



EU Type Examination Certificate Number: **0120/SGS0264**

Controlin BV

Glasblazerstraat 1,
Ridderkirk,
2984 BL
The Netherlands

Instrument Identification
SKD-045 Series

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

Instrument Traceable Number
0120/ SGS0264

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 17th February 2024
Issue 1

Certification is based on report number(s) SHES130800321401 dated 18th February 2014
EMA185897
EMA229619

Authorised Signature


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	Issue Number: 1	Dated: 18 th October 2016

1. Technical Data

Manufacturer	Controlin BV
Meter Types	SKD-045-AM, SKD-045BM, SKD-045-M
Voltage Rating (U_n)	230V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.25-5(45)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's	SDM120A, SDM120DB: V1.2 SDM120-Modbus: V2.3
Identification Location	Nameplate
Bill Of Materials Number's	SDM120-Measure: V2.1 SDM120-Power: V2.1 SDM120-Pulse: V2.0 SDM120Modbus: V151119
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	Mechanical SKD-045-AM LCD: SKD-045-BM, SKD-045-M
Location of Manufacturers address	Associated Documents User Manual

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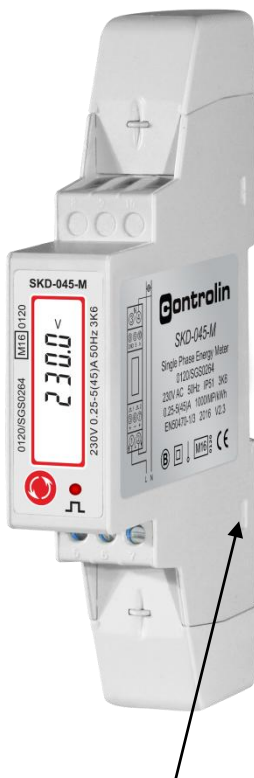
2. Photographs of Meters, Name Plate and Sealing Points

SKD-045-AM



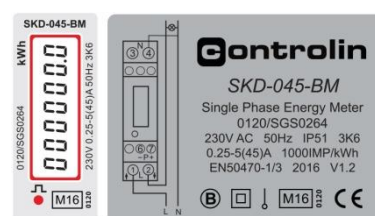
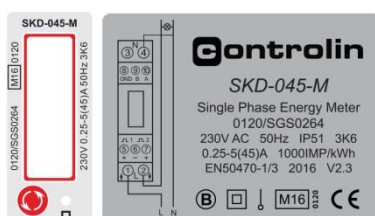
Utility Seals


SKD-045-M



Main Cover seals Welded

SDM-045-BM



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3. Influence factors for temperature, frequency and voltage

		Influence Factors for temperature, frequency and voltage					
Current	PF Cos	-25	-10	5	30	40	55
I _{min}	1.0	0.12	0.12	0.12	0.13	0.12	0.12
I _{tr}	1.0	0.16	0.16	0.16	0.16	0.16	0.16
10I _{tr}	1.0	0.17	0.16	0.16	0.16	0.16	0.16
I _{max}	1.0	0.13	0.13	0.13	0.13	0.13	0.13
I _{tr}	0.5ind	0.29	0.29	0.29	0.29	0.29	0.29
10I _{tr}	0.5ind	0.40	0.40	0.40	0.40	0.40	0.40
I _{max}	0.5ind	0.16	0.16	0.16	0.16	0.16	0.16
I _{tr}	0.8cap	0.24	0.24	0.24	0.24	0.24	0.24
10I _{tr}	0.8cap	0.31	0.31	0.31	0.31	0.31	0.31
I _{max}	0.8cap	0.09	0.09	0.09	0.09	0.09	0.09

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:-

$$\square e(T, U, f) = I (\square e^2(T, I, \cos \phi) + \square e^2(U, I, \cos \phi) + \square e^2(f, I, \cos \phi)) \text{ where}$$

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

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4. Annex of Variants Product Variant Identification Details:

Type Designation

SKD-045BM

SKD-045AM

SKD-045-M


Description of meter

Single Phase 230V, 0.25-5(45)A LCD register with backlight

Single Phase 230V, 0.25-5(45)A Mechanical register

Single Phase 230V, 0.25-5(45)A, LCD register,
2 Pulse Outputs, RS485 Communication Port, Modbus

Modifications to the meter(s) described according to approval No.**0120/ SGS0264** 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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5. Document Revision History

Issue	Date	Comments
1	18/10/16	Initial Issue