

DESCRIPTION

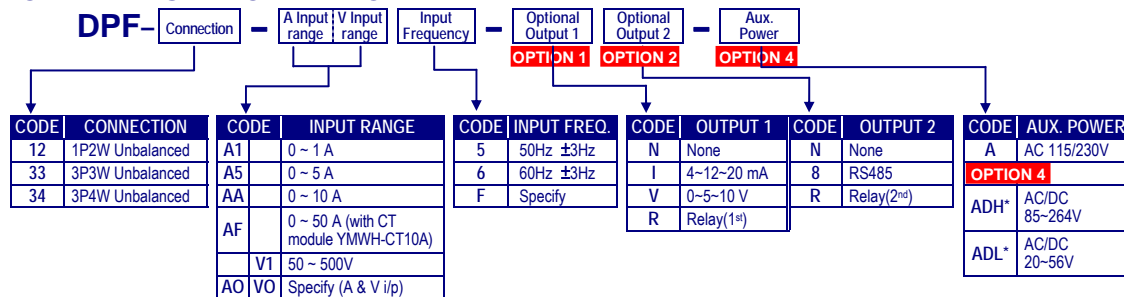
- The DPF Power Factor Meter provides high accuracy measurement, display and communication functions.
- Options include 2 Relay outputs, 2 External Control Inputs and 1 RS485(Modbus RTU Mode) with versatile functions such as remote I/O, alarm and communication for a wide range of applications.



FEATURES

- Measures AC Power Factor / 1P2W, 1P3W, 3P3W, 3P4W Unbalanced systems
- Direct input 500V / 50A maximum with high accuracy current transformer.
- 2 relays can be programmed individual to be a Hi / Lo / Hi Latch / Lo, Latching, with Start Delay / Hysteresis / Energized & De-energized Delay functions, remotely controlled via Modbus.
- 2 external control inputs can be programmed individually
- Relative PV / PV Hold / Maximum or Minimum Hold
- Other applications include: DI (remote monitoring) / Reset for Energized Latch.
- RS 485 communication port in option
- Outside dimensions is DIN standard (96 x 48 mm)
- CE Approved & RoHS

ORDERING INFORMATION



TECHNICAL SPECIFICATION

Measurement & Connection

Connection	AC Input			Input Burden
	Voltage	Current	Freq.	
1P2W	50~500V _{rms}	1A	50 Hz	Voltage: ≤0.5VA/phase
3P3W	50~500V _{rms}	5A	or	or
3P4W	50~500V _{rms}	50A	60 Hz	Current: ≤0.1VA/phase

* The maximum input is 500V and 5A. If the input over the level please connects with CT or PT to the meters. The 50A input is connected to a CT module(YMWH-CT10A).

Accuracy & Resolutions

Parameters	Accuracy	Resolution	Display Range
Power Factor	0.5%	0.001	-0.001~+/-1.000~+0.001

Input

- Measurement:** True rms measurement
- Waveform effect:** ≤ 0.2% of F.S. at 30% distortion
- A/D Converter:** 16 bits resolution
- Accuracy:** ≤ 0.5% of FS ± 1C;
- Sampling Rate:** 15 cycles/sec
- Response Time:** ≤100 msec.(when the AvG = "1") in standard
- Connection:** 1P2W, 3P3W, 3P4W, Unbalance
- Input Range:** Voltage: 0 ~ 500V_{rms} (max.)
Current: 0 ~ 1/ ~ 5/ ~ 10/ ~ 50A (max.)
50A Direct input with optional module
Frequency: 50/60 Hz±3 Hz,

Max. Input over capability:

- Voltage:** 2 x rated continuous;
4 x rated for 2 seconds
- Current:** 3 x rated continuous;
10 x rated for 10 seconds;
50 x rated for 1 second(for 5A input type)

Control Functions (Optional)

- Set-Points:** Two set-points
- Relay:** Dual FORM-A, 1A/230Vac, 3A/115V
- Relay Energized Mode:** Hi / Lo / Hi.HLd / Lo.HLd / do / oFF
- Functions:** Start delay / Energized & De-energized delay / Hysteresis / Energized Latch
Start band: 0~9999 counts
Start delay time: 0:00.0~9(Minutes):59.9(Second)
Energized delay time: 9(Minutes):59.9(Second)
De-energized delay time: 9(Minutes):59.9(Second)
Hysteresis: 0~5000 counts

External Control Inputs

- Input Mode:** 2 ECI points, Contact or open collect input, Level trigger
- Functions:** There are flexible functions can be programmed for Relative PV / PV Hold / Reset Max or Mini. Hold / Reset for Relay latch.
- Digital Input(DI):** Remote monitoring
- Debouncing Time:** 5 ~ 255 x 8mseconds

RS 485 Communication(optional)

- Protocol:** Modbus RTU mode
- Baud Rate:** 1200/2400/4800/9600/19200/38400 programmable
- Data Bits:** 8 bit programmable
- Parity:** Even, odd or none (with 1 or 2 stop bit) programmable
- Address:** 1 ~ 255 programmable
- Remote Display:** to show the value from RS485 command of master
- Distance:** 1200M
- Terminate Resistor:** 150Ω at latest unit.

4 Digit *Power Factor METER* with Alarm, A/O, RS485

DDPF

Electrical Safety

Dielectric Strength: AC 2.0 KV for 1 min, Between Power / Input / Output / Case
Insulation Resistance: $\geq 100M$ ohm at 500Vdc, Between Power / Input / Output
Isolation: Between Power / Input / Relay / RS485 / E.C.I.
EMC: EN 55011:2002; EN 61326:2003
Safety(LVD): EN 61010-1:2001

Environmental

Operating Temp.: 0~60 °C
Operating 20~95 %RH, Non-condensing
Temp. Coefficient: ≤ 100 PPM/°C
Storage Temperature: -10~70 °C
Enclosure: Front panel: IEC 549 (IP54); Housing: IP20

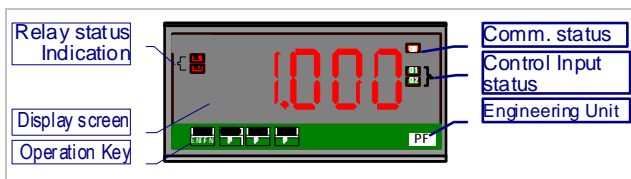
Mechanical

Dimensions: 96mm(W) x 48mm(H) x 120mm(D)
Panel Cutout: 92mm(W) x 44mm(H)
Case Material: ABS fire-protection (UL 94V-0)
Mounting: Panel flush mounting
Terminal Block: Plastic NYLON 66 (UL 94V-0)
 Relay, A/O and RS485: 5A 300Vac, M2.6, 22~16AWG
 Other: 10A 600Vac, M3.0, 15~10AWG(1.5~2.5mm²)
Weight: 550g / 350g(Aux. Power Code: ADH, ADL)

Power

Power Supply: AC115/230V,50/60Hz;
 Optional: AC/DC 20~56V or AC/DC 85~264V
Power Consumption: 5.0VA maximum
Back Up Memory: By EEPROM

FRONT PANEL



Display: 4 1/2 digital; 0.8" (2.0mm) red high-brightness LED
I/O Status: RS 485 communication: 1 square orange LED will flash when the meter is receive or send data, and **COM** flash quickly means the data transient quickly
E.C.I. function indication: 2 square green LED
EC1 display when External Control input 1 close(dry contact)
EC2 display when External Control input 2 close(dry contact)
 Relay energized indication: 2 square red LED
RL1 display when Relay 1 energized;
RL2 display when Relay 2 energized;
Stickers: For symbol of function

HH Hi Lo LL DO
 PV.H Tare DI M.RS R.RS

Symbol of function for Relay: HH / Hi / Lo / LL / DO
 Symbol of function for E.C.I.: PV.H(PV Hold) / Tare / DI / M.RS(Maximum or Minimum Reset) / R.RS(Reset for Relay Latch)

Operating Key:

4 keys for Enter(Function) / Shift(Escape) / Up / Down
 Up key: Increment the value / Back to previous function
 Down key: Decrement the value / Go to next function
 Shift key: Move the flash digit position / Return back to upper level / Escape
 Enter/Fun key: Access setting status / Stores selected parameter or set value and index to next parameter.

Security Function:

4 digits password settable from 0000~9999
 You have to enter correct pass word so that access Programming Level for configuration. the meter can be changed the pass word in Porgam. Level. If you forget the pass word, please contact with our company.

Lock Function:

4 lock mode for None / User Level / Programming Level / All(User Level & Programming Level)
 None: No lock, all function can be set and change
 User Level: The functions in user level can not be set, but, they still can access the level and view.
 Programming Level: The functions in programming level can not be set, but, they still can access the level and view.

UP Key Function:

All: User Level and Programming Level have been locked.
 The UP key on front panel can be set to be same function as what was ECI 1 set.

Down Key Function:

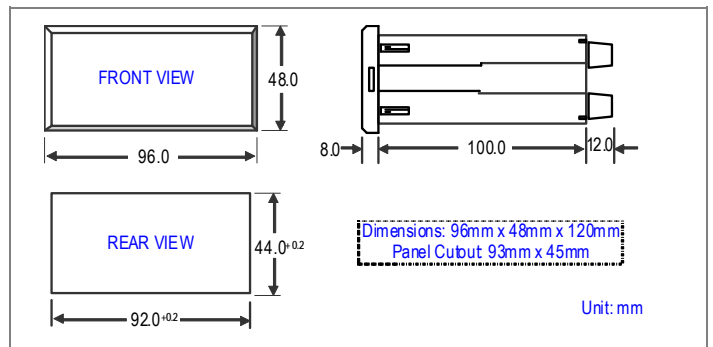
The DOWN key on front panel can be set to be same function as what was ECI 2 set.

For example:

If the **[ECi.1]** in **[ECi GroUP]** was set to be **[Pv.HLD]** function, and **[E.1=UP]** was set to be **[YES]** . It means, when you press the UP key, the PV will be hold and the square LED of ECI1 will be bright until you press UP key again.

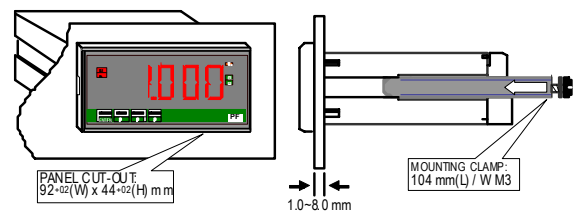
In case of UP or Down Key function have been set, the terminal of ECI will be locked out.

DIMENSIONS



INSTALLATION

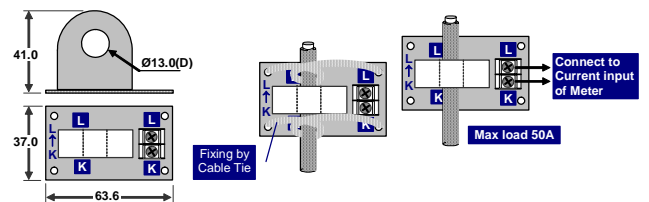
The meter should be installed in a location that dose not exceed the maximum operating temperature and provides good air circulation.



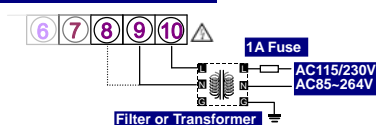
CONNECTION DIAGRAM

Please check the voltage of power supplied first, and then connect to the specified terminals. It is recommended that power supplied to the meter be protected by a fuse or circuit breaker.
 Relay, RS485, A/O: wiring: M2.6, AWG22~16(0.5~1.3mm²)
 Other: Wiring: M3.0, AWG15~10(1.5~2.5mm²)

High precision CT module – YMWH-CT10A – 0.1class



Aux. Power Connection



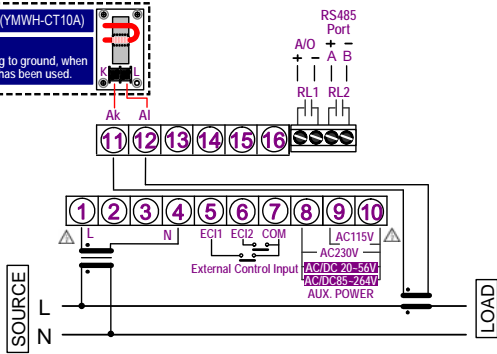
RS485 Communication Port



1Phase 2Wire

50Amp CT MODULE (YMW-CT10A)

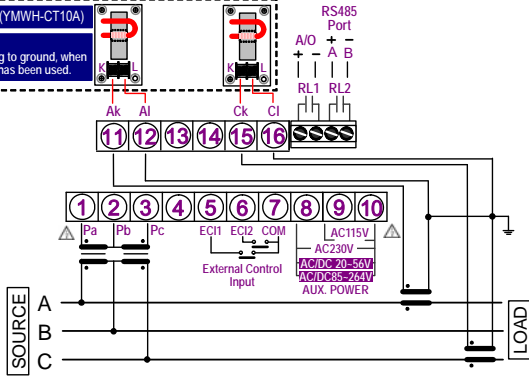
REMARK:
Please don't connecting to ground, when the 50Amp CT module has been used.



3Phase 3Wire

50Amp CT MODULE (YMW-CT10A)

REMARK:
Please don't connecting to ground, when the 50Amp CT module has been used.



3Phase 4Wire

50Amp CT MODULE (YMW-CT10A)

REMARK:
Please don't connecting to ground, when the 50Amp CT module has been used.

