



EC Type Examination Certificate Number: **0120/SGS0197**

Secure Meters (UK)Ltd

Secure House
Moorside Road
Winchester
SO23 7RX

Instrument Identification:
i Credit 510

Instrument Traceable Number
0120/SGS0197

Single Phase, Import/Export kWh, Credit, Smart, Static 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 27th August 2015 to 26th August 2025
Issue 1


Certification is based on report number(s) EMA207110/MID dated 26th August 2015

Authorised Signature

J. Saunders


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1. Technical Data

Manufacturer	Secure Meters (UK) Ltd
Meter Types	i-Credit 510 E1E101 & E1E102
Voltage Rating (<i>Un</i>)	230V
Current Rating (<i>I_{min}</i> – <i>I_{ref}</i> (<i>I_{max}</i>))	0.5-10(100)A 1-20(100)A
Frequency (<i>Fn</i>)	50Hz
Active Accuracy Class (<i>kWh</i>)	B(kWh)
Type of circuit	1p2w
Temperature Range	-40°C to +70°C
Software Version No.	50.00
Identification Location	LCD Display
Bill Of Materials No.'s	DCO29262
IP Rating	IP53
Insulation Protective Class	Class II
LED Pulse Constant	1000 imp/ 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)	BS

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2. Photograph of Meter and Sealing Arrangement

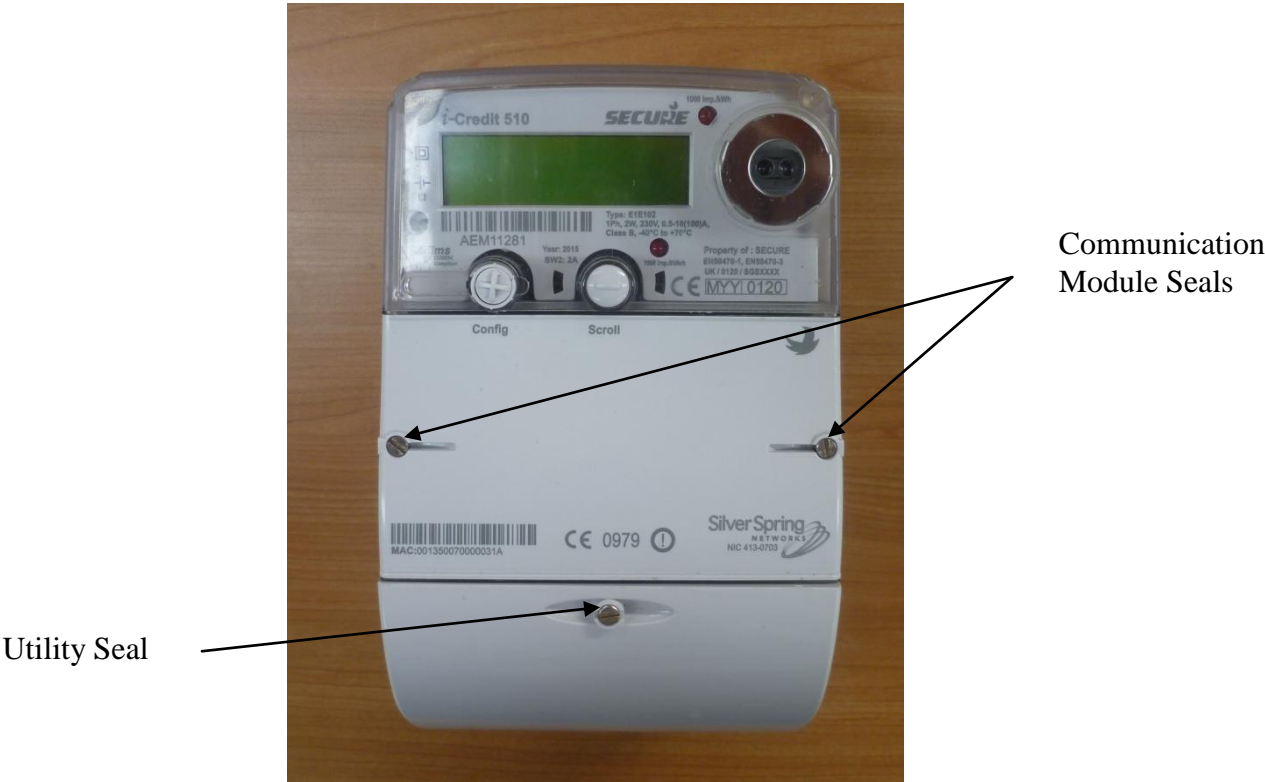
Main Cover
Seals




Main Cover
Seals



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3. Influence factors for temperature, frequency and voltage

		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
I _{min}	1.0	0.09	0.11	0.07	0.08	0.06	0.12	0.21	0.37
I _{tr}	1.0	0.06	0.09	0.09	0.05	0.09	0.15	0.24	0.34
10I _{tr}	1.0	0.04	0.05	0.06	0.04	0.09	0.14	0.27	0.39
I _{max}	1.0	0.05	0.06	0.07	0.05	0.10	0.16	0.26	0.40
I _{tr}	0.5ind	1.79	1.40	0.90	0.46	0.17	0.34	0.56	1.03
10I _{tr}	0.5ind	1.70	1.28	0.86	0.45	0.22	0.46	0.77	1.12
I _{max}	0.5ind	1.73	1.30	0.87	0.44	0.22	0.45	0.78	1.12
I _{tr}	0.8cap	0.71	0.47	0.30	0.17	0.08	0.08	0.09	0.10
10I _{tr}	0.8cap	0.70	0.47	0.28	0.15	0.04	0.03	0.04	0.10
I _{max}	0.8cap	0.72	0.48	0.29	0.15	0.03	0.02	0.03	0.09

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:-

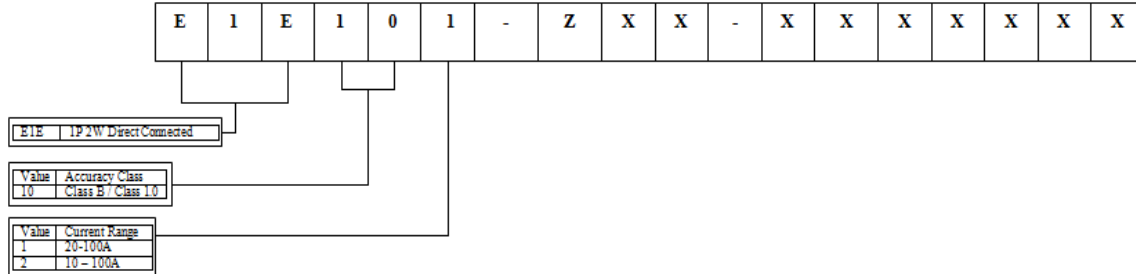
$$\delta e(T, U, f) = \sqrt{(\delta e^2(T, I, \cos\phi) + \delta e^2(U, I, \cos\phi) + \delta e^2(f, I, \cos\phi))}$$

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

4. Annex of Variants

Product Variant Identification Details:




1. Default features available

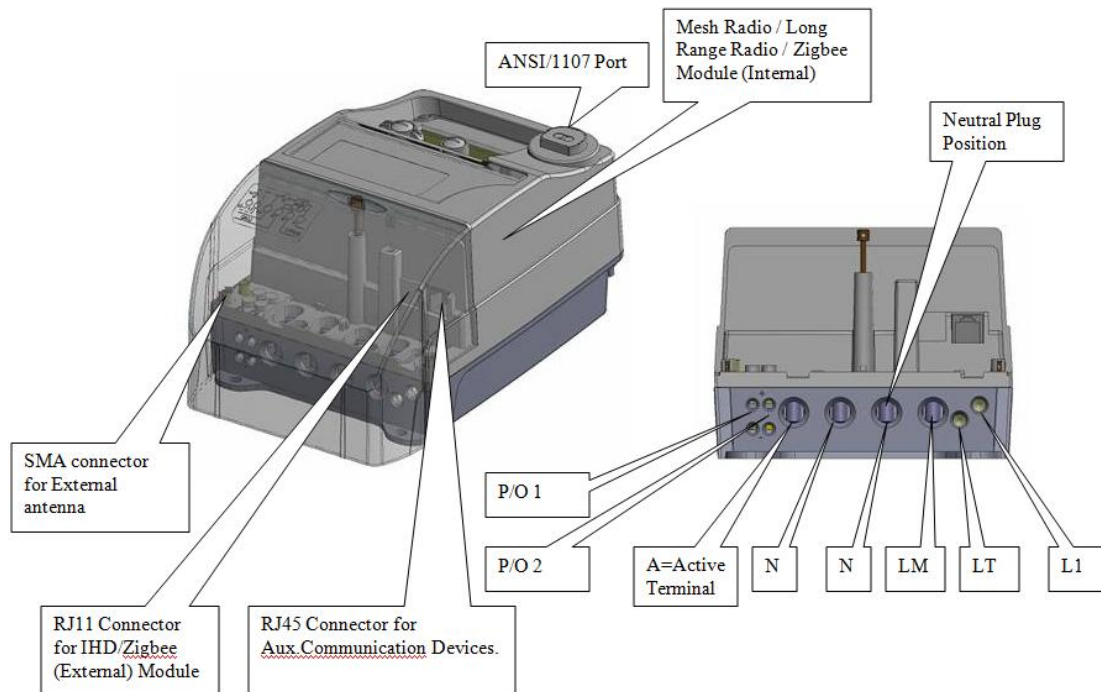
- 1 Phase, 1 / 2 Element-2 Wire
- Communication up to max 38.4 kbps
- Storage temperature +80°C; IP53 degree of protection.
- IP Link: Link Less
- Material of Various Parts
 - Front Cover: PC Transparent
 - ETBC: PC Transparent
 - Base: PC
 - Terminal Block: PC (GF)

Abbreviations:


- DLC-A: Distribution Line Communication in A Band ($f_c=86/75\text{KHz}$).
- DLC-C: Distribution Line Communication in C Band ($f_c=132/125\text{KHz}$).
- MR: Mesh Radio.
- GPRS: General Packet Radio Services.
- LM=Main Terminal.
- LT=Load Control
- L1=YT: Additional terminal on Load side for Hot water.
- Bank ~~NVM~~ is used for remotely firmware upgrading in field.

Parameter	Possible Options	ZXX-XXXXXX
No of Elements	1/2	CONFIGURABLE (1/2)
LT terminal	Yes / No	CONFIGURABLE (YES/NO)
Disconnect Switch	LM (Main Terminal) LT (Load Control) L1 (Terminal)	CONFIGURABLE (YES/NO)
LCD	/ digit	/ DIGIT
Supercap Backup for 7 days	NO	NO
NVM size	FLASH 96K/128K/256K/512K/1MB/2MB + NVM 64K	CONFIGURABLE
Pulse O/P (P1)	Output: 40Vdc/5mA/240Vad/2A	CONFIGURABLE (1X27mA, 27VDC, 2X27mA, 27VDC 1X2A, 230VAC, NO PULSE O/P)
Pulse O/P (P2)	Output: 40Vdc/5mA	
Aux. Communication ports	RS232 Port (RJ45) Baud Rate 38.4KBPs	YES
Optical Communication Port	RJ11 Port IHD/Zigbee	NO
Remote Communication modules	ANSI/IEC 1107 SSN MR/Flexnet MR/Long Range Radio/GPRS/DLC Integrated zigbee	CONFIGURABLE (ANSI/IEC 1107) CONFIGURABLE (SSN/GRIDNET) YES
ETBC open detection	Mains Mode/Battery Mode/NA	MAINS & BATTERY MODE
Cover open detection	Mains Mode/Battery Mode/NA	MAINS & BATTERY MODE
Neutral measurement	YES/NO	CONFIGURABLE (YES/NO)
Neutral plug	YES/NO	NO
Backlit	YES/NO	CONFIGURABLE (YES/NO)
Arm LED for Push Button	YES/NO	CONFIGURABLE (YES/NO)
ETBC option	35mm/50mm	CONFIGURABLE (35mm/50mm)
Long Mounting arrangement for M1 or BAZ meters replacement	YES/NO	CONFIGURABLE (YES/NO)
Terminal Screw	Grub / Pozidrive	CONFIGURABLE (Flathead / Pozidrive)
Super cap for last gasp	YES/NO	CONFIGURABLE (YES/NO)
Modular design for NTC	Yes/No	YES
Magnet Sensing	Yes/No	NO
Nominal Voltage	240V/230V	CONFIGURABLE (240V/230V)

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Modifications to the meter(s) described according to approval No.**0120/ SGS0197** 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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5. Document Revision History

Issue	Date	Comments
1	27/08/2015	Initial Issue