

# AC panel meters

## Voltage, Current, Frequency & Power

ys6403  
23rd June 2005  
catalogue section 75



- At-a-glance, analogue indication
- Changeable scales
- Moving coil and moving iron variants
- Single phase, or 3 phase with integral selector knob
- DIN 72x72 or 96x96

### Description

A range of direct acting, analogue meters for use in generator control or AC switchgear panels. The range includes meters for the measurement and display of AC voltage, current, frequency, power, reactive power and power factor.

Ammeters are available for use with single or three phase systems. Three phase meters feature an integral switch for operator selection of line current.

Voltmeters are also available for use with single or three phase systems: 3 phase 3 wire (delta) meters feature a 3-way L1-L2/L1-L3/L2-L3 selector switch; 3 phase 4 wire (star) meters feature a 6-way L1-L2/L1-L3/L2-L3/L1-N/L2-N/L3-N switch and dual scale for L-N/L-L reading.

The range is available in either 72mm or 96mm square cases, suitable for front-of-panel mounting in DIN standard cut-outs. The dust and splash proof, heat-resistant housing is secured from the rear via four stud/nut fixings. Electrical connection is by screw terminals.

### Warranty

A one year limited warranty on materials and workmanship is given with this product. Full details are available at [www.fwmurphy.co.uk/warranty](http://www.fwmurphy.co.uk/warranty)

### Product specifications

<b>movement:</b>	
movement	oil damped moving iron, or rectified moving coil, vibration 2.5g, shock 15g.
accuracy: volts, amps, power	class 1.5 (class 2.5 for 60A/755A/100A ammeters)
frequency power factor	class 1.0 class 2.5
<b>scales:</b>	see 'how to order' for full option details
AC current	0.1 to 100A, 10A to 10KA with 5A CTs. 2 x compressed overcurrent scale available on some models.
AC voltage	30V to 600V, dual L-N/L-L scales for 3ph/4wire models
frequency	to suit 50 and 60 Hz
<b>case:</b>	
case material	heat resistant, non-combustible to UL-94 VO
insulation	2000V, 50Hz, 1 min other standards as IEC1010-1
dimensions (mm): overall (w x h x d) panel cut-out	72 x 72 x 43 or 96 x 96 x 43 DIN 68 x 68 or 92 x 92
<b>general:</b>	
standards compliance	BS7676-1998 (idt IEC51-1997) IEC473 IEC1010 (1991)+ Am1(1991)+Am2(1995)
temperature: calibration operation storage	23°C ±2°C -20°C to +40°C -40°C to +70°C

**MURPHY**

## How to order

Specify model reference and scale/input options:-

### Model type:-

**CP-T96A** AC ammeter, moving iron, single phase, 96mm  
**CP-T72A** AC ammeter, moving iron, single phase, 72mm  
**CP-Z96A** AC ammeter, moving iron, 3 phase, 96mm  
**CP-Z72A** AC ammeter, moving iron, 3 phase, 72mm  
**CP-L96A** AC ammeter, moving coil, single phase, 96mm  
**CP-L72A** AC ammeter, moving coil, single phase, 72mm

**CP-T96V** AC voltmeter, moving iron, single phase, 96mm  
**CP-T72V** AC voltmeter, moving iron, single phase, 72mm  
**CP-Z96V** AC voltmeter, moving iron, 3 phase, 96mm  
**CP-Z72V** AC voltmeter, moving iron, 3 phase, 72mm  
**CP-L96V** AC voltmeter, moving coil, single phase, 96mm  
**CP-L72V** AC voltmeter, moving coil, single phase, 72mm

**CP-F96** Frequency meter, moving coil, single phase, 96mm  
**CP-F72** Frequency meter, moving coil, single phase, 72mm

**CP-W96** Watt meter, moving coil, 96mm  
**CP-W72** Watt meter, moving coil, 72mm  
**CP-Var96** VAR meter, moving coil, 96mm  
**CP-Var72** VAR meter, moving coil, 72mm  
**CP-PF96** Power factor meter, moving coil, 96mm  
**CP-PF72** Power factor meter, moving coil, 72mm

### Scale/input options:-

Current meters:-

**0.5A, 1A, 7.5A, 10A, 15A, 20A, 30A, 40A, 50A, 60A, 75A, 100A.**

**10A - 10KA** scale versions for use with 5A current transformers. 2x overcurrent compressed scale available on some models.

Voltmeters - single phase:-

**30V, 50V, 75V, 100V, 120V, 150V, 200V, 250V, 300V, 400V, 450V** (moving iron only: **500V, 600V**)

Voltmeters - 3 phase, 3 wire (L-L):-

**100V, 150V, 200V, 250V, 400V, 500V**

Voltmeters - 3 phase, 4 wire (L-N/L-L):-

**60/100V, 80/150V, 100/200V, 150/250V, 250/400V, 300/500V**

Frequency meters:-

**45-55Hz, 45-65Hz, 55-65Hz.**

Other scales to special order.

Power meters:-

Phases: **1ph, 3ph 3wire, 3ph 4wire**

Secondary CT current: **5A**

Primary CT current: **various**

Secondary VT voltage: **100V**

Primary VT voltage: **50V, 100V, 380V, 240V, 415V, 400V, 380V, 220/380V, 240/415V**

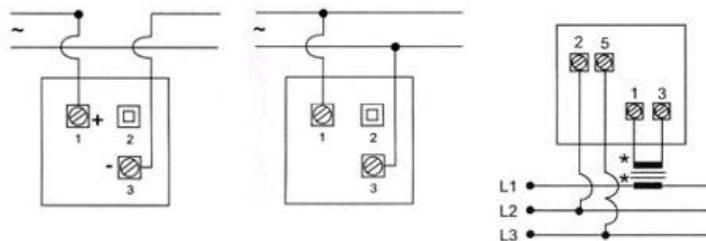
Power factor meters:-

**0.5cap-1-0.5ind.** Other scales to special order.

Voltage: **110V, 220V, 380V, 440V**

Current: **5A**

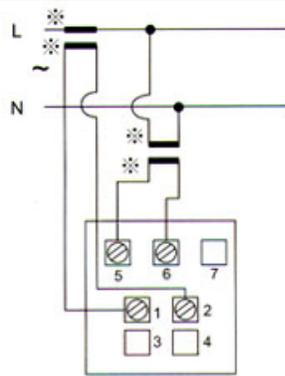
## Connection



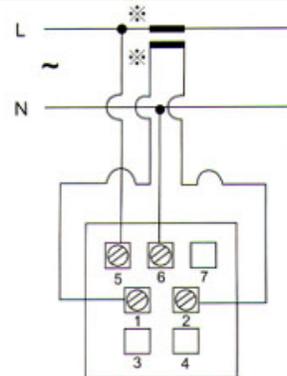
CP-T, CP-L ammeters

CP-T, CP-L voltmeters  
CP-F frequency meter

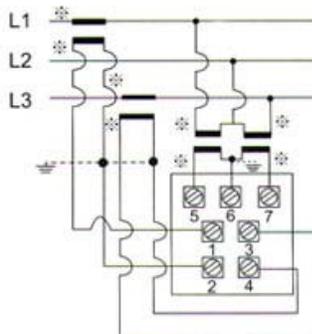
CP-PF power factor meter



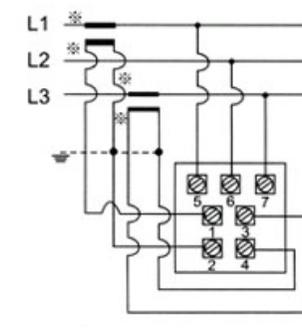
CP-W, CP-Var power meters,  
single phase with  
current and voltage transformers



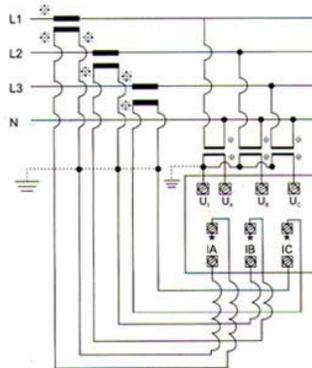
CP-W, CP-Var power meters  
single phase  
without voltage transformers



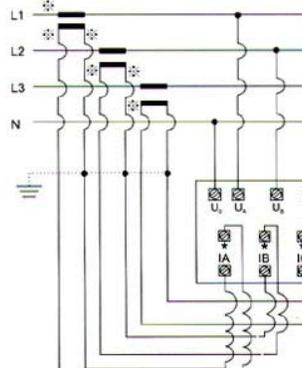
CP-W, CP-Var power meters,  
3 phase 3 wire with  
current and voltage transformers



CP-W, CP-Var power meters  
3 phase 3 wire  
without voltage transformers



CP-W, CP-Var power meters,  
3 phase 4 wire with  
current and voltage transformers



CP-W, CP-Var power meters  
3 phase 4 wire  
without voltage transformers

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UK - ISO9001:2000 FM 29422