



Models Available

- FE48MIA** DIN48 Moving Iron Ammeter
- FE72MIA** DIN72 Moving Iron Ammeter
- FE96MIA** DIN96 Moving Iron Ammeter

- FE48MIV** DIN48 Moving Iron Voltmeter
- FE72MIV** DIN72 Moving Iron Voltmeter
- FE96MIV** DIN96 Moving Iron Voltmeter

Product Features

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

For dimensions see pages 17-18

Moving Iron Meters

Moving iron meters are suitable for the measurement of true rms AC current or voltage. All moving iron meters have interchangeable scaleplates. Scales are non-linear and are calibrated down to 20% of full scale. Ammeters are available with a 2x overload as standard or a 6x overload for monitoring motor start up currents.

Voltmeters are also available with scales for high voltage measurement via voltage transformers. All moving iron meters are calibrated for operation at 50/60Hz but calibration at 400Hz is available upon request. Moving iron meters may be used to measure DC at reduced accuracy.

Moving Iron – for measurement of true rms DC current or voltage

Specification

Accuracy:

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

Input Current, I_n :

- 0-0.5A to 0-100A direct connected
- FE48 40A maximum direct
- 0-1A or 0-5A CT operated

Input Voltage, U_n :

- 0-100V to 0-800V direct connected
- FE48 500V maximum

Scales:

- 0-0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 8, 10, 15, 20, 25, 30, 40, 50, 60, 75, 80, 100, 120, 150, 200, 250, 300, 400, 500, 600, 800, 1000, 1200, 1500, 1600, 2000, 2500, 3000A
- 100, 150, 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:

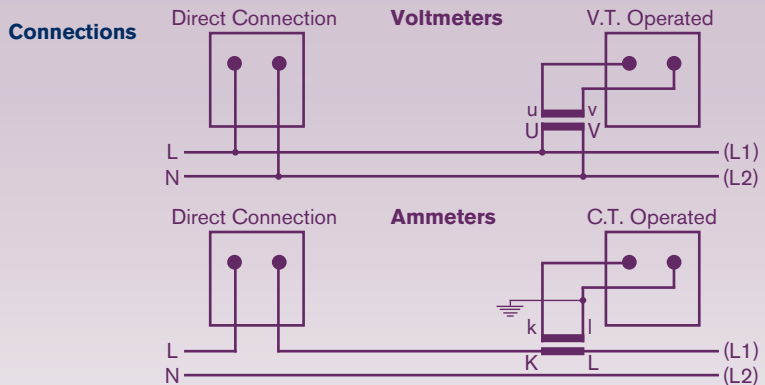
- 50/60Hz (400Hz upon request)

Burden:

- Ammeter < 1VA, Voltmeter < 3VA

Weight:

- FE48 140g, FE72 190g, FE96 290g



Ordering information

Code	DIN Square Size & Movement Type	Meter Type	Input & Scaling
FE48MI	48 x 48mm Shortscale (90°)	-	-
FE72MI	72 x 72mm Shortscale (90°)	-	-
FE96MI	96 x 96mm Shortscale (90°)	-	-
A	-	Moving Iron Ammeter	-
V	-	Moving Iron Voltmeter	-
Specify	-	-	0.5 to 100A direct (FE48 – 40A max.)
Specify	-	-	1A or 5A from a CT
Specify	-	-	scaled 5A to 3000A
Specify	-	-	100, 150, 250, 300,
Specify	-	-	400, 500, 600, 800V (FE48 – 500V max.)
Example	FE48MI	A	100/5A

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 shortscale meter is an adjustable red pointer which can be adjusted by a screwdriver from the front fascia. Not available on longscale 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

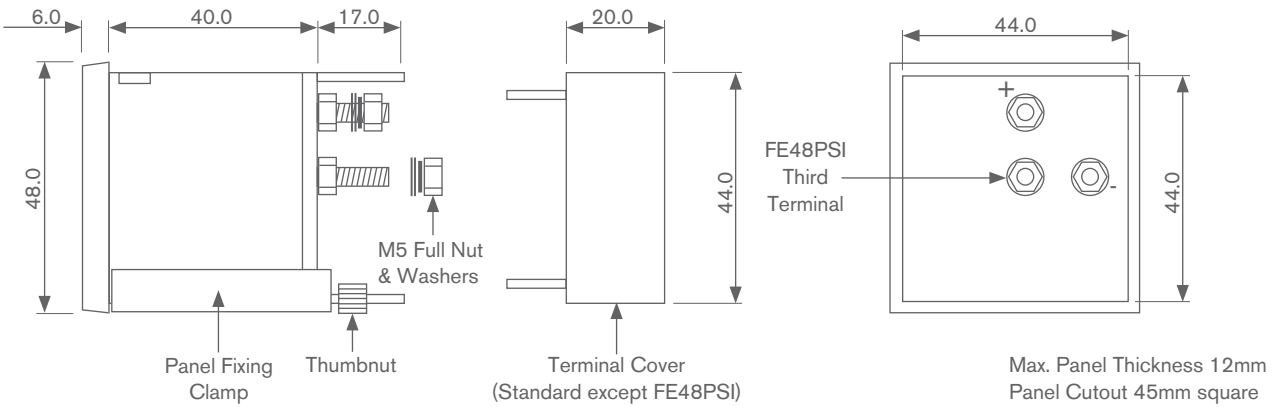
All sizes of FE meters have a glass window but a polycarbonate window is available. All sizes of EL meters have polycarbonate windows as standard.
(Order Code: **POLY window**)

Anti-Glare Window

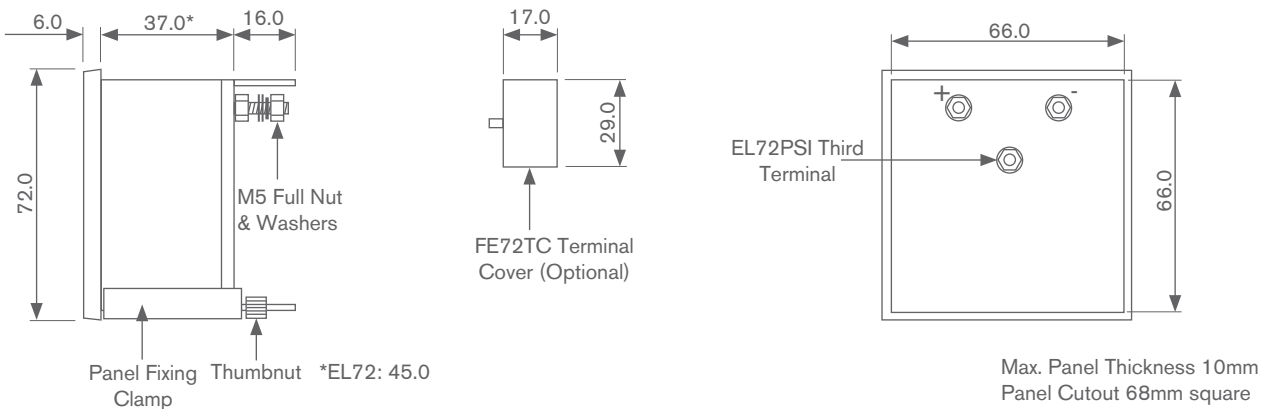
Anti-glare windows are available for all meters.
(Order Code: **AG window**)

Dimensions

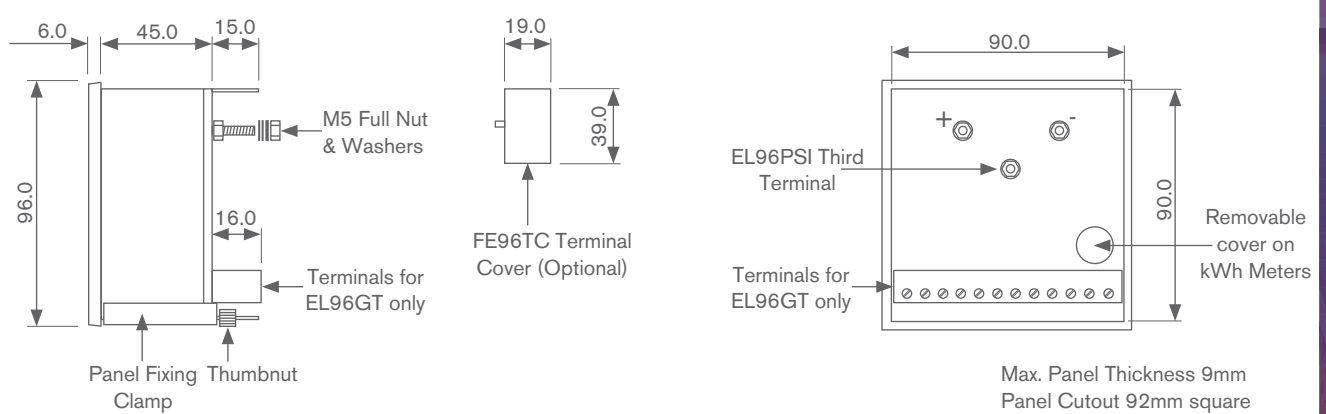
FE48 Enclosure



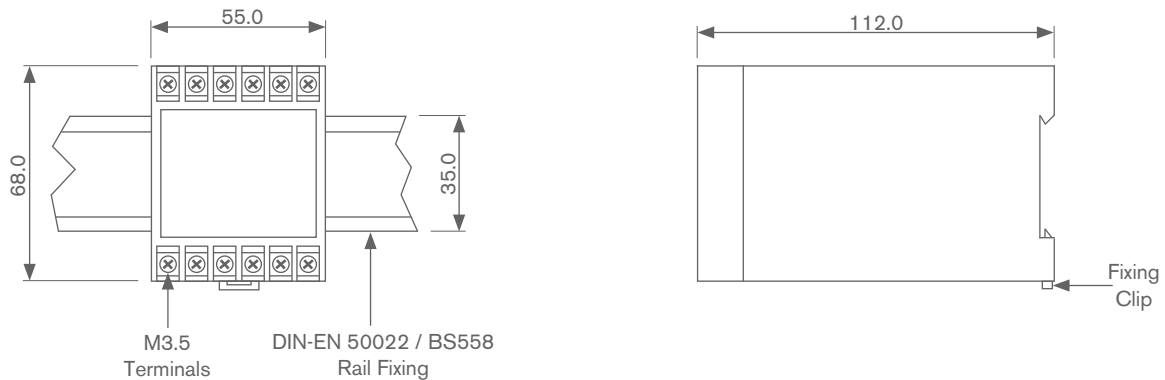
FE72/EL72 Enclosure



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.