

MW(Q/S/PF)-5A Watt (Active Power/ RE-active Power/ PF)Meter

DESCRIPTION

Mx-5A meter to provide power (Watt or Active Power or Re-active Power or Power Factor), high-precision measurement, display and remote communication capabilities. ◦

Additional purchase: 1 group of relay outputs, 1 analog output, an RS485 communication output (the Modbus RTU Mode) interface, so that can be installed in power management, remote input and output, alarm and variety of remote communication control the use of needs. ◦

120mm (D) is ideal for assembling in panels with limited penetration depth. ◦



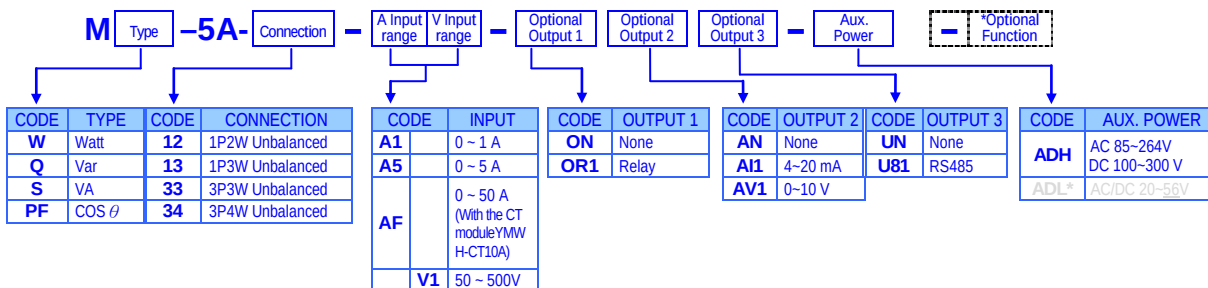
FEATURE

- Measuring 1P2W, 1P3W, 3P3W, 3P4W Unbalanced systems of Power Parameters (W、Var、VA、PF.) ◦
- 1 relay output for Hi / Lo / Hi Hold / Lo Hold / OFF modes, and with start delay, hysteresis, energized time delay, de-energized time delay functions ◦
- Analogue output and RS 485 communication are available in options ◦
- Standard panel cutouts: 1/8 DIN 96 x 48 mm
- Meet CE requirements

APPLICATIONS

Electricity Charging System Energy Consumption Monitoring & Control Distribution System
Building Automation Energy Management System Testing Equipment

ORDERING INFORMATION



TECHNICAL SPECIFICATION

Measurement and connection

Connection	Input range			Input consumption
	Voltage	Amp.	Freq.	
1P2W	50~500Vac (VL-N)	1A 5A	45~65 Hz	Voltage:≤0.5VA/Phase or Current:≤0.1VA/Phase
1P3W				
3P3W				
3P4W				

* Max input 500V, 5A, if exceed please use PT or CT ◦

Accuracy and resolution

Paramet	Accura	Resolution(Programmab	Display Range
Active	0.5%	1 (W)	0~29999
Reactive	0.5%	1 (VAR)	0~29999
Apparent	0.5%	1 (VA)	0~29999
Power factor	0.5%	0.001(PF)	-0.500~+0.500

Input

Measurement:

True RMS Value

Ripple effect:

≤ 0.2% of F.S. at 30% distortion

A/D converter:

16 bits A/D converter

Accuracy:

≤ 0.5% of FS ± 1C;

Sampling rate:

128point/Cycle

Response time:

≤500 ms (Average value set as "1")

System:

1P2W, 1P3W, 3P3W, 3P4W / Unbalanced

Input range:

Voltage: 50~500V L-N

Primary shunt unit setting: V and KV

PT Primary setting: 50.0V~999.99KV

PT Secondary setting: 50.0~500.0V

Direct Input: Primary = Secondary < 500V

Current: 0 ~ 1/ 0~ 5A (max.)

CT Primary setting: 1~2999.9A

CT Secondary Fixed: 1.000 or 5.000A (By Order)

Max. input capability:

Voltage:

2 X rated voltage continuous

4 X rated voltage continuous 2 minutes

Current:

3 X rated current continuous

10 X rated current continuous 10 seconds

50 X rated current 1 second (5A input type)

Control function

Setting point:

1 sets (1 contact output)

Relay output:

1 set SPDT, 3A/230Vac, 5A/115V

Relay mode:

Hi / Lo / Hi.HLd / Lo.HLd / oFF

Function:

Start delay/Start band/ Hysteresis /Relay hold

Start band: 0~9999 counts

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

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

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

Hysteresis: 0~5000 counts

Analogue output(option)

Accuracy:

±0.1% of F.S.; 16 bits DA converter

Ripple:

≤± 0.1% of F.S.

Response time:

≤100 msec. (10~90% of input)

Isolation:

AC 1.5 KV between input and output

Output range:: [Ro5L]

Voltage: 0~5V / 0~10V(default) / 1~5V

0~2.5~5V / 1~3~5V / 0~5~10V /

-5~-5V / -10~-10V

Current: 0~10mA / 0~20mA / 4~20mA(default)

4~12~20 mA / -10~-10 mA / -20~-20 mA

Output capability:	Voltage: 0~10V: $\geq 1000\Omega$; Current: 4(0)~20mA: $\leq 600\Omega$ max
Functions:	RaH5 (output range high): Settable range: -19999~29999 RaL5 (output range Low): Settable range: -19999~29999 RaLHt (output High Limit): 0.00~110.00% of output High RaPro : Settable range: -38011~+27524 RaSPn : Settable range: -38011~+27524
Digital fine adjust:	

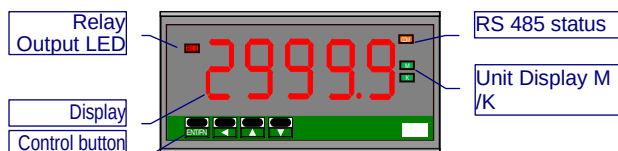
RS 485 (Optional)

Protocol:	Modbus RTU mode
Baud rate:	1200/2400/4800/9600/19200/38400 bps selectable
Bits:	8 bits
Parity check:	Odd \ even or none (with 1 or 2 stop bit) selectable
Address:	1 ~ 255 selectable
Wire distance:	1200M max
Terminal resistance:	150 Ω .
Safety	
Insulation:	AC 2.0 KV for 1 min, Power/Input/Output/Casing
Isolation resistance:	$\geq 100M$ ohm at 500Vdc, Power/Input/Output/Casing
Signal isolation:	Power/Input/Relay/RS485/Analogue output/Pulse
EMC:	EN 55011:2002; EN 61326:2003
Safety(LVD):	EN 61010-1:2001

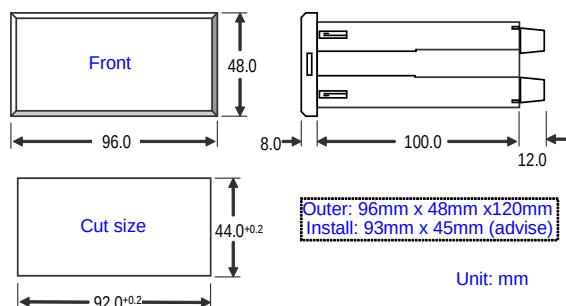
Working environment

Temperature.:	0~60 °C
Humidity.(%RH):	20~95 %RH, Non condensing
Temp. coefficient:	≤ 100 PPM/°C
Storage:	-10~70 °C
Protection:	Front panel :IEC 529 (IP52); Case: IP20
Mechanical	
Dimension:	96mm(W) x 48mm(H) x 120mm(D)
Mounting size:	92mm(W) x 44mm(H)
Case material:	ABS Non-flammable (UL 94V-0)
Installation:	Panel mounting
Terminal:	Plastic NYLON 66 (UL 94V-0) 10A 300Vac, M2.6, 16~22AWG
Weight:	350g(Aux. Power : ADH, ADL)

Front panel

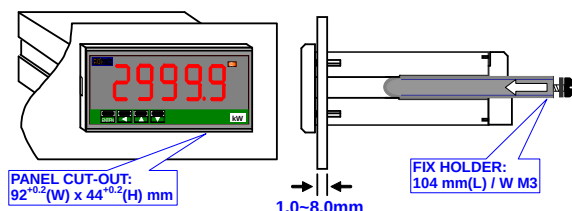


Casing dimension



Installation

Please install meter within working temperature & humidity environment



Power supply

Working voltage:

ADH: AC 85~264V , DC 100~300V

ADL: AC/DC 20~56V

Power consumption:

AC Power $\leq 12VA$, DC Power $\leq 6.0W$

Data storing:

By EEPROM

Display

Watt / Var / VA / P.F display by order selection

I/O Status:

5 digi; 0.8"(2cm) Red LED



Units of indicator: K: 10^3 , M: 10^6

RS 485 communication: 1 rectangular orange LED

RS485 signal send/receive data , LED will blink
When COM blink faster, data transfer speed is higher

Relay output LED: 1 rectangular red LED

LED on when relay output;

4 control buttons: Enter, function./ Shift / Up / Down

Up key: Values increase / return

Down key: Value decrease / enter next level

Shift key: Move decimal point / return to up level / escape setting

Enter/Fun key: Enter setting status / save and enter next function parameters

Password function:

4 digits password setting ; range 0000~9999

Password for parameters setting level needed.

Password can be change at parameters level

Please contact us if password lost.

Lock function:

4 lock modes, No lock/User level lock/Parameters

Setting lock/Lock all

None: No lock , all function and parameters selectable

User Level: Open for viewing level, not able to change any setting if locked

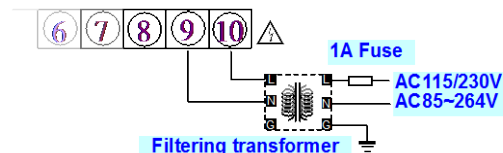
Engineer Level: Open for viewing level, not able to change any setting If locked

All: Locked all level.

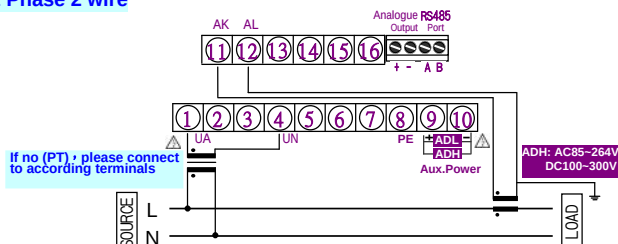
Wiring diagram

Please check input operating voltage before sending power, terminal connection to right number . Advise adding fuse/switch in front of power. RS485 / Analog Output wiring: AWG22~16(0.5~1.3mm²)
Other: Wiring: AWG15~10(1.5~2.5mm²)

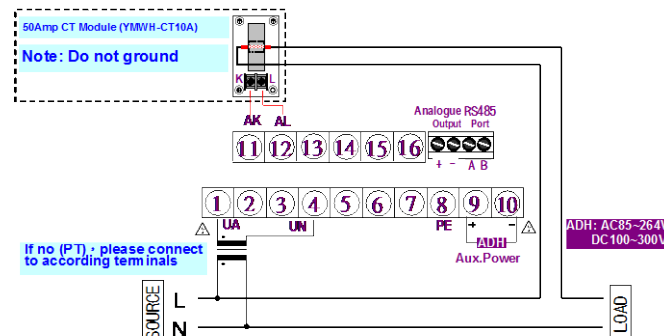
Operating power connection



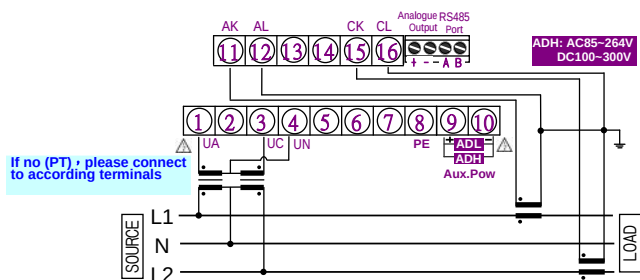
1 Phase 2 wire



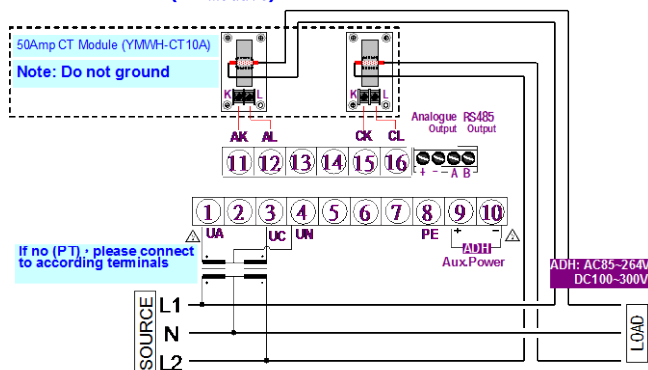
With YMWH-CT10A(CT Module) 1P2W



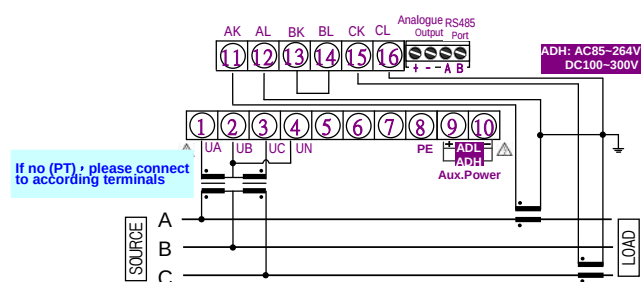
1 Phase 3 wire



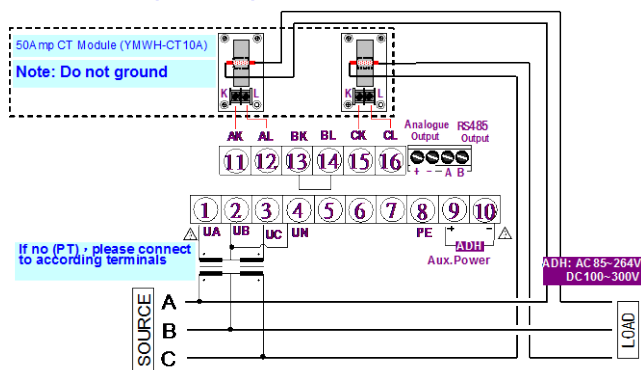
With YMW-CT10A(CT Module) 1P3W



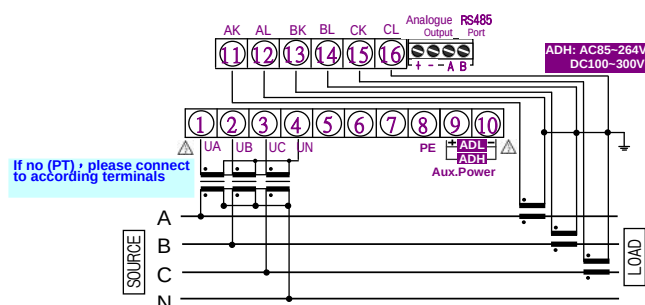
3Phase 3wire 2CT(Unbalanced Load)



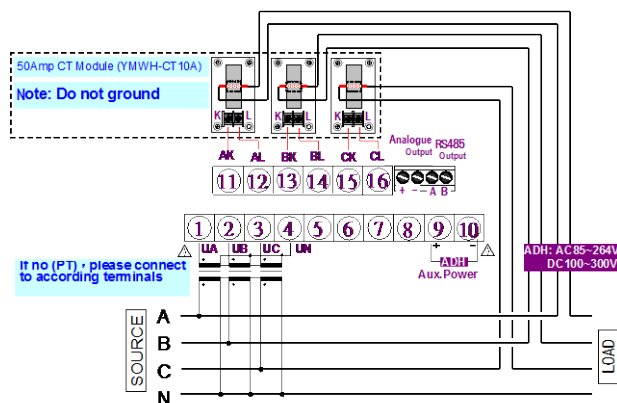
With YMW-CT10A(CT Module) 3P3W



3Phase 4wire 3CT(Unbalanced Load)

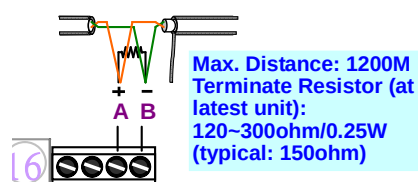


With YMW-CT10A(CT Module) 3P4W



Output signal connection

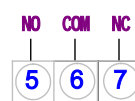
Due to terminal quantitative restrictions, the left side of the terminal can be used for analog output; the right terminal can be used for RS485 output



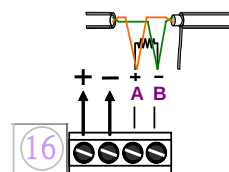
Max. Distance: 1200M
Terminate Resistor (at latest unit):
120~300ohm/0.25W
(typical: 150ohm)

Relay output

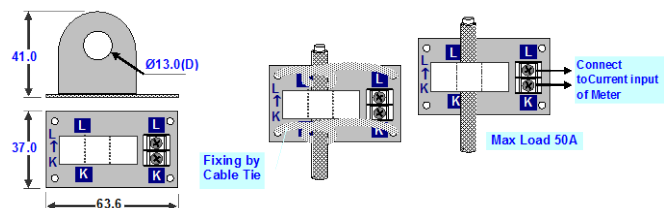
Relay output:
Contact load
1A/230V • 3A/115V



A.O + RS485



Optional modules: high-precision CT module - YMW-CT10A - 0.1class



Do not ground the use of CT module - YMW-CT10A