

EU TYPE EXAMINATION CERTIFICATE

Directive 2014/32/EU, Module B

0598/MID/B/24/077 Issue 1

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

Model Meter type OR-WE-531, OR-WE-534
Description Three Phase, Direct connected, Import /Export (kWh), DIN Rail Mounted, Electricity Meter
Instrument Traceable No 0598/MID/B/24/077

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 IEC 62052-11:2021+A11:2022, EN 50470-3:2022, IEC 62052-31:2015


Validity This certificate is valid until 2034-10-25
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 2025-01-28

SGS Fimko OY
Notified Body 0598

Signature


Mikko Välimäki
Certification Manager



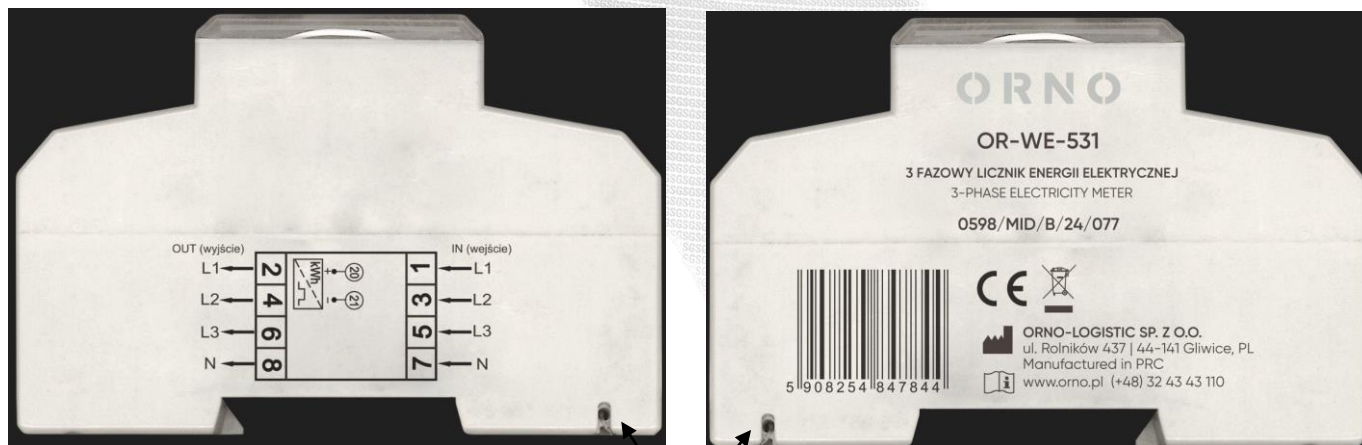
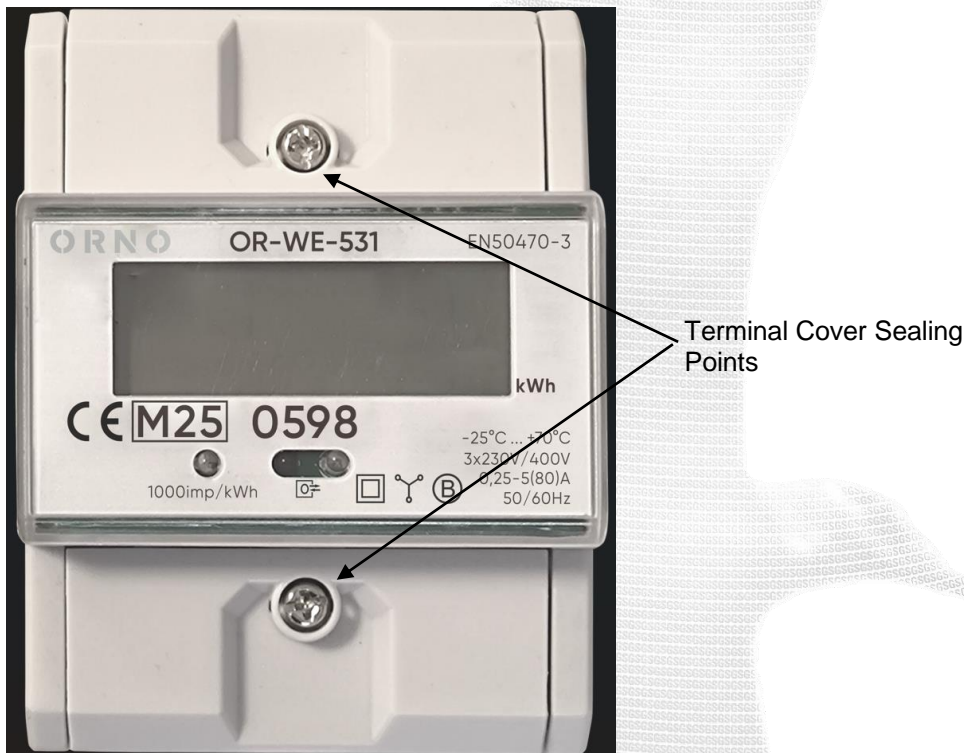
Test report(s)

Report Number	Date
SHES240601223401	2024-09-18
SHES240601223402	2024-09-18
XNZ202402147	2024-09-18

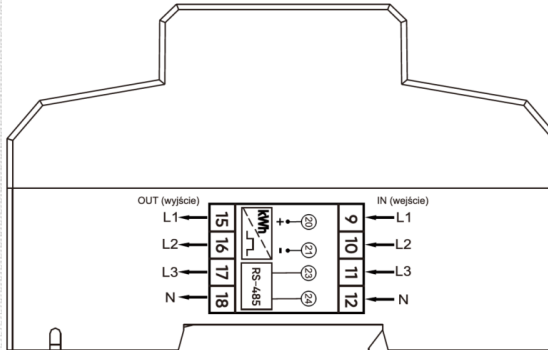
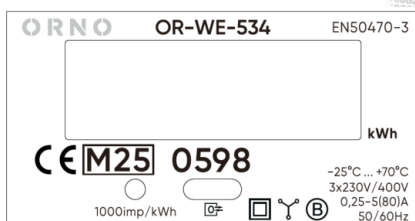
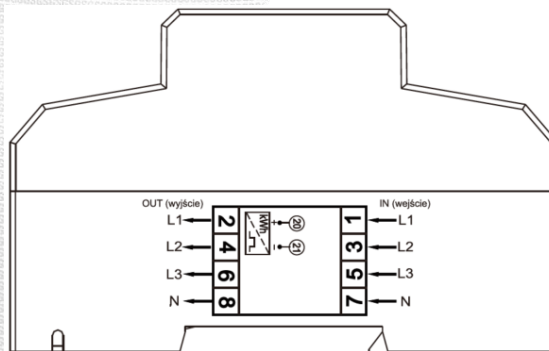
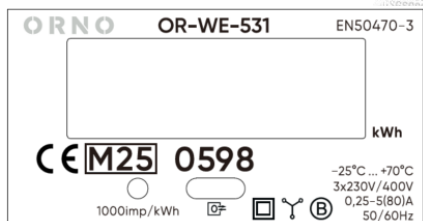
Technical information

Meter type(s)	OR-WE-531, OR-WE-534
Voltage rating (U ⁿ)	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
Frequency (F _n)	50/60 Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	3p4w
Temperature range	-25°C to +70°C
Software/Firmware version no.:	1.0.01
CRC Checksum	1D75
Identification location	LCD
Bill of Materials No.(s)	OR-WE-534: D519167 V0.1, OR-WE-531: D519168 V0.1,
IP rating	IP51
Insulation protective class	Class II
LED Pulse Constant	1000 imp/kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4 kV
Main Cover Sealing Type	Wire & Crimp
Integrity of Meter	Inaccessible without breaking seals
Intended location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN

Photograph of Meter and Sealing Plan



Example of Nameplates



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

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

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

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

		Influence Factors for temperature, frequency and voltage						
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
I _{min}	1.0	0.17	0.18	0.19	0.09	0.08	0.18	0.42
I _{tr}	1.0	0.15	0.15	0.16	0.11	0.09	0.15	0.39
10I _{tr}	1.0	0.25	0.25	0.25	0.18	0.10	0.10	0.27
I _{max}	1.0	0.24	0.23	0.24	0.20	0.17	0.14	0.30
I _{tr}	0.5ind	0.16	0.20	0.16	0.11	0.09	0.15	0.46
10I _{tr}	0.5ind	0.13	0.15	0.14	0.12	0.08	0.10	0.36
I _{max}	0.5ind	0.16	0.17	0.17	0.13	0.09	0.09	0.35
I _{tr}	0.8cap	0.23	0.22	0.21	0.15	0.12	0.13	0.39
10I _{tr}	0.8cap	0.28	0.28	0.28	0.25	0.19	0.18	0.37
I _{max}	0.8cap	0.18	0.18	0.18	0.15	0.14	0.15	0.39
L1								
I _{tr}	1.0	0.21	0.18	0.18	0.19	0.19	0.22	0.51
10I _{tr}	1.0	0.18	0.16	0.16	0.16	0.16	0.21	0.52
I _{max}	1.0	0.17	0.14	0.12	0.12	0.13	0.19	0.57
I _{tr}	0.5ind	0.40	0.40	0.38	0.38	0.38	0.39	0.56
10I _{tr}	0.5ind	0.21	0.16	0.15	0.15	0.17	0.22	0.48
I _{max}	0.5ind	0.19	0.16	0.15	0.15	0.17	0.23	0.54
L2								
I _{tr}	1.0	0.18	0.18	0.18	0.19	0.23	0.32	0.55
10I _{tr}	1.0	0.14	0.13	0.13	0.11	0.13	0.18	0.43
I _{max}	1.0	0.11	0.10	0.09	0.08	0.09	0.13	0.46
I _{tr}	0.5ind	0.33	0.35	0.32	0.32	0.39	0.52	0.75
10I _{tr}	0.5ind	0.14	0.14	0.14	0.14	0.18	0.20	0.48
I _{max}	0.5ind	0.13	0.13	0.13	0.12	0.15	0.16	0.50
L3								
I _{tr}	1.0	0.38	0.29	0.19	0.17	0.17	0.12	0.28
10I _{tr}	1.0	0.25	0.23	0.20	0.11	0.09	0.14	0.29
I _{max}	1.0	0.36	0.36	0.35	0.25	0.22	0.19	0.25
I _{tr}	0.5ind	0.37	0.29	0.33	0.16	0.18	0.10	0.25
10I _{tr}	0.5ind	0.28	0.25	0.24	0.11	0.10	0.12	0.25
I _{max}	0.5ind	0.28	0.27	0.25	0.07	0.12	0.15	0.24

Product Variant Identification Details

Model No.	OR-WE-534	OR-WE-531
Voltage range	3x230/400V	
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	
Frequency range	50/60Hz	
Optical pulse output	1000imp/k Wh	
Electrical pulse output	•	•
RS485 communication	•	
Infrared communication		•
Battery	•	•
Backlight	•	•
Software version	1.0.01	1.0.01
Checksum	1D75	1D75

Opaque case and transparent case are optional

Certificate Revision History

Issue	Date	Comments
1	2025-01-28	Initial Issue