

EU Type Examination Certificate Number: **0120/SGS0573**

B+G E-Tech GmbH

Franz-Mehring-Str. 36 01979 Lauchhammer Germany

Instrument Identification:

WSxx-1211, WSxx-1221, WSxx-1431, WSxx-1441, WSxx-1611, WSxx-1621, WSxx-1631, WSxx-1641

Single phase, Active Import/Export (kWh), Electricity Meter

Instrument Traceable Number

0120/ SGS0573

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 from 6th September 2022 until 9th February 2032
Issue 1

Certification is based on report number(s) SHES211102316701 dated 25th January 2022
EMA299525/1/TR50579 dated 25th January 2022
EMA299525/1
EMA307393/1

Authorised Signature



Mikko Välimäki

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	EU-Type Examination Certificate Number:	
	0120/SGS0573	
	Issue Number: 1	Dated: 6 th September 2022

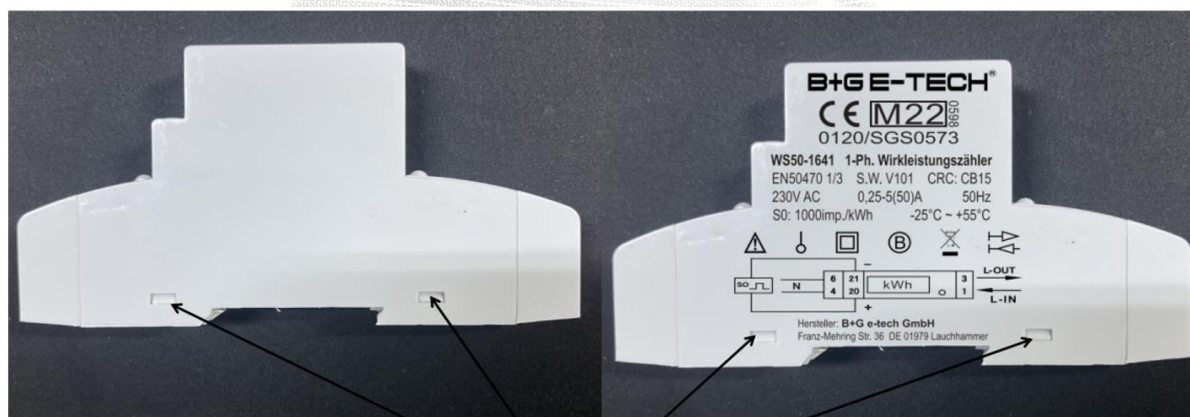
1. Technical Data

Manufacturer	B+G E-Tech GmbH
Meter Types	WS32-1211, WS45-1211, WS50-1211, WS32-1221, WS45-1221, WS50-1221, WS32-1431, WS45-1431, WS50-1431, WS32-1441, WS45-1441, WS50-1441, WS32-1611, WS45-1611, WS50-1611, WS32-1621, WS45-1621, WS50-1621, WS32-1631, WS45-1631, WS50-1631, WS32-1641, WS45-1641, WS50-1641
Voltage Rating (<i>Un</i>)	230V
Current Rating (<i>I_{min}</i> – <i>I_{ref}</i> (<i>I_{max}</i>))	0.25-5(30)A, 0.25-5(32)A, 0.25-5(40)A, 0.25-5(45)A, 0.25-5(50)A
Frequency (<i>Fn</i>)	50Hz
Active Accuracy Class (<i>kWh</i>)	B (kWh)
Type of circuit	1p2w
Temperature Range	-25°C to +55°C
Software/ Firmware Version No's	V101
Checksum No.	CB15
Identification Location	LCD & Nameplate
Bill Of Materials No's	WS32-1211, WS45-1211, WS50-1211: NZD112129-BOM V1.00 WS32-1221, WS45-1221, WS50-1221: NZD112130-BOM V1.00 WS32-1431, WS45-1431, WS50-1431: NZD112131-BOM V1.00 WS32-1441, WS45-1441, WS50-1441: NZD112132-BOM V1.00 WS32-1611, WS45-1611, WS50-1611: NZD112133-BOM V1.00 WS32-1621, WS45-1621, WS50-1621: NZD112134-BOM V1.00 WS32-1631, WS45-1631, WS50-1631: NZD112135-BOM V1.00 WS32-1641, WS45-1641, WS50-1641: NZD112136-BOM V1.00
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	Main cover clipped in place and sealed with tamper proof sealing tape
Integrity of meter	Inaccessible without breaking seals
Intended Location of the Meter	Indoor
Type of Register	LCD
Terminal Arrangement(s)	DIN
Location of Manufacturers Name & Address	Side of the meter and associated documentation

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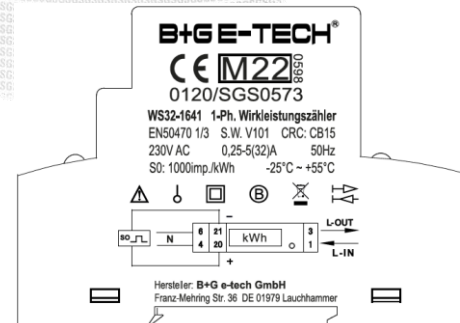
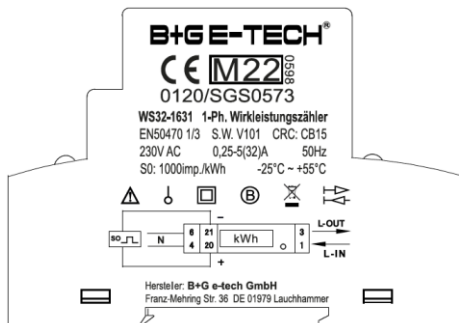
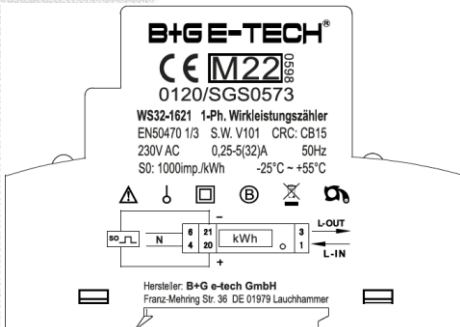
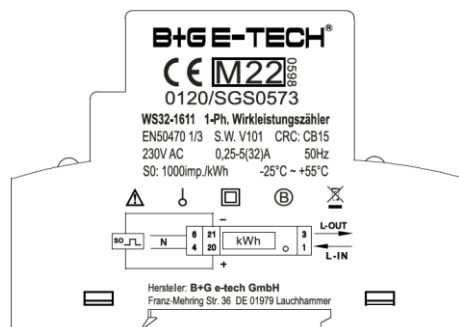
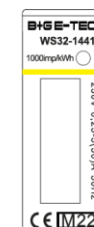
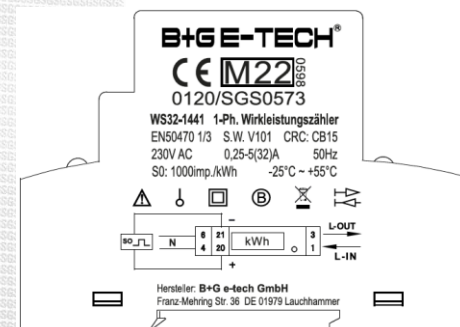
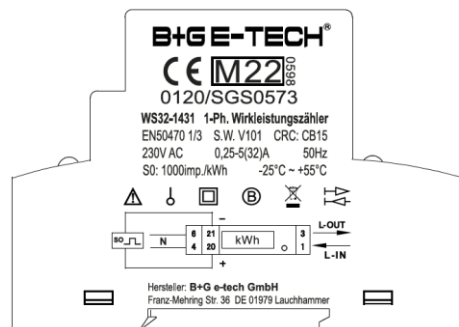
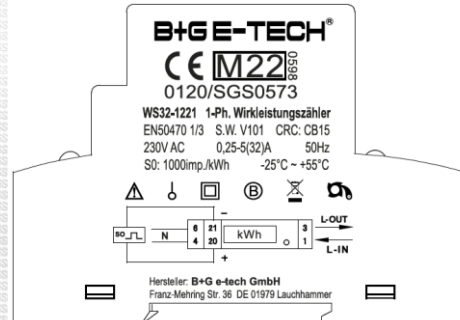
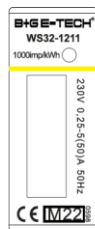
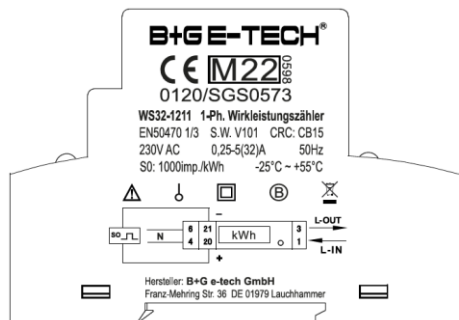
2. Photograph of Meter and Sealing Plan

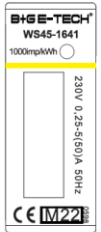
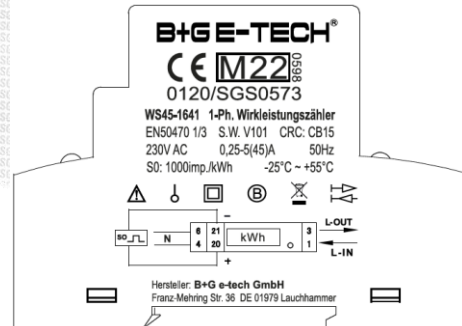
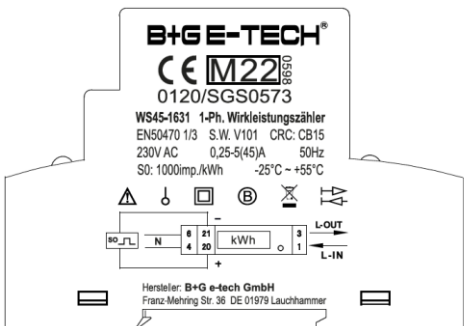
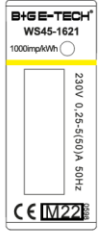
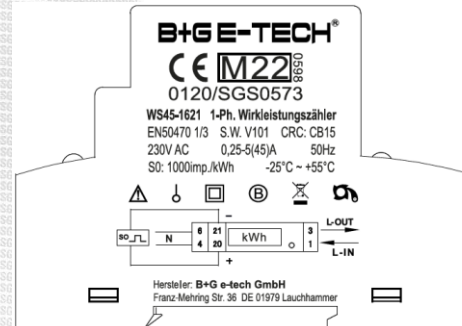
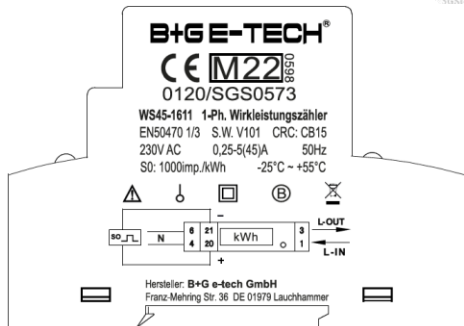
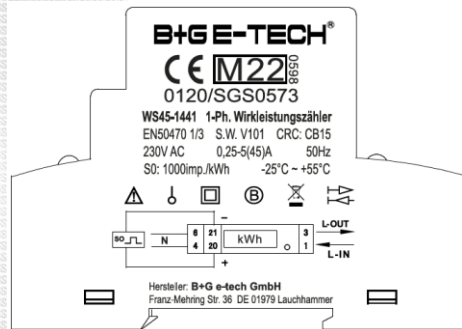
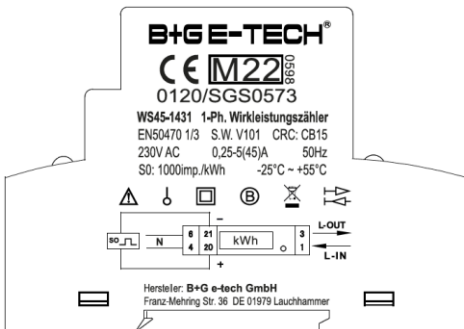
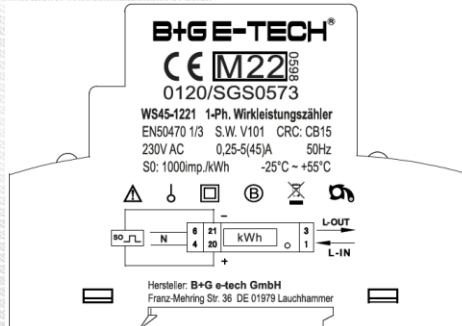
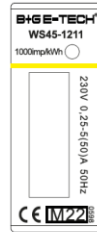
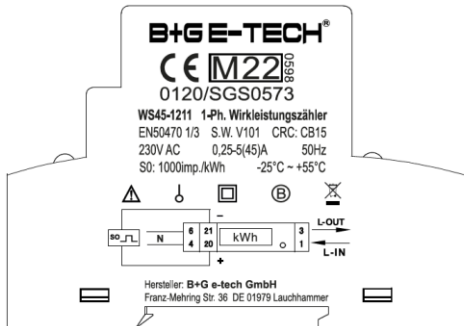
Terminal cover sealing points

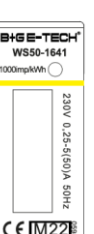
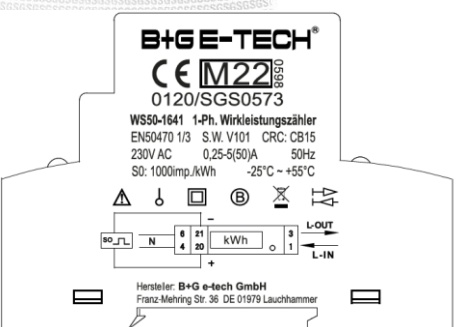
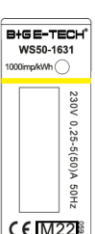
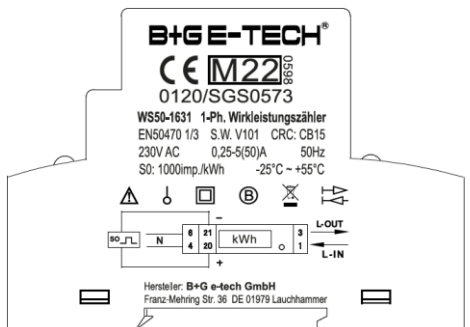
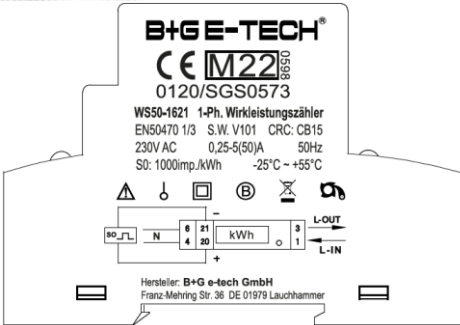
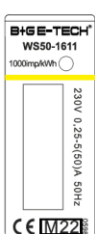
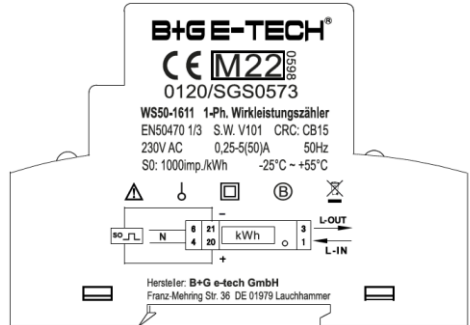
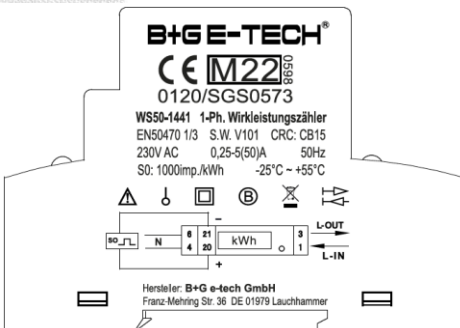
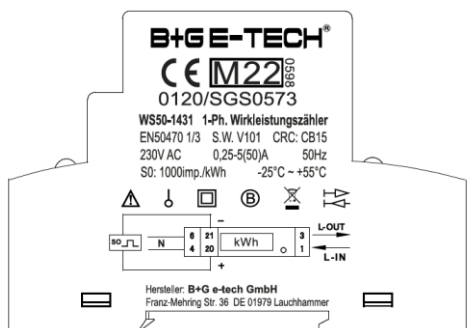
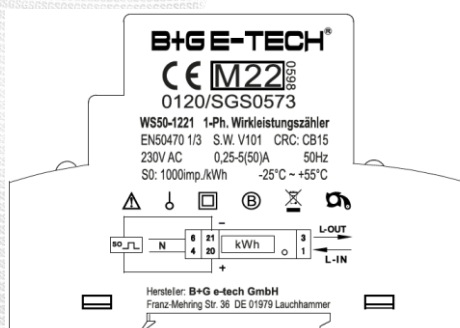
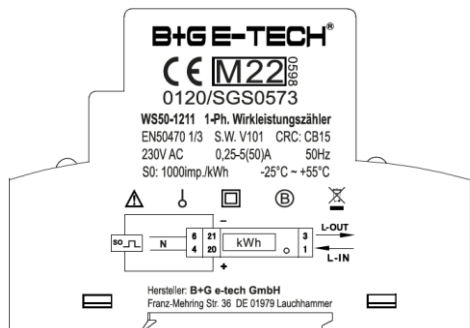


Main Cover sealing points

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

		Influence Factors for Temperature, Voltage & Frequency					
Current	PF Cos	-25°C	-10°C	5°C	30°C	40°C	55°C
I _{min}	1.0	0.47	0.34	0.23	0.06	0.08	0.17
I _{tr}	1.0	0.43	0.31	0.19	0.02	0.08	0.17
10I _{tr}	1.0	0.42	0.30	0.18	0.03	0.08	0.17
I _{max}	1.0	0.63	0.42	0.21	0.12	0.19	0.28
I _{tr}	0.5ind	0.45	0.32	0.20	0.04	0.09	0.17
10I _{tr}	0.5ind	0.43	0.31	0.19	0.04	0.08	0.16
I _{max}	0.5ind	0.57	0.34	0.14	0.17	0.25	0.34
I _{tr}	0.8cap	0.43	0.31	0.17	0.04	0.09	0.18
10I _{tr}	0.8cap	0.41	0.29	0.16	0.03	0.12	0.18
I _{max}	0.8cap	0.62	0.42	0.21	0.11	0.26	0.27

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5. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
WS32-1211, WS45-1211, WS50-1211	230V, Total energy (Total = Import + Export) 0.25-5(30)A 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A
WS32-1221, WS45-1221, WS50-1221	230V, Total energy (Total = Import) 0.25-5(30)A 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A
WS32-1431, WS45-1431, WS50-1431	230V, Total, import, export energy (Total = Import + Export) 0.25-5(30)A, 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A
WS32-1441, WS45-1441, WS50-1441	230V, Total, import, export energy (Total = Import - Export) 0.25-5(30)A, 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A
WS32-1611, WS45-1611, WS50-1611	230V, Total energy (Total = Import + Export), voltage, current, active power, frequency, power factor 0.25-5(30)A, 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A
WS32-1621, WS45-1621, WS50-1621	230V, Total energy (Total = Import), voltage, current, active power, frequency, power factor 0.25-5(30)A, 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A
WS32-1631, WS45-1631, WS50-1631	230V, Total, import, export energy (Total = Import + Export), voltage, current, active power, frequency, power factor 0.25-5(30)A, 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A
WS32-1641, WS45-1641, WS50-1641	230V, Total, import, export energy (Total = Import - Export), voltage, current, active power, frequency, power factor 0.25-5(30)A, 0.25-5(32)A 0.25-5(40)A 0.25-5(45)A 0.25-5(50)A

Modifications to the meter(s) described according to approval No. **0120/SGS0573** 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	06/09/2022	Initial Issue

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END OF CERTIFICATE