

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	10566965 31 9656565656 Date 5656565 31 1556696500000000000000000000000000000000		
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 (Uⁿ) 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_n) 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

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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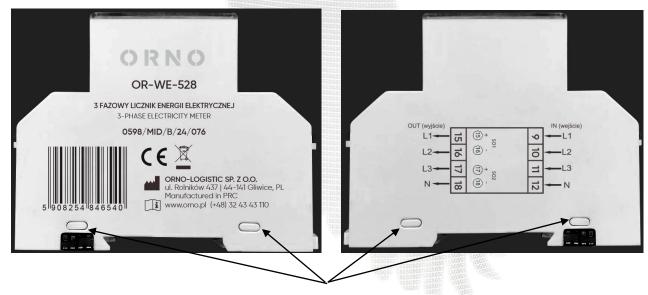
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Photograph of Meter and Sealing Plan





Main Cover Sealing Points

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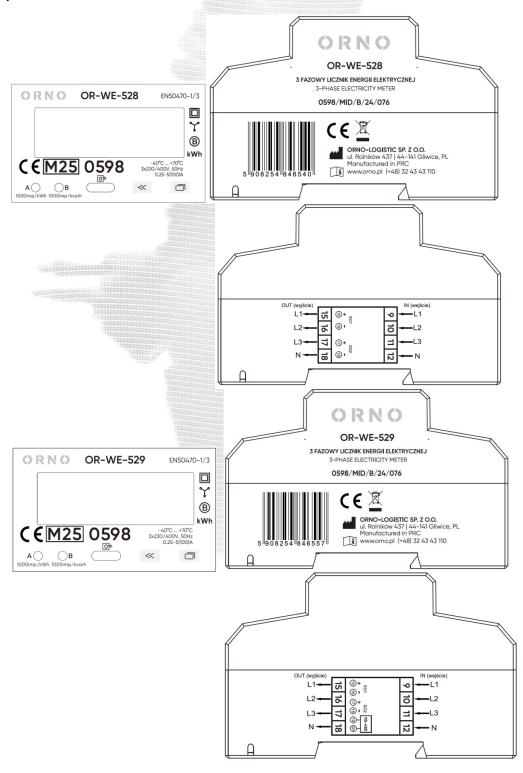
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Example of Nameplates



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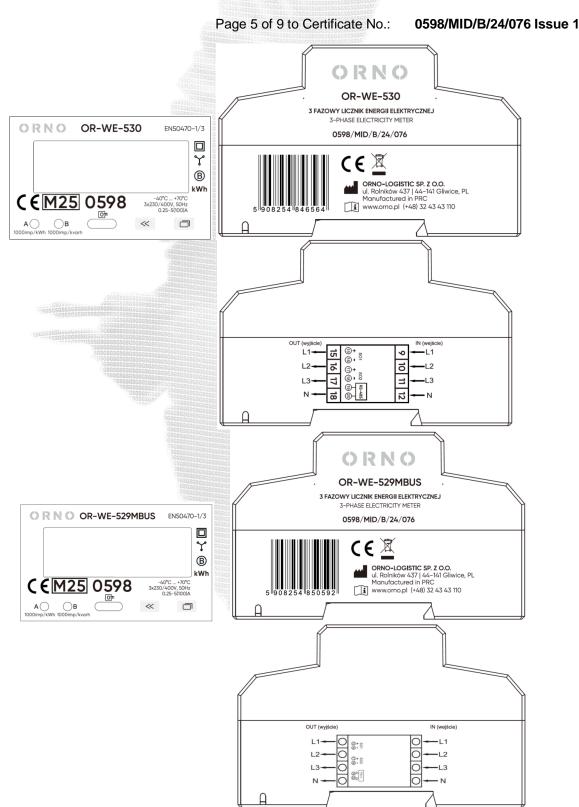
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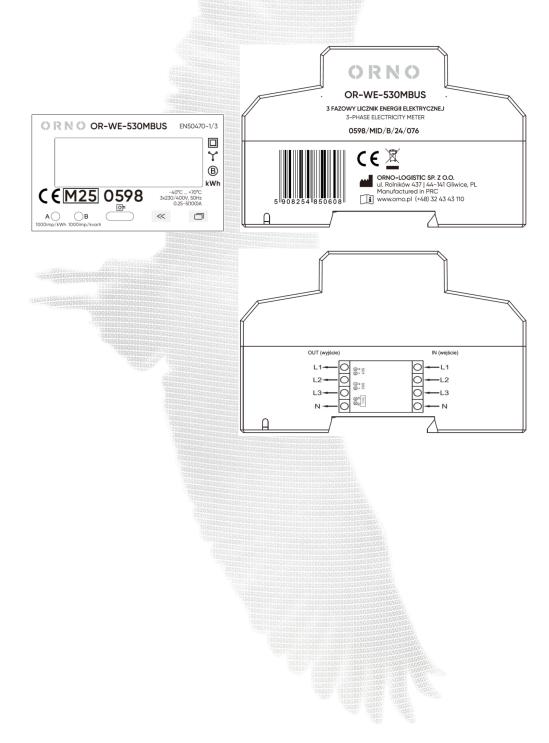
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Calculation of the composite error / MPE

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
GSG 44 GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSG	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 sesses	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
	3G	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	SGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSG					
L1	G	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	565G5G5G5G5G5G5G5G5G5G5G5G5G5G5G5G5G5G5					
Itr	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
Itr	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	SGSGSGSGSGSGS SGSGSGSGSGSGSGS SGSGSGSGS				
L2		SGSGSGSG GSGSGSG	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	agsgsgsgsgsgsgsgs Sgsgsgsgsgsgsgsgs Sgsgsgsgs	SGSGSGSGSGSGSGSG SGSGSGSGSGSGSGSG SGSGSGSGSGSGSGSG				
ltr	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. 4 8	0.57
ltr	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	\$G\$6\$G\$6\$G\$6\$G\$6\$G\$ \$G\$0\$G\$6\$G\$6\$G\$6\$G\$ \$\$G\$6\$G\$6\$G\$6\$G\$	\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6\$6	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS			
L3				SGSGSG 7SGSGS SGSGS GSGSGS GSGSGS	\$65656 565656 5656 \$6565 65656 565656 \$6565 65656 5656	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS	505		
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
Itr	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	GSBGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG						
range	1046985888838888888888888888888888888888888						
IR	GSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGSGS						
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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