AEM-DD Multi-Circuit DC Power Meter(DIN Rail) ADTEK

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.

Features

- 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

Applicatioin

- DC power system
- Solar power system monitoring
- Battery module monitoring

Ordering Information

AEM — DD — Loop — CT Input — Voltage — Relay output — Comm. output — Aux. Power

CODE	Quantity
5	Five loops

CODE	Hall CT
V	0~±4Vdc

CODE	Range
V1	0~600Vdc
HV	0~1.6 Vdc (Only available when working with High-voltage input module MHV-4V)

CODE	Relay Output
ON	NONE
OR5	5 Relay

CODE	Comm.
U8	RS-485 Modbus RTU

CODE	Aux. Power
ADH	AC 85~264V DC 100~300V
ADL	AC/DC 20~56V

Measurement and Wiring

Input	Voltage	Current
DC	0~600Vdc	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

Technical Specification

Electrical Characteristics

Measurement: True RMS measurement
Display refresh: 0.5s
Wiring: 1P2W
Input range: Voltage: direct Input ≤ 600V
CT Primary ratio: 1~9999A
Overload capacity: Voltage: 1.2X rated voltage continuous
Current: Clamp CT 1.2X rated continuous

RS-485 Communication

Protocol: Modbus RTU Mode
Address: 1~247
Baud rate: 1200 / 2400 / 4800 / 9600 / 19200 / 38400 bps
Parity: N81 / N82 / O81 / E81
Distance: 1200M max
Variable Communication address:
Customizing from 0100h to 0113h,
20 address parameters

Data Log

Memory: 1MB Flash ROM
Capability: Depends, i.e. saving up to 100,000 records with recording kWh parameter only.
Recording interval: 1~32767
Time units: Second, minute, hour, day

Display

Backlight LCD:	Dual-row 6-digit LCD, upper row 6.5mm, lower row 9.6mm font height
Status indication:	Communication status icon Relay1 ~ Relay5 status icon Text indicating power parameters and channel numbers

Relay Output (AEM-OR5, Optional)

Remote Control:	5 relay outputs which can be controlled via communication directly
Alert Management:	
Alarm group:	5 groups, each group corresponding to one relay output
Contact type:	RL1~RL2 FORM-A Independent mode RL3~RL5 FORM-A Common mode
Relay capacity:	1A/230Vac, 3A/115V
Relay parameter corresponding:	Selected from various power parameters
Action mode:	Hi / Lo / Hi.Hold / Lo.Hold / RO / OFF
Action function:	Start delay / Start band / Delay ON / Delay OFF / Hysteresis
Start band:	0~9999 counts
Start delay time:	0:00.0~9(M):59.9(S)
Delay ON time:	0:00.0~9(M):59.9(S)
Delay OFF time:	0:00.0~9(M):59.9(S)
Hysteresis:	0~9999counts

Hall CT Power Supply: CSP-2-003-B15-HC-D24(Optional)

Input voltage:	18~36Vdc
Output voltage:	±15Vdc
Output current:	±100mA

Hall CT Power Supply: CSP-2-003-B15-HC-D36(Optional)

Input voltage:	36~72Vdc
Output voltage:	±15Vdc
Output current:	±100mA

Power Supply

Range:	ADH: AC85~264Vac, 50/60Hz, DC100~300Vdc ADL: AC/DC 20~56V
Power consumption:	AC:10VA, DC:4W

Environmental Conditions

Operating Temp.:	0~60℃
Humidity rating:	0~95% RH, No-condensing
Temp. coefficient:	100 ppm/℃
Storage Temp.:	-10~70℃
Degree of protection:	IP50

Operating altitude(maximum): 2000m above sea-level

Security

Password:	Two 4-digit passwords, for parameter setting and energy reset
Parameter setting:	Password is able to modify
Energy reset:	Password is unable to modify
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
Memory storage:	F-RAM

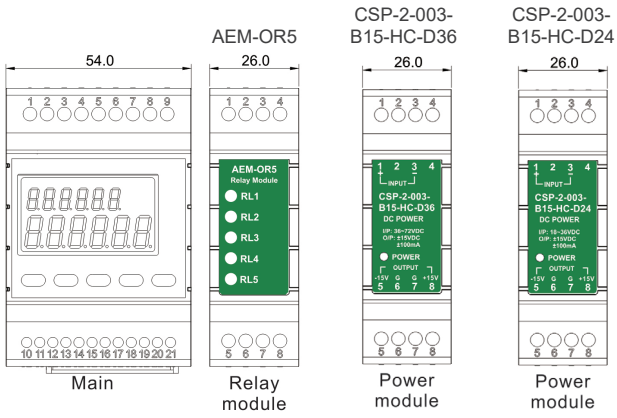
Safety

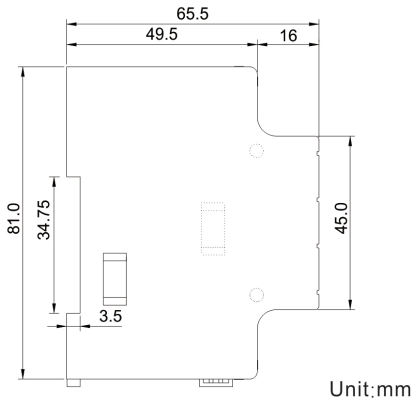
Insulating resistance:	≧ 100MΩ @500Vdc
Isolation:	AC 2KV, 50/60Hz for 1min, Between Input/Ouput/Power/Case
EMC:	EN61326-1:2006 EN61000-3-2:2006+A1:2009+A2:2009 EN61000-3-3:2008 IEC61000-4-3:2006 IEC61000-4-2:2009 IEC61000-4-4:2004 IEC61000-4-5:2006 IEC61000-4-6:2009 IEC61000-4-11:2004
Safety(LVD):	EN61010-1:2010

Mechanical Structure

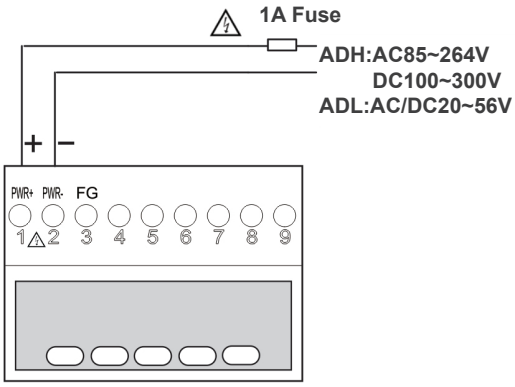
Material:	PC, Black (with fire-retardant)
Mounting:	DIN rail
Wire terminal:	Voltage input: AWG: 28~12 / 0.2~2.5mm^2 Screw Torque Value: M2. 5 / 5.202kgf.cm (Max) Current input: AWG: 28~14 / 0.2~1.5mm^2 Screw Torque Value: M2 / 2 .04kgf.cm (Max)
Weight:	AEM-DD: 185g, AEM-OR5: 75g, CSP-2-003-B15-HC-DXX: 55g

Dimensions

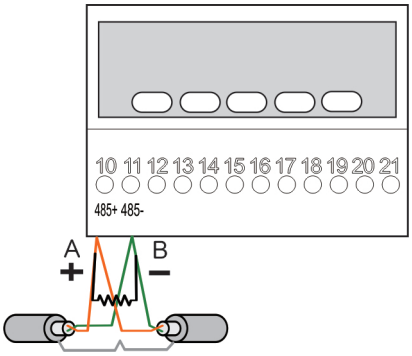




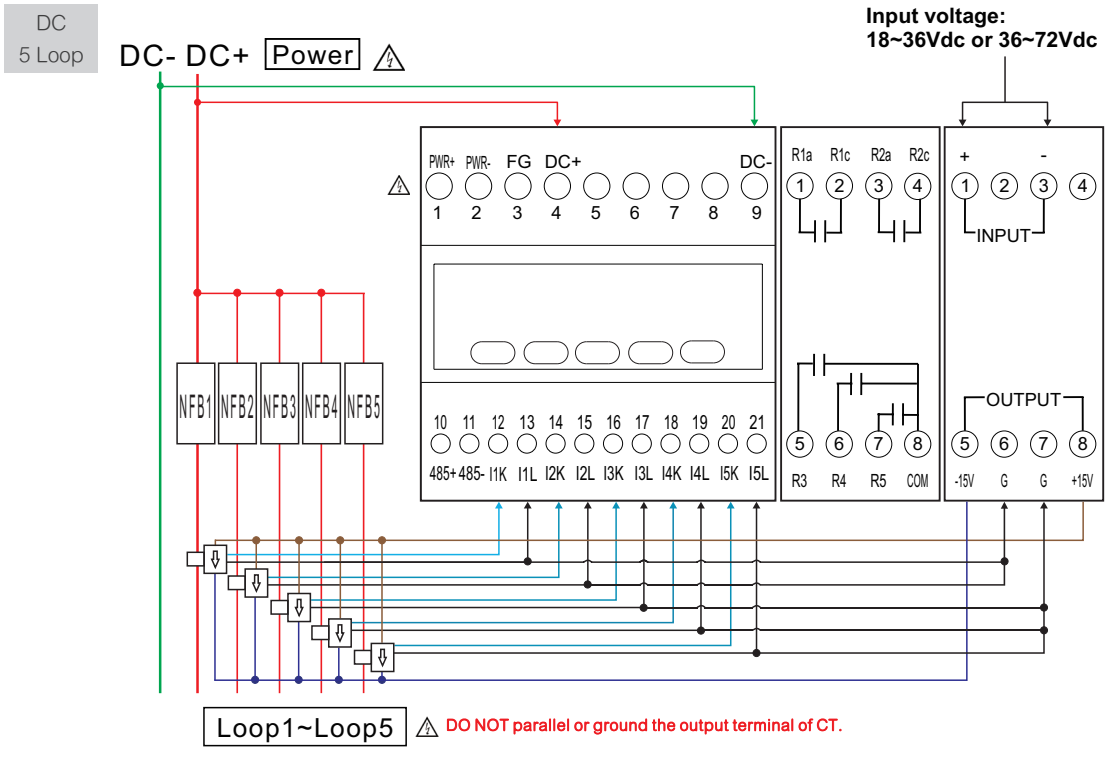
Power Connection



RS-485 Communication Port



Voltage and Current Connection



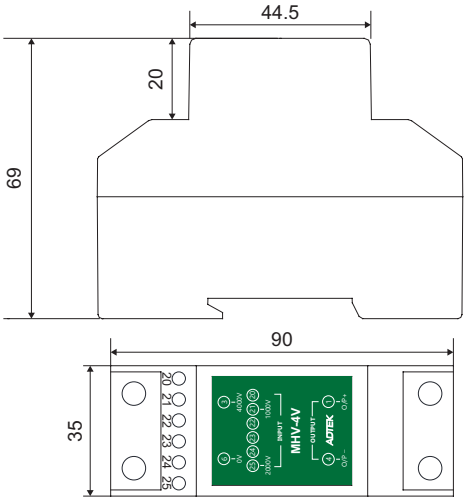
High-Voltage Input Module (Optional)

MHV－4V

Input Voltage Range: AC/DC 0~4000V

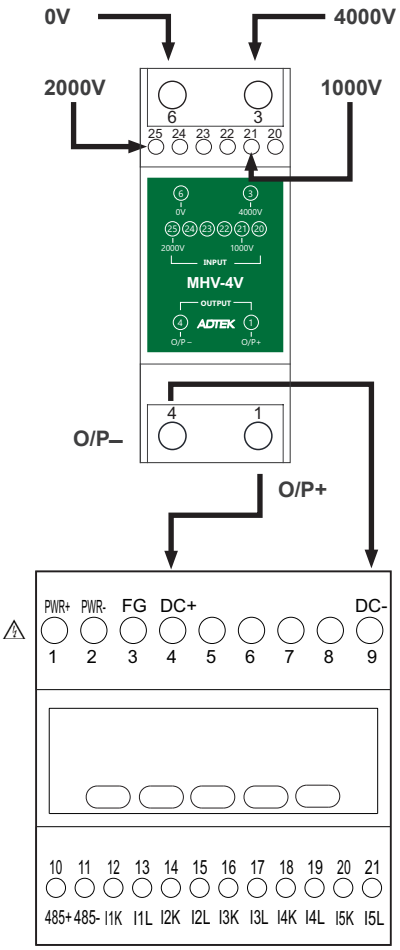
Accuracy:±2%

Dimensions



Unit: mm

Terminal Block



Ordering Information

US – HCT — Type — Primary Current

CODE	Type
O	Round
S	Square

CODE	Rated Current
50	DC/AC 0~50A
100	DC/AC 0~100A
200	DC/AC 0~200A
300	DC/AC 0~300A

CODE	Rated Current
400	DC/AC 0~400A
600	DC/AC 0~600A
1000	DC/AC 0~1000A
2000*	DC/AC 0~2000A
3000*	DC/AC 0~3000A
5000*	DC/AC 0~5000A

*2000A~5000A only for square type (S)

Type	Rates primary	Max measuring	Insulation Voltage	Hole	Exterior	Weight
US-HCT-O-50	50A	75A	2.5KV	Φ21	1	65g
US-HCT-O-100	100A	150A	2.5KV	Φ21	1	65g
US-HCT-O-200	200A	300A	2.5KV	Φ21	1	65g
US-HCT-O-300	300A	450A	3KV	Φ35	2	125g
US-HCT-O-400	400A	600A	3KV	Φ35	2	125g
US-HCT-O-600	600A	900A	3KV	Φ35	2	125g
US-HCT-O-1000	1000A	1500A	5KV	Φ40	3	230g
US-HCT-S-50	50A	75A	2.5KV	42x15	4	205g
US-HCT-S-100	100A	150A	2.5KV	42x15	4	205g
US-HCT-S-200	200A	300A	2.5KV	42x15	4	205g
US-HCT-S-400	400A	600A	2.5KV	42x15	4	205g
US-HCT-S-600	600A	900A	2.5KV	42x15	4	205g
US-HCT-S-1000	1000A	1500A	5KV	64x16	5	500g
US-HCT-S-2000	2000A	3000A	6KV	104x36	6	900g
US-HCT-S-3000	3000A	4500A	6KV	104x36	6	900g
US-HCT-S-5000	5000A	7500A	6KV	104x36	6	900g

Unit: mm