



EU Type Examination Certificate Number: **0120/SGS0445**

## **Reltech GmbH & Co. KG**

Nordbahnstr. 1  
Kaiserslautern  
67657  
Germany

Instrument Identification:  
**RDZD\*-MID**

Instrument Traceable Number  
**0120/SGS0445**

### **Polyphase, Active Import/Export (kWh), Electricity Meter**

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 20<sup>th</sup> April 2026  
Issue 1

Certification is based on report number(s) SHES151000648101 dated 19<sup>th</sup> April 2016  
EMA272407

Authorised Signature


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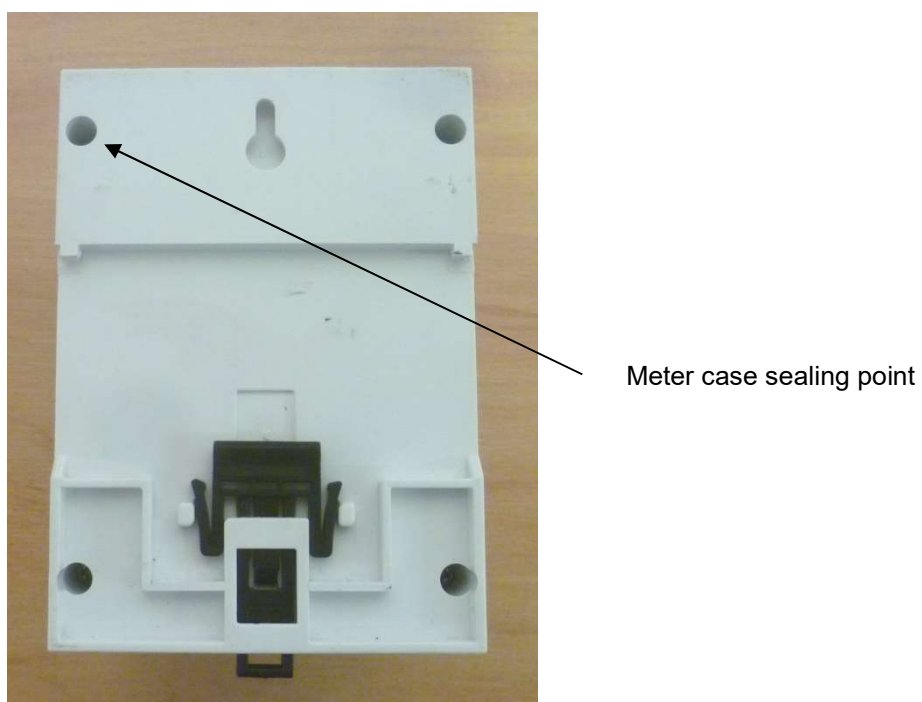
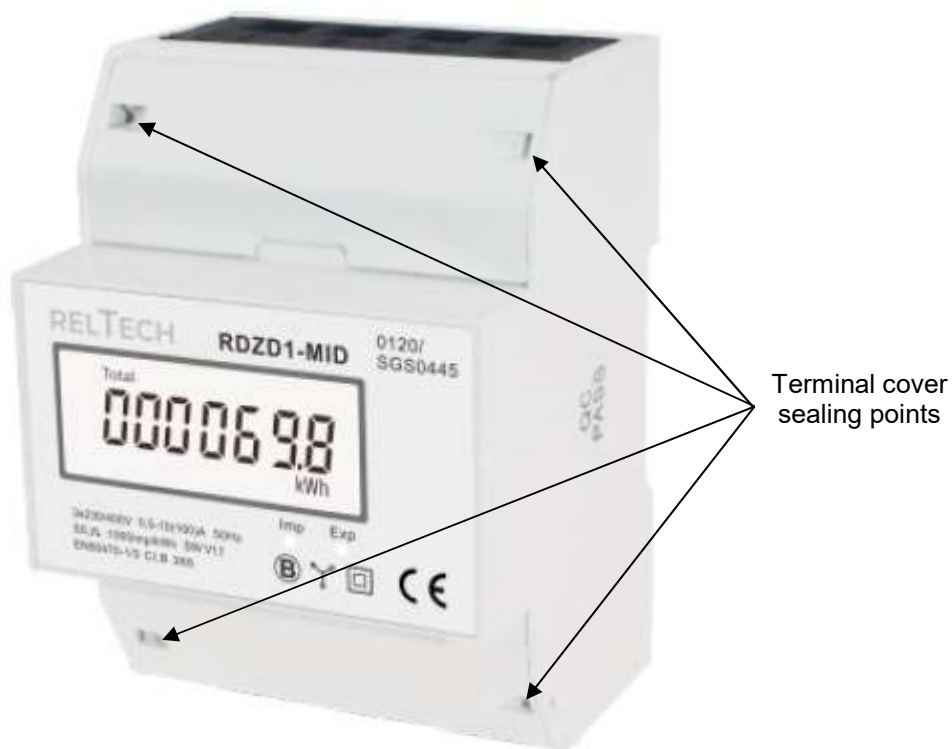
	EU-Type Examination Certificate Number:	
	<b>0120/SGS0445</b>	
	Issue Number: 1	Dated: 4 <sup>th</sup> November 2019


## 1. Technical Data

<b>Manufacturer</b>	Reltech GmbH & Co. KG
<b>Meter Types</b>	RDZD1-MID, RDZD2-MID, RDZD3-MID, RDZD4-MID
<b>Voltage Rating (<math>U_n</math>)</b>	3 x 230/400V
<b>Current Rating (<math>I_{min} - I_{ref} (I_{max})</math>)</b>	0,5-10(100)A & 0.5-10(80)A
<b>Frequency (<math>F_n</math>)</b>	50Hz
<b>Active Accuracy Class (<math>kWh</math>)</b>	B (kWh)
<b>Type of circuit</b>	3p4w
<b>Temperature Range</b>	-25°C to +55°C
<b>Software/ Firmware Version No's</b>	RDZD1-MID, RDZD2-MID, RDZD4-MID: V1.1 RDZD3-MID: V1.2
<b>CRC Checksum</b>	RDZD1-MID, RDZD2-MID, RDZD4-MID: 0X001134D7 RDZD3-MID: 0X00233EC7
<b>Identification Location</b>	LCD
<b>Bill Of Materials No's</b>	RDZD1-MID, RDZD2-MID, RDZD4-MID: V1.2 RDZD3-MID: DH-JS-170016-1.0
<b>IP Rating</b>	IP51
<b>Insulation Protective Class</b>	Class II
<b>LED Pulse Constant</b>	1000imp/kWh or 100imp/kWh
<b>Impulse Voltage Rating</b>	6kV
<b>AC Voltage Rating</b>	4kV
<b>Main Cover Sealing Type</b>	Wire & Crimp on terminal cover Meter case sealed with screws
<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>	Associated documents

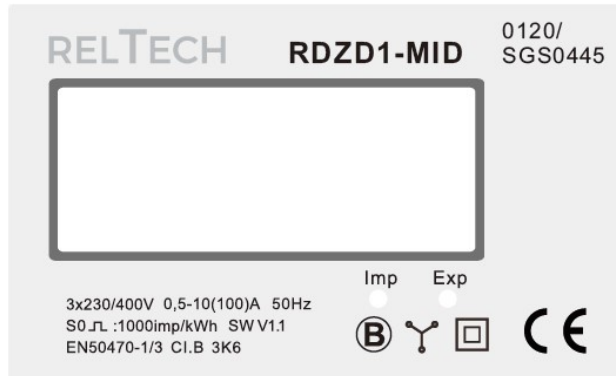
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## 2. Photograph of Meter and Sealing Plan

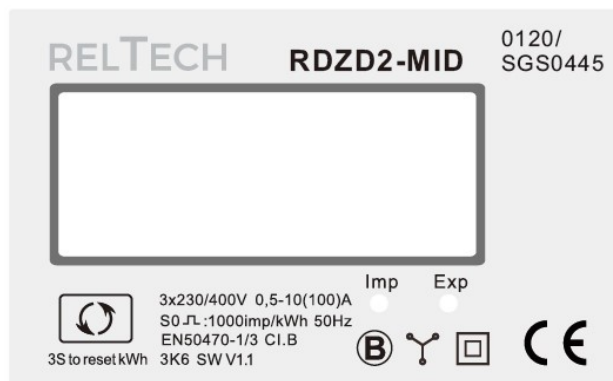


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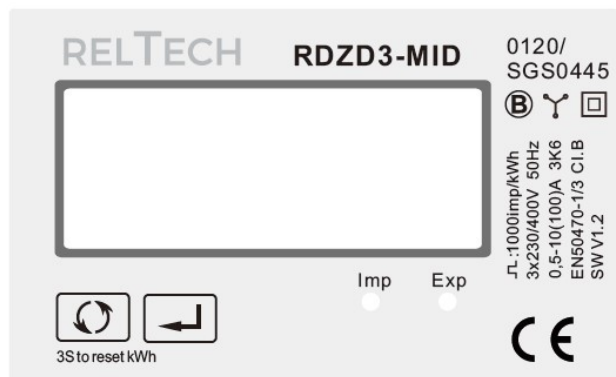
### 3. Examples of Nameplates



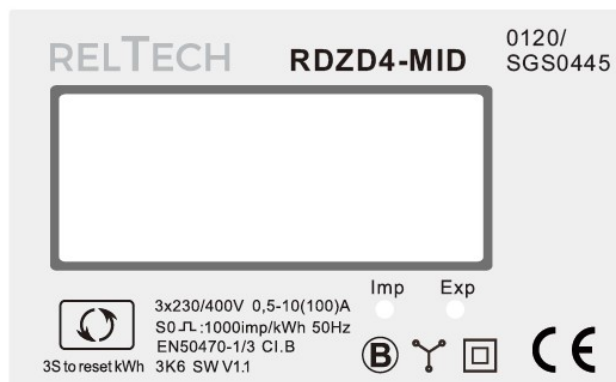
**RELTECH**  
**RDZD1-MID 0120/SGS0445**  
**THREE PHASE ENERGY METER**  
 3x230/400V AC 0,5-10(100)A 50Hz 2019  
 1000IMP/kWh EN50470-1/3 IP51 SW:1.1 CAT III  
 CE M19 0120 B □ △ 3K6  
 Manufactured in 2019 by Reltech GmbH & Co. KG  
 Nordbahnster.1 Kaiserslautern 67657, Germany




**RELTECH**  
**RDZD2-MID 0120/SGS0445**  
**THREE PHASE ENERGY METER**  
 3x230/400V AC 50Hz 2019  
 1000IMP/kWh EN50470-1/3 IP51 SW:1.1 CAT III  
 CE M19 0120 B □ △ 3K6  
 Manufactured in 2019 by Reltech GmbH & Co. KG  
 Nordbahnster.1 Kaiserslautern 67657, Germany



**RELTECH**  
**RDZD3-MID 0120/SGS0445**  
**THREE PHASE ENERGY METER**  
 3x230/400V AC 0,5-10(100)A 50Hz 2019  
 1000IMP/kWh EN50470-1/3 IP51 SW:1.2 CAT III  
 CE M19 0120 B □ △ 3K6  
 Manufactured in 2019 by Reltech GmbH & Co. KG  
 Nordbahnster.1 Kaiserslautern 67657, Germany



**RELTECH**  
**RDZD4-MID 0120/SGS0445**  
**THREE PHASE ENERGY METER**  
 3x230/400V AC 0,5-10(100)A 50Hz 2019  
 1000IMP/kWh EN50470-1/3 IP51 SW:1.1 CAT III  
 CE M19 0120 B □ △ 3K6  
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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 and voltage					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I <sub>min</sub>	1.0	0.32	0.24	0.15	0.12	0.15	0.26
I <sub>tr</sub>	1.0	0.34	0.24	0.15	0.10	0.15	0.30
10I <sub>tr</sub>	1.0	0.37	0.28	0.17	0.10	0.15	0.28
I <sub>max</sub>	1.0	0.30	0.24	0.19	0.15	0.17	0.24
I <sub>tr</sub>	0.5ind	0.51	0.45	0.37	0.30	0.30	0.36
10I <sub>tr</sub>	0.5ind	0.40	0.32	0.25	0.18	0.22	0.32
I <sub>max</sub>	0.5ind	0.66	0.62	0.58	0.52	0.51	0.50
I <sub>tr</sub>	0.8cap	0.44	0.34	0.26	0.16	0.17	0.24
10I <sub>tr</sub>	0.8cap	0.37	0.25	0.15	0.09	0.15	0.27
I <sub>max</sub>	0.8cap	0.48	0.42	0.38	0.33	0.31	0.32
L1							
I <sub>tr</sub>	1.0	0.37	0.33	0.29	0.26	0.28	0.38
10I <sub>tr</sub>	1.0	0.30	0.21	0.15	0.10	0.17	0.29
I <sub>max</sub>	1.0	0.23	0.18	0.17	0.11	0.14	0.23
I <sub>tr</sub>	0.5ind	0.44	0.38	0.35	0.34	0.38	0.44
10I <sub>tr</sub>	0.5ind	0.31	0.24	0.22	0.19	0.26	0.38
I <sub>max</sub>	0.5ind	0.29	0.26	0.25	0.22	0.24	0.34
L2							
I <sub>tr</sub>	1.0	0.61	0.61	0.61	0.61	0.61	0.61
10I <sub>tr</sub>	1.0	0.19	0.19	0.19	0.19	0.19	0.20
I <sub>max</sub>	1.0	0.16	0.14	0.12	0.12	0.12	0.12
I <sub>tr</sub>	0.5ind	0.76	0.77	0.77	0.76	0.77	0.77
10I <sub>tr</sub>	0.5ind	0.31	0.30	0.30	0.30	0.31	0.32
I <sub>max</sub>	0.5ind	0.30	0.28	0.27	0.27	0.27	0.27
L3							
I <sub>tr</sub>	1.0	0.80	0.52	0.38	0.27	0.37	0.54
10I <sub>tr</sub>	1.0	0.86	0.64	0.50	0.42	0.48	0.63
I <sub>max</sub>	1.0	1.09	0.97	0.90	0.87	0.89	0.95
I <sub>tr</sub>	0.5ind	1.04	0.92	0.82	0.79	0.82	0.92
10I <sub>tr</sub>	0.5ind	1.03	0.88	0.78	0.74	0.78	0.88
I <sub>max</sub>	0.5ind	1.02	0.92	0.92	0.83	0.87	0.94


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## 5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
RDZD1-MID	3x230/400V, 0.5-10(100)A or 0.5-10(80)A, 1000imp/kWh or 100imp/kWh. Shows only total active energy, without resettable kWh
RDZD2-MID	3x230/400V, 0.5-10(100)A or 0.5-10(80)A, 1000imp/kWh or 100imp/kWh. Shows total active energy, resettable kWh, total active power
RDZD3-MID	3x230/400V, 0.5-10(100)A or 0.5-10(80)A, 1000imp/kWh or 100imp/kWh. Shows total active energy, total active power, import and export energy, resettable import and export energy. RS485 communication.
RDZD4-MID	3x230/400V, 0.5-10(100)A or 0.5-10(80)A, 1000imp/kWh or 100imp/kWh. Shows total active energy, total active power, import and export energy, resettable import and export energy.

Modifications to the meter(s) described according to approval No.**0120/SGS0445** 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	04/11/2019	Initial Issue

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**END OF CERTIFICATE**