

Scope

Three-phase multifunctional static electricity meters **AMT B1x-FxxTxIIx** are determined for measurement of active and reactive electric energy, instantaneous active power for consumption and supply, maximum demand, voltage, current, and power factor in three-phase four wires networks in direct or indirect connection. They enable measurement of energy in rates controlled by internal clock (up to 4 rates) or externally controlled in two rates.

The measured values stored in registers according to the OBIS codes are displayed on LCD in cyclic or stepping mode. The data are stored in non-volatile memory during power outage. It is possible to check the data using back-up power supply during this time. The electricity meters can be parametrized and readout by using optical probe AMOS type and software supplied by the manufacturer. The testing pulses are signalling by a red LEDs separately for active and reactive energy. They could be equipped with communication interfaces RS 485 or Mesh module.

The meters can be produced in version with measurement in summary mode (measurement „using an unidirectional mechanical register“) or with measurement in separation mode (measurement of “consumption – supply”).



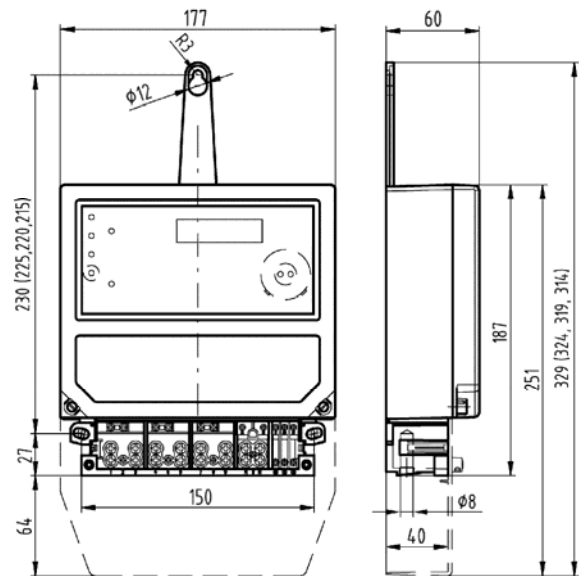
Highlights

- Measurement of energy, power, maximum demand, voltage, current, power factor ... (A+, A-, R+, R-, P+, P-, P_{max}, U, I, cos φ...);
- Historical records of the selected registers, created in the end of month - maximum 15 month historical records (A+, A-, R+, R-, P_{max});
- Events records (about missing voltage, covers removal, influence of magnetic field...); number of events and the date of their occurrence;
- Record data profiles;
- Passive Impulse outputs SO for remote transmission (particularly for active and reactive energy);
- Communication interface;
- Welded case on customer request.
- Complies with IEC/EN 62052-11 + IEC/EN 62053-21; EN 50470-3 and with requirements of European Parliament and EC Directive 2014/32/EU;
- Supplied initially verified for the billing measurement of active energy.

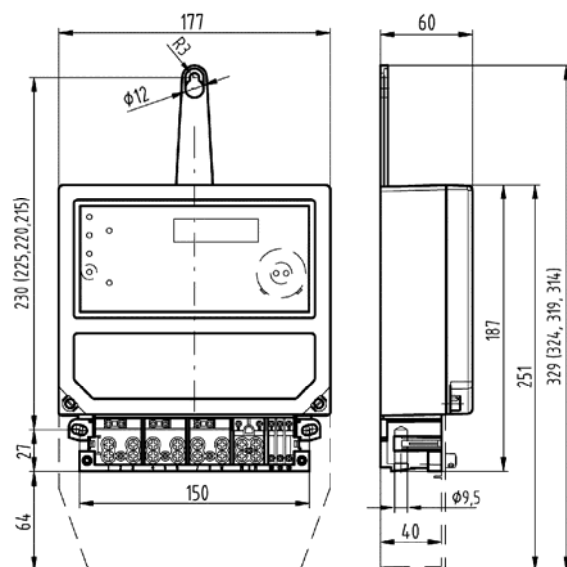
Technical data

Accuracy class <i>active / reactive energy</i>	A, B, C (MID), 2, 1, 0,5S / 3 and 2
Reference voltage [V]	3 x 220/380, 3 x 230/400, 3 x 240/415,3 x 120/208, 3 x 57,7/100 (-30,+15%)
Reference frequency [Hz]	50 or 60
Reference current I _{ref} [A] <i>direct connect.</i>	5 and 10
Nominal current I _n [A] <i>indirect connect.</i>	5
Transient current I _r [A] <i>direct / indirect connection</i>	0,5 and 1 / 0,25
Starting current I _{st} [A] <i>direct / indirect connection</i>	≤ 0,02 and 0,04 / 0,01
Minimal current I _{min} [A] <i>direct / indirect connection</i>	0,25 and 0,5 / 0,05
Maximal current I _{max} [A] <i>direct / indirect connection</i>	100, 120 / 10
Power consumption - <i>voltage circuit</i> [VA/W]	≤ 1,6 / 0,8
Power consumption - <i>current circuit</i> [VA]	≤ 0,1
Impulse constaint [imp/kWh] <i>for test output k_{TO} / impulse output k_{SO}</i>	1000, 5000 / 1000, 5000
Transistor output SO	24 V / 30 mA
Operating temperature	- 40 °C up to + 70 °C
Mean temperature coefficient [%/K]	≤ 0,04
Terminals [mm] <i>current ; voltage ; auxiliary</i>	∅ 8,2 ; ∅ 3 ; ∅ 3 / ∅ 9,5 ; ∅ 3 ; ∅ 3
Degree of protection	IP54
Meter dimensions w x h/h' x d [mm]	177 x 187/251 x 60
Fixing holes distance w x h [mm]	150 x 215-230
Weight [kg]	≤ 1,25

Dimensional drawings



Electricity meter **AMT B1x-FxxTEII** (up to 100 A)



Electricity meter **AMT B1x-FxxT9II** (up to 120 A)

Data profile selection	
Number of items for selection to the profile	13 (energies, powers, voltages, currents and power factor)
Number of selected items (channels)	1 - 5
Programmable registration period	5, 10, 15, 20, 30, 60 minutes
Method of reading profile	Reading the whole profile or only part of it according to specified start and end date

Note: Profile data size depends on the number of selected profile items, registration period and used memory. At one profile item and registration period 15 minutes data profile can cover a minimum of 115 days using a base memory. For longer recording times, it is necessary to use additional memory (2. memory - 265 days, 3. memory - 399 days, 4. memory - 536 days). When selecting 2 items recording time is reduced by half, when selecting 3 items recording time is reduced to third, ...

Marking of meters

AMT B1_{x₅}-F_{x₇}-X₈T_{x₁₁} X₁₂

AMT B1 ... type designation

x₅ overload capacity: **1** – 120%, **2** – 150%, **3** – 200%, **4** – 400 %, **5** – 500 %, **6** – 600 %, **8** – 800%,
A – 1000 %, **B** – 1200 %, **D** – 1600 %, **E** – 2000 %, **F** – 2400 %

F basic version: multifunctional electricity meter with LCD and RTC

x₇ measured energy: **A** – active energy, **R** – active and reactive energy, **F** – Ferraris mode (A=A1+A2+A3)

x₈ network connection: **2** – 2-phase 3-wire, **4** – 3-phase 4-wire

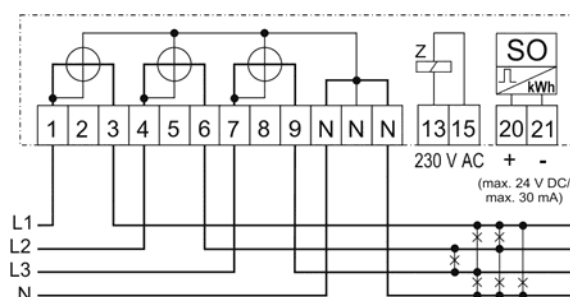
T current converter: transformer

x₁₀ case version: **E** – up to 100 A, **9** - up to 120 A

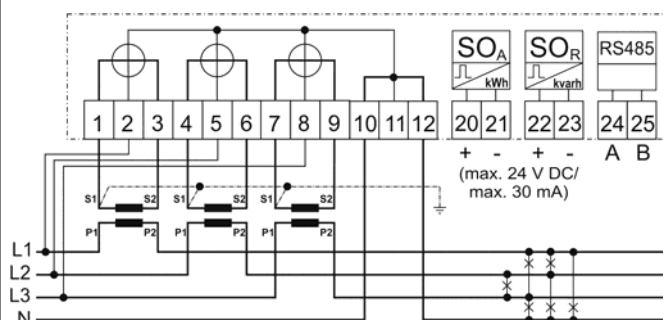
II used processor type: 2 x TI

x₁₂ special modules: **4** - RS 485 interface, **M** - Mesh-wireless communication module, **W** - transmitting outputs for consumption and supply, **E** - external control of the second rate, **Y** - auxiliary relay controlled according to the rates or time

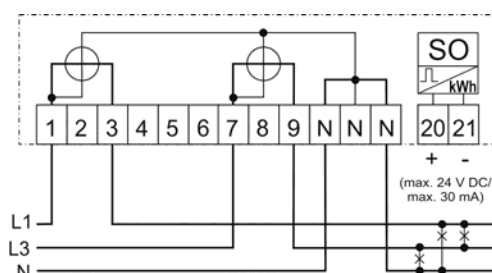
Connection diagrams - examples



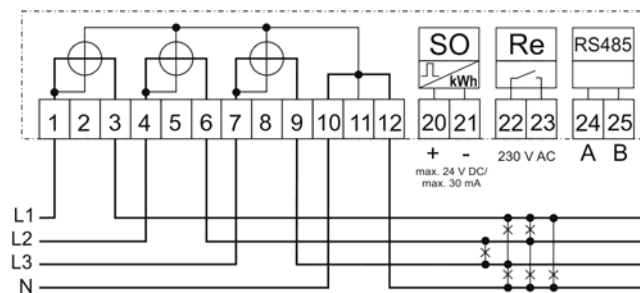
AMT B1x-FA4TEIIE
(direct, double-rate connection
with external control of second rate)



AMT B1x-FR4T9II4
(indirect, single-rate connection with SO outputs of active
and reactive energy, with interface RS485)



AMT B1x-FA2TEII
(direct, single-rate connection
in two-phase 3-wire network)



AMT B1x-FA4T9II4Y
(direct, single-rate connection, with interface RS485,
with auxiliary relay)

Ordering data

Type and version marking; reference voltage and current range I_{ref}/I_n , I_{max} ; reference frequency; special requirements for data profile; number of units; required delivery terms.