



## EU Type Examination Certificate No CH-MI003-12020-03

<i>Applicant:</i>	<b>Socomec SAS</b> 1, Rue de Westhouse 67235 Benfeld Cedex France
<i>Requirements:</i>	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)
<i>Conformity standards:</i>	EN 50470-1:2006, EN 50470-1:2018, EN 50470-3:2006, EN 50470-3:2018 and CLC/TR 50579
<i>Type of instrument:</i>	<b>Three-phase-static meter for active electrical energy</b>
<i>Type designation:</i>	<b>Countis E36</b>
<i>Accuracy class(es):</i>	B
<i>Characteristics:</i>	Reference voltage $U_n$ : .....3x230/400 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 Mechanical environment: .....Class M2 Electromagnetic environment: .....Class E1 Protection class:.....Class II (indoor meter)
<i>Certificate valid until:</i>	20 February 2033
<i>Notified body:</i>	Conformity Evaluation Body METAS-Cert No. 1259

3003 Berne-Wabern, 21 February 2023

*Approved by* Gulian Couvreur, Head of sector  
METAS-Cert



The present revision of this certificate is the only valid and replaces all previous revisions.  
This document is only valid and reviewable in its electronic form.  
Please observe the information given on [www.metas.ch/ecert](http://www.metas.ch/ecert)

## 1 Name and type of instrument

Three-phase direct connected static meter for active electrical energy.

Type designation: **Countis E36**

## 2 Type description

### 2.1 Construction of the meter casing

The measuring instruments in the series are direct connected static meters intended for recording of active electrical energy. They are designed for use in three-phases, four wires (4NBL) and three-phases, three wires (3NBL) power supply systems and for four different tariffs.

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, 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

The firmware is classified as follows:

Meter type	Firmware classification according to WELMEC 7.2:2022						Risk class
	Type	Extension					
		L	T	S	D	I	
Countis E36	P	No	No	Yes	No	No	C

The approved software version and the corresponding checksums are:

Meter type	Firmware version	Check method	Check value	Revision certificate <sup>1</sup>	Valid
Countis E36	1.00 to 1.04	CRC16	0x1E88	00 to 02	Yes
Countis E36	1.05	CRC32	0xB8F59525	03	Yes

The last digit of the firmware version (1.00 to 1.04) has no influence on the metrological results therefore the checksum remains unchanged in these cases. As from version 1.05 the firmware is separated according to WELMEC 7.2 Extension S.

<sup>1</sup> Number of the revision of the type examination certificate

The firmware number is imprinted on the name-plate and appears on the display (divided into two continuous displays) during start-up or when the corresponding menu item is selected.

The firmware can only be modified by breaking or removing the VOID sticker on the back of the meter.

#### **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**

Reference voltage $U_n$ :	3x230/400 V
Reference current value $I_n$ :	20 A
Limiting current value $I_{max}$ :	100 A
Minimum current value $I_{min}$ :	0.5 A
Reference frequency $f_n$ :	50 Hz
Connection type:	Direct connected meter
Energy type, direction:	Active energy, +A (Import)
Accuracy class:	B
Measurement system:	3P+N (4NBL), 3P (3NBL)
Number of phases:	3
Register:	7 digits (7.0)
Max. indication value	9'999'999 kWh
Meter constant (LED)	500 imp/kWh
Cable cross-section (power inputs):	2.5 mm <sup>2</sup> to 35 mm <sup>2</sup> (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
Casing protection class (EN 60529):	IP 51 (in a cabinet)
Protection class of connections (EN 60529):	IP 20
Use for:	Indoor applications
Assembly:	On DIN rails according to DIN 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 the descriptive documents and drawings used for the conformity assessment are deposited with METAS-Cert and listed in the document "*List of essential reference documents for type examination*".

## **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
- Name and address 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)
- Designation of the accuracy class
- Operating temperature range
- Symbol for isolation according to protection class II
- Displayed unit: kWh
- Connection diagram with a wiring diagram
- Software version number

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

## **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 verifications**

The metrological tests to ensure measurement stability must be carried out according to nationally applicable regulations.

**8 Securing measures**

**8.1 Securing the meter casing**

Both sides of the meter and the software download access (back side) 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 (Figure 5).

**8.2 Securing the terminals**

The voltage and current terminal covers are capped and sealed (Figure 4).

**9 EU 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 2014/32/EU) must both be attached directly to the electricity meters (Figure 1).

**10 Certificate history**

<b>Version</b>	<b>Date</b>	<b>Description</b>
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
CH-MI003-12020-03	21 February 2023	- Certificate renewal

11 Pictures and drawings



Figure 1– Front and side view of Countis E36 (not secured)

Annex to the EU Type Examination Certificate No CH-MI003-12020-03



Figure 2 – Examples of type plates (on both sides)

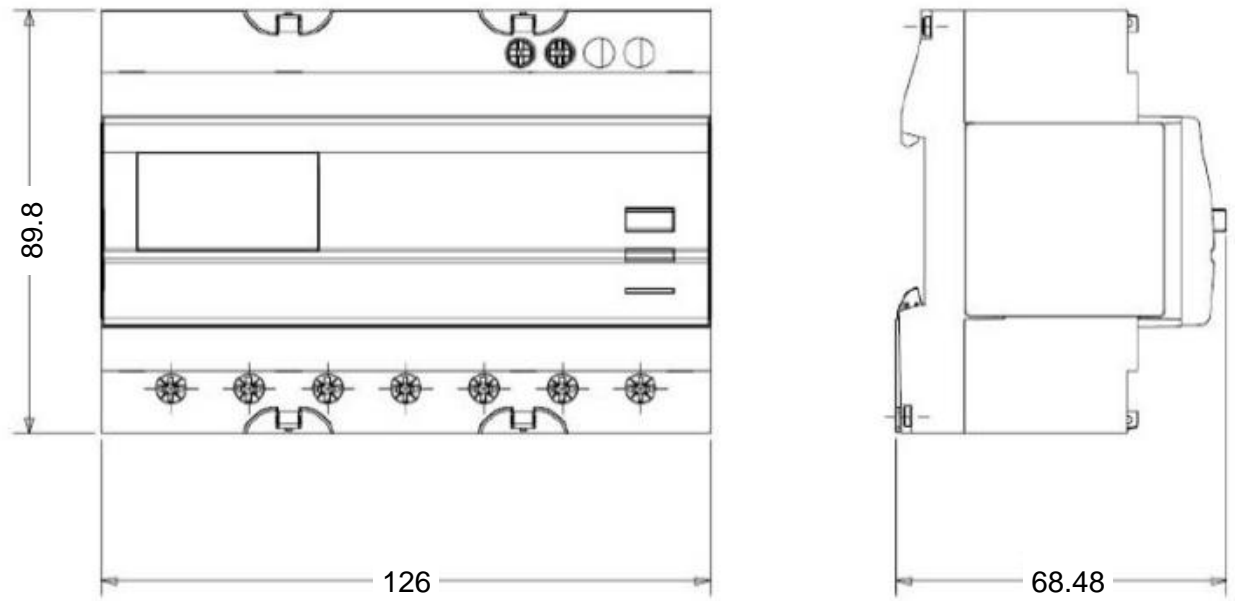


Figure 3 - Meter casing (length dimensions in mm)



Figure 4 - Meter protection after installation





Figure 5 – Sealing of the side and back with VOID sticker