

EM-DD Multi-circuit DC power meter(DIN rail)

■ Description

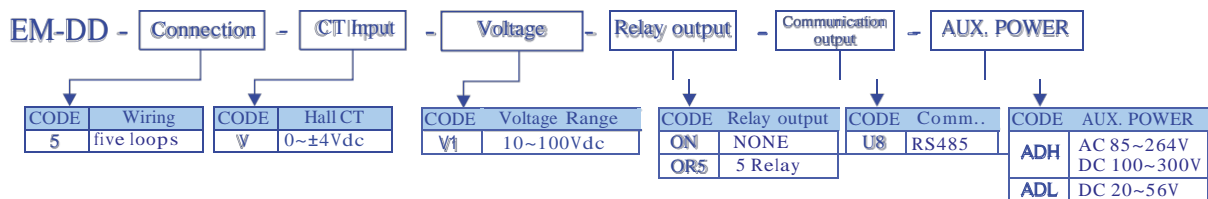
Provide high accuracy DC power measurement, display and remote communication of five loops (V, A, P, Kwh). Multi-circuit design and relay output modular expansion design decrease the overall cost and make the functionality more flexible. All monitored data is available via a RS485 serial , for the needs in energy management, alarming, and remote controlling. Embedded flash memory for Data-Logging can avoid any data missing once the communication is interrupted. Moreover, its ultra compact size DIN-rail mounting makes itself mountable in virtually any panel, enclosure or indoor Cabinet.



■ Feature

- Metering parameters of Voltage, Current, Active Power, Energy (Watt-Hr) of DC power system
- 2-line display both with 6 digits, able to view the name and value of the parameter at the same time
- Modular Expansion Design, able to correspond to different parameters individually
- Relay output with Start Delay, Hysteresis, Energized, and de-energized delay functions
- With RS485 serial as standard for remote controlling relay output
- Standard DIN-Rail mounting
- CE Approved
- Embedded 1MB flash memory for Data-Logging
- With 20 words variables in Modbus address for acquiring the demand measurement at cost

■ ORDERING INFORMATION



■ TECHNICAL SPECIFICATION

Measurement and Wiring

Input	Voltage	Current
DC	10~100Vdc	Depend on external Hall CT

Accuracy & Resolutions

PARAMETERS	ACCURACY	RESOLUTION	DISPLAY
Voltage	0.2%	0.1V	0~9999
Current	0.2%	0.001A	0~9999
Active Power	0.3% of FS+0.3% of Rdg	0.1W	-32768~32767
Active Energy	0.5%	0.1kWh	0~999999

Measurement: True RMS measuring Parameters

Display update period: 0.5 Sec

Wiring: 1P2W

Input range: Voltage: As metering and Wiring
Direct Input ≤ 100V
CT Primary setting: 1~9999A

Max. input withstand:

Voltage: 1.2 X Rated voltage continuous
Current: Clamp CT Specification 1.2X Rate voltage continuous

Communication function

Port: RS-485

Protocol: Modbus RTU Mode

Address: 1~247

Baud rate: 1200, 2400, 4800, 9600, 19200, 38400 bps

Wire distance: 1200M max

Terminal resistance: 150Ω

Variable Communication address: Customizing from 0100h to 0113h, 20 address parameters

Recording

Memory: Internal 1MB

Capability: Depends, i.e. saving up to 100,000 records with recording kWh parameters only.

Recording interval: 1~32767

Time units: Second, minute, hour, day

Display

LCD backlight: 2-line, 6 digits for each. Top pane: 6.5mm high; bottom pane: 9.6mm high

Comm. status indication: With Communication status display icon

Parameter indication: show parameters and channels in words

Alarm status indication: R1~R5 with Relay contact status display icon

Relay Output Module EM-OR5

Control function

Remote Control: 5 relay outputs (Option) which can be control via communication directly

Alert Management:

Set point: 5 set points can corresponding individually to each relay output

Relay output: R1&R2 FORM-A,R3~R5 FORM-A Common mode 1A/230Vac, 3A/115V

Relay parameter corresponding:

Selected from various power parameters \geq

Relay mode: Hi / Lo / Hi.HLd / Lo.HLd / Ro / oFF

Energizing functions: Start delay/ Energize time delay & de-energize time delay/ Hysteresis/ Energized Latch

Start band: 0~9999 counts

Start delay: 0:00.0~9(Minutes):59.9(Second)

Energize time delay:0:00.0~9(Minutes):59.9(Second)

De-energize time delay:0:00.0~9(Minutes):59.9(Second)

Hysteresis: 0~9999counts

Power

Aux Power: ADH:AC85~264Vac, 50/60Hz, DC100~300Vdc
ADL:20~56Vdc

Power consumption:AC:10VA, DC:4W

Temperature Coefficient:100 ppm/°C

Security

Password: two groups password in 4 digits for "parameter setting" & reset to zero for WATT

Parameter setting : Password is able to set

Reset to zero for WATT:password is unable to set

Function Lock: There are 4 options

User Level: User Level lock. User can get into User Level only for checking but unable to change the setting

Programming Level:Programming Level lock. User can get into programming level only for checking but unable to change the setting

ALL: All lock. Lock both User Level & Programming Level. User can get into all level for checking but unable to change the setting

None: No Lock

Parameter storage methods:

F-RAM (Ferroelectric RAM), a random-access memory

Operating environment

Operation Temperature & Humidity:

0~60°C;Display 0~60°C/0~80%RH,
No-condensing

Storage Temperature & Humidity:

-20~70°C/0~80%RH, Non condensing

Electrical Safety

Insulating resistance: \geq 100M@500Vdc

Dielectric strength : AC 2KV, Imin 50/60Hz,

Input/Ouput/Power/Case

EMC: EN1326-1:2006

EN61000-3-2:2006+A1:2009+A2:2009

EN61000-3-3:2008

IEC61000-4-3:2006

IEC61000-4-2:2009

IEC61000-4-4:2004

IEC61000-4-5:2006

IEC61000-4-6:2009

IEC61000-4-11:2004

LVD: EN61010-1:2010

MTBF: 6x10⁴ hours

Mechanical

Case material: PC fireproof

Mounting: DIN rail

Wire terminal: Voltage input:

AWG:28~12 / 0.2~2.5mm²

Screw Torque Value: M2.5 / 5.202kgf.cm (Max)

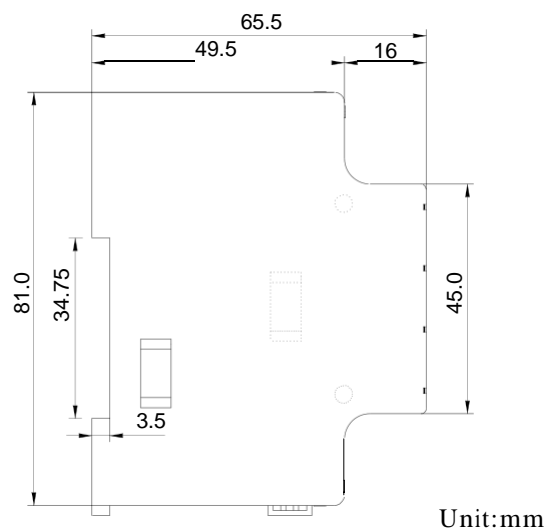
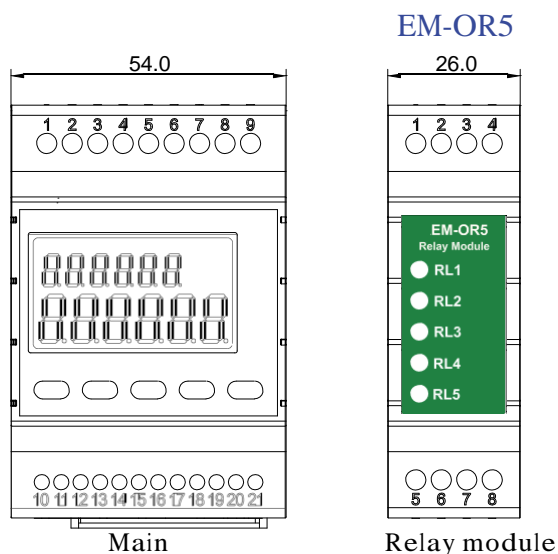
Current input:

AWG:28~14 / 0.2~1.5mm²

Screw Torque Value: M2/2 .04kgf.cm (Max)

Weight: EM-DD:185g,EM-OR5:75g

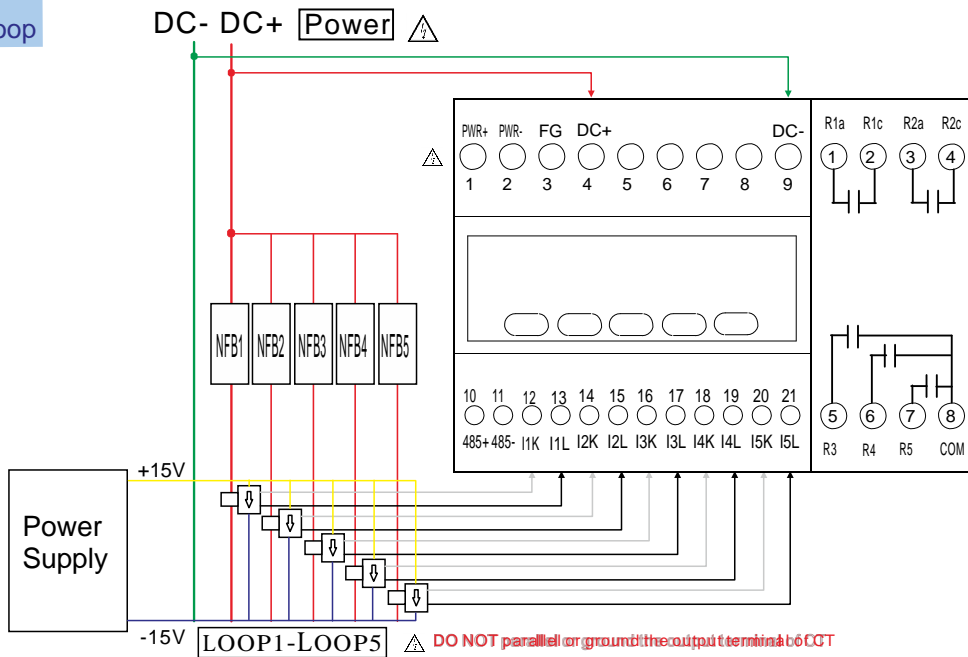
Dimension



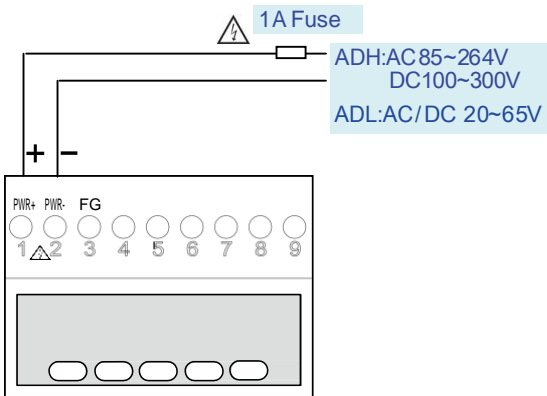
Unit:mm

Wiring Diagram

DC
5 Loop



Power Supply



RS485 Communication Port

