EASTRON® EUROPE

Innovation, Quality and Competitive edge

Standard and Wireless Metering

Designed and certified in the United Kingdom.

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Introduction

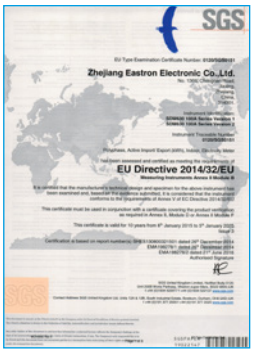
We design, manufacturers and stock a wide range of power and monitoring solutions, from a complete range of DIN rail mounted meters, panel mounted solutions, multi circuit systems, current transformers, AMR (Automatic Meter Reader), data logging and software interfaces.

Our Mission

Our aim is to continue to develop and supply solutions that use the latest technology and offer benefits and features to the installers as well las the end client. 95% of our product range is fully MID certified and tested by a UK notified body, we also ensure that we comply with all the UK and EU regulatory standards. Our product facility is audited annually by the notified body and operates a comprehensive resource planning and manufacturing execution systems. Giving full traceability and quality control on all our products.

To Create Value and Build Relationships with Our Partners". We strive to help our customer gain commercial advantage by consistently providing competitively-priced, high-quality products together with the best possible technical support. Moreover, we pride ourselves on focusing not only our customer's short-term requirements but also on the long-term needs of the marketplace. This drives us to give the best customer service within the industry and targets complete customer satisfaction

Our Certificates and Accreditations



For more information on these products, please contact our sales team on 0203 758 3494 or email sales@eastroneurope.com

www.eastroneurope.com

Din Rail Mounted / Single Phase / (45A) SDM120 series

- **Single Phase 45A Direct Fed**
- **MID B+D Certified**
- **Accuracy Class 1 (Active Energy)**
- **Bi-directional Measurement for kW and kWh**
- **Configurable Pulsed output (Import/ Export / Nett kWh)**
- **Modbus (SDM120Modbus) or Mbus (SDM120Mbus)**
- **Multi Parameter measurement**
- **Free Configuration Software**

The SDM120 Series is an advanced multifunction single phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with scroll display button for ease of navigation through the various parameters. Housed for DIN rail mounting, IP51 protection and current transformer operated 1/5A. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0141.

Specification table

Specification	
Nominal voltage(Un)	120V or 230V ac
Operational voltage	80%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Basic current (Ib)	5A
Maximum rated current (Imax)	45A
Operational current range	0.4% Ib-Imax
Over current withstand	30 Imax for 0.01s
Operational frequency range	50 / 60Hz
Internal power consumption	≤ 2W/10VA
Pulse output	1000imp/kWh
Display	LCD with backlight
Max reading	999999 kWh

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3
Accuracy class	Class1/Class B
Installation category	CAT II
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Altitude	up to 2000m
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV
Surge	4kV
Radiated & conducted emissions	EN 55022

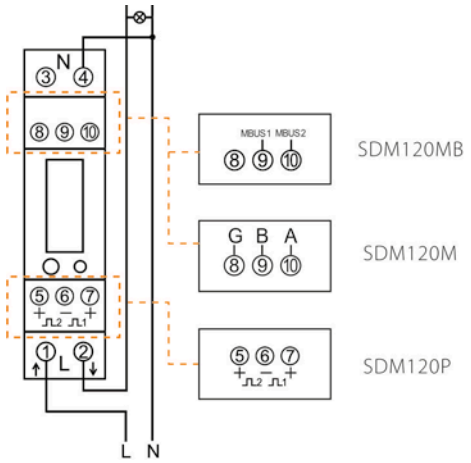
Accuracy	
Voltage,Current	0·5%
Frequency	0·2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

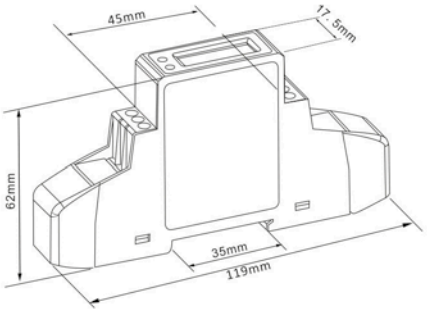
M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

Pulse output	
Pulse outputs	2
Pulse output type	Passive
Pulse Output 1	Configurable
Pulse width	200/100(default)/60ms
Pulse output 2	1000imp/kWh

Wiring Configuration



Dimension Drawing



Height	119mm
Width	17.5mm
Depth	62mm

Ordering options

Meter Type	Description of Meter
SDM120-Modbus	Single phase 2 wire, 120V or 230V AC, 0.25~5(45)A, 50/60Hz, backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage (V), current (A), power factor, demand and frequency etc.
SDM120-Mbus	Single phase 2 wire, 120V or 230V AC, 0.25~5(45)A, 50/60Hz, backlighted LCD display, 2 Pulse outputs, M-bus EN13757-3 communication. Measures active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage (V), current (A), power factor, demand and frequency etc.
SDM120-Pulse	Single phase 2 wire, 120V or 230V AC, 0.25~5(45)A, 50/60Hz, backlighted LCD display, 2 Pulse outputs. Measures active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage (V), current (A), power factor, demand and frequency etc.

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

Din Rail Mounted / Single Phase /(CT) SDM120 Series

- **Single Phase 5A Current Transformer operated**
- **MID B+D Certified**
- **Accuracy Class 1 (Active Energy)**
- **Bi-directional Measurement for kW and kWh**
- **Configurable Pulsed output (Import/ Export / Nett kWh)**
- **Modbus (SDM120CTModbus) or Mbus (SDM120CTMbus)**
- **Multi Parameter measurement**
- **Free Configuration Software**

The SDM120 Series is an advanced multifunction single phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with scroll display button for ease of navigation through the various parameters. Housed for DIN rail mounting, IP51 protection and current transformer operated 1/5A. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0141.

Specification table

Specification	
Nominal voltage(Un)	120V or 230V ac
Operational voltage	80%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Primary current	5~9999A
Secondary input	1/5A AC Input
Over current withstand	20 Imax for 0.01s
Operational frequency range	50 or 60Hz
Internal power consumption	≤ 2W/10VA
Pulse output 1	configurable
Pulse output 2	1000imp/kWh
Display	LCD with backlight
Max reading	999999 kWh

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3
Accuracy class	Class1/Class B
Installation category	CAT II
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Altitude	up to 2000m
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV
Surge	4kV
Radiated & conducted emissions	EN 55022

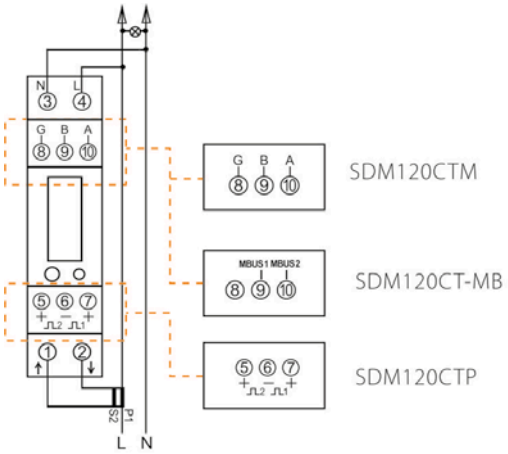
Accuracy	
Voltage,Current	0·5%
Frequency	0·2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

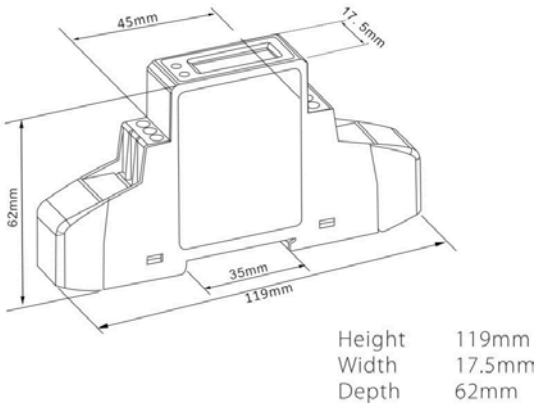
M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

Pulse output	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

Wiring Configuration



Dimension Drawing



Height	119mm
Width	17.5mm
Depth	62mm

Ordering options

Meter Type	Description of Meter
SDM120CT-Modbus	Single phase 2 wire, 120V or 230V AC, CT operated, 50/60Hz.Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage (V), current (A), power factor, demand and frequency etc.
SDM120CT-Mbus	Single phase 2 wire,120V or 230V AC, CT operated, 50/60Hz.Backlighted LCD display,2 Pulse outputs,M-bus EN13757-3 communication. Measures active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage(V), current(A), power factor,demand and frequency etc.
SDM120CT-Pulse	Single phase 2 wire,120V or 230V AC, CT operated, 50/60Hz.Backlighted LCD display,2 Pulse outputs. Measures active energy (kWh), reactive energy (kVarh), active power (W), reactive power (Var), apparent power (VA), voltage(V), current(A), power factor,demand and frequency etc.

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

DIN Rail Mounted / Single Phase / (100A) SDM230 Series

- **Single Phase 100A Direct Fed**
- **MID B+D Certified**
- **Accuracy Class 1 (Active Energy)**
- **Bi-directional Measurement for kW and kWh (SDM230BI)**
- **Fixed Pulsed output (1000imp/kWh)**
- **Active Energy and Power Measurement**
- **Low cost**

The SDM230DR/BI is an entry level single-phase energy monitoring solution with a fixed pulsed output. This product will only measure and display total active energy (kWh) and Power (Watts) with Optional partial reset energy (SDM230DR) Or the (SDM230BI) Bi-directional version which will read Import/Export and Total Active Energy (kWh).Housed for DIN rail mounting, IP51 protection and direct connection up to 100A. Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0206.

Specification table

Specification	
Nominal voltage(Un)	120V or 230V ac
Operational voltage	80%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Basic current (Ib)	10A
Maximum rated current (Imax)	100A
Operational current range	0.4% Ib-Imax
Over current withstand	30 Imax for 0.01s
Operational frequency range	50 or 60Hz
Internal power consumption	≤ 2W/10VA
Pulse output 1	1000imp/kWh
Pulse output 2	1000imp/kWh(only for SDM230DR/Bi)
Max reading	999999.9 kWh

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3
Accuracy class	Class1/Class B
Installation category	CAT II
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV
Surge	4kV
Radiated & conducted emissions	EN 55022
Radiated & conducted emissions	EN 55022

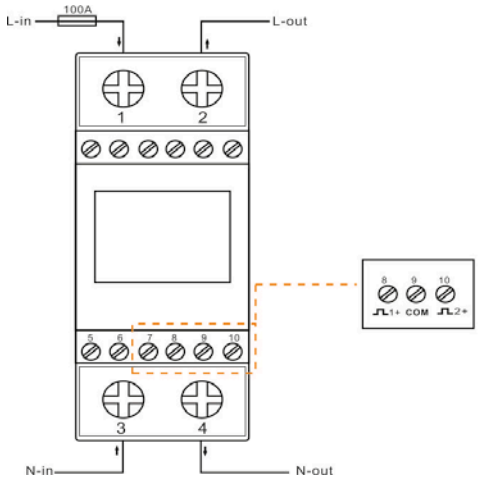
Accuracy	
Voltage,Current	0·5%
Frequency	0·2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE

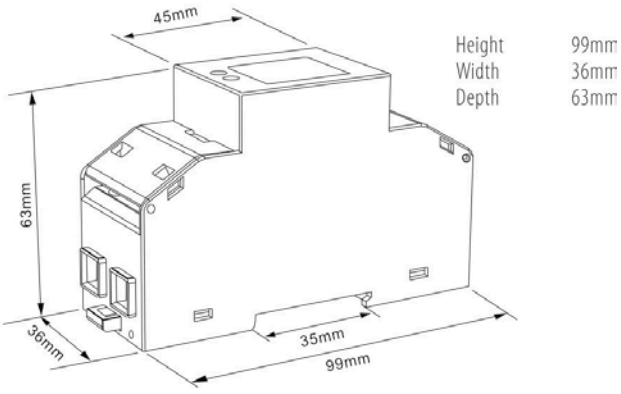
M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

Pulse output	
Pulse outputs	2
Pulse output type	Passive
Pulse Output 1	Configurable
Pulse width	200/100(default)/60ms
Pulse output 2	1000imp/kWh

Wiring Configuration



Dimension Drawing



Ordering options

Meter Type	Description of Meter
SDM230-DR	Single Phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz Backlighted LCD display, 2 Pulse outputs, measures total active energy
SDM230-BI	Single Phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz Backlighted LCD display, 2 Pulse outputs, Bi-directional measurement IMP & EXP Energy and Power

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

DIN Rail Mounted / Single Phase / (100A) SDM230 M Series

- **Single Phase 100A Direct Fed**
- **MID B+D Certified**
- **UL Registered**
- **Accuracy Class 0.5 (Active Energy)**
- **Bi-directional Measurement for kW and kWh**
- **Configurable Pulsed output (Import/ Export / Nett kWh)**
- **Modbus (SDM230Modbus) or Mbus (SDM230Mbus)**
- **Multi Parameter measurement**
- **Multi-Tariff**
- **Free Configuration software**

The SDM230 series is an advanced multifunction single-phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with configuration and display buttons for ease of navigation through the various parameters and settings. Housed for DIN rail mounting, IP51 protection and direct connection up to 100A. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0206.

Specification table

Specification	
Nominal voltage(Un)	120V or 230V ac
Operational voltage	80%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Basic current (Ib)	10A
Maximum rated current (Imax)	100A
Operational current range	0.4% Ib-Imax
Over current withstand	30 Imax for 0.01s
Operational frequency range	50 or 60Hz
Internal power consumption	≤ 2W/10VA
Pulse output 1	1000imp/kWh
Pulse output 2	1000imp/kWh(only for SDM230DR/Bi)
Max reading	999999.9 kWh

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3
Accuracy class	Class1/Class B
Installation category	CAT II
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV
Surge	4kV
Radiated & conducted emissions	EN 55022
Radiated & conducted emissions	EN 55022

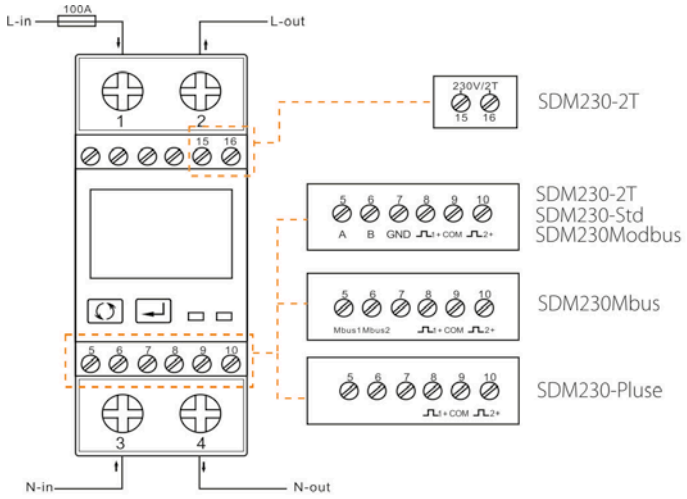
Accuracy	
Voltage,Current	0·5%
Frequency	0·2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE

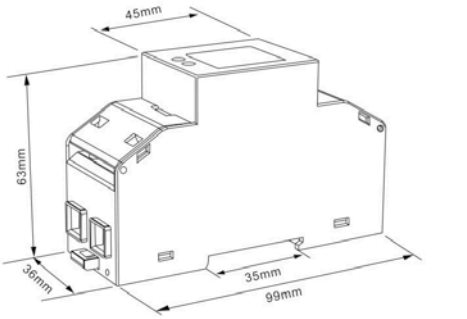
M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

Pulse output	
Pulse outputs	2
Pulse output type	Passive
Pulse Output 1	Configurable
Pulse width	200/100(default)/60ms
Pulse output 2	1000imp/kWh

Wiring Configuration



Dimension Drawing



Height	99mm
Width	36mm
Depth	63mm

Ordering options

Meter Type	Description of Meter
SDM230-Modbus	Single phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
SDM230-Mbus	Single phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz. Backlighted LCD display, 2 Pulse outputs, M-bus EN13757-3 communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
SDM230-2T	Single phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz. Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication, Multi-tariffs Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
SDM230-Std	Single phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz.Backlighted LCD display, 2 Pulse outputs, RS485 Modbus communication. Measures total kWh,Imp_kWh, Exp_kWh etc.
SDM230-Pulse	Single phase 2 wire, 230V AC, 0.5~10(100)A , 50/60Hz Backlighted LCD display, 2 Pulse outputs Measures kWh, kVarh, W, Var, VA, V, A, PF, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

DIN Rail Mounted / Three Phase / (100A) SDM72 Series

- **Three Phase 100A Direct Fed**
- **MID B+D Certified**
- **Accuracy Class 1 (Active Energy)**
- **Bi-directional Measurement for kW and kWh (SDM72BI)**
- **Fixed Pulsed output**
- **RS485 Modbus option (SDM72D-M)**
- **Active Energy and Power Measurement**
- **Resettable energy counter**
- **Low cost**

The SDM72DR/BI is a entry level three-phase energy monitoring solution with a fixed pulsed output or RS485 RTU Modbus (SDM72D-M) This product will only measure and display total active energy (kWh) and Power (Watts) with optional partial reset energy (SDM72DR) Or the Bi-directional version which will read Import/Export and Total Active Energy (kWh) (SDM72BI).Housed for DIN rail mounting, IP51 protection and direct connection up to 100A. Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0213

Specification table

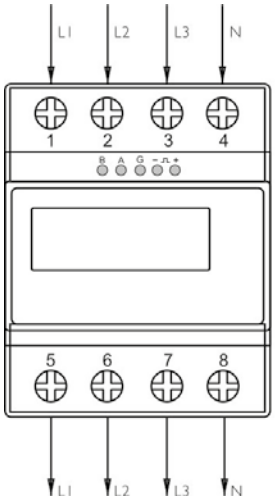
Specification	
Model	SDM72D/BR/BI
Nominal voltage(Un)	3x230/400 V ac
Operational voltage	80%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Basic current (Ib)	10A
Maximum rated current (Imax)	100A
Operational current range	0.4% Ib-Imax
Over current withstand	30 Imax for 0.01s
Operational frequency range	50 or 60Hz
Power consumption per phase	≤ 2W/10VA
Pulse output	1000imp/kWh
Display	LCD
Max reading	999999.9 kWh

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3

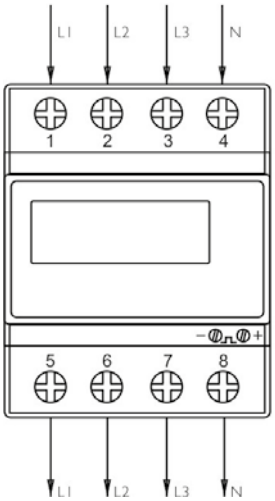
Accuracy class	Class1/Class B
Installation category	CAT III
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Altitude	up to 2000m
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV
Surge	4kV
Radiated & conducted emissions	EN 55022

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

Wiring Configuration



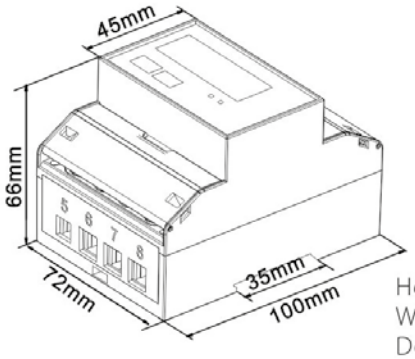
SDM72D-M



SDM72DR

SDM72BI

Dimension Drawing



Height	100mm
Width	72mm
Depth	66mm

Ordering options

Meter Type	Description of Meter
SDM72DR	3PH, 3X230(400)V,0.5~10(100)A,50/60Hz, Active energy (kWh) + active power (W)Resettable partial energy, Pulse output, 100A direct load, Class 1.0 Accuracy, 72mm 4 module width, Din rail mounting, Class 1.0 accuracy
SDM72BI	3PH, 3X230(400)V,0.5~10(100)A,50/60Hz, Active energy (kWh) + active power (W), Bi-directional measurement (Import & export), Pulse output, 100A direct load, Class 1.0 Accuracy, 72mm 4 module width, Din rail mounting, Class 1.0 accuracy
SDM72D-M	2P3W, 3P4W , Measures active energy & power Bi-directional measurement IMP& EXP Resettable partial energy Pulse output RS485 Modbus RTU Max.100A direct connection, Accuracy better then class 1/B

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

DIN Rail Mounted / Three Phase/ (100A) SDM630 Series

- **Three Phase 100A Direct Fed**
- **MID B+D Certified**
- **UL Registered**
- **Accuracy Class 0.5 (Active Energy)**
- **Bi-directional Measurement for kW and kWh**
- **Configurable Pulsed output (Import/ Export / Nett kWh)**
- **Modbus (SDM630Modbus) or Mbus (SDM630Mbus)**
- **Multi Parameter measurement**
- **Multi-Tariff**
- **Free Configuration software**

The SDM630 series is an advanced multifunction three-phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with configuration and display buttons for ease of navigation through the various parameters and settings. Housed for DIN rail mounting, IP51 protection and direct connection up to 100A. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0151

Specification table

Specification	
Nominal voltage(Un)	3x230/400 V ac
Operational voltage	80%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Basic current (Ib)	10A
Maximum rated current (Imax)	100A as per page 11
Operational current range	0.4% Ib-Imax
Over current withstand	30 Imax for 0.01s
Operational frequency range	50 or 60Hz
Power consumption per phase	≤ 2W/10VA
Display	LCD

Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3
Accuracy class	Class1/Class B
Installation category	CAT III
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV

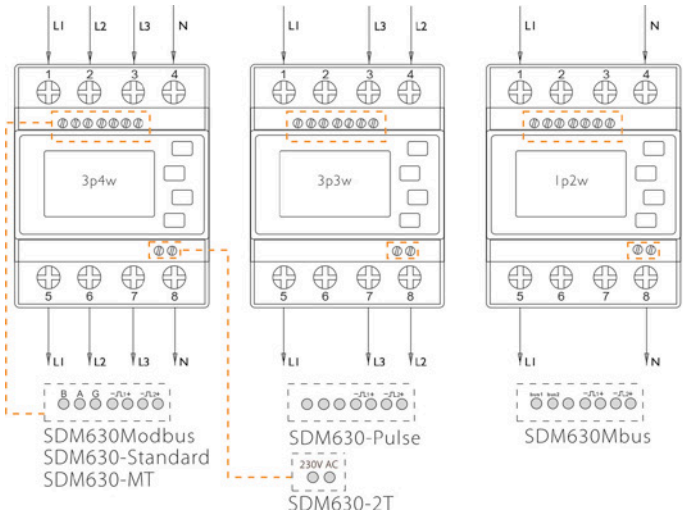
Multi-tariff	
time clock accuracy	<1s/day
Tariff	4
Time segments	10

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	2400/4800/9600/19200/38400bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

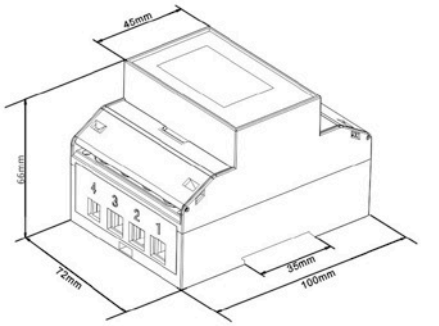
M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

Pulse output	
Pulse outputs	2
Pulse output type	Passive
Pulse Output 1	Configurable
Pulse width	200/100(default)/60ms
Pulse output 2	400imp/kWh

Wiring Configuration



Dimension Drawing



Height 100mm
Width 72mm
Depth 66mm

Ordering options

Meter Type	Description of Meter
SDM630-Modbus	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
SDM630-Mbus	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, M-Bus EN13757-3 communication. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
SDM630-MT	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU, multi-tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc
SDM630-Std	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, Imp_kWh, Exp_kWh etc.
SDM630-Pulse	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 0.5~10(100)A, 50/60Hz, backlighted LCD display, 2 pulse outputs. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

DIN Rail Mounted / Three Phase / (CT) SDM72CT Series

- **Three Phase 1/5A Current Transformer operated**
- **MID B+D Certified**
- **Accuracy Class 1 (Active Energy)**
- **Bi-directional Measurement for kW and kWh**
- **Fixed Pulsed Output**
- **RS485 Modbus Option SDM72CT**
- **Active Energy and Power Measurement**
- **Resettable energy counter**
- **Low Cost**

The SDM72CT-DR/BI is an entry level three-phase energy monitoring solution with a fixed pulsed output or RS485 RTU Modbus (SDM72CT-M) This product will only measure and display total active energy (kWh) and Power (Watts) with Optional partial reset energy (SDM72CT-DR) Or the Bi-directional version which will read Import/Export and Total Active Energy (kWh) (SDM72CT-BI).Housed for DIN rail mounting, IP51 protection and 1/5A current transformer operated. Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0213.

Specification table

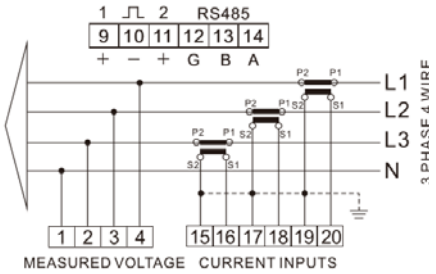
Specification	
Model	72CT-D/DR/BI
Nominal voltage(Un)	3x230/400 V ac
Operational voltage	80%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Basic current (Ib)	5A
Maximum rated current (Imax)	6A
Operational current range	0.4% Ib-Imax
Over current withstand	20 Imax for 0.01s
Operational frequency range	50 or 60Hz
Power consumption per phase	≤ 2W/10VA
Pulse output	1000imp/kWh
Display	LCD
Max reading	999999.9 kWh

Performance criteria	
Operating humidity	≤90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3

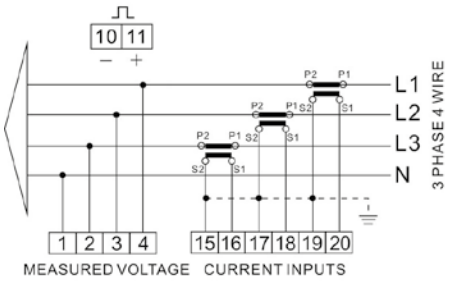
Accuracy class	Class1/Class B
Installation category	CAT III
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Electrostatic discharges	8kV contact / 15kV air gap
Electromagnetic HF fields	IEC 61000-4-3
Electrical fast transients	4kV
Surge	4kV
Radiated & conducted emissions	EN 55022

Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	1200/2400/4800/9600bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

Wiring Configuration



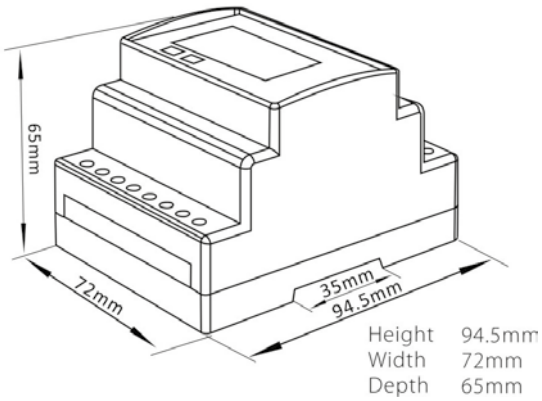
SDM72CT-M



SDM72CT-DR

SDM72CT-BI

Dimension Drawing



Ordering options

Meter Type	Description of Meter
SDM72CT-DR	3P4W, 3X230(400)V, Active energy (kWh) + active power (W)Resettable partial energy, Pulse output, Class 1.0 Accuracy, 72mm 4 module width, Din rail mounting, 1A/5A CT operated, Class 1.0 accuracy.
SDM72CT-BI	3P4W, 3X230(400)V , Active energy (kWh) + active power (W), Bi-directional measurement (Import & export), Pulse output, Class 1.0 Accuracy, 72mm 4 module width, Din rail mounting, 1A/5A CT operated, Class 1.0 accuracy.
SDM72CT-M	2P3W, 3P4W , 3X230(400)V, Measures active energy & power Bi-directional measurement IMP& EXP Resettable partial energy Pulse output RS485 Modbus RTU, 1A/5A CT operated, Accuracy better then class 1/B.

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

DIN Rail Mounted / Three Phase / (CT) SDM630MCT Series

- **Three Phase 1/5A Current Transformer operated**
- **MID B+D Certified**
- **UL Registered**
- **Accuracy Class 0.5 (Active Energy)**
- **Bi-directional Measurement for kW and kWh**
- **Configurable Pulsed output (Import/ Export / Nett kWh)**
- **Modbus (SDM630MCT) or Mbus (SDM630MCT-Mbus)**
- **Multi Parameter measurement**
- **Multi-Tariff**
- **0.333mV Current Transformer input option (NON MID)**
- **Free Configuration software**

The SDM630MCT series is an advanced multifunction three-phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with configuration and display buttons for ease of navigation through the various parameters and settings. Housed for DIN rail mounting, IP51 protection and 1/5A current transformer operated. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0142

Specification table

Specification	
Nominal voltage(Un)	3x230/400 V ac
Operational voltage	60%~120% of Un
Insulation capabilities	
- AC voltage withstand	4KV for 1 minute
- Impulse voltage withstand	6KV-1.2μS
Rated current (Ib)	5A CT or 333mV CT input
Operational current range	0.4% Ib-Imax
Over current withstand	20 Imax for 0.01s
Operational frequency range	50 or 60Hz
Power consumption per phase	≤ 2W/10VA
Pulse output 1	Configurable
Pulse output 2	3200 imp/kWh
Display	LCD
Max reading	9999999.9 kWh/kVarh

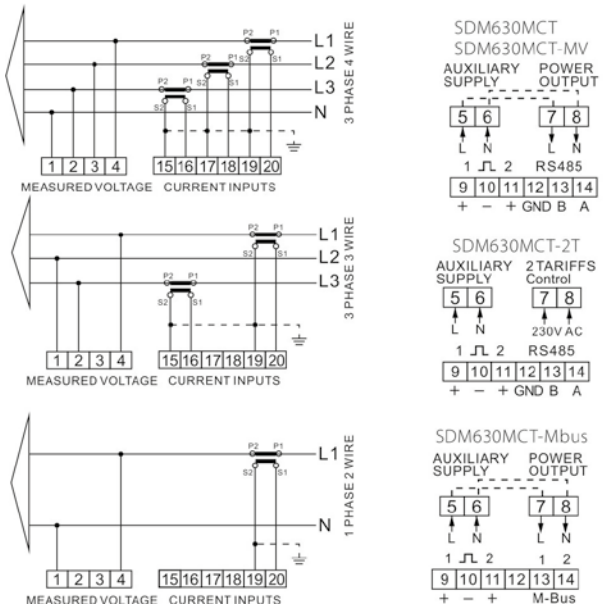
Performance criteria	
Operating humidity	≤ 90%
Storage humidity	≤ 95%
Operating temperature	-25°C - +55°C
Storage temperature	-40°C - +70°C
Reference temperature	23°C± 2°C
International standard	IEC 62053-21 / EN50470-1/3
Accuracy class	Class1/Class B
Installation category	CAT III
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Electrostatic discharges	8kV contact / 15kV air gap
Radiated & conducted emissions	EN 55022

Accuracy	
Voltage,Current	0·5%
Frequency	0·2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1

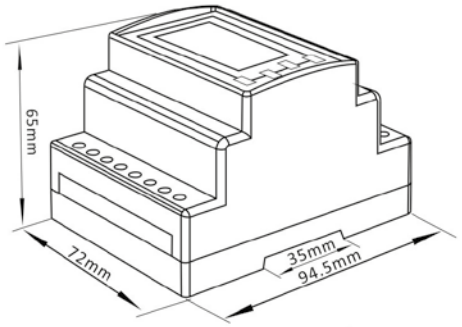
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	2400/4800/9600/19200/38400bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

M-bus	
Bus type	M-bus
Protocol	EN13757-3
Baud rate	300/600/1200/2400/4800/9600
Parity	NONE/EVEN/ODD
Stop bits	1 or 2
Primary Address	1 to 250
Secondary Address	00 00 00 01 to 99 99 99 99

Wiring Configuration



Dimension Drawing



Height 94.5mm
Width 72mm
Depth 65mm

Ordering options

Meter Type	Description of Meter
SDM630MCT-Modbus	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 1A or 5A CT input, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.
SDM630MCT-Mbus	3PH-4W, 3PH-3W, 1PH-2W,, 3x230(400)V, 1A or 5A CT input, 50/60Hz, backlighted LCD display, 2 pulse outputs, M-Bus EN13757-3. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc
SDM630MCT-2T	3PH-4W, 3PH-3W, 1PH-2W,, 3x230(400)V, 1A or 5A CT input, 50/60Hz, backlighted LCD display, 2 pulse outputs, Rs485 Modbus RTU, 2 Tariffs. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp kWh, Exp_kWh etc.
SDM630MCT-MV	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 333mV CT input, 50/60Hz, backlighted LCD display, 2 pulse outputs, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

Panel Mounted / Three Phase / CT Operated -SMART X96 Series

- **Three Phase 1/5A Current Transformer operated**
- **MID B+D Certified**
- **UL Registered**
- **Accuracy Class 0.5 (Active Energy)**
- **Bi-directional Measurement for kW and kWh**
- **Configurable Pulsed output (Import/ Export / Nett kWh)**
- **Modbus (SMART X96-5) or Mbus (SMART X96-5-Mbus)**
- **Multi Parameter measurement**
- **Phase Sequence indication**
- **Phase Summary Page**
- **2nd~63rd Individual Harmonic Distortion**
- **Internal three phase supply**
- **Multi-Tariff**
- **Free Configuration software**

The SMART X96 series is an advanced multifunction three-phase energy monitoring solution with optional outputs such as Pulsed, RS485 RTU Modbus and Mbus. Equipped with configuration and display buttons for ease of navigation through the various parameters and settings. Housed for 96mm panel mounting, IP51 protection and 1/5A current transformer operated. Selectable measurement modes using our free configurations software for kWh display, Total kWh (Import + Export), Import kWh and Net kWh (Export - Import) Certified in the UK according to EU Directive 2014/32/EU. MID Certificate number 0120 / SGS0288.

Specification table

Input	
Nominal input voltage	100-276V AC (L-N) 173-480V AC(L-L)
Max. continuous input overload voltage	120% of nominal
Max. short duration input voltage	2 x nominal voltage for 1 second
Nominal input voltage burden	< 0.2VA per phase
Nominal input current	1/5A
Nom. Input current burden	< 0.1 VA
Max. continuous input overload current	120% of nominal
Max. short duration input current	20 x nominal current for 1 second

Power supply	
Operating range	Self powered (from any of the three phases)
Supply burden	< 2W / 10 VA

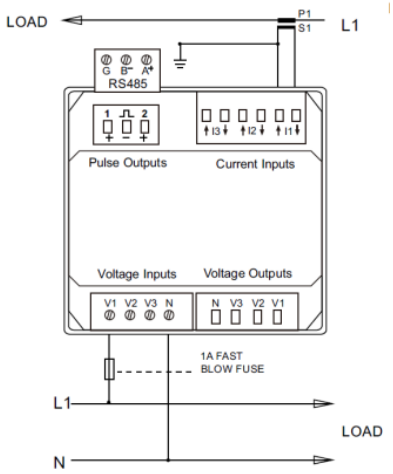
Accuracy	
Voltage (V)	0.5% of range maximum
Current (A)	0.5% of range maximum
Frequency (Hz)	0.2% of mid-frequency
Power factor (PF)	1% of unity (0.01)
Active power (W)	1.0% of range maximum
Reactive power (VAr)	1.0% of range maximum
Apparent power (VA)	1.0% of range maximum
Active energy (kWh)	Class 0.5S IEC62053-22 Class 1.0 IEC62053-21
Reactive energy (kVArh)	1.0% of range maximum to IEC 62053-24
THD	2% to 63rd harmonic

Environment	
Operating temperature	- 25˚C to +55˚C
Storage temperature	-40˚C to +70˚C
Relative humidity	0 to 95%, non-condensing
Shock	30g in 3 planes
Vibration	10Hz to 50Hz, IEC 60068-2-6, 2g
Dielectric Voltage	4kV between voltage and current to earth
Altitude	3000m
Warm-up	1 minute

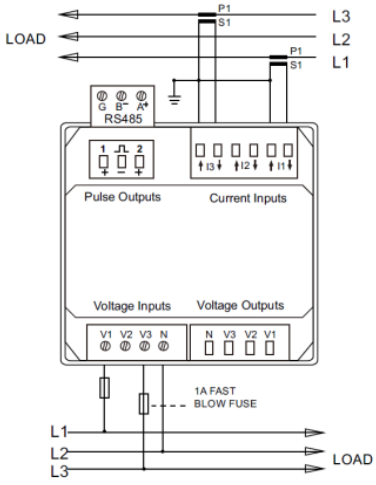
Outputs	
Pulsed output relay (configurable)	Opto-coupled, potential-free SPST-NO contact
Contact Rating current	2-27mA at 27V DC
Contact Rating voltage	5-27V DC
Pulse Width	60 / 100 / 200 ms
Pulse rate of S0 1	0.01 / 0.1 / 1 / 10 / 100 kWh/kVArh
Pulsed output of S0 2 (non-configurable)	3200IMP/kWh
Communications	Modbus RTU (RS485)
Type	2-wire half duplex
Baud rate	2400,4800, 9600, 19200, 38400
Address	1 to 247

Enclosure	
Enclosure Style	DIN 96 panel mount
Dimensions	96x96x62 mm
Panel cut-out	92x92mm
Panel thickness	1-2 mm
Protection rating	Ip51 (Indoor)
Material	UL 94-V0
Weight	340 g
Cable size	0.05mm-4mm stranded wire
Terminals	Voltage: Shrouded screw-clamp. Current: RJ12

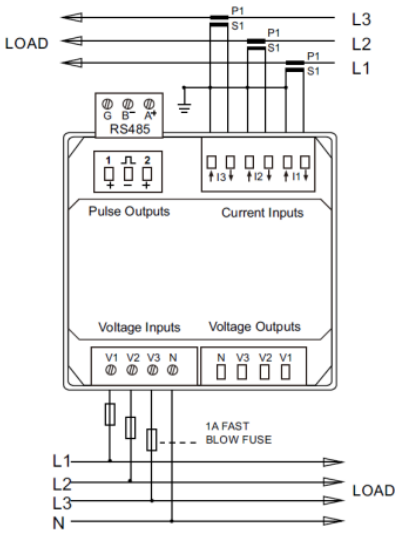
Wiring Configuration



Single phase two wires
(No Voltage Output on SMART X96-5E Model)

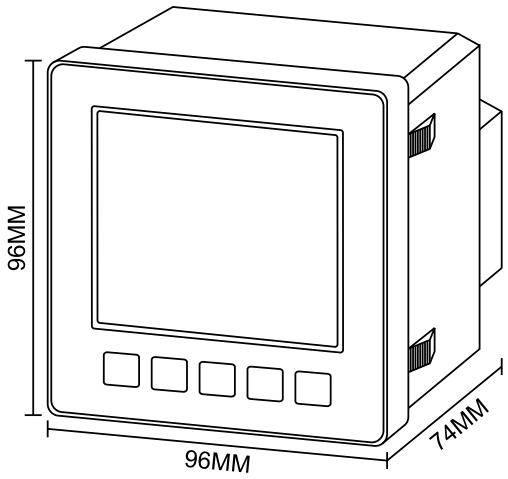


Three phase three wires
(N/A for SMART X96-5E Model)



Three phase four wires
(No Voltage Output on SMART X96-5E Model)

Dimension Drawing



Ordering options

Meter Type	Description of Meter
SMART X96-5	Active Import/Export (kWh) 3x230/400V, 0.25-5(6)A, Transformer operated, Multifunction, RS485 Modbus RTU
SMART X96-5E	Active Import/Export (kWh) 3x230/400V, 0.25-5(6)A, Transformer operated, Multifunction, RS485 Modbus RTU, No THD, No Voltage Output and 1P2W and 3P4W only.

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN61010-1-2010 & EN61010-2-30-2010

MID DIRECTIVE: 2014/32/EU

Wireless Solutions /Automatic Meter Reader (AMR) / SDM-1MR

- **1 Module DIN rail mounted**
- **Long Range Wireless Solution**
- **Class 0 Sigfox Certification**
- **Configuration interface for programmable settings**
- **RS485 Modbus Input**
- **Radio Equipment Certified (RED Directive)**
- **Can monitor any parameter within the Eastron meter range**
- **Low Cost**
- **Available with built in Connectivity**
- **Optional Emig Software platform for remote monitoring and data storage**

The SDM1-AMR Datalogger is a low-cost solution for remotely monitoring Eastron power meters equipped with Modbus RS485 RTU.

This device utilizes the SIGFOX™ network to transfer data wirelessly from meter to the cloud. This data can be presented using our software, or if preferred, it can be provided in a raw format such as a CSV file allowing you to present the data through your own software.

SIGFOX™ is a leading cellular network dedicated to low bandwidth communications for connected devices. Its technology is particularly suited to connecting objects requiring a low-cost data transfer. This technology also eradicates the requirement for a SIM card.

The SDM1-AMR is specifically designed to enable a simple, low cost, remote wireless management solution that does not require specialist technical skills for installation.

Using our configuration interface, you can program the device to read your chosen parameters within the meters functionally, you can also set the frequency of data. For example you can select kWh, every 15 mins, kWh /Power/ Voltage every 15 minutes, kWh every 30 minutes. kWh / Power/Voltage every 30 minutes. You can have a maximum of 3 parameters on a 15 minute interval. This is due to the network restrictions and the type of subscription you require. You can provide your own subscriptions or we can supply with this included. We can also integrate into you own software or software provider.

Parameters that can be monitored are:

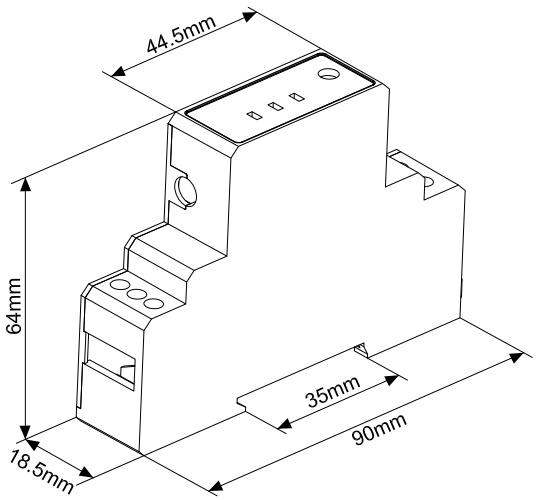
Total Active Energy (kWh) Import Active Energy (kWh) Export Active Energy (kWh) Current (A) Voltage (V) Instantaneous Power (kW) Power Factor (PF) Frequency (Hz)

Specification table

Mounting	DIN rail (DIN 43880)
Sealing	IP51 indoor
Operating temperature	-5°C to +65°C*
Storage temperature	-25°C to +75°C*
Auxiliary Power Supply	85-264VAC, 100-370VDC
Power Consumption	20mW
Network	SIGFOX™
Freq. Tx	868.13MHz
Freq. Rx	869.525MHz
Comms Compatibility	Modbus RS485 RTU and M-Bus available
Comms Baud Rate	1200, 2400, 4800, 9600 (auto-sensing)

Wiring Configuration

Dimension Drawing



Conformity References

Safety Conformance: EN62638-1:2014+AC:2015 and EN62311:2008

Electromagnetic Compatibility: Draft EN301489-1 V2.2.1:2019, EN301489-3 V2.1.1:2019, EN61000-3-2-2014, EN61000-3-3-2013, EN61000-6-3:2007+A1:2011, EN IEC 61000-6-2-2019

The Efficient Use of Radio Spectrum: EN300 220-2 V3.1.1:2017

With the development of Internet of Things (IoT), LoRa has become an ideal wireless communication solution for energy usage monitoring and management. EASTRON is a leading provider of full LoRaWAN / LoRaMESH solution for smart meters: LoRa energy meters; convertors; gateway and management software. The LoRa solution frees the user from communication cable wiring , provides more flexibility in installation and saves a lot of cost on maintenance. EASTRON LoRaWAN uses the standard loRaWAN protocol, it is point to point link up to 1.5km. EASTRON LoRaMESH uses self-defined communication protocol, it supports 3 latching hopping, which cover a wider range up to 3km.

LoRaWAN Wireless Solution

EASTRON LoRaWAN Meters ⟷ EASTRON LoRaWAN Meters ⟷ EASTRON LoRaWAN Meters ⟷ EASTRON LoRaWAN Meters

SOM 230-LoRaWAN

SINGLE PHASE MULTI-FUNCTION LORA METER

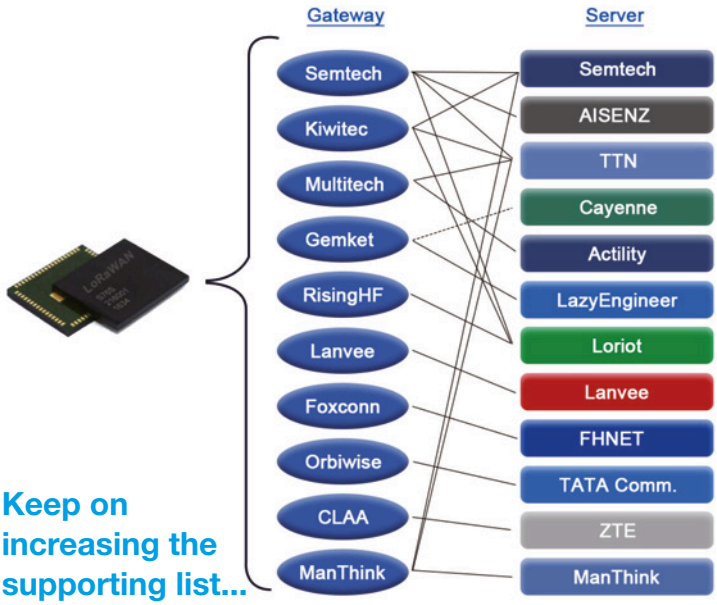
- Built-in LoRaWAN Module
- 100A Direct Load
- 2 Module 36mm Wide
- M ulti - parame te rs
- Bi-directional Measurement
- 2 Pulse Outputs
- Class 0.5S Accuracy

SDM630MCT-LoRaWAN

SINGLE PHASE MULTI-FUNCTION LORA METER

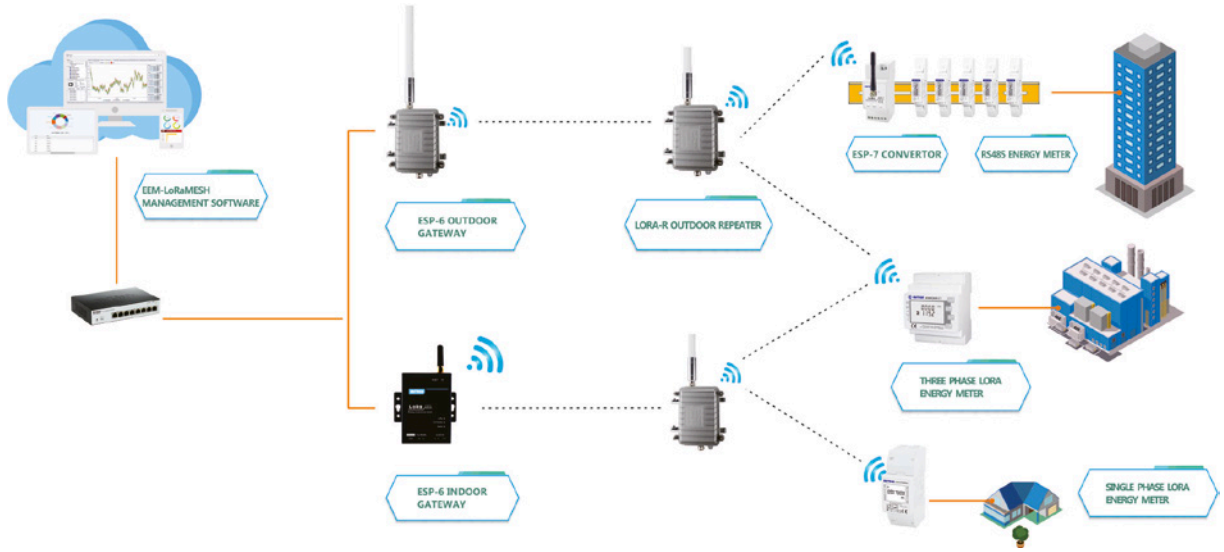
- Built-in LoRaWAN Module
- 1/5A CT Operated
- 4 Module 72mm Wide
- Multi-parameters
- Bi-directional Measurement
- 2 Pulse Outputs
- Class 0.5S Accuracy

Compliant with multiple Gateway & Server Suppliers!!



Keep on increasing the supporting list...

Wiring Configuration



Specifications

Single Phase Energy Meter SDM230-LoRa	
Input Voltage	110V or 230V AC
Input Current	0.5-10(100)A
Frequency	50/60Hz
Network	L+N
Output	LoRaMESH
Communication Frequency	433/470/868/923/915/902MHz
Communication Speed	5.17-0.27kbps
Spreading Factor	7-12
Measurements	V, A , Hz , PF, kWh, kVarh, P, Q, S, etc.
Active energy accuracy	Cl.0.5S IEC62053-22
Reactive energy accuracy	Cl.2 IEC62053-23
Electromagnetic Compatibility	IEC61326-1:2013
Installation Category	CAT II

Three Phase Energy Meter SDM630MCT-LoRa	
Input Voltage	3x230/400V AC (40%~120%)
Input Current	1/5A CT operated
Frequency	50/60Hz
Network	3L+N; 3L; 2L+N;L+N
Output	LoRaMESH
Communication Frequency	433/470/868/923/915/902MHz
Communication Speed	5.17-0.27kbps
Spreading Factor	7-12
Measurements	V, A , Hz , PF, kWh, kVarh, P, Q, S, etc.
Active energy accuracy	Cl.0.5S IEC62053-22
Reactive energy accuracy	Cl.2 IEC62053-23
Electromagnetic Compatibility	IEC61326-1:2013
Installation Category	CAT III

RS485 - LoRa Convertor ESP-7	
Input port	RS485 Modbus
Baudrate	1200-38400bps
Bus Line Load	32pcs nodes
Output	LoRaMESH / LoRaWAN
Communication Frequency	433/470/868/923/915/902MHz
Communication Speed	5.17-0.27kbps
Spreading Factor	7-12
Power Supplier	9-24V DC. or 230V AC

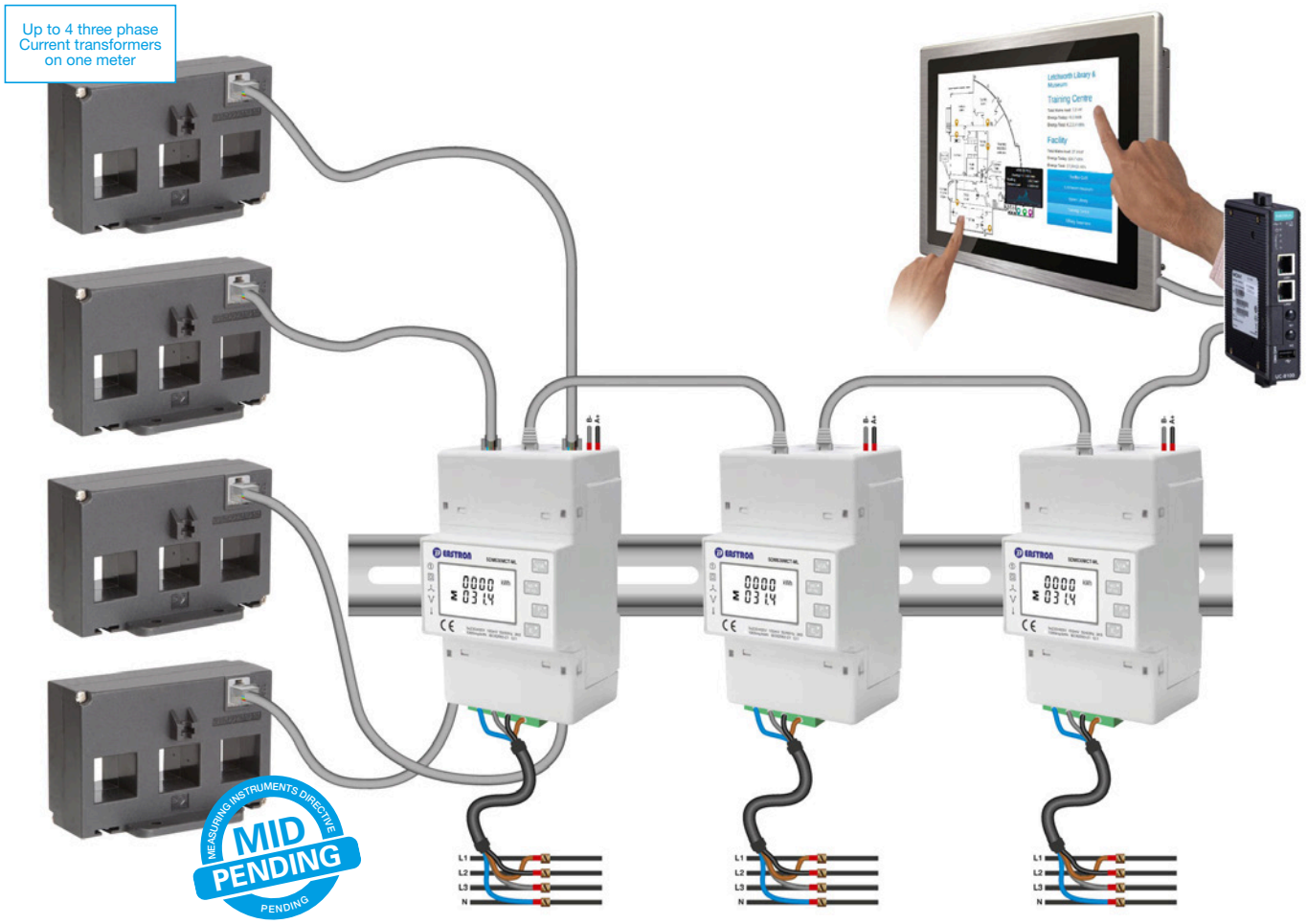
LoRaMESH Gateway ESP-6	
Input port	LoRaMESH
Communication Frequency	433/470/868/923/915/902MHz
Communication Speed	5.17-0.27kbps
Spreading Factor	7-12
Output port 1	RS485 Modbus
Baudrate	1200-38400bps
Output port 2	Ethernet
Power supply	9-24V DC

LoRa-R Outdoor Repeater	
Output	LoRaMESH
Communication Frequency	433/470/868/923/915/902MHz
Communication Speed	5.17-0.27kbps
Spreading Factor	7-12
Power Supply	Built-in rechargeable lithium battery; Solar PV charging system
Battery	3.7V DC 8000mAh
IP level	IP66
Working temperature	-30~+70℃

Management Software EEM-LoRaMESH
EASTRON LoRaMESH products data collection
Parameters setting remotely
Realtime measurement monitoring
Graphic / Curves presentation
Historical records for quiry

- **Remote Monitoring or Central Data Point access within the building (Or both)**
- **Prewired and commissioned solution**
- **No ongoing software license costs**
- **Auto-Detect function re meter id's**
- **Upload floor plan and drag and drop metering points for easy to use navigation**
- **Graphs and reporting function**
- **Optional HMI web-based touchscreen**
- **MOXA UC-8112-LX Industrial PC and fully integrated into all Eastron products**

Example of installation



EASTRON ConneX Sub-Metering - Software Platform

Sub-Meter Data Logging & HMI Hardware - MOXA UC-8112-LX Industrial PC

The Eastron ConneX Sub-Metering software platform runs on a dedicated Industrial PC, the MOXA UC-8112-LX. This device runs a Linux operating system (Debian) to provide a stable and versatile platform on which the ConneX "GoConfigure" software can run. The Connex "GoConfigure" software system is developed in-house by PAD Technology Ltd, Eastron Europe's software and hardware integration partner.

This device is able to store data locally on an Industrial SD card using robust SLC NAND Flash, suitable for long term storage of data under harsh environments.

Data logging frequency can be configured to the application, typically 1 minute or 5 minute reads being suitable for most applications. Where higher read frequencies are required, e.g. sub-minute reads, this can also be accommodated by the platform.

Simplified Commissioning

The ConneX "GoConfigure" software automatically detects new meters added to the sub-metering network, streamlining initial commissioning, extension and repair of metering networks.

Datalogging Cloud Storage

The ConneX "GoConfigure" software may also be configured to push data reads to the PAD Technology "eMIG" cloud based service to allow on-line access to your sub-metering data. eMIG provides secure access to graphical and reporting views of your data.

Automatically paging views of your sub-meters allow you to keep an eye on the state of your plant's energy consumption in detail, without the need to manually search through for individual meters.

Local-only Data Storage

Occasionally the internal security arrangements of an organisation make it impossible to push data to the cloud for long term storage. We are able to offer "local-only" long term data storage, using a local server and optional network attached storage solution. This provides robust storage and backup of your data on RAID 1 redundant hard drives. Where the metering system is on a totally isolated LAN, the server workstation can also be used for interrogating the metering data, generating CSV reports and saving data to memory sticks for processing elsewhere.

Human Machine Interface - HMI

The ConneX “GoConfigure” software runs a Web-HMI. This may be displayed on a dedicated HMI touch screen, for example the IP65 ARCHMI-815P 15” HMI touchscreen, or the HMI may be accessed from any PC or laptop on the same local area network, using an Internet Browser.

The HMI provides an auto-paging view of all meters on the system, providing instantaneous power and energy readings for each individual meter. This view may be accessed from (for example) a separate smart TV or display PC, to allow continuous monitoring of your sub-metering system in your office.

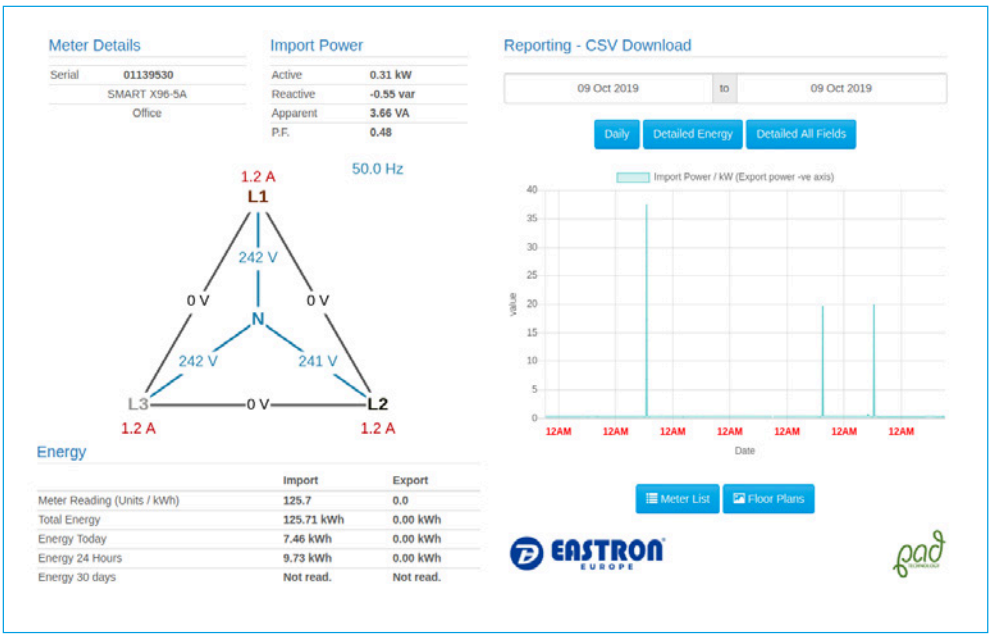
Where required, we are able to integrate your logo or text into the display.

The HMI allows you to set up any number of plant-specific views of your meters, using e.g. a floor plan, or a plant schematic that you create. Floor plans or schematics can be uploaded to the HMI as JPG, PNG or GIF files. The administrator of the system can then position meters on to the floor plan or schematic.

This example shows a library with a number of sub-meters annotated on it.

Here the user has clicked on one of the meters to see a quick ‘pop-up’ view of the current reading and power information for the meter.

Double clicking on the meter then takes the user to the detailed meter view:



In this view the user is able to interrogate information such as line to line voltages, reactive power, power factor and mains frequency, to allow them to diagnose issues with individual power supplies in the network.

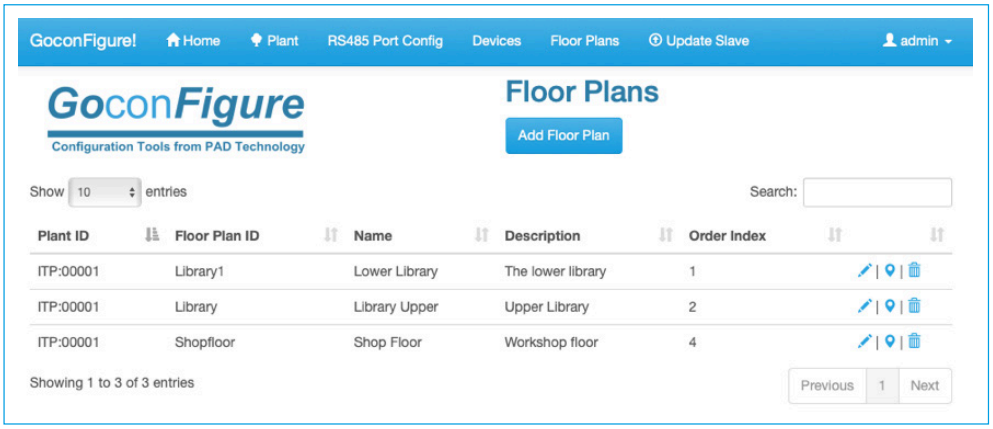
The user can view energy usage over time.

Additionally, this page provides meter specific graphical plots and reading downloads in a variety of forms, for opening in spreadsheet software such as Microsoft Excel.

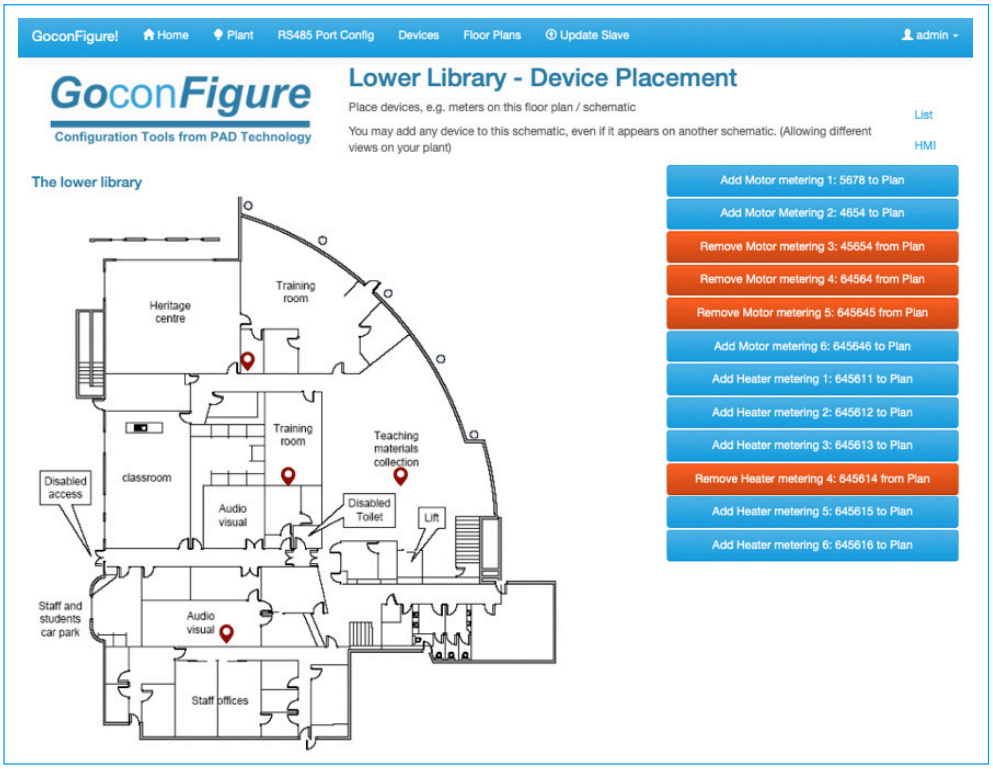
Easy Configuration

Adding new view on the data, by uploading bespoke images and positioning meter on to them is very easy. This is secured by an administrator login username / password.

The user may upload an image file from their local computer by clicking on “Add Floor Plan” and adding basic information about the view (for example the view name, description and the order in which it should appear in a list).



The user may then add or remove any of the meters in the network to overlay the graphic, ready for them to view in the HMI.

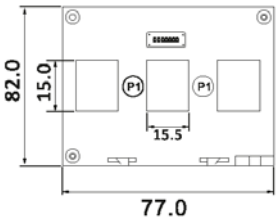


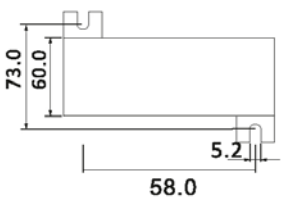
- **Cost effective three-phase moulded case**
- **Ratio's ranging from 60/5 to 630/5**
- **Lockable terminal for safety**
- **Both available for Busbar or DIN rail mounted**

Rated Current	60-630A
Rated Output	5A (AC)
Accuracy	Class 0.5 from 20% to 120% orated current
Phase Angle	Less than 2 degrees from 50% of rated current
Insulation Voltage	600V
Max Primary Voltage	5000Vac (Insulated Conductor)
Dielectric Strength	2.5 kV/1mA/1 min
Operating Temperature	-15°C to 60°C
Operating Humidity	<85%
Case Material	PC / UL94-V0
Bobbin	PBT
Internal Structure	Epoxy
Core	Permalloy

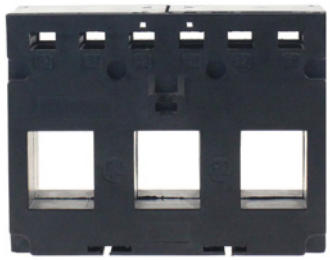
ESCT-C325

Model	Model Ratio	Class 1	Burden (VA)
ESCT-C325	60/5A	0.5/1/3	1
ESCT-C325	100/5A	0.5/1/3	1.5
ESCT-C325	125/5A	0.5/1/3	1.5
ESCT-C325	150/5A	0.5/1/3	1.5
ESCT-C325	200/5A	0.5/1/3	1.5

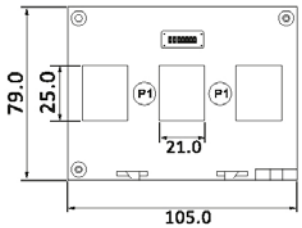


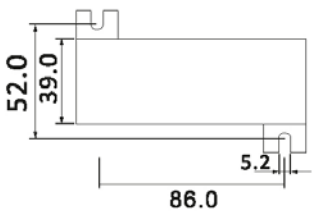


ESCT-C335

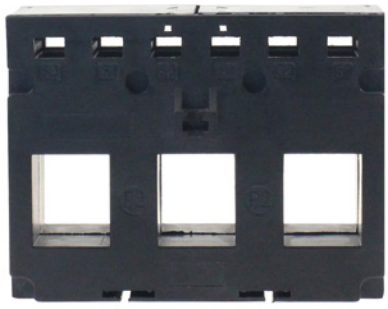


Model	Model Ratio	Class 1	Burden (VA)
ESCT-C335	100/5A	0.5/1/3	1.5
ESCT-C335	125/5A	0.5/1/3	2.5
ESCT-C335	150/5A	0.5/1/3	3.75
ESCT-C335	200/5A	0.5/1/3	1.5
ESCT-C335	250/5A	0.5/1/3	1.5

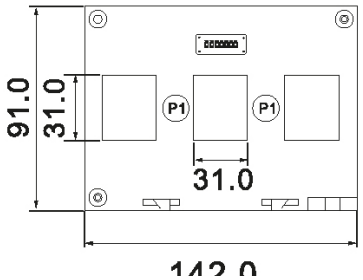


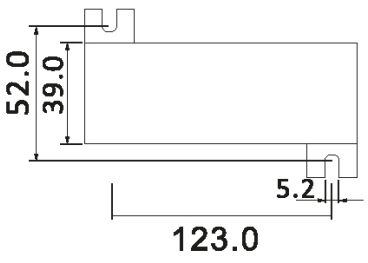


ESCT-C345



Model	Model Ratio	Class 1	Burden (VA)
ESCT-C345	250/5A	0.5/1/3	1.5
ESCT-C345	300/5A	0.5/1/3	2.5
ESCT-C345	400/5A	0.5/1/3	2.5
ESCT-C345	500/5A	0.5/1/3	2.5
ESCT-C345	600/5A	0.5/1/3	2.5





- **Cost effective single-phase split core**
- **Ratio's ranging from 100A to 600A**
- **Complete with 2 metre fly lead**
- **Clearly marked for ease of installation**

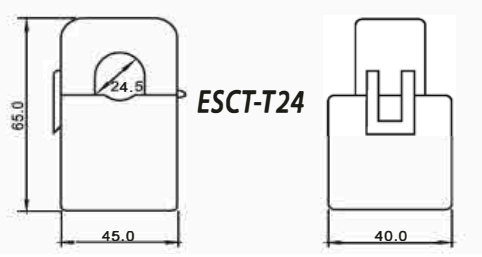
Rated Current	100-600A
Rated Output	1/5A (AC)
Accuracy	Class 0.5 from 20% to 120% orated current
Phase Angle	Less than 2 degrees from 50% of rated current
Insulation Voltage	600V
Max Primary Voltage	5000Vac (Insulated Conductor)
Dielectric Strength	2.5 kV/1mA/1 min
Operating Temperature	-15°C to 60°C
Operating Humidity	<85%
Case Material	PC / UL94-V0
Bobbin	PBT
Internal Structure	Epoxy
Core	Permalloy

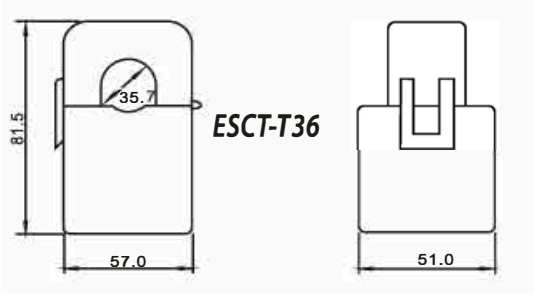
ESCT-T24

Product Codes	Primary Current	Accuracy Class	Aperture (WXH)
ESCT-T24 - 100/1A	100A	0.5/1/3	24mm ø
ESCT-T24 - 150/1A	150A	0.5/1/3	24mm ø
ESCT-T24 - 200/1A	200A	0.5/1/3	24mm ø
ESCT-T24 - 250/1A	250A	0.5/1/3	24mm ø
ESCT-T24 - 300/1A	300A	0.5/1/3	24mm ø
ESCT-T24 - 100/5A	100A	0.5/1/3	24mm ø
ESCT-T24 - 150/5A	150A	0.5/1/3	24mm ø
ESCT-T24 - 200/5A	200A	0.5/1/3	24mm ø
ESCT-T24 - 250/5A	250A	0.5/1/3	24mm ø
ESCT-T24 - 300/5A	300A	0.5/1/3	24mm ø

ESCT-T36

Product Codes	Primary Current	Accuracy Class	Aperture (WXH)
ESCT-T36 - 100/1A	100A	0.5/1/3	36mm ø
ESCT-T36 - 150/1A	150A	0.5/1/3	36mm ø
ESCT-T36 - 200/1A	200A	0.5/1/3	36mm ø
ESCT-T36 - 250/1A	250A	0.5/1/3	36mm ø
ESCT-T36 - 300/1A	300A	0.5/1/3	36mm ø
ESCT-T36 - 400/1A	400A	0.5/1/3	36mm ø
ESCT-T36 - 500/1A	500A	0.5/1/3	36mm
ESCT-T36 - 600/1A	600A	0.5/1/3	36mm
ESCT-T36 - 100/5A	100A	0.5/1/3	36mm ø
ESCT-T36 - 150/5A	150A	0.5/1/3	36mm ø
ESCT-T36 - 200/5A	200A	0.5/1/3	36mm ø
ESCT-T36 - 250/5A	250A	0.5/1/3	36mm ø
ESCT-T36 - 300/5A	300A	0.5/1/3	36mm ø
ESCT-T36 - 400/5A	400A	0.5/1/3	36mm ø
ESCT-T36 - 500/5A	400A	0.5/1/3	36mm ø
ESCT-T36 - 600/5A	400A	0.5/1/3	36mm ø





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Innovation, Quality and Competitive edge

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