote readout of registers and consumption data of the connected electricity meters.

MAIN FEATURES

- Module order options:
  - 2G module
  - LTE Cat.4 / 3G / 2G module
  - LTE Cat.1 module with 2G or 3G/2G „fallback" feature
  - LTE Cat.M / Cat.NB module with optional „2G fallback"
- It can be assembled into the meter's enclosure and fastened securely (sealed and separated from meter)
- Compatibile with the Itron® ACE6000, ACE8000, SL7000 (3W) electricity meters
- DC power supply from the meter
- RS232 / RS485 transparent data connection (RJ45)
- „Pull" data sending (for HES request), CSData call
- Immediate alarm- and SMS notification
- Supercapacitor (against power outages)
- Remote & safe firmware updates

APPLICATION

- UTILITY COMPANIES
- SMART METERING
- METERING DATA TRANSMISSION TO HES
- INDUSTRIAL MEASUREMENT

WM-E2S

SYSTEMS

DESIGN AND OUTFIT

- The modem is installable into the meter enclosure
- RS232 or RS485 interface connection (RJ45) - it can be ordered with fixed connection or free-to-jumper outfit
- DC power supply by meter
- Supercapacitor for Last GASP notification
- SMA or FME antenna connector outfit (by order request)
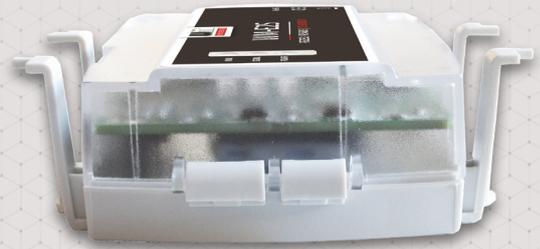
COMPATIBILITY

- Itron® ACE6000, ACE8000 and ACE SL7000 meters

OPERATION

- IEC 62056-21 protocol, transparent data transmission
- „Pull" data sending (for HES request)
- CSData call (2G)
- Immediate SMS notification, DCD control

ACCESSORIES (ORDER OPTION)

- RJ45 cable (for meter connection / configuration)
- Optional SMA / FME antenna (50 Ohm) - upon request
- DIN-rail adapter - for external modem installation
- WM-E Term® software (mass fw updates, actualization of settings)
- You can manage the device by Device Manager® software
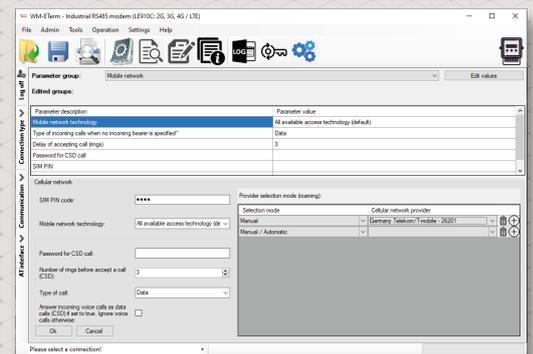
WM-E2S®		2G	LTE Cat.4	LTE Cat.1	LTE Cat.1	LTE Cat.M / Cat.NB	LTE Cat.M / Cat.NB
Power Voltage / Nominal Frequency		· 8-16V DC +5%/-5% (via RJ45 interface)					
Power Consumption / Current		· 40mA (Cat.NB), 100mA (2G), 180mA (3G), 200mA (LTE Cat.M), 330mA (LTE) @ 10 VDC / Max. consumption: 3.3W					
Communication module	Cellular technology	· 2G (GSM/GPRS)	· LTE Cat.4 / 3G / 2G	· LTE Cat.1 with 2G "fallback"	· LTE Cat.1 / 3G / 2G	· LTE Cat.M / Cat.NB with 2G "fallback"	· LTE Cat.M / Cat.NB / 450MHz
	Internet module	· Quectel M95-R	· Quectel EC200A-EU	· Quectel EG915N-EU	· Quectel EG91-EX	· Quectel BG95-M3	· Quectel BG95-M4
	Bands / Frequency (MHz)	· 2G: B2(1900) / B3(1800) / B5(850) / B8(900)	· LTE Cat.4: B1(2100) / B3(1800) / B5(850) / B7(2600) / B8(900) / B20(800) / B28(700) / B38(2600) / B40(2300) / B41(2500) · 3G: B1(2100) / B5(850) / B8(900) · 2G: B3(1800) / B8(900)	· LTE Cat.1: B1(2100) / B3(1800) / B5(850) / B7(2600) / B8(900) / B20(800) · 2G: B3(1800) / B8(900)	· LTE Cat.1: B1(2100) / B3(1800) / B7(2600) / B8(900) / B20(800) / B28(700) · 3G: B1(2100) / B8(900) · 2G: B3(1800) / B8(900)	· LTE Cat.M: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B18(850) / B19(850) / B20(800) / B25(1900) / B26(850) / B27(850) / B28(700) / B66(1700) / B85(700) · LTE Cat.NB: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B18(850) / B19(850) / B20(800) / B25(1900) / B28(700) / B66(1700) / B71(600) / B85(700) · 2G: B2(1900) / B3(1800) / B5(850) / B8(900)	· LTE Cat.M: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B18(850) / B19(850) / B20(800) / B25(1900) / B26(850) / B27(850) / B28(700) / B31(450) / B66(1700) / B72(450) / B73(450) / B85(700) · LTE Cat.NB: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B18(850) / B19(850) / B20(800) / B25(1900) / B28(700) / B31(450) / B66(1700) / B72(450) / B73(450) / B85(700)
	Speed (DL/UL)	· 2G: 85.6/85.6 kbps	· LTE: 150/50 Mbps · WCDMA: 21/5.76 Mbps · EDGE: 384/384 kbps · 2G: 85.6/85.6 kbps	· LTE: 10/5 Mbps · EDGE: 236.8/236.8 kbps · 2G: 85.6/85.6 kbps	· LTE: 10/5 Mbps · UMTS: 42/5.76 Mbps · WCDMA: Max 384/384 kbps · EDGE: 296/236.8 kbps · GPRS: 107/85.6 kbps	· LTE Cat.M1: 588/1119 kbps · LTE Cat.NB2: 127/158.5 kbps · LTE Cat.NB1: 32/70 kbps · EDGE: 296/236.8 kbps · GPRS: 107/85.6 kbps	· LTE Cat.M1: 588/1119 kbps · LTE Cat.NB2: 127/158.5 kbps · LTE Cat.NB1: 32/70 kbps
	SIM card slot	· mini SIM card slot (2FF type)					
	Antenna connector	· External antenna connector (SMA / FME, 50 Ohm)					
Compatibility	Meter type	· Itron® ACE6000, ACE8000 type and ACE SL7000 (3W type) electricity meters					
Interfaces	Connectors	· RJ45 (RS232 / RS485 compatible) data connection - jumperable · Power supplied by meter (8-16V DC power)					
Operation	Protocol / Transmitting	· EN 62056-21, Mode C - 300/1200/2400/4800/9600 baud, auto., serial data speed · „Pull" data sending · CSData call (2G)					
	Notification	· Immediate alarm notification (in case of power outage) · DCD Control					
	Configuration	· WM-E Term® tool (local/mass parameter configuration, local/mass firmware updates) · AT commands · Device Manager software (order option)					
	Indication	· 3 status LEDs					
	RTC Backup Battery*	· Power outage < =1 hour · After 1 hour the RTC will be supplied from the meter					
	Supercapacitor	· Supercapacitor (for Last GASP SMS notification from power outages) / in case of full power exhausting, the charging requires 2-5 minutes to operate)					
Environment	Operating / Storage	· from -40°C to +70°C at 95% rel.humidity / - from -40°C to +85°C at 95% rel.humidity					
Construction	Enclosure	· IP31 plastic transparent case, fits to meter					
	Dimension / Weight	· 108 x 87 x 30mm · 73gr					

CE