



SGS

EU Type Examination Certificate Number: 0120/SGS0399

# Reltech GmbH & Co. KG

Nordbahnstr. 1  
Kaiserslautern  
67657  
Germany

Instrument Identification:  
**RWD Series**

**Single Phase, Active Import/Export (kWh) Indoor, Electricity Meter**

Instrument Traceable Number  
**0120/SGS0399**

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 29<sup>th</sup> September 2025  
Issue 1

Certification is based on report number(s) SHES141200649301 issued 16<sup>th</sup> April 2015  
EMA207767 issued 9<sup>th</sup> October 2015  
EMA262680

Authorised Signature

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SGSPAPER  
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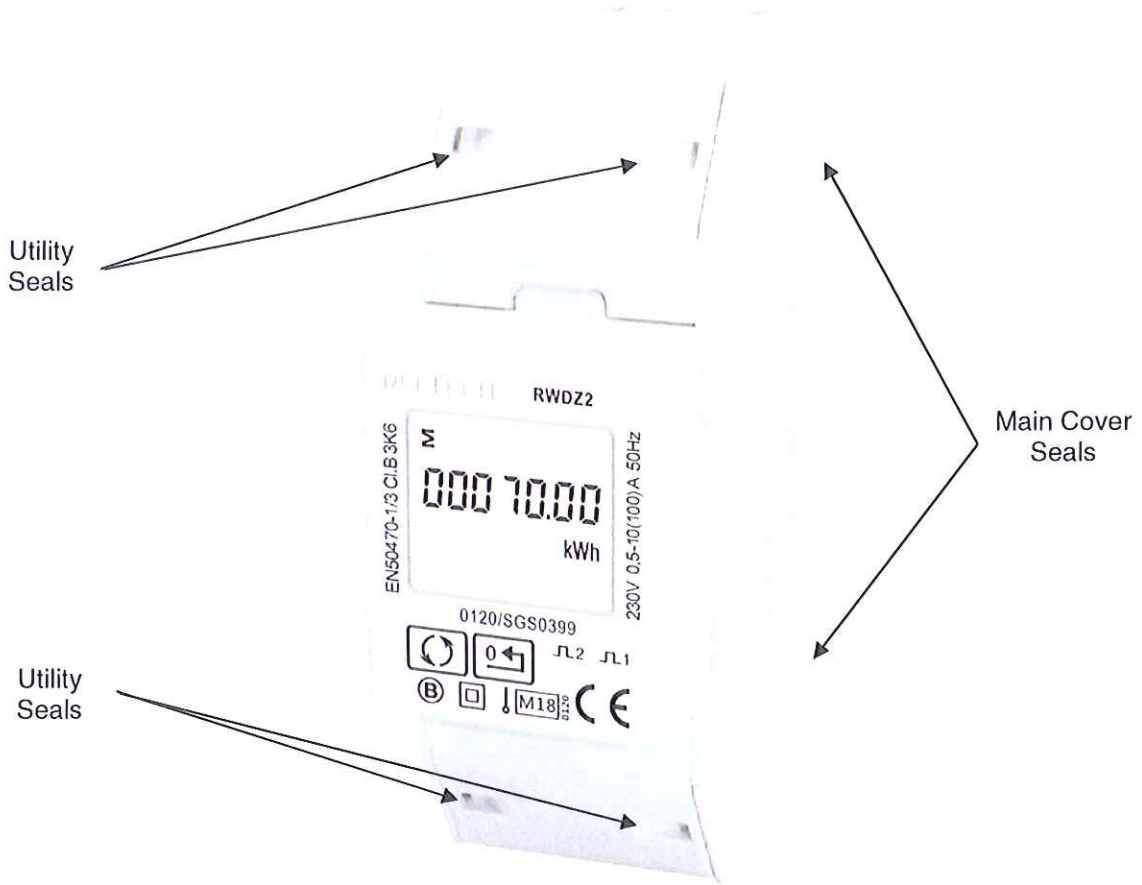
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|   | Issue Number: 1                         | Dated: 22 <sup>nd</sup> January 2019 |

## 1. Technical Data


|  |   |
|--|---|
| Manufacturer                                     | Reltech GmbH & Co. KG                                 |
| Meter Type                                       | RWDZ2, RWDZ2M, RWDZ2MB                                |
| Voltage Rating ( $U_n$ )                         | 230V  |
| Current Rating ( $I_{min} - I_{ref} (I_{max})$ ) | 0.5-10(100)A  |
| Frequency ( $F_n$ )                              | 50Hz  |
| Active Accuracy Class ( $kWh$ )                  | A or B ( $kWh$ )                                      |
| Type of circuit                                  | 1p2w  |
| Temperature Range                                | -25°C to +55°C  |
| Software/ Firmware Version No                    | V1.2  |
| CRC Checksum                                     | 0x000052F2  |
| Identification Location                          | Meter Case  |
| Bill Of Materials Number                         | RWDZ2, RWDZ2M: 20150929<br>RWDZ2MB: DH-JS-180029-V1.0 |
| IP Rating  | IP51  |
| Insulation Protective Class                      | Class II  |
| LED Pulse Constant                               | 1000imp/kWh   |
| Impulse Voltage Rating                           | 6kV   |
| AC Voltage Rating                                | 4kV   |
| Main Cover Sealing Type                          | 4 x Wire & Crimp                                      |
| Integrity of meter                               | Inaccessible without breaking seals                   |
| Intended Location of the Meter                   | Indoor  |
| Type of Register                                 | LCD   |
| Terminal Arrangement(s)                          | DIN   |
| Location of Manufacturers Address                | Meter Case  |

|   |   |                                      |
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**2. Photograph of Meters and Sealing Plan**



**Photograph of RW0Z2**


|   |   |                                      |
|---|---|--------------------------------------|
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Photograph of RWDZ2M



Photograph of RWDZ2MB

|   |   |                                      |
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### 3. Examples of Nameplates

**RELTECH** RWDZ2

EN50470-1/3 Cl.B 3K6

230V 0,5-10(100)A 50Hz

0120/SGS0399












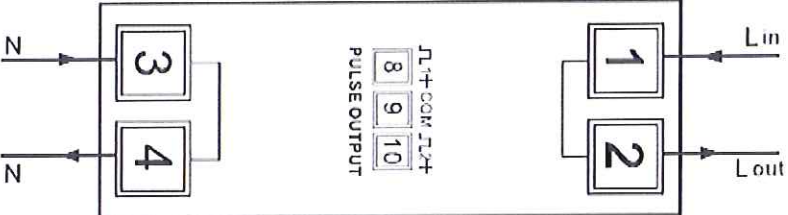




**RELTECH** 0120/SGS0399  
RWDZ2   0210

**Single Phase Energy Meter**  
230V AC 0,5-10(100)AAC 50Hz 2018  
1000imp/kWh EN50470-1/3 SW V1.2

   3K6 IP51




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


**RELTECH** RWDZ2M




EN50470-1/3 Cl.B 3K6



230V 0,5-10(100)A 50Hz

0120/SGS0399






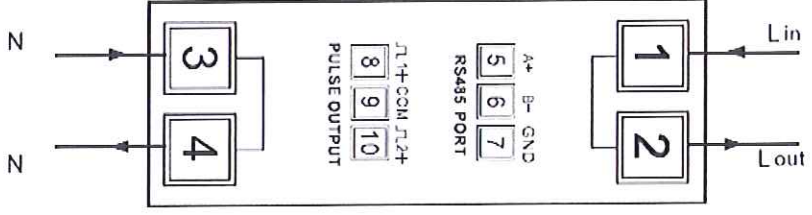




**RELTECH** 0120/SGS0399  
RWDZ2M   0210

**Single Phase Energy Meter**  
230V AC 0,5-10(100)AAC 50Hz 2018  
1000imp/kWh EN50470-1/3 SW V1.2

   3K6 IP51




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**RELTECH** RWDZ2MB




EN50470-1/3 Cl.B 3K6



230V 0,5-10(100)A 50Hz

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



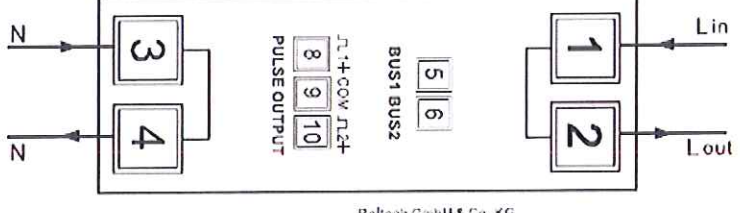





**RELTECH** 0120/SGS0399  
RWDZ2MB   0210

**Single Phase Energy Meter**  
230V AC 0,5-10(100)AAC 50Hz 2018  
1000imp/kWh EN50470-1/3 SW V1.2

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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

|                   |        | Influence Factors for Temperature, Voltage & Frequency |       |      |      |      |      |
|-------------------|--------|--|-------|------|------|------|------|
| Current           | PF Cos | -25°C  | -10°C | 5°C  | 30°C | 40°C | 55°C |
| I <sub>min</sub>  | 1.0    | 0.45   | 0.33  | 0.23 | 0.15 | 0.17 | 0.23 |
| I <sub>tr</sub>   | 1.0    | 0.44   | 0.31  | 0.19 | 0.07 | 0.10 | 0.18 |
| 10I <sub>tr</sub> | 1.0    | 0.42   | 0.29  | 0.18 | 0.03 | 0.08 | 0.16 |
| I <sub>max</sub>  | 1.0    | 0.27   | 0.19  | 0.12 | 0.03 | 0.06 | 0.12 |
| I <sub>tr</sub>   | 0.5ind | 0.48   | 0.36  | 0.27 | 0.17 | 0.18 | 0.22 |
| 10I <sub>tr</sub> | 0.5ind | 0.41   | 0.28  | 0.17 | 0.03 | 0.08 | 0.17 |
| I <sub>max</sub>  | 0.5ind | 0.27   | 0.18  | 0.12 | 0.04 | 0.07 | 0.13 |
| I <sub>tr</sub>   | 0.8cap | 0.45   | 0.31  | 0.20 | 0.09 | 0.12 | 0.18 |
| 10I <sub>tr</sub> | 0.8cap | 0.40   | 0.27  | 0.16 | 0.04 | 0.10 | 0.19 |
| I <sub>max</sub>  | 0.8cap | 0.26   | 0.19  | 0.11 | 0.05 | 0.08 | 0.15 |


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## 5. Annex of Variants

Product Variant Identification Details:

| Type Designation | Description of meter   |
|------------------|--|
| RWDZ2            | Single tariff, total active energy, resettable energy, active power  |
| RWDZ2M           | Single tariff, total active energy, resettable active energy, import active energy, export active energy, total reactive energy, import reactive energy, export reactive energy, active power, reactive power, voltage, current, frequency, power factor, power demand, RS485 Modbus communication |
| RWDZ2MB          | Single tariff, total active energy, resettable active energy, import active energy, export active energy, total reactive energy, import reactive energy, export reactive energy, active power, reactive power, voltage, current, frequency, power factor, power demand, Mbus communication         |

Modifications to the meter(s) described according to approval No.**0120/SGS0399** 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     | 22/01/2019 | Initial Issue |
|       |            |               |

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