

# **EU TYPE EXAMINATION CERTIFICATE** Directive 2014/32/EU, Module B 0598/MID/B/24/076 Issue 1

**Product** Active Electrical Energy Meters (Annex V MI-003)

Model Meter type

Description Three Phase.Direct connected. Instrument Traceable No 0598/MID/B/24/076

OR-WE-528,

Import /Export (kWh),

OR-WE-529, OR-WE-530,

**DIN Rail Mounted, Electricity Meter** 

OR-WE-529MBUS, OR-WE-530MBUS

Certificate holder / Manufacturer

ORNO-LOGISTIC Sp. zo.o

44-141 Gliwice, ul, Rolników 437, Poland

**Directive** information For the instruments mentioned in this Certificate, the following essential requirements of

Directive 2014/32/EU apply:

- Annex I Essential requirements

- Annex V Active electrical meters (MI-003)

**Standards** EN 50470-1:2006, EN 50470-3:2006

Validity This certificate is valid until 2032-11-29

The manufacturer must inform SGS Fimko in case of any intended change to the design.

Unauthorised changes will invalidate this certificate.

The Manufacturer is permitted to affix the CE-marking onto the instrument(s) after complying with the conformity assessment procedures referred to in Article 17 of the Directive and to

draw up a written declaration of conformity.

Date of issue 2025-02-20

> SGS Fimko OY Notified Body 0598

Signature

Mikko Välimäki

Certification Manager

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Test report(s)

Report Number	bases a sessesses Date sesses
SHES220801488301	2022-11-21
SHES230100046701	2023-02-27

**Technical information** 

Meter type(s) OR-WE-528, OR-WE-529, OR-WE-530, OR-WE-529MBUS,

OR-WE-530MBUS

Voltage rating (U<sup>n</sup>) 3\*230/400V

Current rating  $(I_{min} - I_{ref}(I_{max}))$  0.25-5(30)A, 0.25-5(32)A, 0.25-5(40)A, 0.25-5(45)A,

0.25-5(50)A, 0.25-5(60)A, 0.25-5(80)A, 0.25-5(100)A

Frequency (F<sub>n</sub>) 50 Hz
Active Accuracy Class (kWh) B (kWh)
Type of circuit 3p4w

Temperature range -40°C to +70°C

Software/Firmware version no.: V301

CRC Checksum OR-WE-528: 708A

OR-WE-529: 5B61 OR-WE-530: 2B60 OR-WE-529MBUS: 710C OR-WE-530MBUS: 3A70

Identification location LCD

Bill of Materials No.(s) OR-WE-528: D513084 BOM V0.1 & V0.2 & V0.3

OR-WE-529: D513083 BOM V0.1 & V0.2 & V0.3 OR-WE-530: D513082 BOM V0.1 & V0.2 & V0.3 OR-WE-529MBUS: D513102 BOM V0.1

OR-WE-529MBUS: D513102 BOM V0.1 OR-WE-530MBUS: D513088 BOM V0.1

IP rating IP51 (Must be installed in a suitable IP rated enclosure)

Insulation protective class Class II

LED Pulse Constant 1000 imp/kWh

Impulse Voltage Rating 6kV
AC Voltage Rating 4kV

Main Cover Sealing Type Main cover clipped in place and sealed with tamper proof

sealing tape

Integrity of Meter Inaccessible without breaking seals

Intended location of the Meter Indoor
Type of Register LCD

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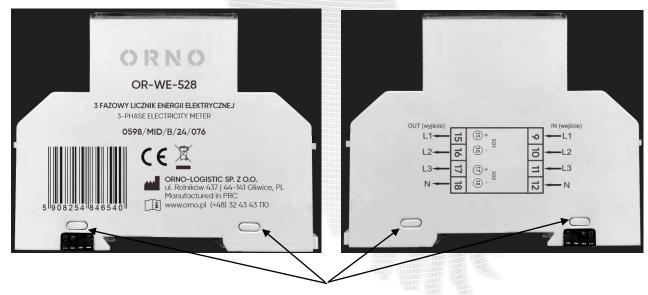
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# Photograph of Meter and Sealing Plan





Main Cover Sealing Points

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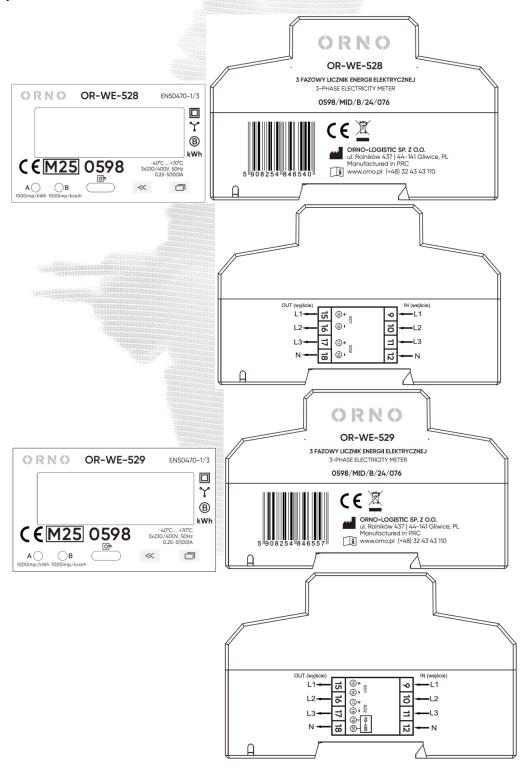
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# **Example of Nameplates**



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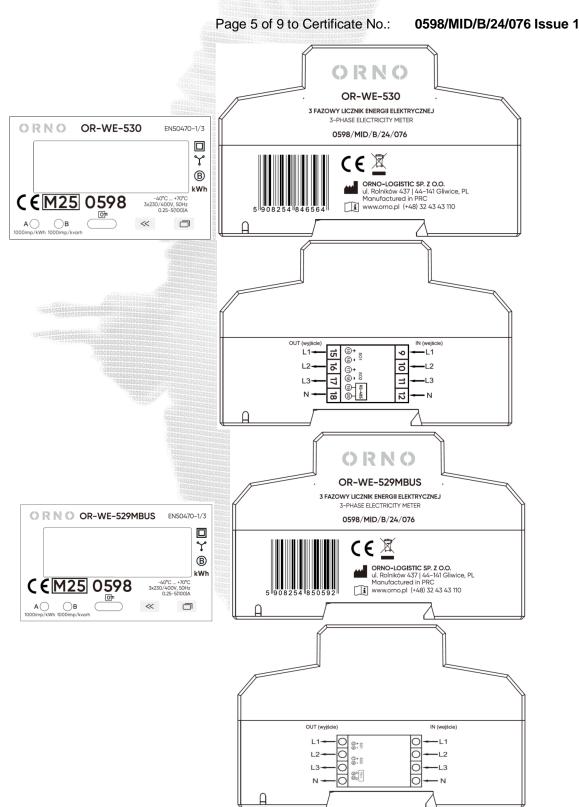
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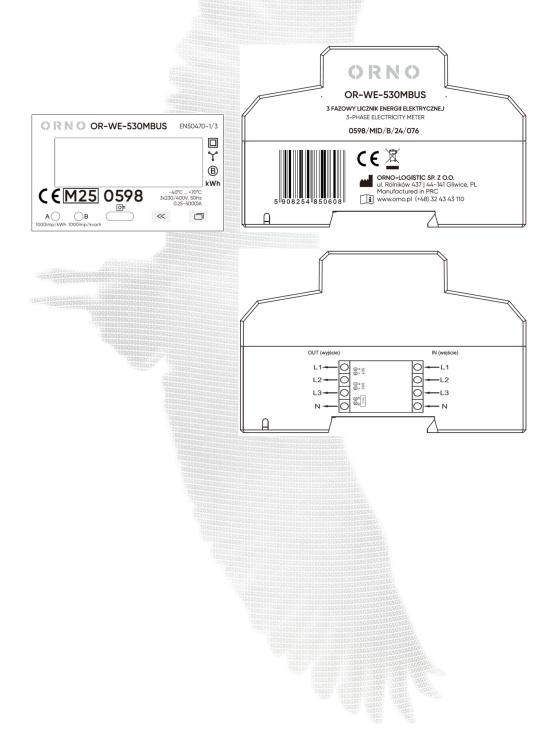
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Calculation of the composite error / MPE

During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The table below represents the sum of the square values per load, determined via the following formula:

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

#### where

 $\delta e(T, I, \cos \phi) = Additional$  error due to variation of the temperature at the same load

 $\delta e(U, I, \cos \varphi) = \text{Additional error due to variation of the voltage at the same load}$ 

 $\delta e(f, I, \cos \varphi) = \text{Additional error due to variation of the frequency at the same load.}$ 

	GSQ   SGSQ   SGSQ	Influence Factors for			Temperature. Frequency & Voltage				
Current	PF Cos	-40°C	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
Imin	1.0	0.15	0.09	0.12	0.12	0.11	0.19	0.38	0.51
Itr	1.0	0.15	0.04	0.08	0.08	0.09	0.18	0.36	0.49
10ltr	1.0	0.28	0.12	0.12	0.12	0.28	0.28	0.45	0.67
Imax	1.0	0.52	0.52	0.52	0.53	0.62	0.68	0.80	0.91
SG Treseseseseses	0.5ind	0.11	0.10	0.15	0.14	0.12	0.19	0.34	0.49
10ltr	0.5ind	0.14	0.06	0.10	0.10	0.14	0.23	0.41	0.52
Imax	0.5ind	0.30	0.29	0.29	0.33	0.49	0.59	0.73	0.87
ltr sgsgs	0.8cap	0.11	0.06	0.09	0.08	0.13	0.22	0.39	0.56
10ltr	0.8cap	0.25	0.17	0.17	0.17	0.43	0.38	0.52	0.69
Imax	0.8cap	0.25	0.25	0.25	0.28	0.28	0.55	0.70	0.85
	SG	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	BGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS					
L1	7G G	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	SGSGSGSGSGSGSGSGS SGSGSGSGSGSGSGSGS SGSGSGSGSGSGSGSGSGS					
ltr	1.0	0.58	0.51	0.40	0.22	0.15	0.31	0.55	0.72
10ltr	1.0	0.52	0.50	0.37	0.19	0.16	0.35	0.58	0.75
Imax	1.0	0.55	0.45	0.25	0.08	0.37	0.56	0.75	0.91
ltr	0.5ind	0.54	0.47	0.38	0.21	0.26	0.36	0.58	0.76
10ltr	0.5ind	0.52	0.49	0.35	0.18	0.22	0.38	0.60	0.76
Imax	0.5ind	0.49	0.38	0.19	0.05	0.43	0.59	0.80	0.96
		GSGSGSGSG SGSGSGSGSG	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	SGSGSGSGSGSGSGSGS SGSGSGSGSGSGSGSGS SGSGSGSGSGSGSGSGS	SGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSG				
L2		SGSGSGSG GSGSGSG	GSGSGSGSGSGSGSGSG GSGSGSGSGSGSGSGSGSGSG	SGSGSGSGSGSGSGSGS SGSGSGSGSGSGSGSGS SGSGSGSGSGSGSGSGS	36363636363636363636363636363636363636				
Itr	1.0	0.85	0.61	0.35	0.24	0.25	0.24	0.24	0.31
10ltr	1.0	0.86	0.59	0.30	0.09	0.05	0.04	0.08	0.21
Imax	1.0	0.62	0.49	0.44	0.44	0.44	0.45	0. <b>4</b> 8	0.57
Itr	0.5ind	0.81	0.45	0.21	0.10	0.15	0.11	0.10	0.21
10ltr	0.5ind	0.77	0.49	0.22	0.04	0.13	0.10	0.04	0.16
Imax	0.5ind	0.66	0.52	0.45	0.44	0.44	0.46	0.50	0.58
			SC	SGSGSGSGSGSGSGSGS SGSGSGSGSGSGSGSGS	S6S6S6S6S6S6S6S6 S6S6S6S6S6S6S6S6 S6S6S6S6S6S6S6S6S6	GSGSGSGSGSGSGS GSGSGSGSGSGSGS GSGSGSGSG			
L3				SGSGSGS 7SGSGS SGSGS GSGSGS	\$65656 <b>5656565656</b> \$6565 <b>656565</b> 65656 \$6565 <b>65656</b> 565656	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	50		
ltr	1.0	0.16	0.18	0.25	0.23	0.16	0.23	0.39	0.54
10ltr	1.0	0.10	0.08	0.16	0.10	0.10	0.23	0.45	0.57
Imax	1.0	0.50	0.52	0.49	0.47	0.53	0.60	0.75	0.83
ltr	0.5ind	0.22	0.26	0.30	0.28	0.23	0.28	0.48	0.54
10ltr	0.5ind	0.08	0.16	0.22	0.17	0.09	0.19	0.45	0.52
Imax	0.5ind	0.45	0.46	0.45	0.46	0.32	0.61	0.81	0.86

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# **Product Variant Identification Details**

Model No.	OR-WE-530	OR-WE-529	OR-WE-528	OR-WE-530MBUS	OR-WE-529MBUS		
Voltage range	3×230/400V						
Current range	0.25-5(30)A, 0.25-5(32)A, 0.25-5(40)A, 0.25-5(45)A, 0.25-5(50)A, 0.25-5(60)A, 0.25-5(80)A, 0.25-5(100)A						
Frequency	38939999999999999999999999999999999999						
range	0465661656666666666666666666666666666666						
IR	GSGSGCGCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC						
RS485	•	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	egsgsgsgsgsgsgsgsgsgsgsgsgsgsgsgsgsgsgs				
M-Bus	4	S63636363636363636363636363636363636363	5636565666585656565656565656565656565656	•	•		
Battery	020 020 020 020 020 020 020 020 020 020	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	S S S S S S S S S S S S S S S S S S S			
Multi-Tariff	9696 9696 9696 9696	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	66868686868686868686868686868686868686	S S S S S S S S S S S S S S S S S S S			
2 SO	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	SI SGSGBGGGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	•		
1 SO,1	SGSGSG	-656363636363636363636363636363636363636	######################################	S C C C C C C C C C C C C C C C C C C C			
External		65656565656565656565656565656565656565	\$65656565656565656565656565656565656565				
Signal input		GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	108656863686868686868686868686868686868686				
port		GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	\$65656565656565656565656565656565656565				

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# **Certificate Revision History**

Issue	Date	Comments	
1	2025-02-20	Initial Issue	



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