



EU Type Examination Certificate Number: **0120/ SGS0239**

Holley Technology Ltd

No. 181 Wuchang Avenue
Yuhang District
Hangzhou 310023
China

Instrument Identification:

BES334C

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

Instrument Traceable Number

0120/ SGS0239

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 for 10 years from 25th October 2016 until 24th October 2026
Issue 1


Certification is based on report number(s) SHES160500425601 dated 25th October 2016
EMA230586/1

Authorised Signature


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1. Technical Data

Manufacturer	Holley Technology Ltd
Meter Type	BES334C
Voltage Rating (U_n)	3x230/400V
Current Rating (I_{min} – I_{ref} (I_{max}))	0.25-5(60)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	3p4w
Temperature Range	-25°C to +55°C
Ambient Humidity	95% non-condensing
Software/ Firmware Version No	V102005
Identification Location	LCD
Mechanical Environment	M1
Electromagnetic environment	E2
Reverse run stop icon	
Bill Of Materials Numbers	Element BOM No.: 3.418.318.QJ V1.1 Mechanical BOM No.: 3.418.318.JG V1.2
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	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	Nameplate


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2. Photograph of Meter and Sealing Plan

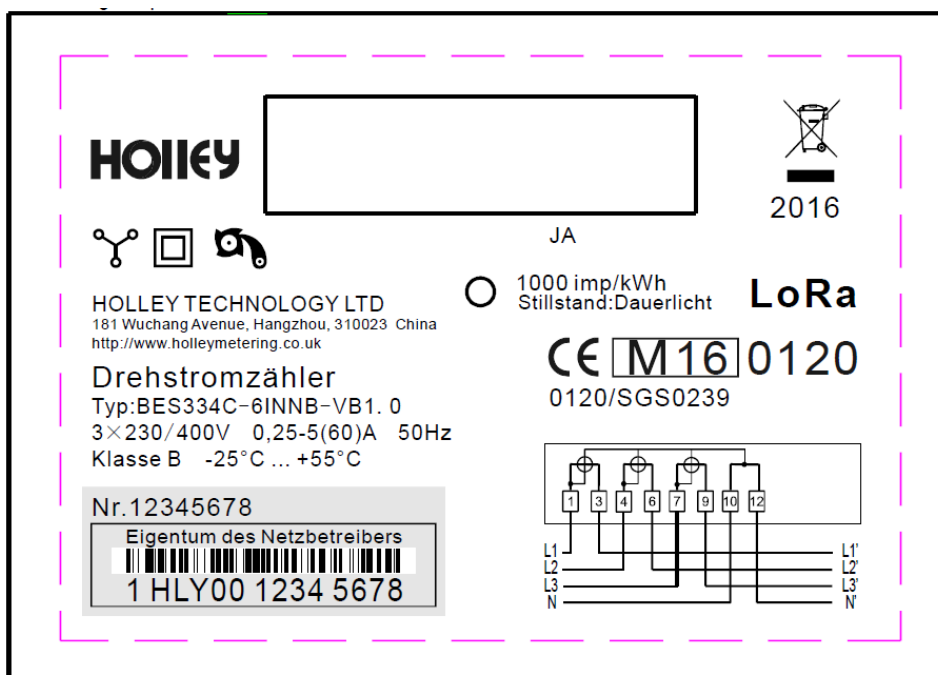
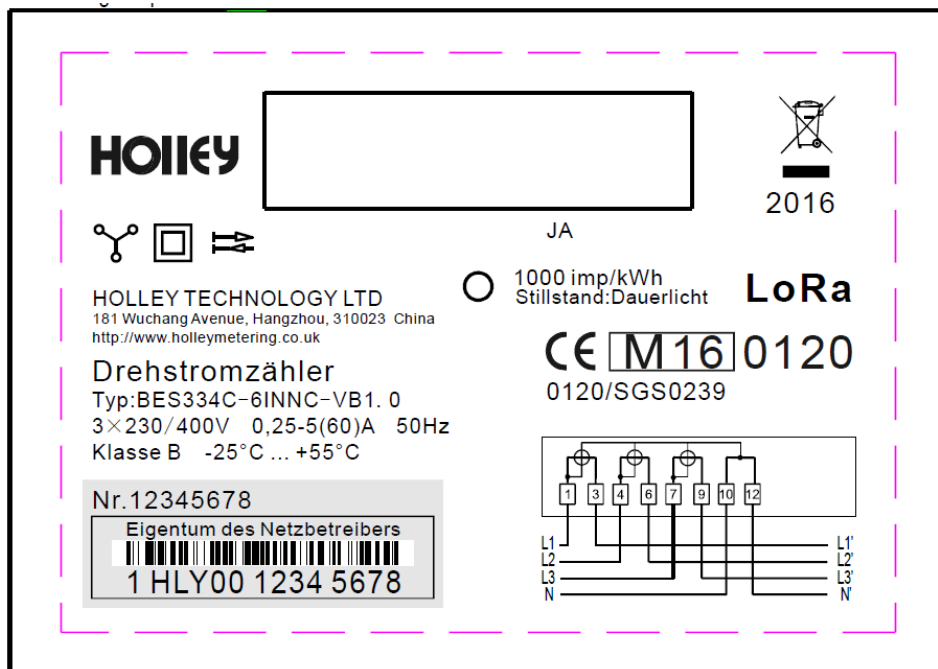



Main cover
seals






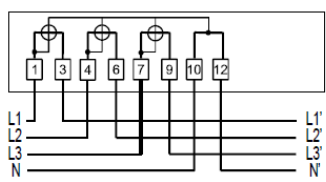
Terminal cover seals






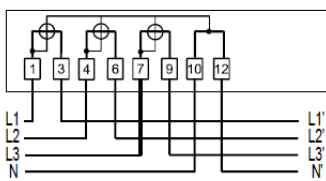
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3. Nameplates



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<p>HOLLEY TECHNOLOGY LTD 181 Wuchang Avenue, Hangzhou, 310023 China http://www.hollemetry.co.uk</p>	
<p>Drehstromzähler Typ: BES334C-6NNNC-VB1.0 3×230/400V 0,25-5(60)A 50Hz Klasse B -25°C ... +55°C</p>	
<p>Nr. 12345678</p> <p>Eigentum des Netzbetreibers</p>  <p>1 HLY00 1234 5678</p>	<p>○ 1000 imp/kWh Stillstand: Dauerlicht</p> <p>CE M16 0120 0120/SGS0239</p> 

  	
	
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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:-


$$\delta e(T, U, f) = \sqrt{(\delta e^2(T, I, \cos\varphi) + \delta e^2(U, I, \cos\varphi) + \delta e^2(f, I, \cos\varphi))}$$

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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		Influence Factors for Temperature. Frequency & Voltage					
Current	PF Cos	-25	-10	5	30	40	55
I _{min}	1.0	0.72	0.51	0.32	0.05	0.22	0.41
I _{tr}	1.0	0.69	0.50	0.29	0.06	0.23	0.44
10I _{tr}	1.0	0.69	0.49	0.29	0.08	0.23	0.44
I _{max}	1.0	0.64	0.47	0.28	0.05	0.20	0.42
I _{tr}	0.5ind	0.77	0.57	0.36	0.14	0.19	0.35
10I _{tr}	0.5ind	0.75	0.55	0.33	0.11	0.18	0.35
I _{max}	0.5ind	0.70	0.51	0.31	0.12	0.17	0.32
I _{tr}	0.8cap	0.66	0.47	0.29	0.09	0.25	0.50
10I _{tr}	0.8cap	0.65	0.47	0.28	0.12	0.27	0.52
I _{max}	0.8cap	0.61	0.44	0.27	0.07	0.22	0.47
					0.00	0.00	0.00
L1							
I _{tr}	1.0	0.60	0.44	0.27	0.05	0.19	0.40
10I _{tr}	1.0	0.60	0.43	0.26	0.07	0.19	0.41
I _{max}	1.0	0.55	0.41	0.25	0.04	0.17	0.38
I _{tr}	0.5ind	0.68	0.49	0.31	0.11	0.16	0.31
10I _{tr}	0.5ind	0.66	0.49	0.30	0.09	0.15	0.30
I _{max}	0.5ind	0.63	0.47	0.31	0.12	0.15	0.28
L2							
I _{tr}	1.0	0.63	0.47	0.28	0.06	0.19	0.41
10I _{tr}	1.0	0.63	0.45	0.27	0.07	0.20	0.42
I _{max}	1.0	0.58	0.43	0.27	0.04	0.17	0.38
I _{tr}	0.5ind	0.70	0.51	0.32	0.11	0.18	0.31
10I _{tr}	0.5ind	0.68	0.50	0.30	0.09	0.16	0.32
I _{max}	0.5ind	0.64	0.48	0.30	0.11	0.15	0.29
L3							
I _{tr}	1.0	0.84	0.60	0.34	0.10	0.26	0.55
10I _{tr}	1.0	0.83	0.59	0.33	0.10	0.27	0.55
I _{max}	1.0	0.77	0.56	0.32	0.09	0.24	0.51
I _{tr}	0.5ind	0.87	0.63	0.37	0.10	0.23	0.43
10I _{tr}	0.5ind	0.86	0.62	0.34	0.12	0.25	0.46
I _{max}	0.5ind	0.82	0.60	0.39	0.07	0.22	0.41

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5. Annex of Variants

BES334C type code designation:

BES334C – A X N T B – VC 1.0

MAX CURRENT

- 6: 60A
- A: 100A

WAN

- N: None
- I: Lora with internal antenna
- X: Lora with external antenna

Local reading port

- N: None
- R: RS485

Note: Other characters reserve for future use

Tariff

- N: None
- T: external tariff switch (two tariff)
and power supply output for external tariff switch device

Metering type

- B: +A with return stop
IF $(+A) + (-A) > 0$ Active Energy(forward) = $(+A) + (-A)$
IF $(+A) + (-A) \leq 0$ Active Energy(forward) = 0
- C: -A/+A
Active Energy (forward) = +A
Reactive Energy (forward) = -A
C: -A + +A
- D: Active Energy(forward) = $|+A| + |-A|$


Solution Version

- VA: STM32L158 MCU + HiTech measuring chip +LDO Power supply
- VB: STM32L158 MCU + HiTech measuring chip +DC-DC Power supply
- VC: STM32L158 MCU + HiTech measuring chip +Isolated DC-DC power supply

Product Release Version

- V1.0
- V1.1
-
- V2.0
-

Modifications to the meter(s) described according to approval No.**0120/ SGS0239** 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	25/10/2016	Initial Issue

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