ENERGY MANAGEMENT

QUALITY
HAS A NAME.

2022-2023

ONESTO®

ONESTO®

www.onesto.cn

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2021.9.10

DPM9C

DESCRIPTION

Memory 8MB
Energy Accuracy 0.2S
Harmonics
Neutral Current Input
4 Tariffs
Optional Modules

FUNCTION

Networks
-TN,TT, IT networks

Communication
-Modbus-RTU -Modbus-TCP -Profibus-DP

Accuracy
-Active energy: 0.2S
-Voltage: 0.1%
-Current: 0.1%

Data Log
-Demand record
-Max./Min. value record
-Off-limit record
-SOE record

Power Quality
-THD
-Harmonics up to 63rd
-Unbalance
-Sequence component
-Crest factor and K factor
-Waveform display
-Flicker

Optional Modules
-M1(2 AC digital inputs)
-M2(4 dry digital inputs)
-M3(2 relay outputs)
-M4(2 analog inputs)
-M5(2 temperature inputs)
-M6(2 analog outputs)
-M7(Modus-TCP)
-M8(Profibus-DP V0)
-M9(WiFi)
-M10(GPRS)
-M11(RS485, Modbus-RTU)
-M12 (M-Bus communication)
-M13 (BACnet/MSTP communication)
-M14 (BACnet/IP communication)
-M15 (RS232,Modbus-RTU)

FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

APPLICATIONS

Data Acquisition
Energy Management
Remote Power Monitoring

MAIN FEATURES

Measuring
-Fundamental V/A/P/Q/S
-Demand
-Max./Min. Value
-Load profile

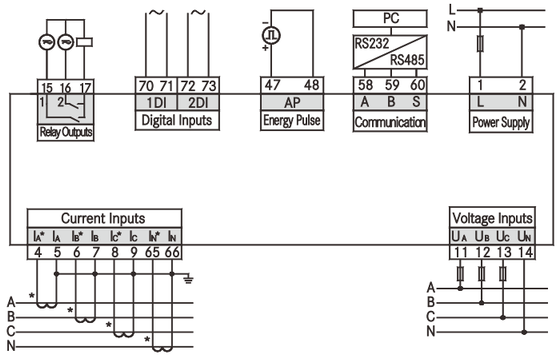
Power Quality
-Harmonics up to 63rd
-Sequence component
-Unbalance
-Crest factor and K factor
-Phasor diagram

Energy Metering
-Bi-directional energy
-Four-quadrant reactive energy
-Tariff energy
-Fundamental energy

Extension Functions

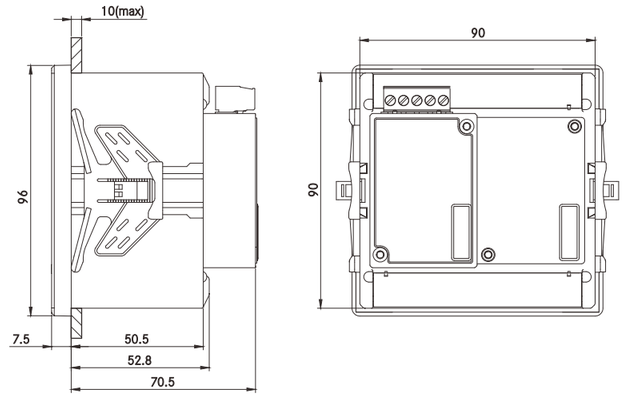
GPRS	M-Bus	WiFi	BACnet/IP	RS232
Modbus-TCP	Modbus-RTU	2 relay outputs	BACnet/MSTP	Profibus-DP
2 analog outputs	4 DC digital inputs	2 AC digital inputs	2 analog inputs (4-20mA)	2 analog inputs (PT100)

TYPICAL WIRING

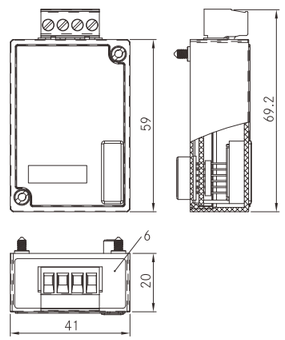


DIMENSIONS (mm)

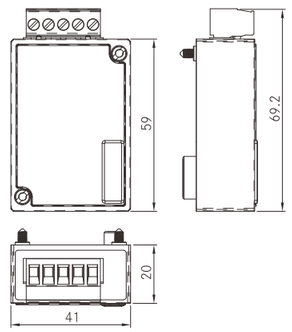
DPM9C



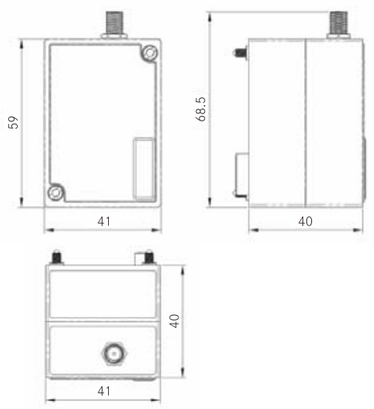
M1/M3/M4/M6/M11/M12/M13



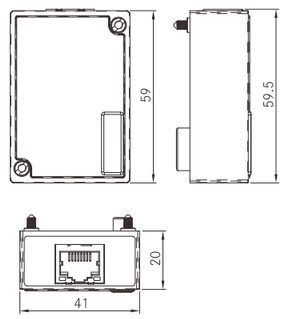
M2/M5



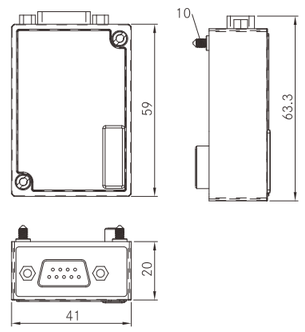
M9/M10



M7/M14



M8/M15



FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

TECHNICAL SPECIFICATION

Type	DPM9C	
Display Mode		LCD
Accuracy	V/A	0.1%
	P/Q/S/PF	0.2%
	F	±0.01Hz
	±kWh	Class 0.2S
	±kvarh	Class 2
Voltage Input	Rated value	AC 100V, AC 380V
	Overload	Continuous: 1.2Vn Instantaneous: 2Vn/10s
	Burden	≤0.1VA(per phase)
	Impedance	≥1 7MΩ
	Frequency	45Hz~65Hz
Current Input	Rated value	AC 1A, AC 5A
	Overload	Continuous: 1.2In Instantaneous: 2In/5s
	Burden	≤0.2VA(per phase)
	Impedance	≤20mΩ
Auxiliary Supply	Working range	AC 80~270V 50/60Hz DC 100~350V
	Consumption	≤5VA
Communication Port		RS485, Modbus-RTU, 2-wire, up to 38.4kbps
Energy Pulse Output		1 photocoupler output, pulse width (80±20%) ms
Digital Input		2 AC wet contact inputs, Isolation: 5kVAC
Relay Output		2 relay outputs, contact rated at AC 5A/250V or DC 5A/30V Isolation: 2kVAC
Environment Conditions	Operating temperature	-25℃~70℃
	Storage temperature	-30℃~80℃
	Relative humidity	≤93%
	Altitude	≤2500m
Insulation		≥ 2kVAC
IP Degree		Front IP64, Rear IP20

DPM9B

DESCRIPTION

Modbus Interface
Energy Accuracy 0.5S
Pulse Output
Harmonics
Neutral Current Input
4 Tariffs
Data Record

FUNCTION

Networks

-TN, TT, IT networks

Communication

-Interface: RS485
-Protocol: Modbus-RTU

Accuracy

-Energy: 0.5S
-Voltage: 0.2%
-Current: 0.2%

Power Quality

-THD
-Harmonics up to 51st
-Unbalance
-Sequence component
-Crest factor and K factor

Data Log (DPM9B)

-Demand record
-Max./Min. value record
-Off-limit record
-SOE record

FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO
ENERGY MANAGEMENT

APPLICATIONS

- Data Acquisition
- Energy Management
- Remote Power Monitoring

MAIN FEATURES

Measuring

-Demand -Max./Min. Value

Energy Metering

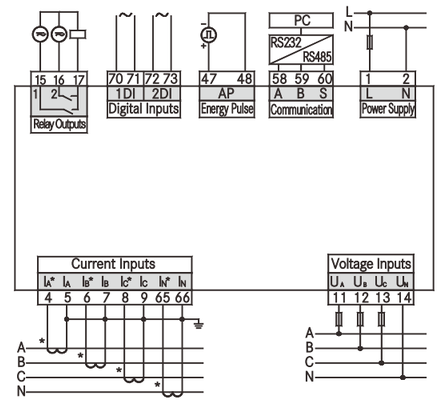
-Bi-directional energy
-Four-quadrant reactive energy
-Tariff energy

Power Quality (DPM9B)

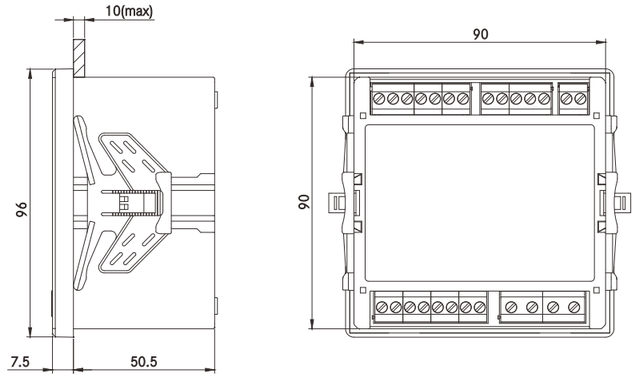
-Harmonics up to 51st
-Sequence component
-Unbalance
-Crest factor and K factor

TYPICAL WIRING

DPM9B



DIMENSIONS (mm)



TECHNICAL SPECIFICATION

Type		DPM9B
Display Mode		LCD
Accuracy	V/A	0.2%
	P/Q/S/PF	0.5%
	F	±0 01Hz
	±kWh	Class 0.5S
	±kvarh	Class 2
Voltage Input	Rated value	AC 100V, AC 380V
	Overload	Continuous: 1.2Vn Instantaneous: 2Vn/10s
	Burden	≤0.1VA (per phase)
	Impedance	≥1.7MΩ
	Frequency	45Hz~65 Hz
Current Input	Rated value	AC 1A, AC 5A
	Overload	Continuous: 1.2In Instantaneous: 2In/5s
	Burden	≤0.2VA (per phase)
	Impedance	≤20mΩ
Power Supply	Working range	AC 80~270V 50/60Hz, DC 100~350V
	Consumption	≤5VA
Communication Port		RS485, Modbus-RTU, 2-wire, up to 38.4kbps
Energy Pulse Output		1 photocoupler output, pulse width (80±20%) ms
Digital Input		2 AC wet contact inputs Isolation: 5kVAC
Relay Output		2 relay outputs, Contact rated at AC 5A/250V or DC 5A/30V, Isolation: 2kVAC
Environment Conditions	Operating temperature	-25℃~70℃
	Storage temperature	-30℃~80℃
	Relative humidity	≤93%
	Altitude	≤2500m
Insulation		≥ 2kVAC
IP Degree		Front IP54, Rear IP20

ONESTO® ENERGY MANAGEMENT

DRM20

LoRa module

EC2

I/O module

EK1

NB-IoT module

EC6

GPRS module

EC4

DESCRIPTION

Harmonics
Modbus Interface
Energy Accuracy 0.5S
Pulse Output

FUNCTION

Networks
-TN, TT, IT networks

Communication
-Interface: RS485
-Protocol: Modbus-RTU
-LoRa
-NB-IoT
-GPRS

Accuracy
-Energy: 0.5S
-Voltage: 0.2%
-Current: 0.2%

MAIN FEATURES

Measuring
-Fundamental V/A
-Demand
-Max./Min. Value

Power Quality
-THD
-Harmonics up to 31st
-Sequence component
-Unbalance
-Crest factor and K factor

Energy Metering
-Bi-directional energy
-Four-quadrant reactive energy
-Tariff energy
-Fundamental energy

APPLICATIONS

Data Acquisition

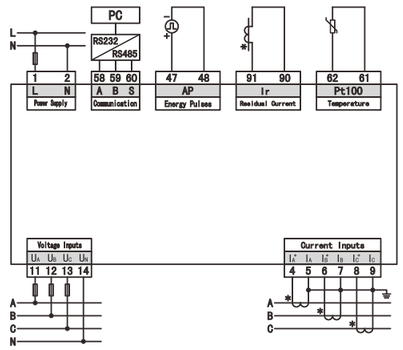
Energy Management

Remote Power Monitoring

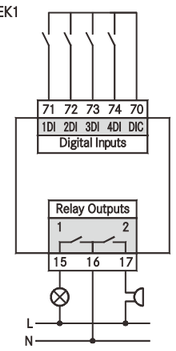
FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

TYPICAL WIRING

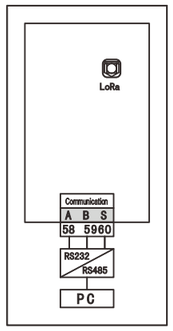
DRM20



EK1



EC2



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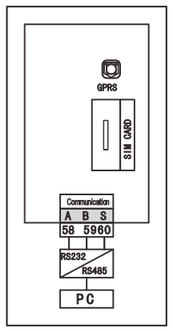
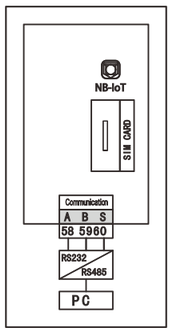
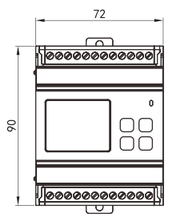


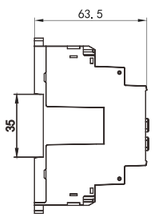
EC6



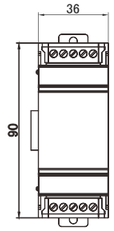
DIMENSIONS (mm)

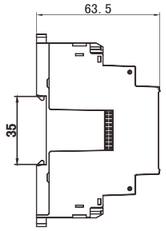
DRM20



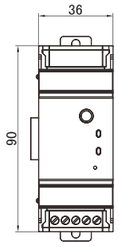


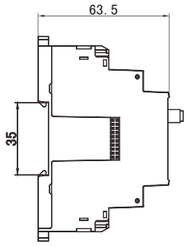
EK1



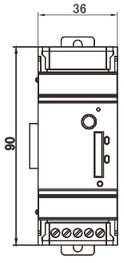


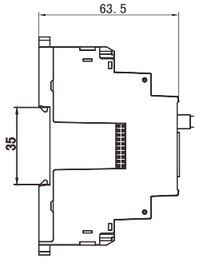
EC2





EC4,EC6





FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

TECHNICAL SPECIFICATION

Type		DRM20
Display Mode		LCD
Accuracy	V/A	0.2%
	P/Q/S/PF	0.5%
	F	±0.01Hz
	±kWh	Class 0.5S
	±kvarh	Class 2
Voltage Input	Rated value	AC 100V, AC 380V
	Overload	Continuous: 1.2Vn Instantaneous: 2Vn/10s
	Burden	≤0.1VA (per phase)
	Impedance	≥1.7MΩ
	Frequency	45Hz~65Hz
Current Input	Rated value	AC 1A, AC 5A
	Overload	Continuous: 1.2In Instantaneous: 2In/5s
	Burden	≤0.2VA (per phase)
	Impedance	≤20mΩ
Residual Current Input		AC 1mA
Temperature Measurement		PT100
Auxiliary Power Supply	Working range	AC 80~270V 50/60Hz, DC 100~350V
	Consumption	≤5VA
Communication Port		RS485, Modbus-RTU, 2-wire, up to 9600bps
	LoRa, EC2 module	470MHz
	GPRS, EC4 module	850/900/1800/1900MHz
	NB-IoT, EC6 module	Band 3/5/8
Energy Pulse Output		1 photocoupler output, pulse width (80±20%) ms
Optional Module (EK1)	Digital inputs	Dry digital inputs, Isolation: ≥2kVAC
	Relay outputs	Contact rated at AC 250V/5A or DC 30V/5A
Environment Conditions	Operating temperature	-25℃~70℃
	Storage temperature	-30℃~80℃
	Relative humidity	≤93%
	Altitude	≤2500m
Insulation		≥ 2kVAC

DRM12

DESCRIPTION

Multi-circuit
Modbus Interface
Energy Accuracy 0.5S

FUNCTION

Networks

-TN, TT, IT networks

Accuracy

-Energy: 0.5S (Closed Type CT)
-Voltage: 0.2%
-Current: 0.2%

Communication

-Interface: RS485
-Protocol: Modbus-RTU

MAIN FEATURES

Measuring

-Fundamental V/A
-Demand
-Max./Min. Value

Energy Metering

-Bi-directional energy
-Four-quadrant reactive energy
-Fundamental energy

APPLICATIONS

Data Acquisition

Energy Management

Remote Power Monitoring

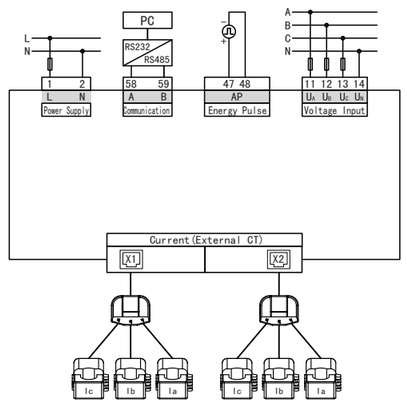
FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

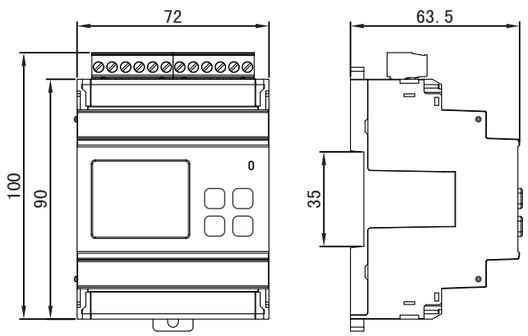
TECHNICAL SPECIFICATION

Type	DRM12	
Accuracy	V/A	0.2%
	P/Q/S/PF	0.5%
	F	±0.01Hz
	±kWh	Class 0.5S (Closed Type CT)
	±kvarh	Class 2
Voltage Input	Rated value	3×220V/380V
	Overload	Continuous: 1.2Vn Instantaneous: 2Vn/10s
	Burden	≤0.1VA (per phase)
	Impedance	≥1.7MΩ
	Frequency	45Hz~65Hz
Current Input	Rated value	External CT
	Overload	Continuous: 1.2In Instantaneous: 2In/5s
	Burden	≤0.2VA (per phase)
	Impedance	≤20mΩ
Auxiliary Power Supply	Working range	AC 80~270V 50/60Hz, DC 100~350V
	Consumption	≤5VA
Communication Port	RS485	Modbus-RTU, 2-wire, up to 9600bps
Environment Conditions	Operating temperature	-20℃~70℃
	Storage temperature	-30℃~80℃
	Relative humidity	≤93%
	Altitude	≤2000m
Insulation		≥ 2kVAC

TYPICAL WIRING



DIMENSIONS (mm)



DPM5

DESCRIPTION

Metering and harmonic analysis.
They can be connected to power monitoring system and energy management system to realize remote data monitoring.

Bracket Free Installation
LCD Display
High-level Protection

FUNCTION

Networks
-TN, TT, IT networks

Communication
-Interface: RS485
-Protocol: Modbus-RTU

Accuracy
-Energy: 0.5S
-Voltage: 0.2%
-Current: 0.2%

Power Quality (DPM5)
-THD
-Harmonics up to 15th
-Unbalance

FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

APPLICATIONS

- Intelligent Device
- Smart Building
- Industrial and Mining Enterprise
- Public Facilities

MODEL SELECTION

Type		DPM5
Dimension(mm)		96×96×34
Real-time measurement	U/I/P/Q/S/F/PF	■
	Demand	■
Energy metering	Bi-directional energy	■
	Four-quadrant reactive energy	■
Power quality monitoring	Unbalance	■
	THD	■
	2nd～15th harmonic content	■
Input & output	Energy pulse	2
	RS485 communication interface	1
	Digital input	2
	Relay output	2

TECHNICAL SPECIFICATION

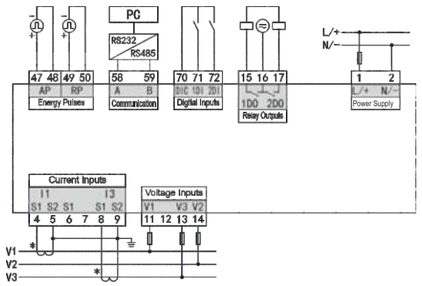
Item			Parameter
Accuracy			Voltage, current: 0.2%; Power: 0.5%; Frequency: +0.01Hz; Active energy: 0.5s
Display Data Update Time			1s
Signal Input	Voltage	Rated voltage	AC100V, AC380V
		Overload	Continuous: 1.2 Vn, instantaneous: 2 Vn/1min
		Energy consumption	≤0.1VA
	Current	Rated voltage	1A/5A
		Overload	Continuous: 2In, instantaneous: 10In/5s
		Energy consumption	≤0.2VA
	Frequency		45~65Hz
Communication		RS485 interface	Modbus-RTU protocol, baud rate up to 9600bps
Energy Pulse			Optocoupler isolation, pulse width 80ms+20%
Digital Input			Optocoupler isolation, passive dry contact
Relay Output			Contact capacity AC250V 5A or DC 30V 5A
Power Supply	Working range		AC/DC 80~270V
	Energy consumption		≤5VA
Environment Condition	Working temperature		-10°C~55°C
	Storage temperature		-25°C~70°C
	Relative humidity		≤93%RH
	Altitude		≤2500m
Safety	Insulation		Signal, power supply, output terminals to case resistance≥100MΩ
	Withstand voltage		Power supply, input and output≥2kV
Protection Level			IP54

FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

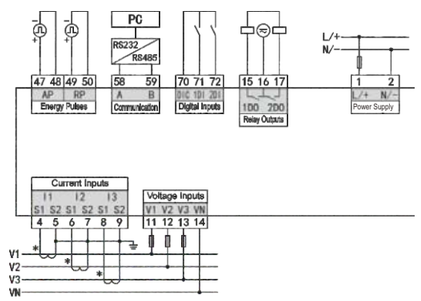
ONESTO® ENERGY MANAGEMENT

TYPICAL WIRING

DPM5 (3P3W)

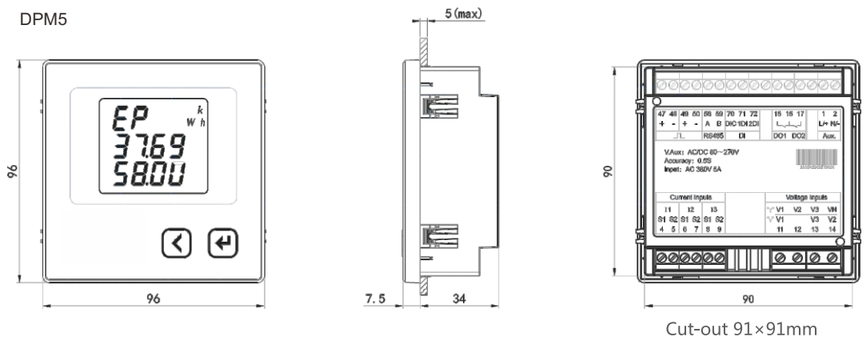


DPM5 (3P4W)



DIMENSIONS (mm)

DPM5



Cut-out 91×91mm

KM1DS40

Electrical application solution expert

DESCRIPTION

DIN RAIL MOUNTED
ENERGY METER

APPLICATIONS

- Energy Management
- Sub-item Metering
- Power Monitoring

MAIN FEATURES

Measuring

-Direct measurement up to 40A

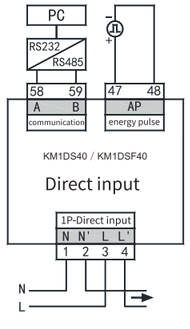
Communication

-Interface: RS485
-Protocol: Modbus-RTU

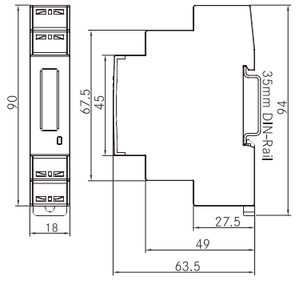
Energy Metering

-Bi-directional energy
-Tariff energy

TYPICAL WIRING



DIMENSIONS (mm)



KM1DS40 / KM1DSF40

FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

TECHNICAL SPECIFICATION

Down In Down Out

Model		KM1DS40 / KM1DSF40
Wiring Method		In Down Out
Accuracy		Class 1
Wiring		1P2W
Voltage		230V
Current	Direct	5(40)A
Measuring	Voltage	■
	Current	■
	Power	■
	Power factor	■
	Frequency	■
Energy Metering	±kWh	■
	Tariffs	– / ■
Width(mm)		18
Communication (Modbus-RTU)		■
Energy Pulse		■
Display Mode		LCD

Model	KM1DSF40
Normal Voltage	230V
Frequency	45Hz~65 Hz
Voltage Range	0.8Un~1.2Un
Start Current Direct input	0.004Ib
Consumption	< 2VA
Energy Pulse	1 output, pulse width (80±20%) ms
Digital Input	Active digital input, input range 0～220VAC;＞150VAC closed, ＜70VAC open.
RTC Error	≤0.5s/day
Communication	RS485, Modbus-RTU, 2-wire, up to 9600bps
IP Degree	Front: IP51
Operating Temperature	-25℃~55℃
Storage Temperature	-25℃~70℃
Relative Humidity	≤93%

KM2DS63/ 100

DESCRIPTION

DIN RAIL MOUNTED
ENERGY METER

APPLICATIONS

- Energy Management
- Sub-item Metering
- Power Monitoring

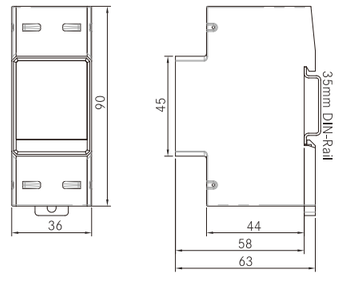
MAIN FEATURES

Measuring
-Direct measurement up to 100A

Communication
-Interface: RS485
-Protocol: Modbus-RTU

Energy Metering
-Bi-directional energy
-Tariff energy

DIMENSIONS (mm)



KM2DS63/100

FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

TECHNICAL SPECIFICATION

Model		KM2DS63M KM2DSF63M	KM2DS100 KM2DSF100
Wiring Method		Up In Down Out	
Accuracy		Class B	Class 0.5S
Wiring		1P2W	
Voltage		230V	
Current Direct		5(63)A	5(100A)
Measuring	Voltage	■	■
	Current	■	■
	Power	■	■
	Power factor	■	■
	Frequency	■	■
Energy Metering	±kWh	■	■
	Tariffs	– / ■	– / ■
	Backup*	–	–
Width(mm)		36	36
Communication (Modbus-RTU)		■	■
Energy Pulse		■	■
Display Mode		LCD	LCD

NOTE:1."■": Yes "–": No "□": Optional

2. KM2DS63M and KM2DSF63M are MID certified.
3.Only those with F in the model name have the tariffs function.
4.*The measurement of backup energy is realized by the digital input of optional ,and a B is added after the model is selected.For example, KM2DS63M-B

KM7SS100
KM7TS100

Electrical application solution expert

DESCRIPTION

DIN RAIL MOUNTED
ENERGY METER

APPLICATIONS

- Energy Management
- Sub-item Metering
- Power Monitoring

MAIN FEATURES

Measuring

-Direct measurement up to 100A

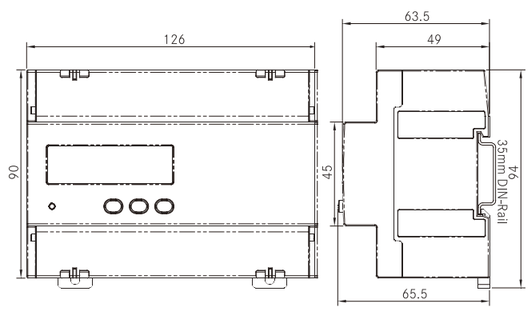
Communication

-Interface: RS485
-Protocol: Modbus-RTU

Energy Metering

-Bi-directional energy
-Tariff energy

DIMENSIONS (mm)



FOR OTHER VERSIONS:
Please consult ONESTO or local distributor.

ONESTO®
ENERGY MANAGEMENT

TECHNICAL SPECIFICATION

Model		KM7SS100 KM7SSF100	KM7TS100 KM7TSF100
Normal Voltage		230V	3×230/400V
Frequency		45Hz~65 Hz	
Voltage Range		0.8Un~1.2Un	
Start Current	Direct input	0.004Ib	
	Via CT input	0.002In	
Consumption		< 2VA	
Energy Pulse		1 output, pulse width (80±20%) ms	
Digital Input		Active digital input, input range 0～220VAC;＞150VAC closed, ＜70VAC open.	
RTC Error		≤0.5s/day	
Communication		RS485, Modbus-RTU, 2-wire, up to 9600bps	
IP Degree		Front: IP51	
Operating Temperature		-25℃~55℃	
Storage Temperature		-25℃~70℃	
Relative Humidity		≤93%	

TYPICAL WIRING