WM-E1S SL7000

Cellular modem specifically designed for the Itron 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.

Our company develops a cellular modem that work smoothly and is fully compatible with different models. This device was designed to be fully compliant the with 3-phase Itron® SL7000 electricity meters.

Our cellular modems 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.

This external modem can be mounted on DIN-rail and connected to the meter through an RJ45 cable. The modem can be configured to "push" the read out the data (current consumption, event log, load profile) from the connected meter and send it to the HES periodically via Internet (by using an APN) at the pre-programmed intervals. Data sending can be also triggered by an alarm (e.g. power outage, cover removal event).

The modem can be accessed remotely through the cellular network. The modem can also read or modify certain parameters of the meter remotely via WM-E Term® configuration software.
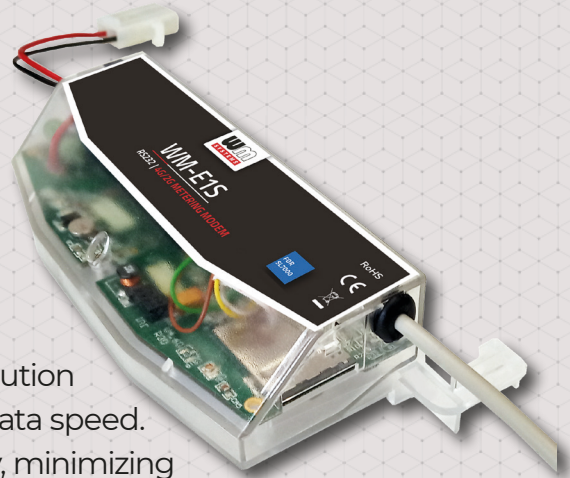
MAIN FEATURES

- Cellular module options: LTE Cat.4 / 3G / 2G
- External modem in a compact design (separated from the meter)
- It can be fastened securely by its DIN-rail adapter
- AC power supply from the meter's mains connector (by 57/100V AC phase voltage or 230/400V AC line voltage)
- RS232 or RS485 meter connection (RJ45 - with 1m long cable)
- Compatibility with Itron® SL7000 electricity meter
- IEC 62056-21 protocol, transparent mode
- Optional „push" mode (FTP, IEC or SMS triggered)
- Supercapacitor option (for power outage), LastGASP notification
- Remote & safe firmware updates, WM-E Term® configuration tool
- Device Manager® software (order option)

APPLICATION

- UTILITY COMPANIES
- SMART METERING
- INDUSTRIAL MEASUREMENT

WM-E1S SL7000

**WM SYSTEMS**

DESIGN AND OUTFIT

- External modem, compact design (separated from meter)
- It can be fastened securely by its DIN-rail adapter
- RS232 or RS485 interface (RJ45 - 1m long cable for meter connection or modem configuration)
- AC power by meter via pigtail connector (57.7 / 100V phase voltage or 230/400V line voltage)
- External SMA antenna interface (50 Ohm)
- Compatible with Itron® SL7000 electricity meters

OPERATION

- IEC 62056-21 protocol, transparent data transmission
- „Push" mode (FTP or IEC sending, SMS triggered)
- TLS encryption (optional)
- Immediate alarm SMS notification (LastGASP power loss)

ACCESSORIES (ORDER OPTIONS)

- External SMA antenna (50 Ohm)
- 35mm DIN-rail adapter (aluminum with spring steel)
- Supercapacitor (for the LastGASP power outage notification (SMS) and status changes)
- WM-E Term® software (mass FW updates and actualization of settings)
- You can manage the device by Device Manager® software
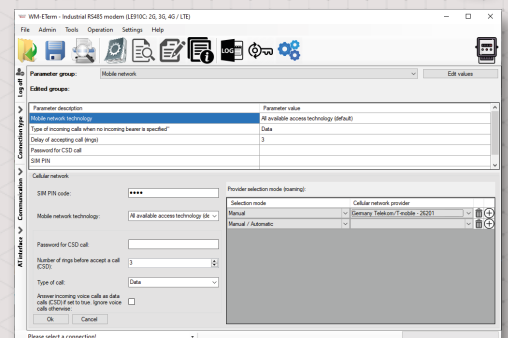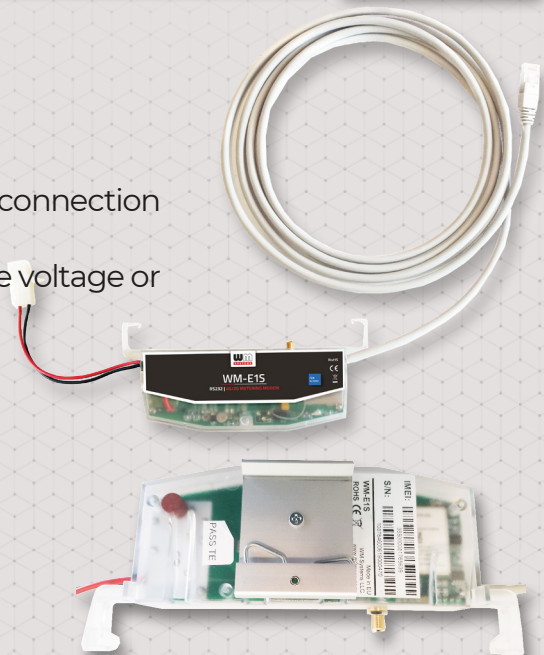
WM-E1S SL7000®		LTE Cat.4	
Power	Voltage	· 100-240V AC (57.7-100V AC phase voltage or 100-240V AC line voltage)+15%/-15%, 50-60Hz +/-5%	
	Current/ Consumption	· Stand by current: 24mA @ 100V, 12mA @ 240V · Average current: 30mA @ 100V, 15mA @ 240V · Maximal current: 0.15A	
Communication module	Cellular technology	· LTE Cat.4 / 3G / 2G	· LTE Cat.4 / 3G / 2G
	Internet module	· SIMCom A7602E-H	· SIMCom A7608SA-H
	Bands / Frequency (MHz)	· LTE-FDD: B1(2100) / B3(1800) / B5(850) / B7(2600) / B8(900) / B20(800) · LTE-TDD: B38(2600) / B40(2300) / B41(2500) · UMTS / HPSA+: 3G: B1(2100) / B8(900) · GSM/GPRS/EDGE: B8(900) / B3(1800)	· LTE-FDD: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B7(2600) / B8(900) / B20(800) / B28(700) / B66(1700) · LTE-TDD: B38(2600) / B40(2300) / B41(2500) · UMTS / HPSA+: 3G: B1(2100) / B2(1900) / B5(850) / B8(900) · GSM/GPRS/EDGE: B5(800) / B8(900) / B3(1800) / B2(1900)
	Speed (DL/UL)	· LTE Cat.4 release 9 compilant: 150/50 Mbps · HSPA+ Cat.20/Cat.6: 42/5.7 Mbps · UMTS: 384/384 kbps · EDGE: 236/236 kbps · GPRS: 85.6/85.6 kbps	· LTE Cat.4 release 9 compilant: 150/50 Mbps · HSPA+ Cat.20/Cat.6: 42/5.7 Mbps · UMTS: 384/384 kbps · EDGE: 236/236 kbps · GPRS: 85.6/85.6 kbps
	SIM card slot	· mini SIM card (2FF type, push-insert SIM)	
	Antenna connector	· External antenna connector (SMA, 50 Ohm)	
Compatibility	Meter type	· Itron® SL7000 electricity meters	
Interfaces	Connectors	· RS232 or RS485 interface (RJ45, 1m long cable for meter connection / modem configuration) · AC power supplied by meter via pigtail connector (~57.7/100V AC phase voltage, 230/400V AC line voltage)	
Operation	Protocol / Transmitting	· EN 62056-21, Mode C - 300-115200 baud, auto., serial data speed · „Pull" mode, transparent data sending · „Push" mode (FTP or IEC sending, SMS triggered) · Optional TLS encryption	
	Notification	· Immediate alarm SMS notification (in case of power outage)	
	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) - order option	
Environment	Operating / Storage	· -40°C to +70°C at 95% rel.humidity · -40°C to +70°C at 95% rel.humidity	
Construction	Design	· External modem, compact design (separated from meter)	
	Enclosure	· Assembled into non-conductive plastic enclosure · IP51 protection	
	Fastening	· Fastened by the assembled Hammond 35mm DIN-rail adapter (anodized aluminum with spring steel wire, 1427DIN standard) for mounting	
	Dimension / Weight	· 160 x 72 x 38mm (with DIN-rail adapter) · 183gr (with cabling)	

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