

Single-phase static electricity meters **AMS B2x-Fx** are determined for measurement of active, reactive and apparent energy, instantaneous active, reactive and apparent maximum demand, voltage, current and P.F. in 2-wire networks in direct 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 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. 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

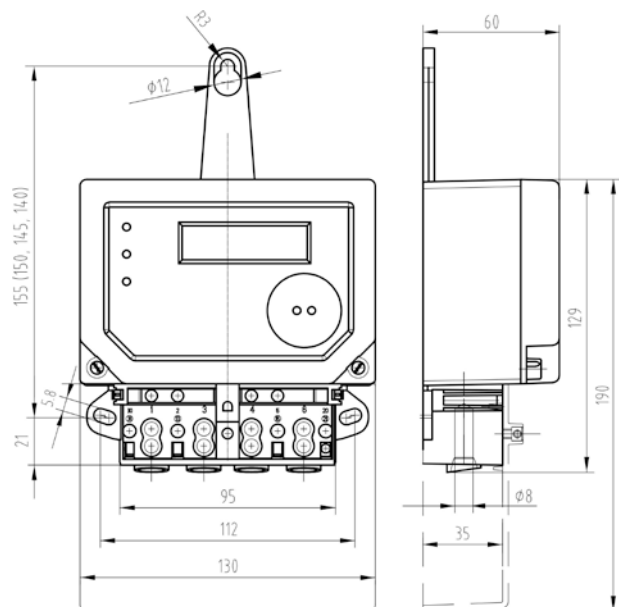
- Measurement of energy, power, voltage, current, power factor ... (+A, -A, +R<sub>i</sub>, -R<sub>i</sub>, +R<sub>c</sub>, -R<sub>c</sub>, +R, -R, +S, -S, +P, -P, P<sub>max</sub>, U, I, cos φ...);
- Historical records of the selected registers, created in the end of month - maximum 15 month historical records;
- Event records (about influence of magnetic field, missing voltage, covers removal,...) – number of events with date of their occurrence;
- Data record in three independent profiles with selectable channels (20 channels);
- Passive impulse SO outputs (particularly for active and reactive energy);
- Communication interface: optical, RS485 or Mesh (with internal or external antenna);
- Possible versions with disconnection function with SCS (Supply control switch), relay 1 and relay2. The disconnection method is defined by modes 0 to 6;
- Welded case on a customer request;
- Removable and adjustable upper hinge is included in the package;
- Compliance with IEC/EN 62052-11, IEC/EN 62053-21; EN 50470-1, EN 50470-3 and with requirements of European Parliament and EC Directive 2014/32/EU (MID);
- Electricity meter is delivered with conformity assessment (initial verification) for active energy billing purposes.

### Ordering data

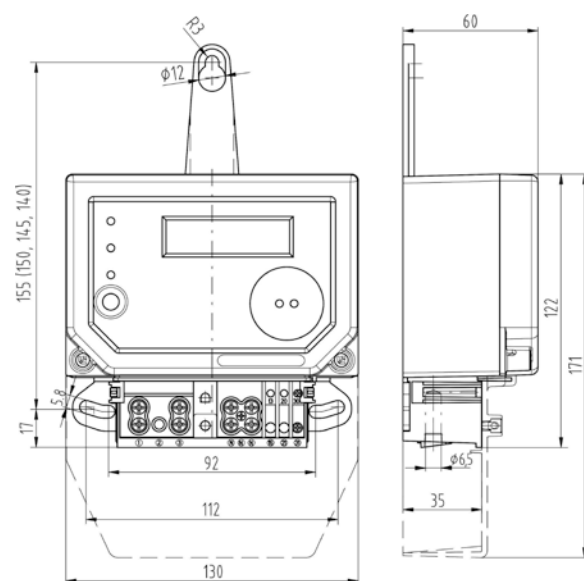
- Type and version marking;
- Reference voltage and current range  $I_{ref}/I_n, I_{max}$ ;
- Reference frequency;
- Number of units.
- Required delivery terms.



### Dimensional drawings



Electricity meter with **BS** terminal block



Electricity meter with **DIN** terminal block

## Technical data

<b>Accuracy Class</b>		<b>A and B (MID); 2 and 1 (IEC 62053-21); 2 and 3 for reactive energy (IEC 62053-23)</b>
<b>Reference voltage <math>U_n</math> [V]</b>		220, 230, 240 (-30,+15 %)
<b>Reference current <math>I_{ref}</math> [A]</b> ( $I_{ref} = 10 I_n$ )		5 and 10
<b>Transient current <math>I_{tr}</math> [A]</b>		0,5 and 1
<b>Starting current <math>I_{st}</math> [A]</b>		$\leq 0,02$
<b>Minimum current <math>I_{min}</math> [A]</b>		0,25 and 0,5
<b>Maximum current <math>I_{max}</math> [A]</b>		60 (DIN terminal block), 100 (terminal block)
<b>Current overloadability [%]</b>		<b>4 - 400, 6 - 600, 8 - 800; A - 1000, B - 1200, D - 1600, E - 2000</b>
<b>Nominal frequency <math>f_n</math> [Hz]</b>		50 ( $\pm 2$ %)
<b>Consumption</b>	in voltage circuits [VA/W]	$\leq 3,0 / 1,7$ (including RS 485)
	in current circuits [VA]	$\leq 0,02$
<b>Temperatura [°C]</b>		from -40 up to +70
<b>Mean temperature coefficient [%/K]</b>		$\leq 0,04$
<b>Testing output impulse constant <math>k_{TO}</math> [imp/kWh]</b>		Parametrizable by manufacturer 1 up to 30000, default value: 5000
<b>Mechanical and electromagnetic environment</b>		M1, E2
<b>Terminals – current ; voltage ; auxiliary [mm]</b> DIN / BS		$\phi 6,5 ; \phi 3 ; \phi 3 / \phi 8 ; \phi 3 ; \phi 3$
<b>Maxim. section of current wires [mm<sup>2</sup>]</b> DIN / BS		35 /40
<b>Maximum section of auxiliary wires [mm<sup>2</sup>]</b>		6
<b>Weight [kg]</b>		$\leq 0,6$
<b>Dimensions w x h x d [mm]</b> DIN / BS		130 x 122/171 x 60/ 130 x 129/190 x 60
<b>Degree of protection</b>		IP53
<b>ISM – Mesh communication [MHz]</b>		868 - 870
<b>Output power</b>		Default: 25,119 mW (14 dBm); optional 1 mW (0 dBm), 10 mW (10 dBm), 25,119 mW (14 dBm); 316,228 mW (25 dBm); 501,187 mW (27 dBm)
<b>Range for ISM Mesh for direct connection [m]</b>		150 for internal antenna; 300 for external antenna
<b>Range for ISM Mesh in buildings with obstacles [m]</b>		25 for internal antenna; 50 for external antenna
<b>Number of nodes ISM – Mesh</b>		256
<b>RS485 half-duplex – transmission speed [Bd]</b>		9600, 19200

## Marking of meters

**AMS B2<sub>x5</sub>-F<sub>x7</sub>1<sub>x9</sub> x<sub>10</sub> | x<sub>11</sub>**

**AMS B2 - type designation**

**x<sub>5</sub>** overload capacity: **4** – 400 %, **6** – 600 %, **8** – 800 %, **A** – 1000 %, **B** – 1200 %, **D** – 1600 %, **E** – 2000 %

**F** basic version: multifunctional electricity meter with LCD and RTC

**x<sub>7</sub>** measured energy: **A** – active energy, **R** – active + reactive energy, **S** – active + reactive + apparent energy

**1** network connection: single-phase 2- wire

**x<sub>9</sub>** current sensor: **S** - shunt, **T** - transformer

**x<sub>10</sub>** terminal block version: **B** – BS, symmetrical connection, **C** – BS, asymmetrical connection, **D** – DIN, asymmetrical connection

**x<sub>11</sub>** special modules: **4** - RS 485 interface, **E** - externé ovládanie druhej sadzby, **Y** - pomocné relé 2 A (R1, R2), **M** - Mesh interface, **A** - External antenna, **S** – supply control switch

## Connection diagrams - examples

