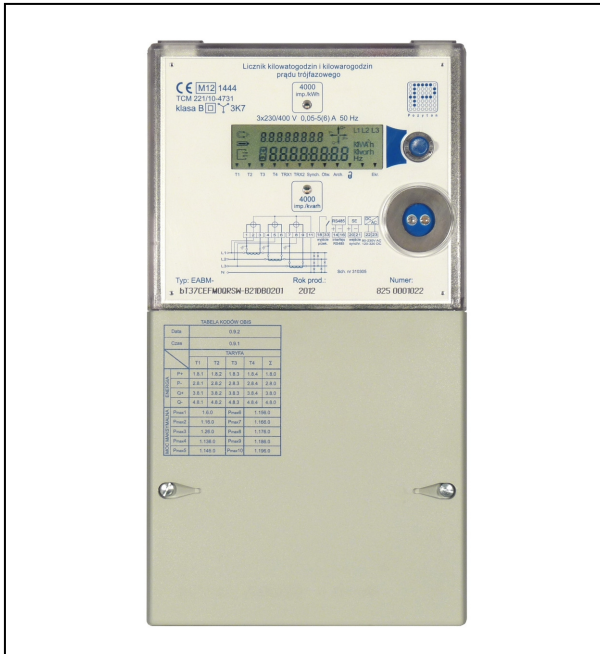


EABM - three phase electricity meter for active and reactive energy measurement



- Automatic reset of billing period
- Manual reset of billing period (via optical interface or with the push button on meter front panel)
- Energy registers and maximum demand values are stored for 31 billing periods
- Registration of meter controlling functions
- LCD screen scrolling using push button placed on the front panel of the meter
- LCD automatic screen sequence freely defined by the user

Controlling functions

- Measuring and presentation of the instantaneous voltage, current, power and frequency
- Signalling and registration of events like: opening the terminal block cover, acting to the meter with strong magnetic field
- Registration of voltage failures
- Signalling of incorrect phase sequence
- Identification of tariff programmed into the meter
- Switch on/off the energy consumer is to be done using the internal power switch that is controlled by the communication module (option)
- Relay output for controlling external devices (option)
- Remote readout of billing data using PSTN/GSM/GPRS. Available when meter equipped with GSM-3 or GT-3 communication, module that gives possibility of:
 - Individual metering data readout using mobile phone
 - Remote metering data to readout and common meter controlling by SHOOK G or SOLEN, SKADEN systems

Application

EABM is a three phase electricity meter, designed for active and reactive electric energy measurement in direct and transformer connected measuring systems.

The meter is equipped with an internal real time clock (RTC), enabling a multi – tariff energy measurement. EABM is based on a module construction that enables reconfiguration to suit many different applications according to customer's requirements.

The meter may be equipped with a power switch and transmission modules for remote billing data readout. EABM fulfills requirements according to IEC 62056-61 standard and OBIS standard in case of local remote data readout, as well as the presentation of measuring results on LCD screen.

Measuring functions

- Measurement and registration of active and reactive energy in four tariffs (export, import)
- Measurement and registration of total active and reactive energy (export, import)
- Load profile registration for active and reactive energy (export, import), applying 15, 30 or 60 minutes integration period. When integration period set to 15 minutes load profiles covers 140 days (optionally 280 days)
- Measuring and registration of energy counters profile EP+, EP-, EQ+, EQ-, applying 15, 30 or 60 minutes measuring period
- Measurement and registration of the 10 highest values of maximum demand for active energy (export, import)
- Measurement and registration of active power overconsumption due to contractual power value
- Number of contractual power value exceeded is also to be registered in the meter
- Measurement and registration of exceeded active power values, evaluated on the base of the 10 maximum demands due to contractual power value

Communication interfaces

In standard configuration EABM is equipped with 3 communication interfaces:

- 1) OPTICAL interface, according to IEC 62056-21, designed for parametrization and configuration of the meter and for local measuring data readout in case of billing and diagnostic needs
- 2) RS485 or CLO (current loop) interface
- 3) OPTICAL interface used for operating with communication modules

Additional functions

In standard configuration EABM is equipped with a battery supply system that enables readout of metering data billing values from LCD display in case of voltage failure. EABM is equipped with an exchangeable battery for supplying of internal real time clock (RTC). Both batteries located under the cover of terminal block can be easily replaced, with no need to break the legalization seals.

All necessary billing data is registered in a non-volatile memory (Flash and FRAM), which doesn't require battery supply.

Parametrization and configuration

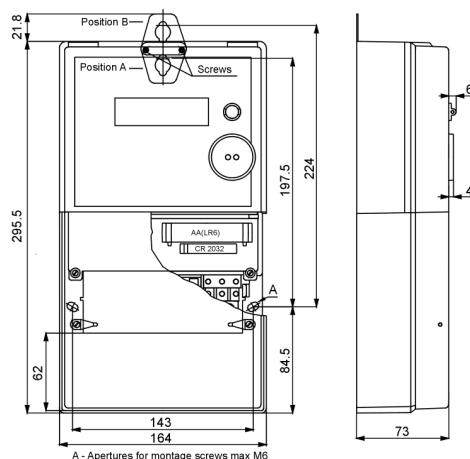
All operations in connection with downloading of tariffs parameters, tariff structure and the way the billing period is to be reset, as well as display operating modes are to be performed using specially designed software tool SOLEN.

EABM meter has been obtained EC-Type Examination Certificate number **TCM 221/10-4731** and is given CE certificate. ALL FEATURES ARE SUBJECT TO CHANGE WITHOUT NOTICE ACCORDING TO PRODUCTS IMPROVEMENTS.

Basic technical data

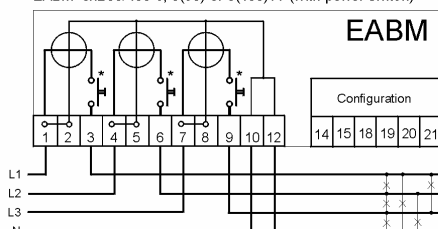
Type	EABM		
Accuracy	P: A or B - EN 50470-3 Q: 2 - IEC 62053-23 and Q: 0,5 - ZN/LB/T/08/11		
Nominal voltage U_n	3x230/400 V AC		3x57,7/100 V AC
Reference current I_{ref}	5 A		5 A
Maximum current I_{max}	60 A	100 A	6 A
Starting current I_{st} / Minimum current I_{min}	20 mA / 150 mA		5 mA / 50 mA
Transitional current I_{tr}	500 mA		250 mA
Frequency	50 Hz		
Power consumption in voltage circuits	< 1,8 VA < 1 W per phase	< 1,8 VA < 1 W per phase	< 1 VA < 0,7 W per phase
Power consumption in voltage circuits, when meter supplied from auxiliary power supply	-		< 0,3 VA < 0,2 W per phase
Power consumption in current circuits	< 0,01 VA per phase		< 0,03 VA per phase
Battery supply (for reading out the display without voltage supply)	Battery type: LR6 (AA), $U_n = 1,5 V$		
Load profile registration	Integration period 15, 30 or 60 minutes		
Energy counter registration	Energy registers stored with resolution 15, 30 or 60 minutes		
Relay output (optional)	Maximum load of relay contacts 30 VA, $U_{max} = 280 V AC$ or 24 V DC		
Power switch (optional)	$U = 230 V$, $I_{max} = 100 A$	-	-
Synchronization input or output (optional)	Transoptor, negative or positive pulse with duration time 50 ms $U_{nom} = 24 V DC$, $U_{max} = 38 V DC$, $I_{nom} = 10 mA$, $I_{max} = 20 mA$		
Tariffication	4 tariffs		
RTC clock stability	Better than $\pm 0,5 s / 24 h$		
RTC (real time clock) battery supply	Lithium battery, type CR2032, 10 years of life time		
Display	LCD display, 23x79 mm, height of digits 8 mm		
Counter capacity	999999,99	99999,999	9999,9999
Meter constant	800 imp. / kWh (kvarh)	4 000 imp. / kWh (kvarh)	10 000 imp. / kWh (kvarh)
Auxiliary power supply (optional)	-	80 - 230 V AC, 120 - 320 V DC Power consumption of auxiliary power supply < 4,5 VA	
Communication interfaces	Two external: OPTICAL (acc. IEC 62056-21) and RS485 or CLO Internal: OPTICAL designed for operating with communication and functional extension modules		
Electromagnetic compatibility (acc. IEC 61000-4 and EN 50470-1)	Repetitive electrical fast transients - 4 kV; Surges caused by overvoltages - 4 kV; Static electricity discharges - 8 kV; Voltage failures and interruptions		
Housing	Polycarbonate PC, Protection Class: II, IP 54		
Specified operating range (EN 60721-3-3 Table 1)	- 40 °C ... + 70 °C (class 3K7) - LCD - 35 °C ... + 70 °C		
Limit range of operation (EN 60721-3-3 Table 1)	- 40 °C ... + 70 °C (class 3K7) - LCD - 35 °C ... + 70 °C		
Limit range for storage (EN 60721-3-1 Table 1)	- 40 °C ... + 70 °C (class 1K5)		
Limit range for transportation (EN 60721-3-2 Table 1)	- 40 °C ... + 70 °C (class 2K4)		
Weight	~ 2,2 kg		~ 1,7 kg
Notes	EU - 001531039-0001		

Construction of the meter assures resistance against influence of external magnetic fields caused by magnets with induction up to 150 mT, when measure is carry out at 30 mm distance from its surface.

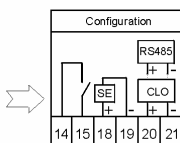


Dimensions

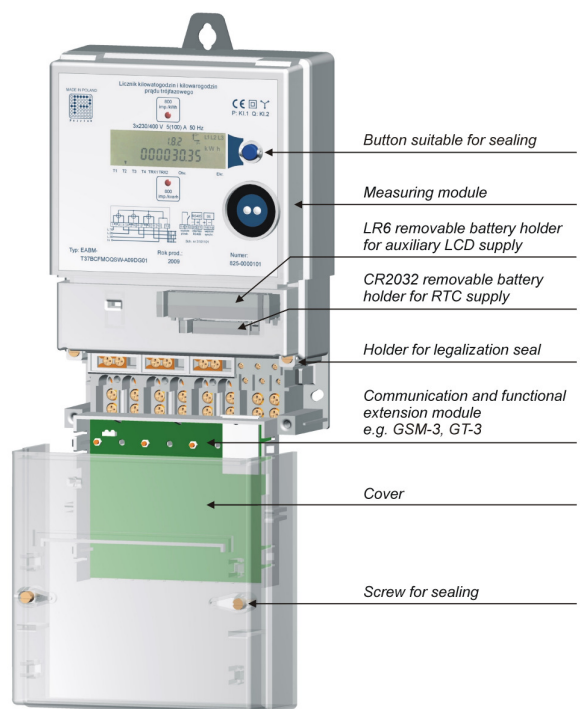
EABM 3x230/400 V, 5(60) or 5(100) A (with power switch)



Connection diagram for EABM meter, 3x230/400 V, 5(60) or 5(100) A



Outputs description:
14-15 - relay output *
18-19 - synchronization input/output *
20-21 - CLO or RS485 communication interfaces
* Optional configuration



EABM meter construction