# EU-TYPE EXAMINATION CERTIFICATE

**BUYI TECHNOLOGY CO., LIMITED,**
BUILD.#19, The Belt and Road Industrial Park, Bei Gou Street
Xin Yi City
China

**EU-Type Examination Certificate No.**
**110103705-26**
Revision 1

**Type** BY300

**Object** Electronic three-phase four-wire energy meter.
Direct connected

The object has been assessed and meets the requirements of

**EU Directive 2014/32/EU**
Module B

The energy meter(s) meet(s) the essential requirements of Annex V of EU Directive 2014/32/EU, on the harmonization of the laws of Member States relating to the making available on the market of measuring instruments (recast).

This Certification is based on the report(s) listed in the report list in this Certificate.

This Certificate is valid until: September 29, 2036.

This Certificate comprises 8 pages in total.

Issued by KEMA B.V.
Klingelbeekseweg 195,
Arnhem, The Netherlands
Notified Body 2290

Marten Dekker
Operations Director Netherlands

Arnhem, October 19, 2026

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## REVISION OVERVIEW

The edition with the highest revision number always replaces the earlier issued editions.

| Rev. No. | Date of issue | Reason |
|---|---|---|
| 0 | September 29, 2026 | First issue |
| 1 | October 19, 2026 | Updated report 110103701-26 |

## REPORT LIST

This Certificate is issued based on the following reports.

| Report number | Revision | Firmware version | Project number* |
|---|---|---|---|
| 110103701-26 | 0 | 01.01 | 59871 |
| 110103702-26 | 0 | 01.01 | 59871 |
| 110103703-26 | 0 | 01.01 | 59871 |
| 110103701-26 | 1 | 01.01 | 59871 |

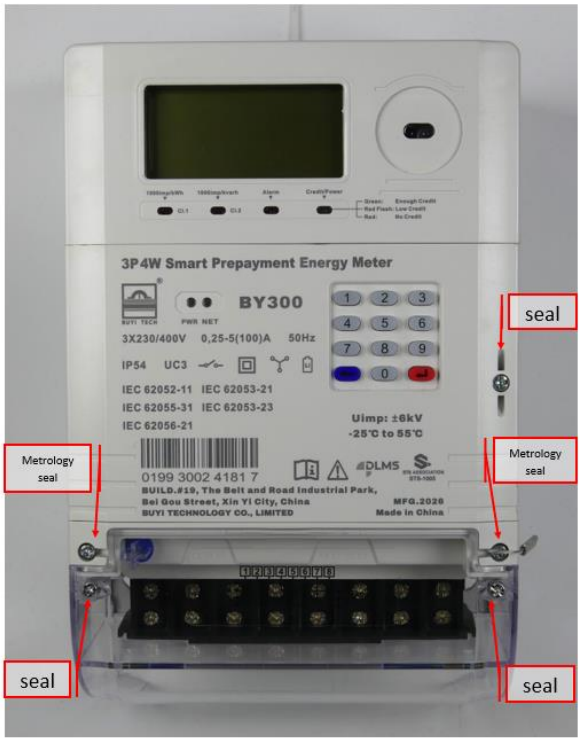
* The project number refers to the (technical) documentation file.

# 1 TECHNICAL DATA

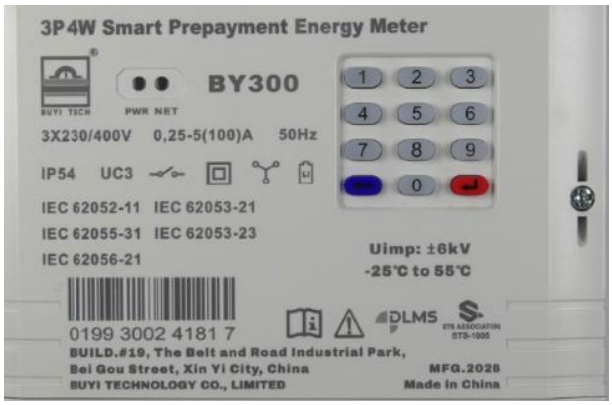
| | |
|---|---|
| Manufacturer | BUYI TECHNOLOGY CO., LIMITED,<br>BUILD.#19, The Belt and Road Industrial Park, Bei Gou Street<br>Xin Yi City<br>China |
| Type | BY300 |
| Model | - |
| Connection | Direct |
| Type of circuit | 3P4W |
| Accuracy class Wh | 1/B |
| Accuracy class varh | 2 |
| Meter constant | 1000 imp./kWh<br>1000 imp./kvarh |
| V range | 3*230/400 V |
| I range $I_{min}$-$I_n$($I_{max}$) | 0.25-5(100) A |
| Frequency | 50 Hz |
| Temperature range | -25 .. 55°C |
| Use | Outdoor |
| IP rating | IP54, category 2 |
| Protection Class | II |
| Impulse voltage | 6 kV |
| Internal clock | Crystal controlled |
| Environmental class | M1, M2, E1 and E2, CISPR32 class B |
| Utilisation category | UC3 |
| Token interface | Not in scope of report* |
| Payment type: | Not in scope of report* |
| LR Firmware ID | 01.01 |
| LR Firmware CRC | ED495C25 |
| Register | LCD |
| Registry method(s): | Vectorial computation method |

*) Pre-payment functionality, including credit management and token processing, is not in the scope of this certifcate. Only the absence of adverse influence on metrological performance is assessed.

## 2 PHOTOGRAPHS AND SEALING



## 3 EXAMPLES OF NAME PLATES



## 4 CALCULATION OF THE COMPOSITE ERROR / MPE

During the type approval test the intrinsic errors for temperature, voltage and frequency variation are determined per load point. The composite error is determined with the following formula:

$$\varepsilon_m = \sqrt{\varepsilon^2(I, cos\varphi) + \delta^2(T, I, cos\varphi) + +\delta^2(U, I, cos\varphi) + \delta^2(f, I, cos\varphi)}$$

Where
$\varepsilon^2(I, cos\varphi)$ = Intrinsic error of the meter at a certain load
$\delta^2(T, I, cos\varphi)$ = Additional error due to the variation of the temperature at the same load
$\delta^2(U, I, cos\varphi)$ = Additional error due to the variation of the voltage at the same load
$\delta^2(f, I, cos\varphi)$ = Additional error due to the variation of the frequency at the same load

Results are in the table below:

| Composite error | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Current** | **cosϕ** | **Phase** | **-40°C** | **-25°C** | **-10°C** | **5°C** | **30°C** | **40°C** | **55°C** |
| **Imin** | **1** | **3ph** | 0,29% | 0,23% | 0,17% | 0,09% | 0,07% | 0,12% | 0,21% |
| **Itr** | **1** | **3ph** | 0,30% | 0,24% | 0,17% | 0,10% | 0,05% | 0,10% | 0,18% |
| **Itr** | **1** | **1ph,1** | 0,42% | 0,33% | 0,23% | 0,13% | 0,06% | 0,13% | 0,22% |
| **Itr** | **1** | **1ph,2** | 0,28% | 0,22% | 0,15% | 0,08% | 0,05% | 0,09% | 0,17% |
| **Itr** | **1** | **1ph,3** | 0,20% | 0,17% | 0,13% | 0,08% | 0,05% | 0,09% | 0,15% |
| **Itr** | **0,5i** | **3ph** | 0,32% | 0,28% | 0,20% | 0,15% | 0,12% | 0,16% | 0,26% |
| **Itr** | **0,5i** | **1ph,1** | 0,48% | 0,40% | 0,28% | 0,21% | 0,16% | 0,18% | 0,33% |
| **Itr** | **0,5i** | **1ph,2** | 0,25% | 0,23% | 0,18% | 0,14% | 0,13% | 0,17% | 0,23% |
| **Itr** | **0,5i** | **1ph,3** | 0,22% | 0,20% | 0,13% | 0,10% | 0,10% | 0,14% | 0,26% |
| **Itr** | **0,8c** | **3ph** | 0,30% | 0,23% | 0,17% | 0,09% | 0,03% | 0,08% | 0,15% |
| **In** | **1** | **3ph** | 0,30% | 0,23% | 0,16% | 0,08% | 0,04% | 0,09% | 0,17% |
| **In** | **1** | **1ph,1** | 0,42% | 0,33% | 0,22% | 0,12% | 0,05% | 0,11% | 0,20% |
| **In** | **1** | **1ph,2** | 0,28% | 0,22% | 0,15% | 0,08% | 0,03% | 0,08% | 0,15% |
| **In** | **1** | **1ph,3** | 0,20% | 0,15% | 0,12% | 0,07% | 0,04% | 0,08% | 0,14% |
| **In** | **0,5i** | **3ph** | 0,26% | 0,22% | 0,15% | 0,09% | 0,06% | 0,10% | 0,19% |
| **In** | **0,5i** | **1ph,1** | 0,41% | 0,33% | 0,22% | 0,13% | 0,06% | 0,12% | 0,22% |
| **In** | **0,5i** | **1ph,2** | 0,21% | 0,19% | 0,15% | 0,08% | 0,06% | 0,09% | 0,17% |
| **In** | **0,5i** | **1ph,3** | 0,18% | 0,16% | 0,11% | 0,06% | 0,04% | 0,08% | 0,17% |
| **In** | **0,8c** | **3ph** | 0,33% | 0,25% | 0,18% | 0,11% | 0,08% | 0,12% | 0,17% |
| **Imax** | **1** | **3ph** | 0,31% | 0,26% | 0,19% | 0,11% | 0,06% | 0,09% | 0,16% |
| **Imax** | **1** | **1ph,1** | 0,42% | 0,33% | 0,23% | 0,12% | 0,06% | 0,10% | 0,20% |
| **Imax** | **1** | **1ph,2** | 0,28% | 0,24% | 0,17% | 0,09% | 0,06% | 0,09% | 0,16% |
| **Imax** | **1** | **1ph,3** | 0,22% | 0,18% | 0,13% | 0,08% | 0,03% | 0,06% | 0,12% |
| **Imax** | **0,5i** | **3ph** | 0,37% | 0,32% | 0,62% | 0,23% | 0,22% | 0,23% | 0,28% |
| **Imax** | **0,5i** | **1ph,1** | 0,46% | 0,38% | 0,30% | 0,23% | 0,21% | 0,24% | 0,30% |
| **Imax** | **0,5i** | **1ph,2** | 0,44% | 0,40% | 0,35% | 0,28% | 0,23% | 0,21% | 0,22% |
| **Imax** | **0,5i** | **1ph,3** | 0,31% | 0,27% | 0,24% | 0,22% | 0,21% | 0,22% | 0,24% |
| **Imax** | **0,8c** | **3ph** | 0,70% | 0,63% | 0,36% | 0,49% | 0,36% | 0,31% | 0,24% |

## 5 OPTIONS AND VARIANTS

Overview of variants with details

| Type designation | Details of the meter |
|---|---|
| BY300 | • Communication options:<br>optical port<br>WiFi 4G<br>• Supply control switch |

# END OF DOCUMENT

The laboratories of KEMA Labs are:

- CESI S.p.A., Milan, Italy, accredited by ACCREDIA in accordance with ISO/IEC 17025:2017 under no. 00026 Testing.
- FGH Engineering & Test GmbH, Mannheim, Germany, accredited by DAkkS in accordance with DIN EN ISO/IEC 17025:2018 under no. D-PL-12110-01-00.
- IPH Institut "Prüffeld für elektrische Hochleistungstechnik" GmbH, Berlin, Germany accredited by DAkkS in accordance with DIN EN ISO/IEC 17025:2018 under nos. D-PL-12107-01-00 and D-K-12107-01-00.
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