

## Cellular modem for Landis+Gyr® E350, E450 (ZMD310, ZMD410), E650 type electricity meters – for 4G LTE Cat.1 / 2G / 3G, Cat.M and Cat.NB networks

This cellular modem has been specifically designed for use with specific Landis+Gyr® electricity meters.

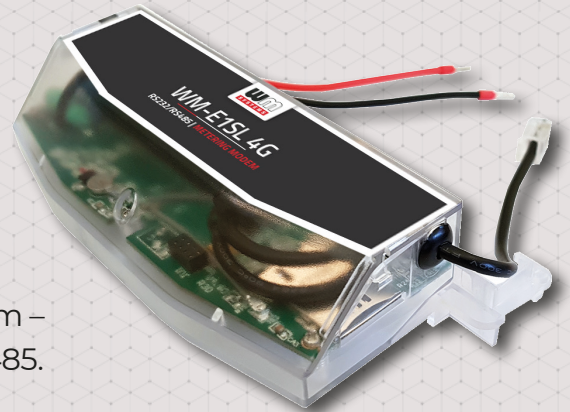
It can be ordered with two types of housing, one for the E350 and E450 meters and another one for the meter E650.

The modem has RS232 and RS485 connection capabilities, and provides transparent data link to the HES, through the 2G / 3G / 4G / LTE Cat.M and Cat.NB wireless network.

Our modem forms part of the AMI (Advanced Metering Infrastructure) of the utility company. Suitable for remote meter readout of electricity meters, meter data download and configuration on the provider's request by schedules or on-demand.

It is possible to use this device as a universal external modem – as you can connect it to almost any meter via RS232 / RS485.

The device is configurable by our WM-E Term® software.



### MAIN FEATURES

- Module order options:
  - LTE Cat.1 module with 2G or 3G/2G „fallback” feature
  - LTE Cat.M / Cat.NB module with 2G „fallback” feature option
- It can be installed into the meter enclosure and fastened securely
- Design & connectivity satisfy meter manufacturer standards
- Sealed and separated from the meter
- Compatible with Landis+Gyr® E350, E450, E650 electricity meters
- Power supply from the meter (AC power)
- Optional surge protection from 4kV up to 12kV
- „Push” data sending (FTP or IEC push, SMS trigger)
- IEC 62056-21 protocol, transparent data transmission
- Remote switch of the meter operation mode
- It can also be operated from a private network with NAT, the modem connects to the HES (Head End System)
- Supercapacitor option
- Remote & safe firmware updates
- WM-E Term® configuration tool (mass FW updates, configuration)
- Device Manager® software (order option)

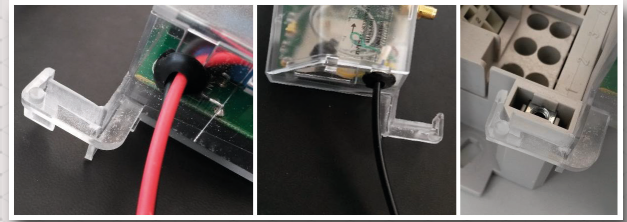
### APPLICATION

- UTILITY COMPANIES
- SMART METERING
- INDUSTRIAL MEASUREMENT



## DESIGN AND OUTFIT

- The modem is installable inside the meter enclosure
- RS232 / RS485 interface connection (RJ12)
- Supercapacitor for Last GASP notification (optional)
- AC power from the meter



## COMPATIBILITY

- Landis+Gyr® E350, E450 electricity meters (ZMD310, ZMD410 types) and E650 meters
- Mountable to any meter as an external modem

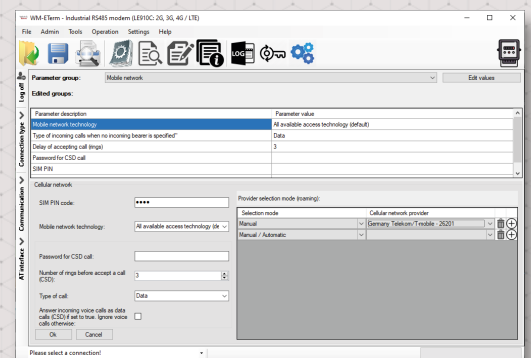
## OPERATION

- „Push” data sending (FTP or IEC push, SMS trigger)
- IEC 62056-21 protocol
- Scheduled data sending or triggered by an alarm
- Immediate alarm SMS notification (from power loss)



## ACCESSORIES (ORDER OPTION)

- RS232 / RS485 connection cable (RJ12)
- SMA antenna (50 Ohm)
- DIN-rail mounting clips
- WM-E Term® software (mass fw updates, actualization of settings)
- You can manage the device by Device Manager® software



WM-E1SL*		LTE Cat.1		LTE Cat.M / Cat.NB		
<b>Power Voltage / Nominal Frequency</b>		~100-230V AC +15%/-15% 50-60Hz +/- 5% (AC power supplied by the meter) / Optional DC power (order option) can be connected: Input Voltage: 8-28V DC				
<b>Power Consumption / Current</b>		Average: 2.9W, 230VAC - Stand-by: 24mA 100V, 12mA 230V / Average: 30mA 100V, 15mA 230V / Max: 0.15A @ 230V / DC: Input Power: max 5W (peak)				
<b>Communication module</b>	<b>Cellular technology</b>	- LTE Cat.1 - 3G/2G "fallback"	- LTE Cat.1 - 2G "fallback"	- LTE Cat.M / Cat.NB	- LTE Cat.M / Cat.NB - 2G "fallback"	
	<b>Internet module</b>	- Teitit LE910CI-EUX	- Teitit LE910RI-EU	- Teitit ME910CI-EI	- Teitit ME910CI-WW	
	<b>Bands / Frequency (MHz)</b>	- LTE-FDD: B1(2100) / B3(1800) / B7(2600) / B8(900) / B20(800) / B28(4700) - 3G: B1(2100) / B3(1800) / B8(900) - 2G: B3(1800) / B8(900)	- LTE-FDD: B1(2100) / B3(1800) / B7(2600) / B8(900) / B20(800) / B28(700) - 2G: B3(1800) / B8(900)	- LTE M1 & NB1: B3(1800) / B8(900) / B20(800)	- LTE: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B18(800) / B19(800) / B20(800) / B25(1900) / B26(850) / B27(800) / B28(700) / B66(1700) / B71(600) / B85(700)	- LTE: B1(2100) / B2(1900) / B3(1800) / B4(1700) / B5(850) / B8(900) / B12(700) / B13(700) / B14(700) / B18(800) / B19(800) / B20(800) / B25(1900) / B26(850) / B27(800) / B28(700) / B66(1700) / B71(600) / B85(700) - 2G: B2(1900) / B3(1800) / B5(850) / B8(900)
	<b>Speed (DL/UL)</b>	- LTE Cat.1: 10/5 Mbps - HSPA+: 42 Mbps - GPRS: 80/40 kbps	- LTE Cat.1: 10/5 Mbps - GPRS: 80/40 kbps	- LTE M1 UL/DL: 375/300 kbps - LTE NB1 UL/DL: 20-250/250 kbps	- LTE Cat.M: 1 Mbps/588 kbps - LTE Cat.NB: 160/120 kbps	- LTE Cat.M: 1 Mbps/588 kbps - LTE Cat.NB: 160/120 kbps - 2G (EGPRS): 210/264 kbps
	<b>SIM card slot</b>	- mini SIM card (2FF type, push-insert SIM)				
<b>Antenna connector</b>	- External antenna connector (SMA, 50 Ohm)					
<b>Compatibility</b>	<b>Meter type</b>	- Landis+Gyr® E350, E450 electricity meters (ZMD310, ZMD410 types), alternatively E650 meter type (by a modified product housing)				
<b>Interfaces</b>	<b>Connectors</b>	- RS232 and/or RS485 (RJ12) - type upon request - Power supplied by meter (AC power - 2-pin ferrule connector) - optional DC power input (order option)				
	<b>Protocol / Transmitting</b>	- IEC 62056-21, ANSI C12 - „Push” data sending (FTP or IEC push, SMS trigger) - CSD call (optional)				
<b>Operation</b>	<b>Notification</b>	- Immediate alarm notification				
	<b>Switch/control</b>	- Remote switch of the meter operation/tariff mode				
	<b>Configuration</b>	- WM-E Term® tool (local/remote single or mass parameter configuration, firmware update) - Device Manager software (order option)				
	<b>Indication</b>	- 3 status LEDs				
<b>RTC Backup Battery*</b>	- Power outage <= 1 hour - After 1 hour the RTC will be supplied from the meter - Supercapacitor (for Last GASP SMS notification from power outages) - order option					
<b>EMC compatibility</b>	<b>Surge withstand</b>	- 4kV (peak), 12/50µs, line to line 2Ω - 6kV (peak), 12/50µs, line to earth (ground) 2Ω - 12kV, Rsource > 40Ω (12/50µs, Impulse 1 min) - Dielectric test: 4kV, 1 min, 50Hz				
<b>Environment</b>	<b>Operating / Storage</b>	- -40°C to +70°C at 95% rel.humidity - -40°C to +80°C at 95% rel.humidity				
<b>Construction</b>	<b>Enclosure</b>	- Sealed and separated from the meter (isolated from meter housing) - IP52 plastic transparent casing, mountable into the meter enclosure (with rectangle designed ears)				
	<b>Dimension / Weight</b>	- 162 x 70 x 35mm - 108gr				



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