EU Type Examination Certificate Number: **0120/ SGS0001/R1**

EDMI Limited

47 Yishun Industrial Park A
Singapore
768724

Instrument Identification
Mk7C - 7C-*1*2-1*-****-****1**

Description
Single Phase, Credit, Active Import/ Export, Multi-rate, Outdoor, Electricity Meter

Instrument Traceable Number
0120/ SGS0001
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 19th April 2017 until 18th April 2027
Issue 2

Certification is based on report number(s
EMA107402 dated 19th April 2007, EMA246357/1/TR50579 dated 18th April 2017

Authorised Signature

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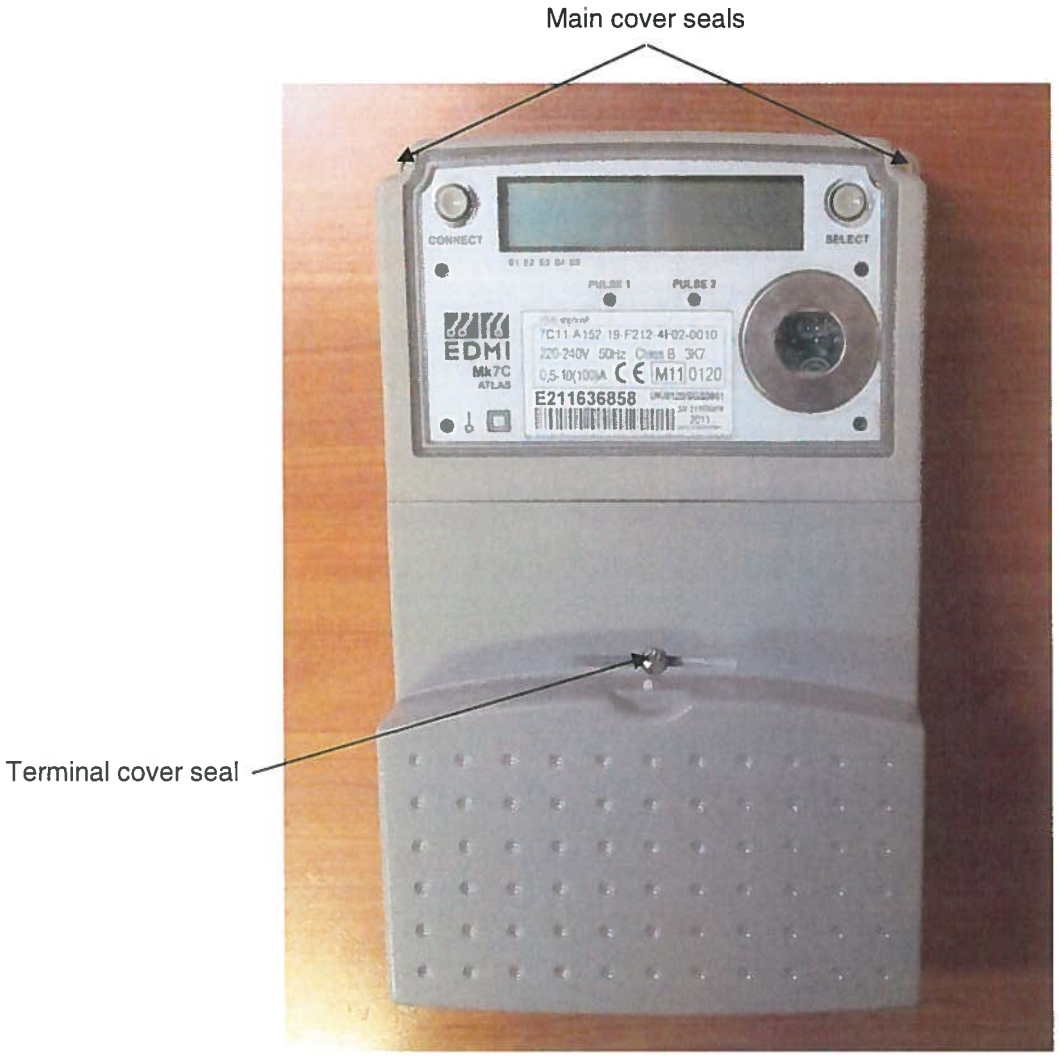
SGSPAPER 19356355

1. Technical Data

Manufacturer	EDMI Limited
Meter Type	MK7C
Voltage Rating *(Un)*	220-240V
Current Rating *(Imin – Iref (Imax))*	0,25-5(100)A 0,5-10(100)A
Frequency *(Fn)*	50Hz
Active Accuracy Class *(kWh)*	B (kWh)
Type of circuit	1p2w
Temperature Range	-40°C to +70°C
Software/ Firmware Version No's **CRC Checksum No's** **Identification Location**	1.27 to 1.36, 1.36 to 1.367 1.40 to 1.402, 1.41 to 1.417 1.42, 1.43 to 1.434,1.45 to 1.450 1.502, 2.04B 0xAD1E & DB7C LCD
Bill Of Materials Number	Mk7C BOM Export Rev (27 April 2015)
IP Rating	IP54
Insulation Protective Class	Class II
LED Pulse Constant	10imp/kWh 100imp/kWh 500imp/kWh 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	Outdoor
Type of Register	LCD
Terminal Arrangement(s)	BS
Location of Manufacturers Address	Associated Documents

2. Photograph of Meter and Sealing Plan



3. 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

		Influence Factors for temperature, frequency and voltage							
Current	**PF Cos**	-40°C	-25°C	-10°C	5°C	30°C	40°C	55°C	70°C
Imin	1.0	2.07	1.19	1.16	0.90	0.54	0.40	0.31	0.05
Itr	1.0	0.91	0.97	0.90	0.66	0.29	0.15	0.07	0.15
10Itr	1.0	0.76	0.32	0.32	0.17	0.11	0.23	0.29	0.38
Imax	1.0	0.54	0.33	0.28	0.12	0.15	0.24	0.32	0.41
Itr	0.5ind	1.18	0.67	0.56	0.41	0.36	0.46	0.67	1.02
10Itr	0.5ind	0.44	1.00	0.85	0.57	0.31	0.34	0.52	0.98
Imax	0.5ind	1.89	1.05	0.87	0.65	0.32	0.33	0.52	0.92
Itr	0.8cap	1.52	1.77	1.43	1.00	0.38	0.18	0.27	0.63
10Itr	0.8cap	1.04	1.11	0.83	0.53	0.17	0.34	0.64	0.86
Imax	0.8cap	0.63	1.01	0.76	0.41	0.21	0.42	0.67	0.97

4. Annex of Variants

Product Variant Identification Details:

Type Designation	Description of meter
7C	**Model:** Mk7C Meter
1	**Accuracy:** = Class B (Class 1)
2	**Accuracy:** = Class A (Class 2)
0	**Model:** = Standard configuration (MCU449)
1	**Model:** = Extended config (MCU4618)
A	**Current Range:** = 0.5-10(100)A
B	**Current Range:** = 0.25-5(100)A
1	**Terminal Configuration:** = ANNA (CT)
1	**Terminal Cover:** = Standard Terminal Cover
5	**Terminal Cover:** = Long multifunction Terminal Cover with Intercel SAM2
2	**Button option:** = Select & Connect Buttons
-	
1	**Local Comms:** (Optical Port) = IEC Flag
0	**Remote Comms: (Modem Port)** = None
2	**Remote Comms: (Modem Port)** = RS232 with 1xRJ45 and Modem power supply
5	**Remote Comms: (Modem Port)** = RS485 (4-wire) with RJ45 (Active)
6	**Remote Comms: (Modem Port)** = RS485 (2-wire) with Screw Terminals (Active)
7	**Remote Comms: (Modem Port)** = RS485 (2-wire) with Screw Terminals (Passive) (Active IP & Ext I/O are not available)
8	**Remote Comms: (Modem Port)** = RS485 (2-wire) with RJ45 (Passive) (Active IP & Ext I/O are not available)
9	**Remote Comms: (Modem Port)** = RS232 with 1xRJ45 and Modem power supply + SCADA port on Pin 7 & 8 (Only available on MCU4618)
A	**Remote Comms: (Modem Port)** = A -Band PLC Echelon Single Phase Coupling
C	**Remote Comms: (Modem Port)** = C -Band PLC Echelon Single Phase Coupling
D	**Remote Comms: (Modem Port)** = RS485 (4-wire) with RJ45 (Active) + SCADA port on Pin 1 & 2 (Only available on MCU4618)
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A	**EEPROM memory & MCU option:** = 64kB
C	**EEPROM memory & MCU option:** = 16kB + 1MB SPI Flash
1	**EEPROM memory & MCU option:** = 1 = 16KB + 1MB SPI Flash (SL955) Different memory & page size. New firmware v1.416 and above needed
F	**EEPROM memory & MCU option:** = 16kB + 2.1MB SPI Flash
2	**EEPROM memory & MCU option:** = 1 = 16KB + 2.1MB SPI Flash (Numonyx) Different memory & page size. New firmware v1.416 and above needed
0	**Battery Options:** = None
2	**Battery Options:** = 950mAh internal battery
1	**Internal Clock Options:** = standard calibrated clock
1	**LCD Display:** = Standard LCD w/o backlight, $ sign
2	**LCD Display:** = Standard LCD w/o backlight, £ sign
3	**LCD Display:** = Standard LCD w/o backlight, € sign
-	
0	**Standard I/O Options:** = none
1	**Standard I/O Options:** = 1 x Passive Input
2	**Standard I/O Options:** = 2 x Passive Inputs
3	**Standard I/O Options:** = 1 x S0 Output
4	**Standard I/O Options:** = 2 x S0 Outputs
5	**Standard I/O Options:** = 1 x Passive Input, 1 x S0 Output
6	**Standard I/O Options:** = 1 x Active Input
7	**Standard I/O Options:** = 2 x Active Inputs
8	**Standard I/O Options:** = 1 x Active Input, 1 x Passive Input
9	**Standard I/O Options:** = 1 x Active Input, 1 x S0 Output
A	**Extended I/O Options:** = None
B	**Extended I/O Options:** = 1 x Passive Input
C	**Extended I/O Options:** = 2 x Passive Inputs
D	**Extended I/O Options:** = 1 x S0 Output
E	**Extended I/O Options:** = 2 x S0 Outputs
F	**Extended I/O Options:** = 1 x Relay Output (240V, 2A)
G	**Extended I/O Options:** = 1 x Active Input (12V)
H	**Extended I/O Options:** = 2 x Active Inputs (12V)
I	**Extended I/O Options:** = 1 x Passive Input, 1 x S0 Output
J	**Extended I/O Options:** = 1 x Active Input, 1 x S0 Output

K **Extended I/O Options:** = 1 x Passive Input, 1 x Relay Output
L **Extended I/O Options:** = 1 x S0 Output, 1 x Relay Output A
0 **Input Voltage Options:** = None (for S0 and Active)
A **Input Voltage Options:** = 240V (+/-10%) Passive
B **Input Voltage Options:** = 110V (+/-30%) Passive
C **Input Voltage Options:** = 048V (+/-30%) Passive
D **Input Voltage Options:** = 012V (+/-30%) Passive
E **Input Voltage Options:** = 005V (+/-30%) Passive
0 **Pulsing LED Options:** = None
1 **Pulsing LED Options:** = 1 Pulsing LED
2 **Pulsing LED Options:** = 2 Pulsing LED's
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0 **Disconnect Terminal Relay O/P options:** = None
1 **Disconnect Terminal Relay O/P options:** = Disconnect Relay
0 **Magnetic Tamper option:** = None
1 **Magnetic Tamper option:** = Magnetic tamper detection
0 **Open terminal cover detection option:** = Not fitted
1 **Open terminal cover detection option:** = Fitted
0 **Neutral Current Measurement:** = None

Note:
1) Extended I/O Options are dependant on the communication options.
2) Active Inputs are NOT available in PLC meters.
3) Extended I/O Options B, C & I are NOT available in RS232/RS485 (GPRS version)
4) Extended I/O Options K & L are ONLY available in PLC meters

Modifications to the meter(s) described according to approval No.**0120/ SGS0001/R1** 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	19/04/2017	Re certification initial issue
2	09/01/2019	Additional meter constant options 500imp/kWh, 100imp/kWh and 10imp/kWh added.

** End of Document **