EU Type Examination Certificate No CH-MI003-12020-02

Applicant:	**Socomec** 1, Rue de Westhouse 67235 Benfeld Cedex France
Requirements:	Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (MID) and the instrument-specific annex V (MI-003); Ordinance of 15 February 2006 on Measuring Instruments (SR 941.210) and Ordinance of the FDJP of 26 August 2015 on Electrical Energy Meters (SR 941.251)
Conformity standards:	EN 50470-1:2006 EN 50470-3:2006 CLC/FprTR 50579 The tests were completed with an immunity test against conducted disturbances in the frequency range 2 kHz to 150 kHz.
Type of instrument:	**Three-phase-static meter for active electrical energy**
Type designation:	**Countis E36**
Accuracy class(es):	B
Characteristics:	Reference voltage U_n: ..... 3x*230/400 V* Reference current value I_{Ref}: ..... 20 *A* Limiting current value I_{max}: ..... 100 A Minimum current value I_{min}: .....*0.5 A* Reference frequency f_n: .....*50 Hz* Operating temperature range: .....*-10°C…+55°C* Casing protection class: .....*IP 51 (in a cabinet)* Protection class of connections: .....*IP 20* Protection class: .....*Class II (indoor meter)*
Certificate valid until:	3 October 2022

3003 Bern-Wabern, 5 September 2016

Notified body:	Certification body METAS-Cert, No. 1259

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METAS
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1 Name and type of instrument

Static meter for active electrical energy in class index B for use in three-phases, four wires (4NBL) and three-phases, three wires (3NBL) power supply systems.

Type: - Countis E36, four tariffs

2 Type description

2.1 Construction of the meter casing

The meter (Figure 1) consists of three parts made of opaque thermoplastic material: the base comprising the system for mounting on a DIN 35 mm rail, the centre part incorporating the terminals and the printed circuits (resting on the base) and the cover comprising a transparent Plexiglas plate over the LCD display.

The cover is attached to the centre part, which is screwed to the base. The terminal covers are sealed and VOID labels are adhered to the meter's sides and over the base, centre part and cover to ensure a high degree of security against tampering.

2.2 Sensor, measurement value processing, energy display

Adaptation of the measurement current to the level required by the module takes place with a shunt. Adaptation of the measurement voltage takes place with an ohmic voltage divider.

The energy measurement is displayed on a 7 digits LCD display.

Test output: The energy can be read out in the form of impulses via the LED placed on the front panel.

2.3 Software / Firmware

Once the meter is placed on the market, the software can be identified (by means of its checksum) with a programming tool. The code that is read out must be identical to the code in the device used for the type examination.

The approved software version and the corresponding checksums are:

Description	Type	Firmware version	Firmware checksum	Valid	Revision certificate[1]
Static energy meter, four tariffs	Countis E36	1.00	0x1E88	Yes	00
Static energy meter, four tariffs	Countis E36	1.01	0x1E88	Yes	01
Static energy meter, four tariffs	Countis E36	1.0x[2]	0x1E88	Yes	02

The firmware number is imprinted on the name-plate and appears on the display during start-up.

The firmware can only be modified by breaking or removing the VOID labels and therefore fulfills the requirements.

[1] Number of the revision of the type examination certificate

[2] The last digit of the Firmware version (1.0**x**) has no influence on the metrological results. The description of the software is described and archived on a document in a folder at METAS-Cert.

2.4 Optional equipment and functions subjected to MID requirements

If the software becomes corrupted, the message "Err CRC" appears on the display.

If an error occurs in managing the meter, the message "Err 01" appears on the display.

3 Technical data

Connection types:	Direct connected meter
Energy type, direction:	Active energy, +A (Import)
Class:	B
Measurement system:	3P+N (4NBL), 3P (3NBL)
Number of measurement systems:	3
Register:	7 digits (7.0, 9'999'999 kWh)
Meter constant (LED)	500 imp/kWh
Max. cable cross-section (power inputs):	2.5 mm^2 to 35 mm^2 (flexible and rigid)
Operating temperature range:	-10°C...+55°C
Storage temperature range:	-20°C...+70°C
Mechanical environment conditions:	Class M2
Electromagnetic environment conditions:	Class E1
Use for:	Indoor applications
assembly:	On DIN rails according to 50022

In order to comply with protection requirements, the meter should be integrated into a casing with a protection class of IP 51 (as per IEC 60529) or higher.

3.1 Technical documents

All of the documents and drawings used for the conformity assessment have been submitted to METAS-Cert.

4 Integrated equipment and functions not subjected to MID requirements

4.1 Interfaces

Communication M-BUS: None of the legal metrology data can be modified by means of this communication interface.

5 Conditions for the market introduction

The electricity meters must contain the following inscriptions:

- Brand or name of the manufacturer
- Serial number
- Type designation
- CE and metrology marking
- Type examination certificate number (CH-MI003-12020)
- No. of phases, no. of conductors; symbol for functional area
- Reference current, current measuring range, reference frequency
- Meter constant for the test LED and S0-output (if available)
- Class designation
- Operating temperature range
- Symbol for isolation according to protection class II
- Manufacturer symbol
- Displayed unit: kWh
- Connection diagram with a wiring diagram
- Software version number

6 Requirements for production, putting into use and utilization

6.1 Production requirements

The meter is calibrated during the production process with a proprietary software (adjustment of calibration factors). Calibrations take place exclusively during the production stage of the meters.

6.1.1 Information accompanying the meter

The holder of the type approval certificate undertakes to provide information and instructions for use (operating instructions) with the devices placed in the market as this allows the users to connect the measurement device safely and according to the intended purpose.

6.2 Commissioning requirements

See the assembly and operating instructions

6.3 Requirements for use

See the assembly and operating instructions

7 Control of devices in operation

7.1 Test documents

See the assembly and operating instructions

7.2 Testing equipment

The current and voltage paths are not separated. Therefore the testing equipment used for the verification shall be equipped with current transformers.

7.3 Identification

The type designation must appear on the type plate.

The software version used is printed on the side of the measurement device. The software can be identified by opening the casing and reading out the programming interface of the processor.

7.4 Metrological test

The metrological tests must be carried out according to nationally-applicable regulations.

8 Official stamps and conformity markings

8.1 Securing the meter casing

Both sides of the meter and the software download access are sealed with VOID labels. Therefore it is not possible to open the case without damaging it ensuring a high degree of security against tampering.

8.2 Securing the terminals

The voltage and current terminal covers are capped and sealed (Figure 1).

9 EC conformity mark and descriptive plate

The type plates must be visible on the meters case with the listed information in chapter 5 (Figure 1 and Figure 2).

The CE marking and supplementary metrology marking (together with the CE marking, this shows conformity with the fundamental requirements of the Directive 2004/22/EC) must both be attached directly to the electricity meters (Figure 1).

The number of Type Examination Certificate on the descriptive plate can be written without the revision number as follows: **CH-MI003-12020**

10 Certificate history

Version	Date	Description
CH-MI003-12020-00	4 October 2012	- First issue of type examination certificate
CH-MI003-12020-01	3 March 2015	- New FW-Version 1.02
CH-MI003-12020-02	31 August 2016	- New FW-Version 1.0x

11 Pictures and drawings

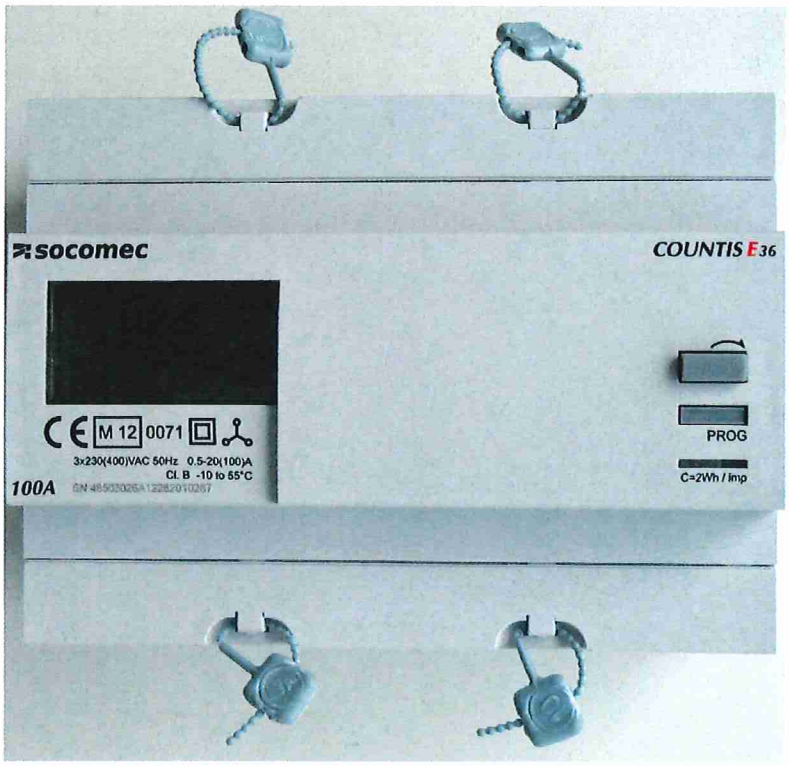

Figure 1– Front view of Countis E36

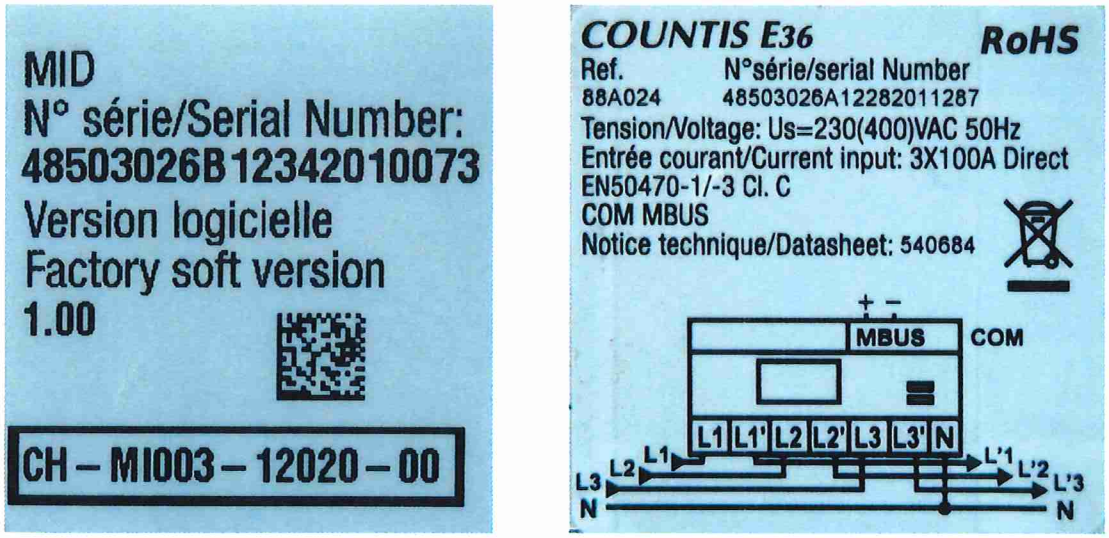

Figure 2 – Examples of type plates

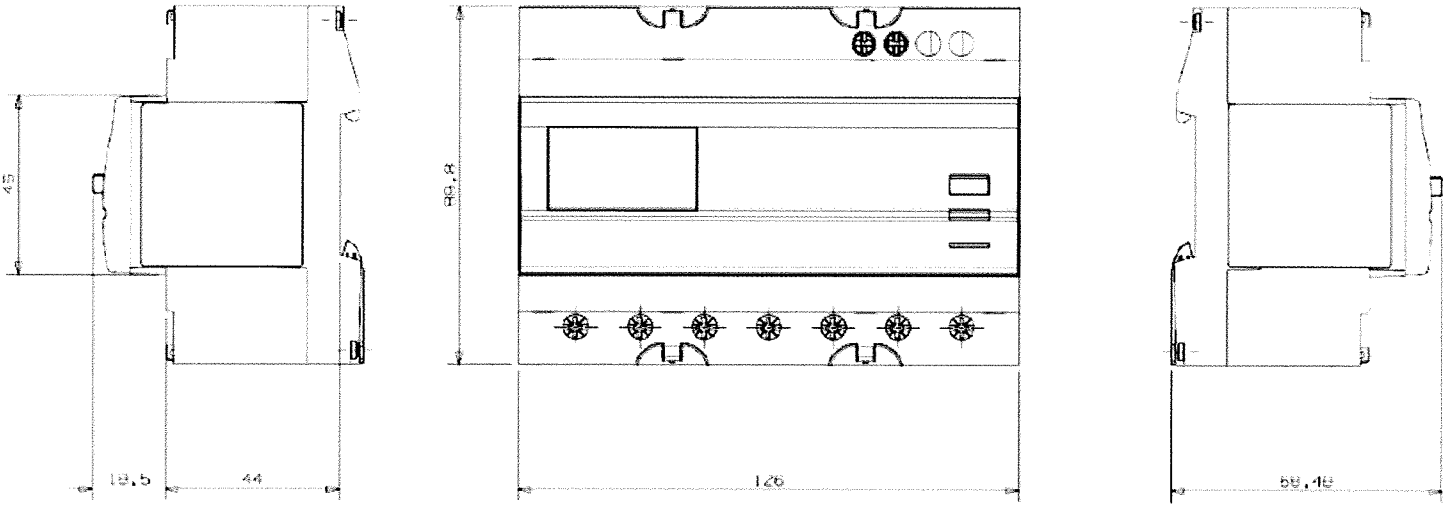

Figure 3 - Meter casing