

Models Available

- FE72MCRA** DIN72 Rect. M.C. Ammeter
- FE96MCRA** DIN96 Rect. M.C. Ammeter
- FE72LSRA** DIN72 240° Rect. M.C. Ammeter
- FE96LSRA** DIN96 240° Rect. M.C. Ammeter

- FE48MCRV** DIN48 Rect. M.C. Voltmeter
- FE72MCRV** DIN72 Rect. M.C. Voltmeter
- FE96MCRV** DIN96 Rect. M.C. Voltmeter
- FE72LSRV** DIN72 240° Rect. M.C. Voltmeter
- FE96LSRV** DIN96 240° Rect. M.C. Voltmeter

Product Features

- Linear AC current or AC voltage
- Standard DIN square sizes
- Interchangeable scaleplates
- Many options available (see page 16)

For dimensions see pages 17-18

Rectified Moving Coil Meters

Rectified moving coil meters are suitable for measurement of average rms AC current or voltage. All meters have a jewel and pivot movement which ensures reliability and accuracy. The moving coil meters are available in shortscale (90°) versions or longscale (240°) versions.

All meters have interchangeable scaleplates. Scales are linear and are calibrated from zero to full scale. All meters are calibrated at 50Hz but can be calibrated at an alternative frequency upon request.

Rectified Moving Coil – for measurement of average rms AC current or voltage

Specification

Accuracy:

- Class 1.5 ($\pm 1.5\%$ max. error)

Input Current, I_n :

- 0-0.1 to 0-5A direct connected
- 0-1A or 0-5A CT operated
- FE48 not available

Input Voltage, U_n :

- 0-10V to 0-800V direct connected
- FE48 500V maximum

Scales:

- 0-0.1, 0.2, 0.5, 1, 1.5, 2, 2.5, 3, 4, 5A
- 5A to 3000A CT operated (1A or 5A)
- 0-10, 15, 20, 25, 30, 40, 50, 60, 75, 80, 100, 120, 150, 200, 250, 300, 400, 500, 600, 800V

Overload:

- 1.2 x I_n or U_n for 2 hours
- 10 x I_n or U_n for 5 seconds

Frequency:

- 50Hz (up to 400Hz upon request)

Voltage Drop:

- Ammeter < 100mV

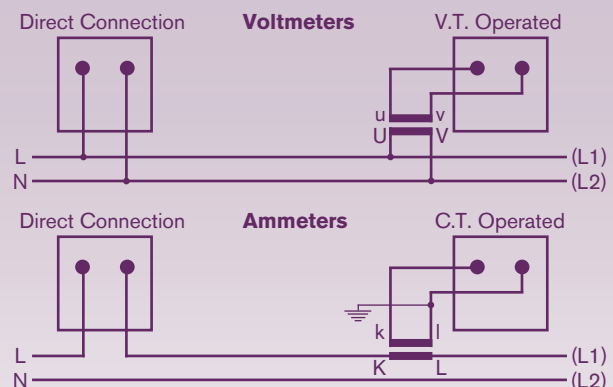
Current Consumption:

- Voltmeter < 200V 1mA, > 200V 200 μ A

Weight:

- FE48 170g, FE72 210g, FE96 310g
- FE72LS 350g, FE96LS 400g

Connections



Ordering information

Code	DIN Square Size & Movement Type	Meter Type	Input & Scaling
FE48MC	48 x 48mm Shortscale (90°) (R/A n/a)	-	-
FE72MC	72 x 72mm Shortscale (90°)	-	-
FE96MC	96 x 96mm Shortscale (90°)	-	-
FE72LS	72 x 72mm Longscale (240°)	-	-
FE96LS	96 x 96mm Longscale (240°)	-	-
RA	-	Rectified Moving Coil Ammeter	-
RV	-	Rectified Moving Coil Voltmeter	-
Specify	-	-	0.1 to 5A direct
Specify	-	1A or 5A from a CT scaled	5A to 3000A
Specify	-	-	10 to 800V
	-	-	(FE48 – 500V max.)
Example	FE48MC	RV	100V

Meter Options

Meter Terminal Covers

Available for FE72 and FE96* meters is a plastic terminal cover to finger-proof the terminals.

(Order Code: **FE72TC, FE96TC**) *All FE48 meters are supplied with terminal covers

Meter Terminal Covers

Available for all sizes of FE72, FE96 and EL meter are a pair of plastic terminal covers to finger-proof the terminals.

(Order Code: **MTC**)

DIN Square Blanking Plates

Available on all sizes of meter is a black plastic blanking plate to cover a DIN square hole.

(Order code: **FE48BP, FE72BP, FE96BP**)

Adjustable Red Pointer

Available on all sizes of shortscales meter is an adjustable red pointer which can be adjusted by a screwdriver from the front fascia. Not available on longscales meters.

(Order code: **ARP**)

Calibration Certificate

Calibration certificates traceable to national standards can be supplied on all meters.

(Order code: **CALCERT**)

6x Overload

Available on all ac ammeters is an overload reading of 6x the full scale current (2x is standard).

(Order Code: **6X O/L**)

Red Line On Scale

Available on any scale is a red line marked at any point on the scale, as specified by the customer.

(Order Code: **RL@ - specify**)

Coloured Sector On Scale

One or more specified coloured (red, green, yellow) sectors on the scale are available on all meters.

(Order Code: **Coloured Sector - specify**)

Heavily Damped Movements

1A or 5A DIN96 moving iron ammeters are available with a damped viscous movement and all moving coil meters are available with an electronically damped movement.

(Order Code: **HD movement**)

IP65 Sealing

All meters are available with a front sealed to IP65 and a neoprene gasket to retain sealing against the panel.

(Order Code: **IP65**)

Gaskets

Gaskets are available for all meters.

(Order Code: **G48F, G72F, G96F**)

Centre Zero Movement

Moving coil meters are available with a bi-directional reading, centre zero movement and scale. Moving coil meters are also available with an offset centre zero movement and scale.

(Order Code: **C/Z movement or O/Z movement**)

Suppressed Zero Movement

Moving Coil meters are available with a suppressed zero movement and scale (e.g. 15Vdc with suppressed scale from 0 to 10Vdc).

(Order Code: **S/Z movement**)

External Adjustable Trim Potentiometer

All moving coil meters are available with an external trim multi-turn potentiometer which is accessible from the back of the meter and adjusts the full scale reading by a minimum of $\pm 20\%$.

(Order Code: **EXT. TRIM. POT.**)

Polycarbonate Window

All sizes of FE meters have a glass window but a polycarbonate window is available. All sizes of EL meters have polycarbonate windows as standard.

(Order Code: **POLY window**)

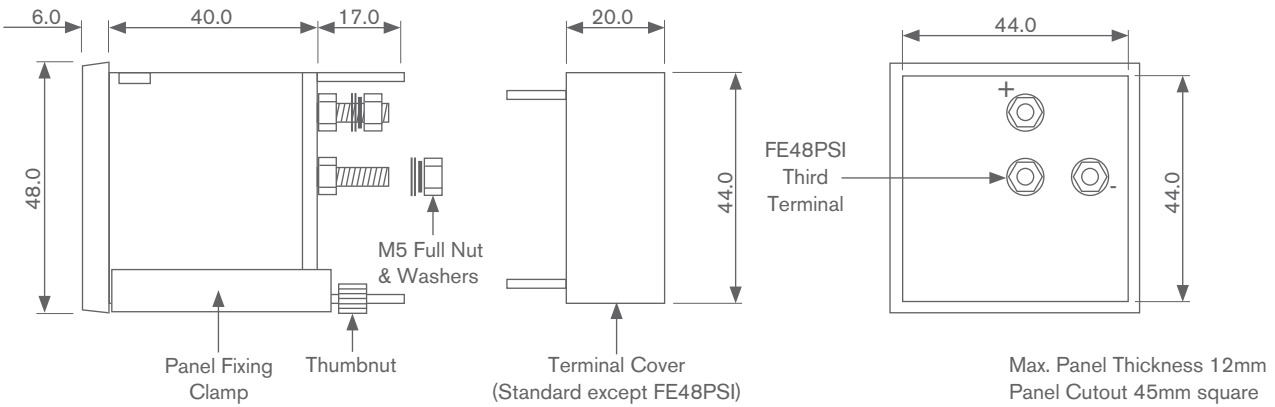
Anti-Glare Window

Anti-glare windows are available for all meters.

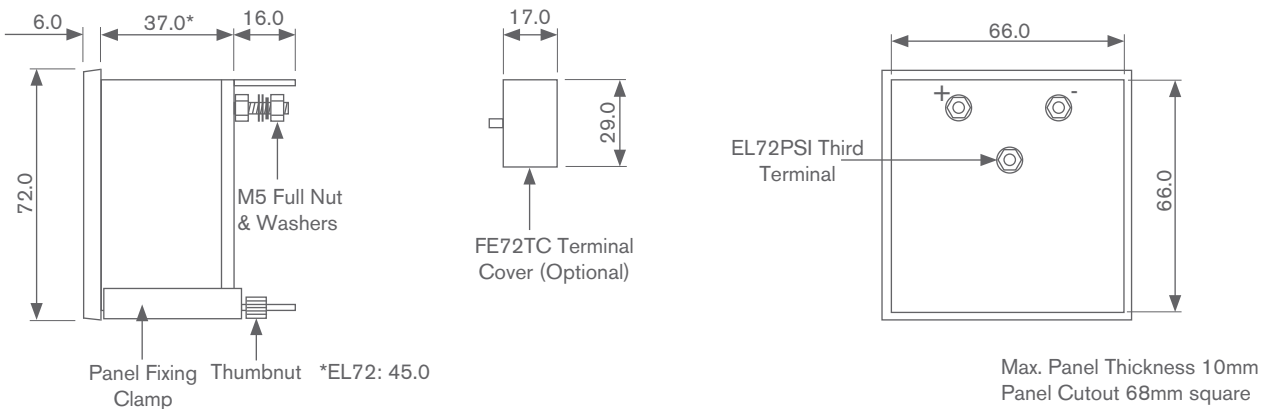
(Order Code: **AG window**)

Dimensions

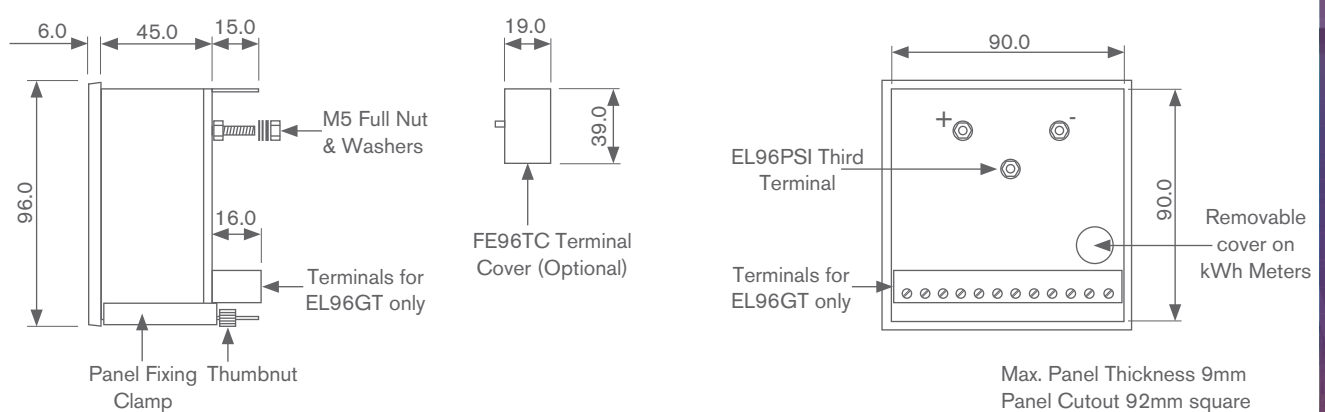
FE48 Enclosure



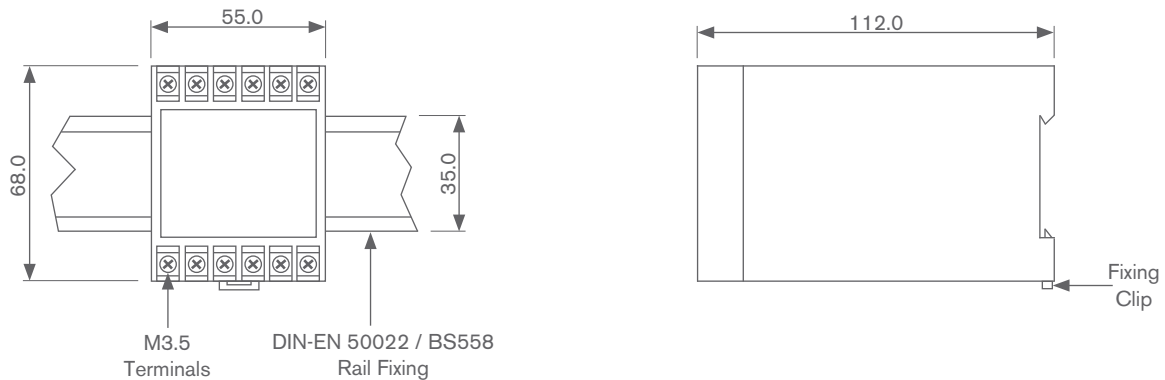
FE72/EL72 Enclosure



FE96/EL96 Enclosure



Watt/Var/cosØ Converter Unit Enclosure



General Specification

Reference Standards

Performance / Accuracy:	BS EN 60051-1, BS 89 and DIN 43780
Enclosure:	DIN 43700
Vibration Resistance:	DIN 43780
Measuring Ranges:	DIN 43701
Safety:	IEC 414
Dial Symbols:	IEC 51

Environmental

Calibration Temperature:	23°C
Operating Temperature:	-25°C to 50°C
Temperature Coefficient:	±0.03%/ °C
Relative Humidity:	0 - 90% non-condensing

Input

Input Burden:	See individual specifications
Overload:	See individual specifications
Response Time:	< 2seconds

Scales

Dials:	White with black legends
Reference Standard:	DIN 43802
Scale Length:	DIN48 - 37mm DIN72 - 65mm DIN96 - 90mm

Enclosure

Enclosure:	Flame retardant white ABS plastic case with black bezel Plain glass window is standard* but a polycarbonate window is available. (*Polycarbonate window is standard on EL meters)
Enclosure Code:	Case IP52 (IP65 with gasket optional) to IEC529 and BS5490
Insulation Test:	2kV rms 50Hz 1min (to IEC 414)
Markings:	CE marked

Specification subject to change without notice.