

iot
SOLUTIONS

Eastron[®]
EUROPE

Innovation, Quality and Competitive edge



Standard and Wireless Metering



Designed and certified in the United Kingdom.

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på
+ 47 951 09 606 eller e-post ep@iotsolutions.no
www.iots.no



Introduction

We design, Manufacture 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 as 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



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- 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. 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.



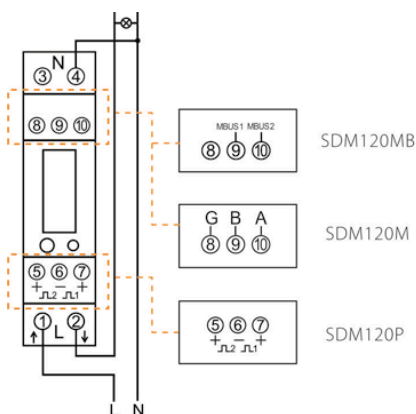
Specification table

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

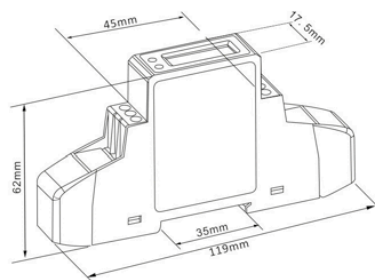
Accuracy	
Voltage, Current	0-5%
Frequency	0-2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud 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

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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

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- 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.



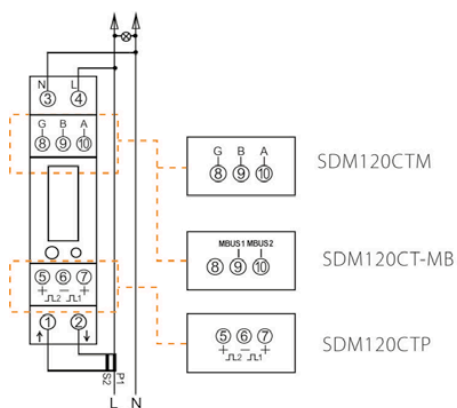
Specification table

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 I _{max} 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

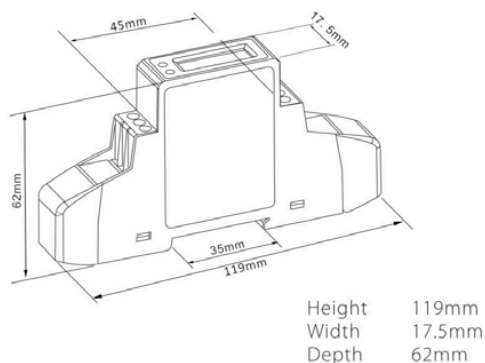
Accuracy	
Voltage,Current	0-5%
Frequency	0-2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	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

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Wiring Configuration



Dimension Drawing



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

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- 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.



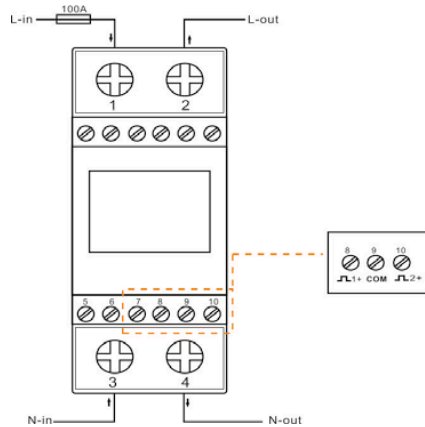
Specification table

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

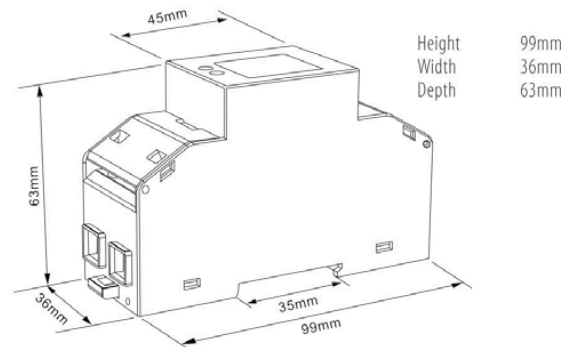
Accuracy	
Voltage,Current	0-5%
Frequency	0-2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	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

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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

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på + 47 951 09 606 eller e-post ep@iotsolutions.no
www.iots.no

- 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.



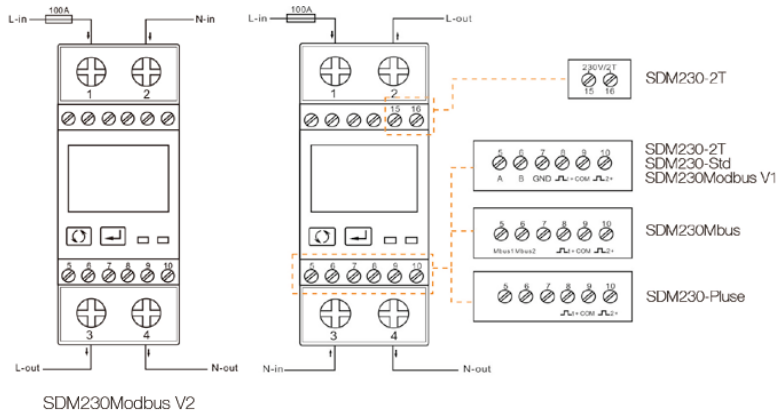
Specification table

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

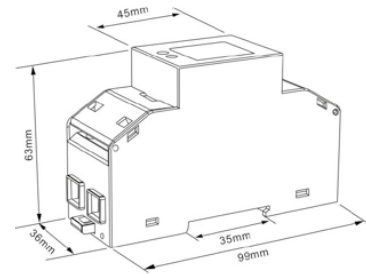
Accuracy	
Voltage, Current	0-5%
Frequency	0-2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud 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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

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-Modbus V2	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

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www.iots.no

- 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

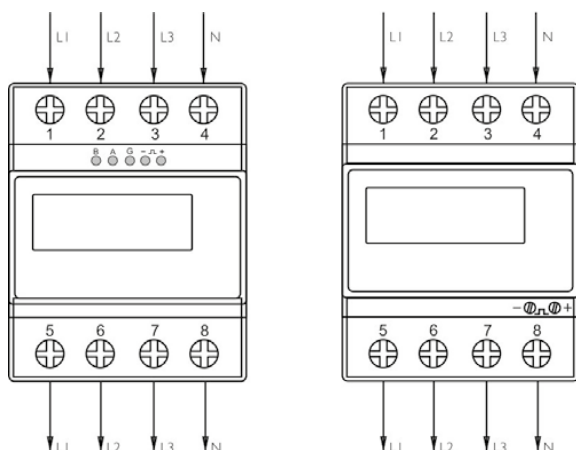


Specification table

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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no
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Wiring Configuration

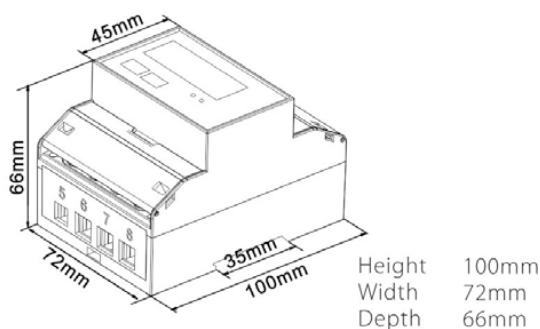


SDM72D-M

SDM72DR

SDM72BI

Dimension Drawing



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.
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.
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.
SDM72D-M V2	2P3W, 3P4W 3x230(400)V, 0.5-10(100)A, 50/60Hz, Active energy (kWh), Current / Voltage / Power per phase, Total Power, IMP & EXP energy, Pulse output and RS485 Modbus RTU, 100A Direct load, Accuracy better than 1/B, 72mm 4 module width, Din rail mounting.

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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no
www.iots.no

- 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

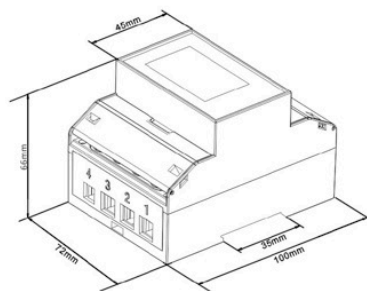
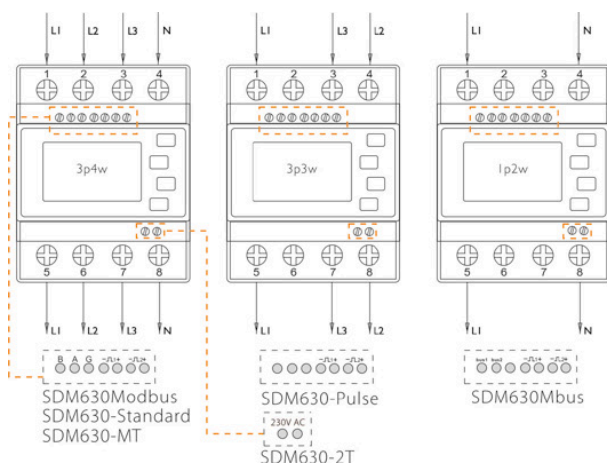
Modbus	
Bus type	RS485(semi-duplex)
Protocol	Modbus RTU
Baud rate	2400/4800/9600/19200/38400bps
Address range	1-247
Max. Bus loading	64pcs
Communication distance	1000M
Parity	EVEN/ODD/NONE
Data bit	8
Stop bit	1

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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no
www.iots.no

- Three phase 100A Direct Fed
- MID B+D Certified
- Class B Accuracy
- Bi-Directional Measurement for Active Energy and Power
- Configurable pulsed output (Import/ Export and Nett kWh)
- Modbus and Mbus serial output options
- Multi Parameter measurement
- Dual Tariff
- 3 Module DIN rail mounted

The SDM54 measures and displays the characteristics of single phase two wires (1p2w) and three phase four wires(3p4w) supplies, including voltage, frequency, current, power, power factor, active and reactive energy, imported or exported. Energy is measured in terms of kWh and kVArh. Maximum demand on power and current can be measured over pre-set periods of up to 60 minutes. SDM54 supports max.100A direct loads per phase, with dual tariff management availability. The meter is designed for DIN-rail mounting, with IP51 front protection. The meter is optionally equipped with pulse outputs, RS485 Modbus port or M-bus port. Configuration can also be done via keypad, which is password protected.



Specification table

Electrical specifications	
Power:	self power supply (via measured voltage)
Consumption:	<1W, 8VA
Basic current:	10A
Max. current :	100A
Min. current:	0.5A
Starting current :	0.02A
Over-current:	30 x I _{max} for 0.01s
L-N voltage:	100 to 289V a.c. (not for 3p3w supplies)
L-L Voltage:	173 to 500V a.c. (3p supplies only)
Frequency:	50Hz (MID version) 50/60Hz (non-MID version)
Accuracy:	
active energy	Class 1(IEC62053-21)/Class B(EN50470-3)
Reactive energy	Class 2 (IEC62053-23)
Voltage	0.5% of range maximum
Current	0.5% of nominal
Frequency	0.2% of mid-frequency
Power factor	1% of unity (0.01)
Active power (W)	±1% of range maximum Reactive power (VA) ±1% of range maximum
Apparent power (VA)	±1% of range maximum

Environmental specifications	
Operating temperature	-25°C to +55°C
Storage temperature	-30°C to +80°C
Relative humidity	0 to 90%, non-condensing @40°C
Altitude	Up to 2000m
Mechanical environment	M2
Electromagnetic environment	E2

Output specifications Three interfaces are available:	
Modbus RS485 port output	(SDM54-M, SDM54-2T, SDM54-DI)
M-Bus port output	(SDM54-MB, SDM54-MB-2T)
two Pulse outputs	

Modbus RS485 port output	
Baud rate:	2400, 4800, 9600(default), 19200, 38400
Parity:	none /odd/even
Stop bits:	1 or 2
RS485 address:	001 to 247
Response time:	<80mS
Transmission distance:	1000m

M-Bus port output	
Baud rate:	300, 600, 1200, 2400, 4800, 9600
Parity:	even/odd
Stop bits:	1 or 2
M-Bus primary address:	001 to 250
M-Bus Secondary address:	same as the serial number of the meter

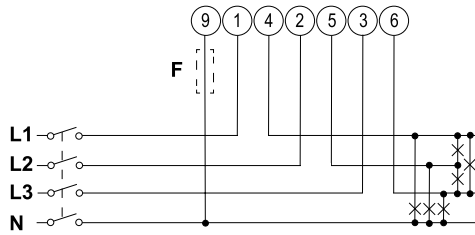
Pulse Output	
The unit provides two pulse outputs indicating real-time measured energy. Pulse output 1 is configurable; Pulse output 2 is fixed with constant 400imp/kWh. Both pulse outputs are passive type.	
Pulse output 1	is configurable. Default setting is exp-kWh; 100mS, constant 400imp/kWh
Pulse output 2	is non-configurable. It is fixed up with active kWh. The constant is 400imp/kWh.

Mechanics specifications	
DIN rail dimensions	54x100x67.5mm(WxHxD)
Mounting	DIN Rail 35mm
Ingress protection	IP51 front panel (indoor)
Material	Self-extinguishing UL94 V-0
Weight	265g

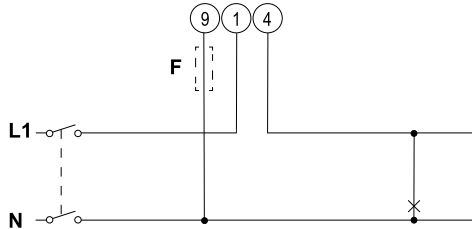
For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

Wiring Configuration

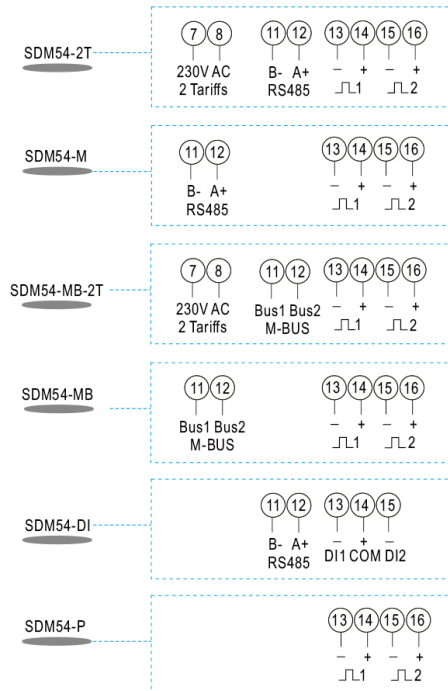
• Three Phase Four Wires:



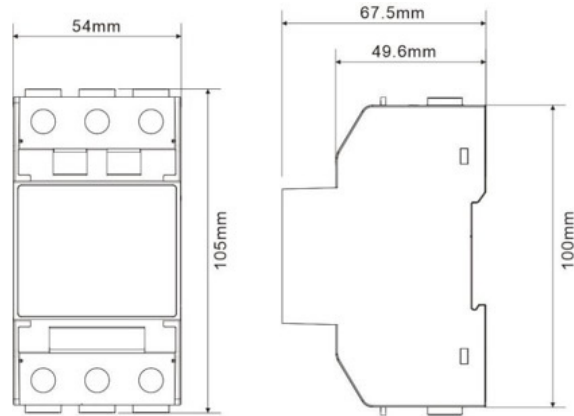
• Single Phase Two Wires:



• Other terminals



Dimension Drawing



Ordering options

The SDM54 Series are smart three phase energy meters, covering 3 models with following features and differences:

Model	Measurements	Outputs	Tariff Control
SDM54--2T	kWh, kVarh, W, Var, VA, PF, Hz, V,	2x Pulse outputs; RS485 Modbus	Double tariffs
SDM54-M	A, Max.dmd. Etc.	2x Pulse outputs; RS485 Modbus	Single tariff
SDM54-DI	kWh, kVarh, W, Var, VA, PF, Hz, V,	2x Digital inputs; RS485 Modbus	Single tariff
SDM54-MB-2T	A, Max.dmd. Etc.	2x Pulse outputs; M-Bus	Double tariffs
SDM54-MB	kWh, kVarh, W, Var, VA, PF, Hz, V,	2x Pulse outputs; M-Bus	Single tariff
SDM54-P	A, Max.dmd. Etc.	2x Pulse outputs	Single tariff

Safety and EMC

- Measurement category: IEC 61010-1 CAT III
- Current input: Direct connect
- Over-voltage category: CAT III
- Dielectric withstand: IEC 61010-1 double insulated
- Protective class: II
- EMC: IEC 61326-1:2013 ; IEC 61326- 2-3:2013

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

- 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.

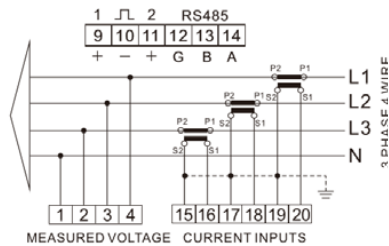
Specification table

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

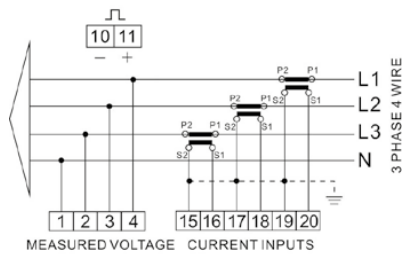
Accuracy class	Class1/Class B
Installation category	CAT III
Mechanical environment	M1
Electromagnetic environment	E2
Degree of pollution	2
Protection against penetration of dust and water	IP51(indoor)
Insulating encased meter of protective class	II
Electrostatic discharges	8kV contact / 15kV air gap
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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

Wiring Configuration

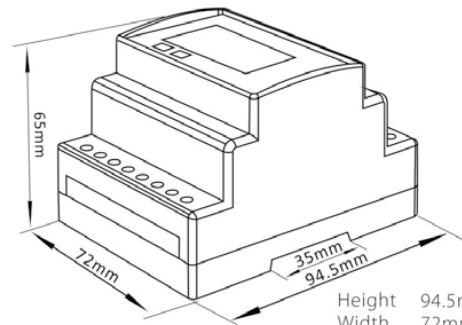


SDM72CT-M



SDM72CT-DR
SDM72CT-BI

Dimension Drawing



Height 94.5mm
Width 72mm
Depth 65mm

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 than class 1/5.

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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam
på + 47 951 09 606 eller e-post ep@iotsolutions.no
www.iots.no

- Three Phase 1/5A Current Transformer operated
- MID B+D Certified
- UL Registered
- Accuracy Class 1.0 (Active Energy) or Accuracy Class 0.5 (SDM630MCT-MOD-MID-0.5)
- 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

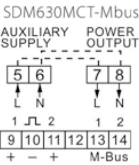
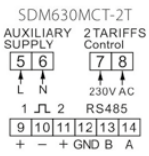
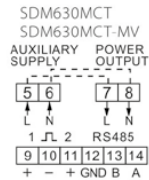
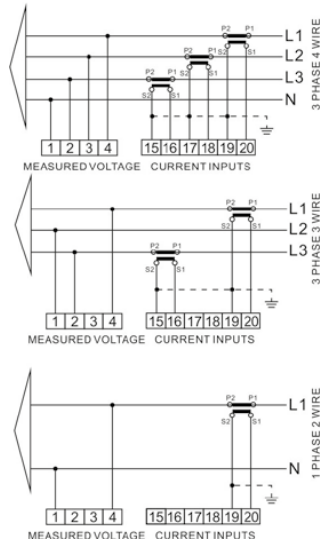
Specification table

Specification	
Nominal voltage(Un)	3x230/400 V ac
Operational voltage	80% - 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-I _{max}
Over current withstand	20 I _{max} 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

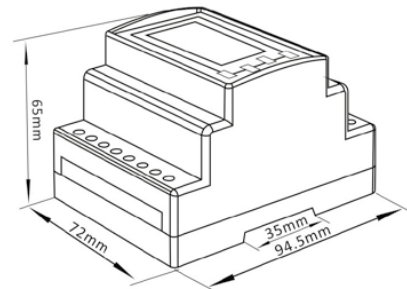
Accuracy	
Voltage, Current	1.0 % or 0.5% option available
Frequency	0-2% of mid-frequency
Power factor	1% of unity (0.01)
Active power , Apparent power	±1% of range maximum
Reactive power	±1% of range maximum
Reactive energy(Varh)	Class 2
Active energy (Wh)	Class 1
Modbus	
Bus type	RS485(semi-duplex)
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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

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, Class 1.0 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-MODBUS-0.5	3PH-4W, 3PH-3W, 1PH-2W, 3x230(400)V, 1A or 5A CT input, Class 0.5 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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no
www.iots.no

- 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	3x230/400 V ac
Max. continuous input overload voltage	80% - 120% of Un.
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

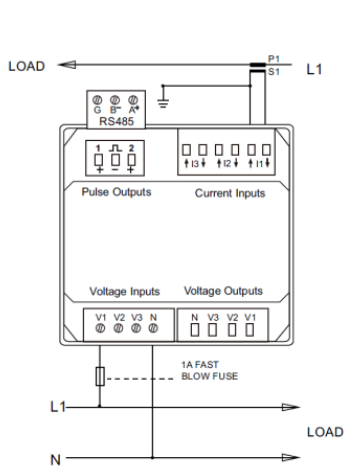
Relative humidity	0 to 95%, non-condensing
Shock	30g in 3 planes
Vibration	10Hz to 50Hz, IEC 60068-2-6, 2g
Dielectric Voltage	4kV between voltage and current to earth
Altitude	3000m
Warm-up	1 minute

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 SO 1	0.01 / 0.1 / 1 / 10 / 100 kWh/kVAh
Pulsed output of SO 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

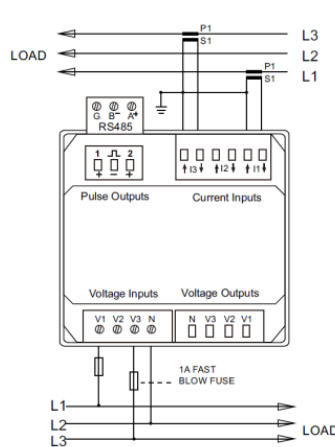
Enclosure	
Enclosure Style	DIN 96 panel mount
Dimensions	96x96x62 mm
Panel cut-out	92x92mm
Panel thickness	1-2 mm
Protection rating	Ip51 (Indoor)
Material	UL 94-V0
Weight	340 g
Cable size	0.05mm-4mm stranded wire
Terminals	Voltage: Shrouded screw-clamp. Current: RJ12

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

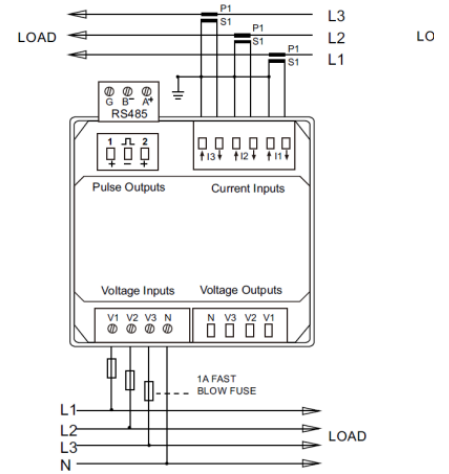
Wiring Configuration



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

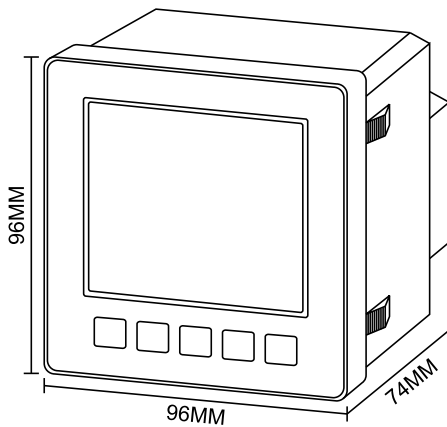


Three phase three wires
(N/A for SMART X96-5E Model)



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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

- **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.

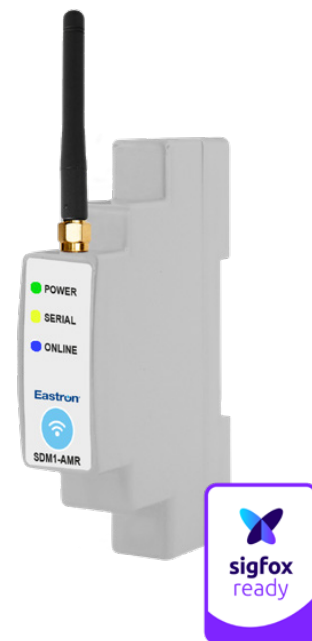
SIGFOX™ is a leading cellular network dedicated to low bandwidth communications for connected devices. Its technology is particularly suited to connecting objects requiring a low-cost data transfer. This technology also eradicates the requirement for a SIM card.

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 functionality, 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 your 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

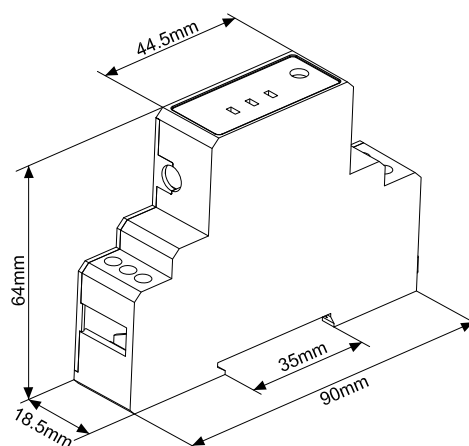
Mounting	DIN rail (DIN 43880)
Sealing	IP51 indoor
Operating temperature	-5°C to +65°C*
Storage temperature	-25°C to +75°C*
Auxiliary Power Supply	85-264VAC, 100-370VDC
Power Consumption	20mW
Network	SIGFOX™
Freq. Tx	868.13MHz
Freq. Rx	869.525MHz
Comms Compatibility	Modbus RS485 RTU and M-Bus available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

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no
www.iots.no

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; converters; 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



SOM 230-LoRaWAN SINGLE PHASE MULTI-FUNCTION LORA METER

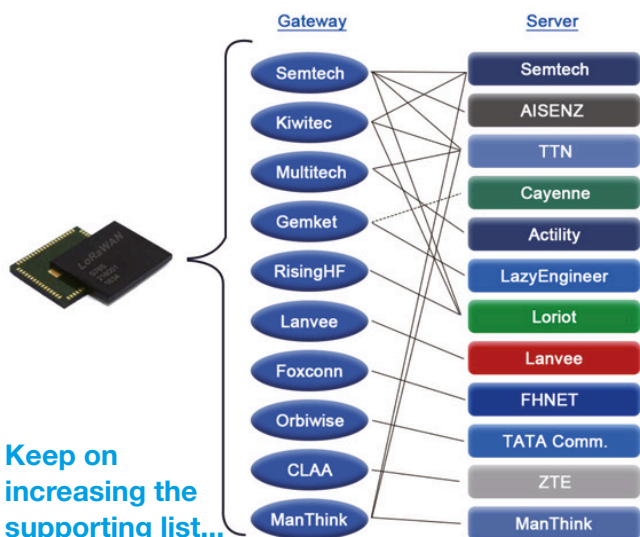
- Built-in LoRaWAN Module
- 100A Direct Load
- 2 Module 36mm Wide
- Multi-parameters
- Bi-directional Measurement
- 2 Pulse Outputs
- Class 0.5S Accuracy



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

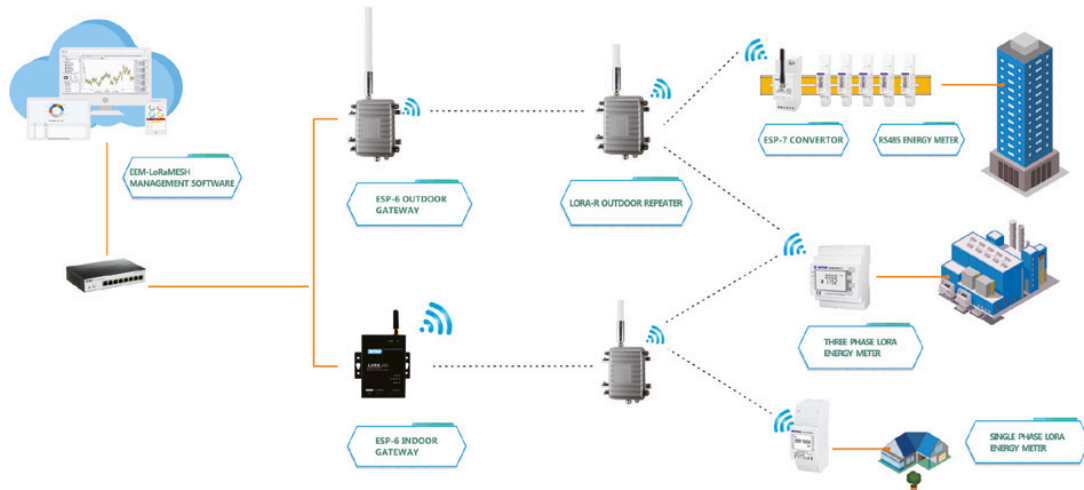
Compliant with multiple Gateway & Server Suppliers!!



Keep on increasing the supporting list...

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

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, kWh, 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, kWh, 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°C



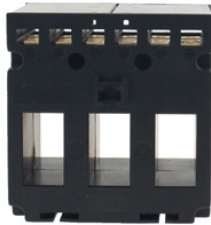
Management Software EEM-LoRaMESH	
EASTRON LoRaMESH products data collection	
Parameters setting remotely	
Realtime measurement monitoring	
Graphic / Curves presentation	
Historical records for query	

For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

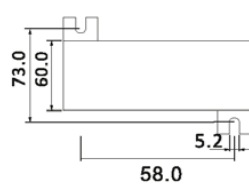
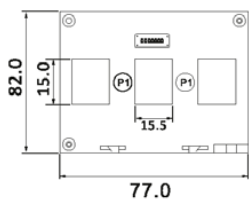
- Cost effective three-phase moulded case
- Ratio's ranging from 60/5 to 630/5
- Lockable terminal for safety
- Both available for Busbar or DIN rail mounted

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

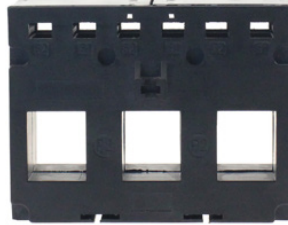
ESCT-C325



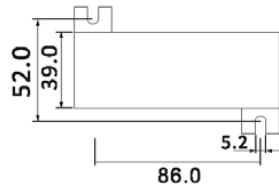
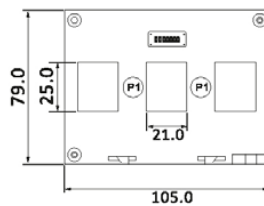
Model	Model Ratio	Class 1	Burden (VA)
ESCT-C325	60/5A	0.5/1/3	1
ESCT-C325	100/5A	0.5/1/3	1.5
ESCT-C325	125/5A	0.5/1/3	1.5
ESCT-C325	150/5A	0.5/1/3	1.5
ESCT-C325	200/5A	0.5/1/3	1.5



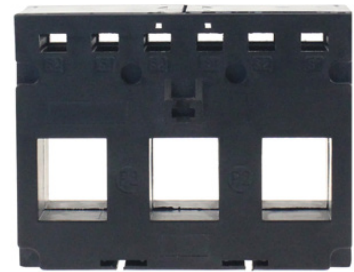
ESCT-C335



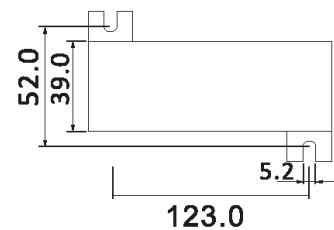
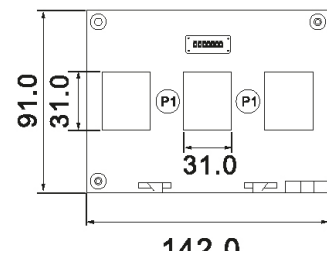
Model	Model Ratio	Class 1	Burden (VA)
ESCT-C335	100/5A	0.5/1/3	1.5
ESCT-C335	125/5A	0.5/1/3	2.5
ESCT-C335	150/5A	0.5/1/3	3.75
ESCT-C335	200/5A	0.5/1/3	1.5
ESCT-C335	250/5A	0.5/1/3	1.5



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



For mer informasjon om disse produktene, vennligst kontakt vårt salgsteam på + 47 951 09 606 eller e-post ep@iotsolutions.no www.iots.no

- 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



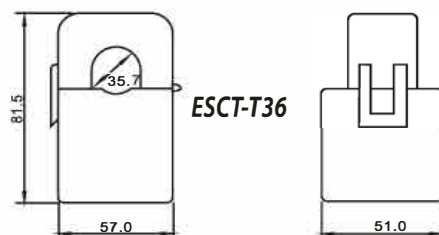
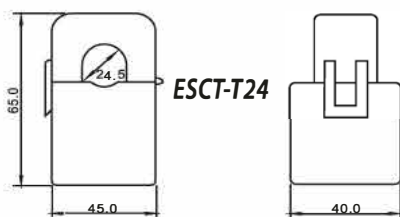
Rated Current	100-600A
Rated Output	1/5A (AC)
Accuracy	Class 0.5 from 20% to 120% orated current
Phase Angle	Less than 2 degrees from 50% of rated current
Insulation Voltage	600V
Max Primary Voltage	5000Vac (Insulated Conductor)
Dielectric Strength	2.5 kV/1 mA/1 min
Operating Temperature	-15°C to 60°C
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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The logo graphic consists of a large, light blue circle with a vertical rectangular bar extending upwards from its top center. The circle and bar are semi-transparent, allowing the background to show through. The text 'Eastron' is written in a bold, white, sans-serif font across the middle of the circle, with a registered trademark symbol (®) to its upper right. Below 'Eastron', the word 'EUROPE' is written in a smaller, white, all-caps, sans-serif font.

Eastron[®]
EUROPE

Innovation, Quality and Competitive edge

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

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