GEM

The electronic multi-tariff meter of direct connection is designated for accounting active electric energy in single-phase alternate current 50 Hz or 60 Hz frequency networks in one o multi-tariff regimes. It may also be used in automated electric energy control and accounting systems for transmission of measured and calculated data into dispatching units.

Technical characteristics

Class		1.0 or 2.0 (IEC 1036-96)
Rated voltage		1.0 or 2.0 (IEC 1036-96)
Basic (maximum) current I_b		10(60)A – cl.1.0; 10(100)A – cl.2.0
Rated frequency		50 or 60 Hz
Starting		$0{,}004I_b$
Range of operational temperatures		from –20 ^{0}C to +55 ^{0}C
Power consumption in voltage circuit		< 0,75W; < 1VA
Power consumption in current circuit		< 0,05VA
Meter's constant		2000
Number of tariffs		1 or 4
Information communication speed by protocol IEC 1107 - via optical interface; - via 'current loop' interface		 300 … 2400 bauds 300 … 2400 bauds
Outputs: - telemetric - relay		 telemetric impulses synchronized with chosen tariff validity time or programmed for day and night cycle
Additional functions: - registration of network disconnection's - registration of strong magnetic field influences - diagnostics of internal malfunctioning		 up to 9999 cases number of influences and common duration up to 9999 cases
Data retention time after disconnection of power supply		10 years when T<25 ^{0}C; 2 years when t = 60 ^{0}C
Dimensions, mm^3		217x130x53
Weight, kg		0,95

Modifications' coding:

GEM x x x. xx. x

- 0 – telemetric impulse output;
  1 - telemetric impulse output + "current loop" interface;
  2 - telemetric impulse output + "current loop" interface + relay output
- 0 – without internal clock;
  1 – with internal clock
- rated network frequency:
  0 – 50 Hz;
  1 – 60 Hz
- 4 - direct connection, basic (maximum) current 10 (100) A
- 5 - direct connection, basic (maximum) current 10 (60) A
- rated voltage:
  1 – 110V, 120V, 127V;
  2 – special order;
  3 – 220V; 230V
- 1- one element two-wire connection;

Characteristics of the main GEM meter's modifications are given in the following table:

Coding GEM …….	Rated voltage, V	Basic/ Maximum current, A	Accuracy class	Number of tariffs	Starting, $\%I_b$	Auxiliary outputs*
135.01.0	230	10/60	1.0	1	0.4	AA
134.01.0	230	10/100	2.0	1	0.5	AA
134.01.1	230	10/100	2.0	1	0.5	CS; AA
135.01.2	230	10/60	1.0	2	0.4	CS;MKA;AA
115.01.2	127	10/60	1.0	2	0.4	CSMKA;AA

- CS – current loop interface;
- MKA – relay output;
- AA - telemetric output

Requirements for auxiliary outputs and additional meter's functions are an object of agreement with a client upon making up supply contracts.