EU Type Examination Certificate Number: **0120/ SGS0035/R1**

EDMI Limited

47 Yishun Industrial Park A
Singapore
768724

Instrument Identification

MK7A

Description

Single Phase, Two Element, Credit, Active Import/ Export, Multi-rate, Electricity Meter

Instrument Traceable Number

0120/ SGS0035

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 30th July 2019 to 29th July 2029
Issue 1

Certification is based on report number(s)
EMA125358 dated 30th July 2009, EMA269253 dated 30th July 2019

Authorised Signature

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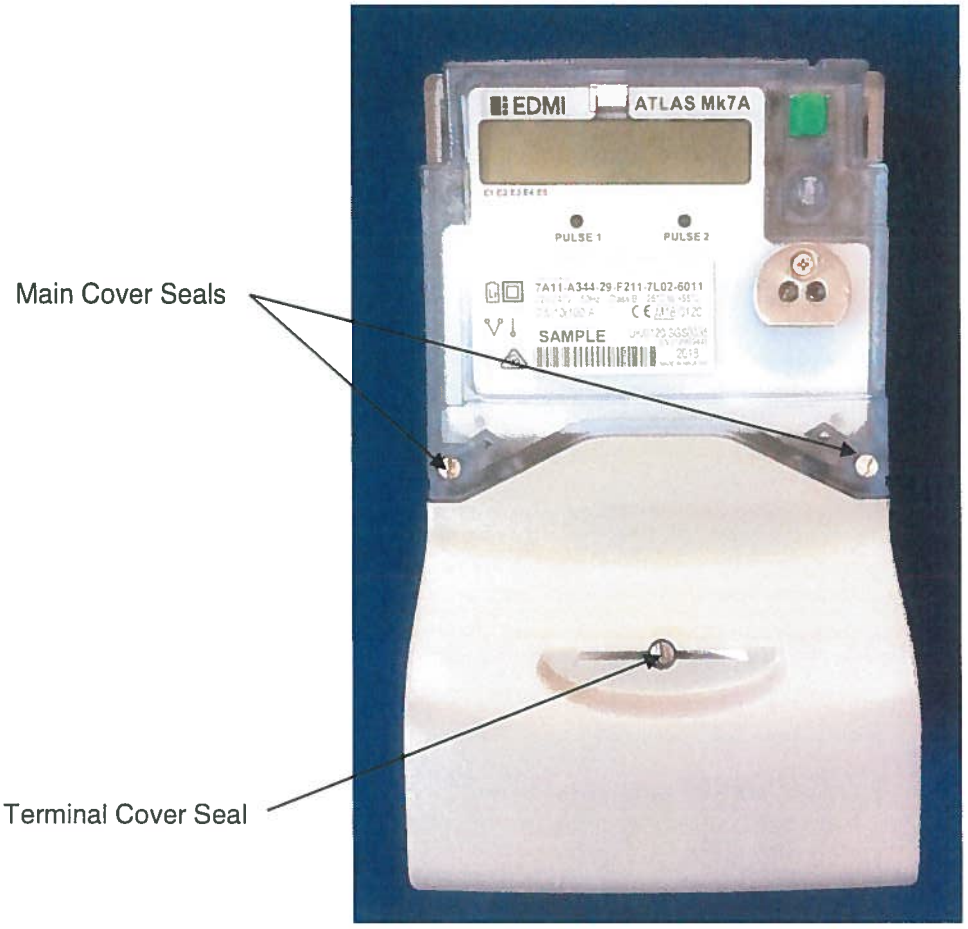
SGSPAPER 19794306

1. Technical Data

Manufacturer	EDMI Limited
Meter Type	Mk7A
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)*	A or B (kWh)
Type of circuit	1p2w
Temperature Range	-25ºC to +55ºC
Software/ Firmware Version No's **CRC Checksum No.** **Identification Location**	1.363 to 1.366, 1.40 to 1.402, 1.41 to 1.417 1.42, 1.43 to 1.434, 1.45, 1.502 0xE225 LCD
Bill Of Materials No's	Mk7A BOM-AnxB MB Rev00 Mk7A BOM-AnxB Base Rev001 Mk7A BOM-AnxB HW Rev015
IP Rating	IP53
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	Outdoor
Type of Register	Indoor
Terminal Arrangement(s)	BS
Location of Manufacturers Address	Associated Documents

2. Photograph of Meter and Sealing Plan



3. Nameplate


1000 imp/kWh
7A11-A344-29-F211-7L02-6011
220-240V 50Hz Class B -25°C to +55°C
0,5-10(100)A
CE M18 0120
SAMPLE
UK/0120/SGS0035
SN:SERIALNO
2018
MADE IN MALAYSIA

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

		Influence Factors for Temperature, Frequency and Voltage					
Current	**PF Cos**	-25°C	-10°C	5°C	30°C	40°C	55°C
Imin	1.0	0.13	0.16	0.11	0.07	0.11	0.24
Itr	1.0	0.14	0.16	0.11	0.03	0.08	0.21
10Itr	1.0	0.01	0.06	0.04	0.01	0.04	0.11
Imax	1.0	0.13	0.14	0.14	0.13	0.14	0.18
Itr	0.5ind	1.79	1.25	0.79	0.12	0.42	1.00
10Itr	0.5ind	1.53	1.02	0.61	0.18	0.38	0.89
Imax	0.5ind	1.55	1.08	0.66	0.18	0.47	0.98
Itr	0.8cap	0.57	0.34	0.23	0.17	0.18	0.21
10Itr	0.8cap	0.61	0.36	0.19	0.09	0.17	0.27
Imax	0.8cap	0.65	0.38	0.18	0.07	0.17	0.26

5. Annex of Variants

Product Variant Identification Details:

Type Designation **Description of meter**

7A*1-**-**-****-****-****-****

Accuracy
1 = Class B (Class 1)
2 = Class A (Class 2)

Series
1 = Extended config (MCU4618)

Current Range
A = 0.5-10(100)A
B = 0.25-5(100)A

Terminal O/P and Phase Curent Measurement
1 = ANNA 1 Element (1 CT for Main)
2 = ANNBA 2 Element (2 CTs for Main & Load)
3 = ACNNBA 2 Element Dual Load (2 CTs for Main & Load)
5 = ANNBA 1 Element (1 CT for Main & Load)
6 = ACNNBA 1 Element (1 CT for Main)*No measurement for additional load disconnect, Config#11*

Terminal Covers
1 = Standard Terminal Cover
4 = Terminal Cover for ETM9300/Intercel SAM

Button option
1 = Single Select Button (Clear Plastic)
2 = Select (Clear) + Second Button (Red-Plain)
3 = Select (Clear) + Second Button (Red-B)
4 = Select (Clear) + Second Button (Green-Plain)
5 = Select (Clear) + Second Button (Green-B)
6 = Select (Clear) + Second Button (Clear-Plain)
7 = Select (Clear) + Second Button (Clear-B)

Local Communications (Optical Port)
1 = IEC Flag
2 = ANSI C12.18 (standard)

Remote Communications (Modem Port)
0 = None
1 = RS232 with 1xRJ45 (Passive)
2 = RS232 with 1xRJ45 and Modem power supply
9 = RS232 with 1xRJ45 and Modem power supply + RS232 SCADA Port on **Pin 7 & 8**

EEPROM memory & MCU Option
A = 64kB
F = 16kB+2 1MB Byte Alterable
2 = 16kB+2 1MB SPI Flash (Numonyx)Different memory size and page size. New firmware v1.416 and above needed

Battery Options
0 = no battery fitted
2 = 950mAh internal battery

Internal Clock Options
1 = standard calibrated clock

LCD Display
1 = Standard LCD w/o backlight, $ sign
2 = Standard LCD w/o backlight, £ sign

Standard I/O Options
0 = None
1 = 1 x Passive Input
2 = 2 x Passive Inputs
3 = 1 x S0 Output
4 = 2 x S0 Outputs
5 = 1 x Passive Input, 1 x S0 Output
6 = 1 x Active Input
7 = 2 x Active Inputs
8 = 1 x Active Input, 1 x Passive Input
9 = 1 x Active Input, 1 x S0 Output
P = Payguard Interface I/O

Extended I/O Options
A = None
B = 1 x Passive Input
C = 2 x Passive Inputs
D = 1 x S0 Output
E = 2 x S0 Outputs
F = 1 x Relay Output (240V, 2A)
G = 1 x Active Input (12V)
H = 2 x Active Inputs (12V)
I = 1 x Passive Input, 1 x S0 Output
J = 1 x Active Input, 1 x S0 Output
K = 1 x Passive Input, 1 x Relay Output
L = 1 x S0 Output, 1 x Relay Output
M = 2 x Relay Output (240V, 2A)
N = 2 x BOSFET Output
O = 1 x BOSFET Output
P = 1 x S0 Output, 1 x BOSFET Output

Input Voltage Options
0 = None (for S0 and Active)
A = 240V (+/-10%) Passive
B = 110V (+/-30%) Passive
C = 048V (+/-30%) Passive
D = 012V (+/-30%) Passive
E = 005V (+/-30%) Passive

Pulsing LED Options
0 = No LED fitted
1 = 1 Pulsing LED
2 = 2 Pulsing LEDs

Disconnect Terminal Relay O/P option
0 = None
1 = 1 x Main Disconnect Relay (KG) (Config #2 or #8 Based on Element)
2 = 1 x Load Disconnect Relay (60A) (Config #3)
3 = 2 x Load Disconnect Relay (60A) (Config #4)
4 = 1 x Main Relay (KG), 1 x Load Relay (Config #5)
5 = 1 x Main Relay (KG), 1 x Load Relay (Config #6)
6 = 1 x Main Relay (KG), 1 x Load Relay (Config #9)
7 = 1 x Main Relay (KG), 1 x Load Relay (Config #10)
8 = 1 x Main Relay (KG), 1 x Load Relay (Config #11)
9 = 1 x Main Relay (KG), 1 x Load Relay (Config #12)

Magnetic Temper option
0 = No magnetic temper detection
1 = Magnetic temper detection

Open cover detection option
0 = None
1 = Terminal Cover detection

Neutral Current Measurement
0 = Without Neutral current measurement
1 = Neutral current Measurement

Modifications to the meter(s) described according to approval No.**0120/ SGS0035/R1** must be notified to the issuing body to confirm the meter(s) continuing compliance to the relevant pattern approval standard(s).

6. Document Revision History

Issue	Date	Comments
1	30/07/2019	Re approval initial issue

** End of Document **