

# The Tiny – Technical Details

## Single Phase kWh Electricity Meter



**Order Code** SC100

### Voltage

Nominal Voltage Un 220-240V,  
120V  
Voltage Range 80-  
115%Un  
Voltage Withstand 415V  
Continuous

### Frequency

Nominal Frequency 50/60Hz  
Frequency Variation +/-  
2%

### IEC-Specific Data

#### Current

Base Current  
Direct Connection I<sub>b</sub> 5, 10, 15,  
20A  
Current Max  
I<sub>max</sub> 40, 60, 80,  
100A  
Starting Current  
IEC  
0.004I<sub>b</sub>

#### Measurement Accuracy

Max Measuring Range 20mA up to  
100A  
Measuring Accuracy  
Class 1 or 2 IEC 62053-21  
Class 2 or 3 IEC 62053-23

#### Measurement Behaviour

Starting Current  
IEC 0.4% of I<sub>b</sub>  
Max Measuring range  
to 100A 20mA up

#### Power Consumption

Voltage Circuit  
<5W

<25VA

Current Circuit

<4VA

### Environmental Influences

Temperature Test

IEC62053-21

IEC62053-23

Temperature Range

Operation -10 C

to +45 C

Power Measurement Range -25 C

to +55 C

Storage -25 C

to +70 C

This Complies with EN 62052-11:2003  
section 6.1

### Temperature Coefficient

Range From -10 C

to +45 C

Typical mean value

±0.015% per K

IEC 62053-21

cosφ =1 (from 0.1 I<sub>b</sub> to I<sub>max</sub>) ±0.05%

per K

cosφ =0.5 (from 0.2 I<sub>b</sub> to I<sub>max</sub>) ±0.06%

per K

IEC 62053-23

sin =1 (from 0.1 I<sub>b</sub> to I<sub>max</sub>) ±0.10%

per K

sin =0.5 (from 0.2 I<sub>b</sub> to I<sub>max</sub>) ±0.15%

per K

Impermeability to IEC 60529

IP51

### Shock Test

BS

EN60068-2-27

### Electromagnetic Compatibility

Electrostatic Discharges to IEC

610000-4-2

Contact Discharges

8kV

Air Discharges

15kW

Electromagnetic RF Fields to IEC

610000-4-3

80 MHz to 2 GHz at least

10V/m

Radio Interference suppression to

IEC/CISPR 22 Class B

Fast Transient Burst Test to IEC

610000-4-4

With basic current I<sub>b</sub>:

**meters uk Ltd**

Utility Meter Manufacturers

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## Single Phase kWh Electricity Meter

For current and voltage circuits  
4kV  
For auxiliary circuits >40V  
4kV  
With open current circuit  
for voltage and current circuits  
4kV  
Fast Transient Surge Test to IEC  
61000-4-5  
Impulse Voltage  
4kV  
Impedence of source  
2Ω  
Rise/Decay time of impulse voltage  
1.2μs/50μs  
Rise/Decay time of impulse voltage  
8μs/50μs

### Approvals

Quality Manufactured to ISO  
9001:1994  
OFGEM Approval Number  
986  
Certified Life  
20 years  
Reference Standards IEC 62052-11, IEC  
62053-21, IEC  
62053-23 **Insulation Strength**  
Insulation Strength 4.4kV at 50Hz  
for 80

seconds  
Impulse Voltage Strength to  
IEC62053-11  
Impulse Voltage 6kV  
Impedence of source 500Ω  
Rise/Decay time of impulse voltage 1.2μs  
/50μs  
Protection Class II to IEC626050-131 2

### Display

Characteristics  
Type 7 character,  
7 segment LCD  
Digit Size 8x3.5mm  
Number of Digits 6 significant  
numbers 2dp

### Operating Behaviour\*\*

Voltage Interruptions (Power Down)  
Blocking of inputs and outputs  
Immediate  
Standby Operation for 0.15s  
Data Storage after 0.15s  
Switch Off after approx 0.15s

Voltage Restoration (Power Up)

Function Standby  
<5s  
(depending on duration of failure)  
Detection of energy direction and phase  
voltage <5s

### Power Supply Quality

The meter complies with EN63052-11  
Section 7.1.1.  
Voltage range and 7.1.2 Voltage dips and  
short interruptions

### Case Material

Base, Top Cover and Terminal Cover  
Flame retardant and UV stabilised  
polycarbonate

### Weight and Dimensions

Weight 304g

### Dimensions

Width 125mm  
Height 80mm  
Depth 36mm

### Terminal Details

Arrangement  
BS5685  
Size 8.3mm diameter

### Connections

Standard Layout and Dimensions

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