



EC Type Examination Certificate Number: **0120/SGS0146**

Shanghai Fangqiu Electric Co., Ltd

Room 1903
No 1958 North Zhongshan Road
Putuo District
Shanghai

Instrument Identification:
EM737CT

Instrument Traceable Number
0120/SGS0146

Poly Phase, Active Import/ Export, Indoor, Transformer Operated, Electricity Meter

has been assessed and certified as meeting the requirements of

EC Directive 2004/22/EC

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 MI-003 of EC Directive 2004/22/EC

This certificate must be used in conjunction with a certificate covering the product verification as required in Annex D or Annex F

This certificate is valid for 10 years from 4th December 2013 to 3rd December 2023
Issue 1


Certification is based on report number(s) SHES131000419401 dated 29th November 2013

Authorised Signature

Jan Saunders


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1. Technical Data

Manufacturer	Shanghai Fangqiu Electric Co., Ltd.
Meter Type	EM737CT
Voltage Rating (U_n)	3x230/400V
Current Rating ($I_{min} - I_{ref} (I_{max})$)	0.075-1.5(6)A
Frequency (F_n)	50Hz
Active Accuracy Class (kWh)	A or B (kWh)
Type of circuit	3p4w
Temperature Range	-25°C to +55°C
Software Version No.	0737.00.04
Identification Location	LCD
Bill Of Materials No.'s	FQ-JS-001-007
IP Rating	IP51
Insulation Protective Class	Class II
LED Pulse Constant	6400imp/ 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)	BS

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2. Photograph of Meter



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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	0.35	0.35	0.35	0.39	0.36	0.36
I _{tr}	1.0	0.34	0.34	0.33	0.35	0.34	0.34
10I _{tr}	1.0	0.45	0.45	0.43	0.46	0.48	0.48
I _{max}	1.0	0.52	0.49	0.47	0.49	0.50	0.50
I _{tr}	0.5ind	0.21	0.21	0.21	0.22	0.22	0.22
10I _{tr}	0.5ind	0.28	0.28	0.28	0.28	0.31	0.28
I _{max}	0.5ind	0.38	0.38	0.38	0.40	0.38	0.38
I _{tr}	0.8cap	0.27	0.27	0.27	0.27	0.27	0.27
10I _{tr}	0.8cap	0.29	0.30	0.29	0.29	0.30	0.30
I _{max}	0.8cap	0.33	0.34	0.31	0.31	0.31	0.32
L1							
I _{tr}	1.0	0.06	0.06	0.06	0.11	0.06	0.06
10I _{tr}	1.0	0.31	0.31	0.31	0.31	0.31	0.31
I _{max}	1.0	0.29	0.29	0.29	0.29	0.29	0.29
I _{tr}	0.5ind	0.16	0.16	0.16	0.16	0.16	0.18
10I _{tr}	0.5ind	0.09	0.09	0.10	0.11	0.09	0.10
I _{max}	0.5ind	0.38	0.38	0.38	0.38	0.38	0.38
L2							
I _{tr}	1.0	0.14	0.14	0.14	0.14	0.14	0.14
10I _{tr}	1.0	0.08	0.10	0.10	0.08	0.08	0.08
I _{max}	1.0	0.16	0.15	0.15	0.15	0.15	0.15
I _{tr}	0.5ind	0.18	0.18	0.19	0.19	0.19	0.19
10I _{tr}	0.5ind	0.17	0.17	0.17	0.17	0.17	0.17
I _{max}	0.5ind	0.27	0.26	0.26	0.26	0.26	0.25
L3							
I _{tr}	1.0	0.19	0.19	0.19	0.19	0.19	0.19
10I _{tr}	1.0	0.12	0.12	0.12	0.13	0.14	0.12
I _{max}	1.0	0.20	0.19	0.19	0.20	0.20	0.19
I _{tr}	0.5ind	0.20	0.22	0.20	0.21	0.20	0.20
10I _{tr}	0.5ind	0.34	0.35	0.35	0.35	0.35	0.34
I _{max}	0.5ind	0.42	0.42	0.41	0.08	0.42	0.41


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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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4. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
EM737CT	0.075-1.5(6)A – Poly Phase, Active Import/Export kWh, Multifunction, Transformer Operated, Electricity Meter

Modifications to the meter(s) described according to approval No.**0120/ SGS0146** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

5. Document Revision History

Issue	Date	Comments
1	04/11/2013	Initial Issue