



EU Type Examination Certificate Number: **0120/SGS0227**

## **Controlin BV**

Glasblazerstraat 1,  
Ridderkirk,  
2984 BL  
The Netherlands,

Instrument Identification:  
**SKD-100-M**

Instrument Traceable Number  
**0120/SGS0227**

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

has been assessed and certified as meeting the requirements of

## **EU Directive 2014/32/EU**

**Measuring Instruments Annex 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 2

Certification is based on report number(s) SHES141200649301 issued 16<sup>th</sup> April 2015,  
EMA207767 issued 9<sup>th</sup> October 2015  
EMA224035/1 issued 14<sup>th</sup> June 2016

Authorised Signature


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	Issue Number: 2	Dated: 9 <sup>th</sup> November 2016


## 1. Technical Data

Manufacturer	Controlin BV
Meter Type(s)	SKD-100-M
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 Version No.	V1.2
Identification Location	Nameplate
Bill Of Materials No.'s	SDM230MODBUS-20150929
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	1000imp/ kWh
Impulse Voltage Rating	6kV
AC Voltage Rating	4kV
Terminal Cover Sealing Type	4 x Wire & Crimp
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Location of Distributors Name & Address	Accompanying documentation

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## 1. Photograph of Meter and Sealing Plan



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## 2. 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	0.45	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

During the type approval examination the influence factors for temperature, frequency and voltage are determined per load point. The table above 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

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### 3. Annex of Variants


Product Variant Identification Details:

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Type Designation	Description of meter
SKD-100-M:	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.

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Modifications to the meter(s) described according to approval No.**0120/SGS0227** 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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#### 4. Document Revision History

Issue	Date	Comments
1	14/06/2016	Initial Issue
2	09/11/2016	Change of directive reference from EC 2004/22/EC to EU 2014/32/EU. Location of distributors name and address added to technical data

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