

ACS-13 Single Phase Power Meter (DIN rail)

ADTEK

ACS-13

Description

ACS-13 Single phase power meter (DIN rail) provides accurate metering data of 1P2W or 1P3W for voltage, current, power and energy.

Built-in RS-485 Modbus RTU communication or optional WiFi communication function, allow administrators to collect and monitor data of power using remotely.

Features

- Attached wire terminal cover with lead sealing is to protect the wiring connection from unnecessary changes.
- 1P2W or 1P3W power system can be measured through RS-485 communication. And moreover, 1P2W can measure up to 2 circuits.
- The number of sampling cycles is the number of cycles of the input frequency, and each cycle samples 128 points.



Applications

- Building Automation
- Store, Market, Public Place
- Greenhouse Cultivation
- Smart Home
- Telecommunication Room
- Campus, Hotel, Laboratory

Ordering Information

ACS-13 — Communication Output

CODE	Communication Output
M	RS-485 Modbus RTU
W	RS-485 Modbus RTU+ WiFi Modbus TCP

Meter Guide

Measurement items and functions	
Voltage	Voltage
Current	Current
Active Power	Active Power
Reactive Power	Reactive Power
Apparent Power	Apparent Power
Power Factor	Power Factor
Frequency	Frequency
Active Energy	Total
Reactive Energy	Total
Apparent Energy	Total
Communication Port	RS-485 Modbus RTU
Wireless Communication	WiFi Modbus TCP (optional)

Accuracy & Resolutions

Parameter	Accuracy	Resolution	Measurement Range
Voltage	1.0%	0.1V	85~264Vac
Current	1.0%	0.01A	1%~120% CT rated current
Active Power	2.0%	1W	0~2,639,736W
Reactive Power	2.0%	1Var	-2,639,736~2,639,736Var
Apparent Power	2.0%	1VA	0~2,639,736VA
Power Factor	2.0%	0.001	-0.020~+1.000~-0.020
Frequency	0.2%	0.01Hz	45~65Hz
Active Energy	2.0%	0.1kWh	0~9,999,999.9kWh
Reactive Energy	2.0%	0.1kVarh	0~9,999,999.9kVarh
Apparent Energy	2.0%	0.1kVAh	0~9,999,999.9VAh

Technical Specification

Input

Measurement:	True RMS measurement
Sample rate:	128 points/cycle
Data refresh rate:	0.5s
System wire:	1P2W, 1P3W, could be set through RS-485
Input voltage:	85~264Vac
Input current:	CT Primary setting range: 1~9999A CT Secondary: 333mV
Input frequency:	50/60Hz
Input burden:	voltage: <8VA; current: 0.5VA

WiFi (Optional)

Standard:	IEEE 802.11 b/g/n
Protocol:	Modbus TCP
Antenna connector:	SMA Female

RS-485 Communication

Protocol:	RS-485 Modbus RTU mode
Address:	1~247
Baud rate:	2400/4800/9600/19200/38400/115200 bps
Response time:	<50mS (the interval between a received command completed and data-transfer starting)
Parity check:	None/Even/Odd
Data bits:	8 bits
Stop bit:	1 or 2
Diatance:	1200M max

Front Panel

LED indicators:	ACS-13W: 2 LED for power (red) and WiFi status (yellow) ACS-13M: 4 LED for pulse output (red), TX (green), RX (yellow) and power (red) 3200 impulse/kWh
Buttons:	ACS-13W: 2 buttons, for WiFi setting and reboot ACS-13M: 1 button, for RS-485 parameter reset
Memory:	2KB FRAM

Power Supply

Power supply:	85~264Vac
Power consumption:	AC: 8VA

Environmental Conditions

Operating Temp.:	-20~70°C
Humidity rating:	5~95 %RH, Non-condensing
Temp. coefficient:	100 PPM / °C
Storage Temp.:	-30~85°C
Degree of protection:	IP20
Operating altitude(maximum):	2000m above sea-level

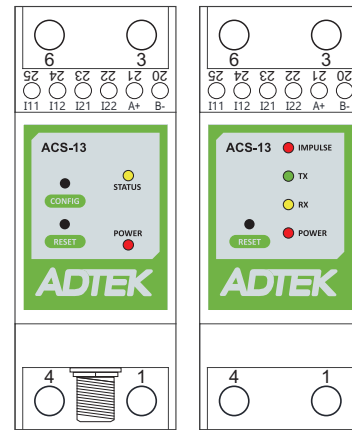
Mechanical Structure

Dimensions:	35mm(W) x 69mm(H) x 90mm(L)
Material:	white PC (with fire-retardant)
Installation:	DIN rail
Weight:	< 200g
Wire terminal:	PA 66 (UL 94V-0) Voltage input: AWG 20~7 / 1.0~10mm ² Screw torque value: M5 / 29.4kgf.cm(Max) Others input: AWG: 24~12 / 0.5~2.5mm ² Screw torque value: M2.5 / 3.67kgf.cm(Max)

Safety

Isolation:	AC 2.0KV, 50/60Hz, 1 min. between Input / Output / Case
Insulation resistance:	100MΩ @ 500Vdc
EMC:	EN 61326-1:2013 CISPR11 CISPR11 Class A EN61000-3-2:2014 EN61000-3-3:2013 IEC61000-4-2:2008 IEC61000-4-3:2006+A1:2007+A2:2010; IEC61000-4-4:2012 IEC61000-4-5:2005 IEC61000-4-6:2013 IEC61000-4-8:2009 IEC61000-4-11:2004
Safety(LVD):	EN 61010-1:2010
FCC:	FCC part 15 subpart B Class A

Front Panel

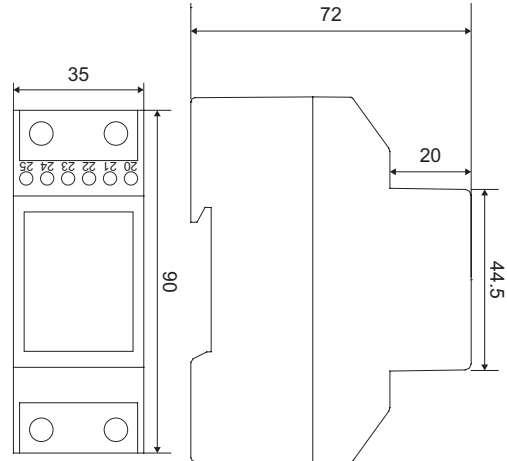


ACS-13W
(WiFi+RS-485)

ACS-13M
(RS-485)

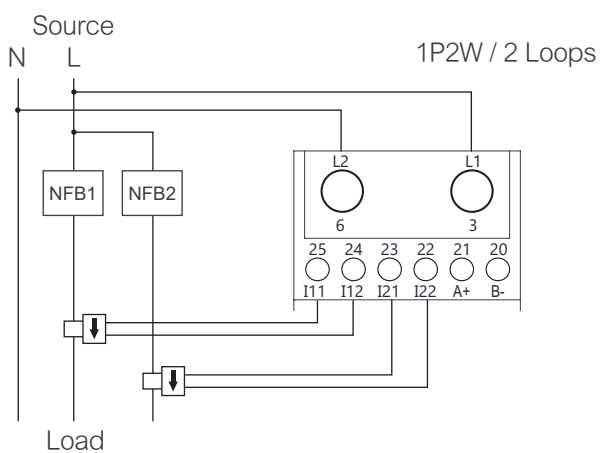
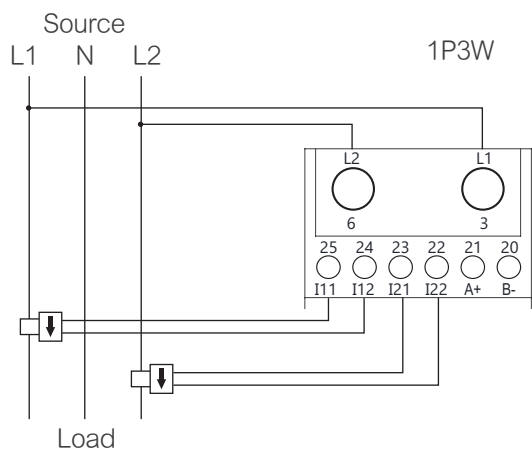
LED indicators:	ACS-13W: STATUS : WiFi status POWER : Power status ACS-13M: IMPULSE : Pulse of energy TX/RX : RS-485 status	Operation keys: ACS-13W: CONFIG : WiFi setting RESET : WiFi reset ACS-13M: RESET : Clear setting
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Dimensions



(Unit: mm)

Voltage and Current Wiring



RS-485 Communication

