



**SGS**

EU Type Examination Certificate Number: **0120/SGS0396**

# ORNO-LOGISTIC Sp. Z O.O

ul. Rolnikow 437 44-141  
Gliwice  
Poland

Instrument Identification:  
**OR-WE-520**

**Poly Phase, Active Import, Indoor, Electricity Meter**

Instrument Traceable Number  
**0120/SGS0396**

has been assessed and certified as meeting the requirements of

## **EU Directive 2014/32/EU** on Measuring Instruments Annex II, Module B

It is certified that the manufacturer's technical design and specimen for the above instrument has been examined and, based on the evidence submitted, it is considered that the instrument conforms to the requirements of Annex V of EU Directive 2014/32/EU

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex II, Module D or Annex II, Module F

This certificate is valid until 18<sup>th</sup> September 2024  
Issue 2

Certification is based on report number(s) SHES140600277301 issued 18<sup>th</sup> September 2014  
SHES150400182201 issued 22<sup>nd</sup> May 2015  
EMA261617

Authorised Signature

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EU Type Examination Cert.


**SGSPAPER**  
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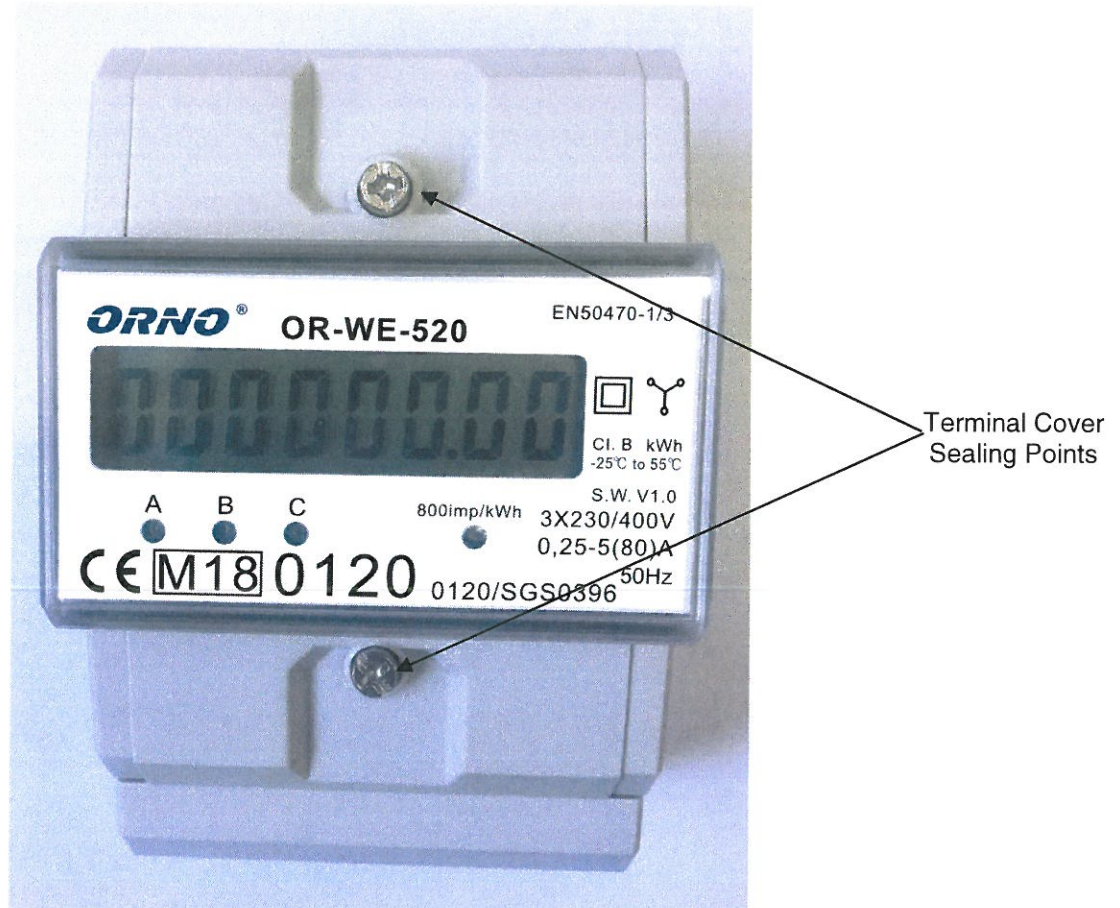
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## 1. Technical Data

<b>Manufacturer</b>	ORNO-LOGISTIC Sp. Z O.O
<b>Meter Type</b>	OR-WE-520
<b>Voltage Rating (<math>U_n</math>)</b>	3x230/400V
<b>Current Rating (<math>I_{min} - I_{ref} (I_{max})</math>)</b>	0,25-5(80)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	A or B ( $kWh$ )
<b>Type of circuit</b>	3p4w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version No</b>	V1.0
<b>Identification Location</b>	Nameplate
<b>Bill Of Materials Number</b>	D512054
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	800imp/ $kWh$
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	2 x Wire & Crimp
<b>Integrity of meter</b>	Inaccessible without breaking seals
<b>Intended Location of the Meter</b>	Indoor
<b>Type of Register</b>	LCD
<b>Terminal Arrangement(s)</b>	DIN
<b>Location of Manufacturers Address</b>	Nameplate

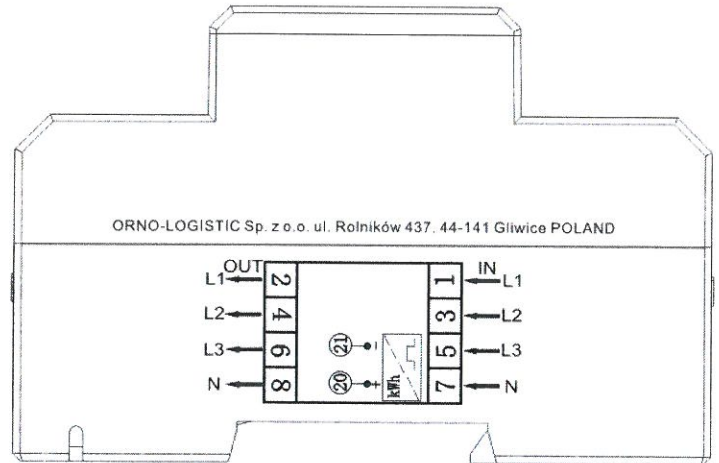
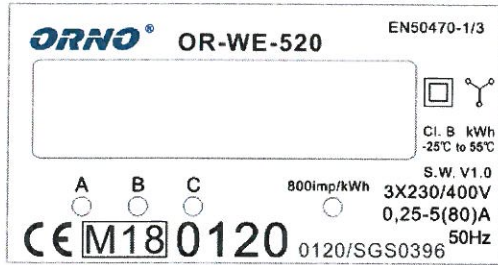
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**2. Photograph of Meter and Sealing Plan**



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### 3. Examples of Nameplates



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#### 4. 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:-

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

where

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




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		Influence Factors for Temperature. Frequency & Voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I <sub>min</sub>	1.0	0.65	0.60	0.25	0.16	0.31	0.36
I <sub>tr</sub>	1.0	0.59	0.46	0.42	0.42	0.48	0.60
10I <sub>tr</sub>	1.0	0.68	0.54	0.42	0.39	0.50	0.68
I <sub>max</sub>	1.0	0.67	0.53	0.44	0.49	0.61	0.83
I <sub>tr</sub>	0.5ind	0.43	0.37	0.29	0.06	0.15	0.31
10I <sub>tr</sub>	0.5ind	0.48	0.41	0.38	0.45	0.60	0.77
I <sub>max</sub>	0.5ind	0.45	0.34	0.26	0.34	0.47	0.65
I <sub>tr</sub>	0.8cap	0.60	0.45	0.30	0.27	0.40	0.52
10I <sub>tr</sub>	0.8cap	1.27	1.17	1.00	0.67	0.60	0.56
I <sub>max</sub>	0.8cap	0.68	0.47	0.37	0.39	0.48	0.69
<b>L1</b>							
I <sub>tr</sub>	1.0	1.02	0.89	0.56	0.20	0.32	0.60
10I <sub>tr</sub>	1.0	1.01	0.77	0.51	0.17	0.34	0.64
I <sub>max</sub>	1.0	1.04	0.76	0.48	0.16	0.33	0.64
I <sub>tr</sub>	0.5ind	1.12	0.68	0.44	0.25	0.39	0.56
10I <sub>tr</sub>	0.5ind	1.01	0.59	0.42	0.21	0.41	0.67
I <sub>max</sub>	0.5ind	0.77	0.52	0.27	0.24	0.42	0.69
<b>L2</b>							
I <sub>tr</sub>	1.0	0.62	0.47	0.35	0.16	0.14	0.21
10I <sub>tr</sub>	1.0	0.49	0.40	0.31	0.12	0.13	0.25
I <sub>max</sub>	1.0	0.44	0.32	0.18	0.11	0.20	0.38
I <sub>tr</sub>	0.5ind	0.37	0.35	0.24	0.12	0.13	0.17
10I <sub>tr</sub>	0.5ind	0.25	0.32	0.36	0.23	0.18	0.28
I <sub>max</sub>	0.5ind	0.28	0.19	0.15	0.12	0.20	0.32
<b>L3</b>							
I <sub>tr</sub>	1.0	0.80	0.66	0.41	0.29	0.25	0.42
10I <sub>tr</sub>	1.0	0.82	0.67	0.46	0.20	0.24	0.42
I <sub>max</sub>	1.0	0.68	0.49	0.30	0.15	0.29	0.55
I <sub>tr</sub>	0.5ind	0.33	0.33	0.23	0.22	0.22	0.46
10I <sub>tr</sub>	0.5ind	0.52	0.22	0.12	0.28	0.24	0.45
I <sub>max</sub>	0.5ind	0.42	0.31	0.19	0.19	0.36	0.58


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**5. Annex of Variants**

Product Variant Identification Details:

Type Designation	Description of meter
OR-WE-520	3x230/400V, 5(80)A, active import = [import] + [export], 800imp/kWh, only kWh displayed, transparent Cover

Modifications to the meter(s) described according to approval No.**0120/SGS0396** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

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## 6. Document Revision History

Issue	Date	Comments
1	04/12/2018	Initial Issue
2	31/07/2019	Reissued due to lost issue 1. SGS paper No. 19356138

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