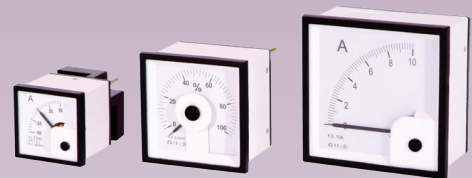


Moving Coil Meters

Moving coil meters are suitable for measurement of DC 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. Scaleplates are available in any process unit including A, V, °C, bar, rpm, kW and %, so meters can be driven from a transducer output.



Models Available

- FE48MCA** DIN48 Moving Coil Ammeter
- FE72MCA** DIN72 Moving Coil Ammeter
- FE96MCA** DIN96 Moving Coil Ammeter
- FE72LSA** DIN72 240° Mov. Coil Ammeter
- FE96LSA** DIN96 240° Mov. Coil Ammeter

- FE48MCV** DIN48 Moving Coil Voltmeter
- FE72MCV** DIN72 Moving Coil Voltmeter
- FE96MCV** DIN96 Moving Coil Voltmeter
- FE72LSV** DIN72 240° Mov. Coil Voltmeter
- FE96LSV** DIN96 240° Mov. Coil Voltmeter

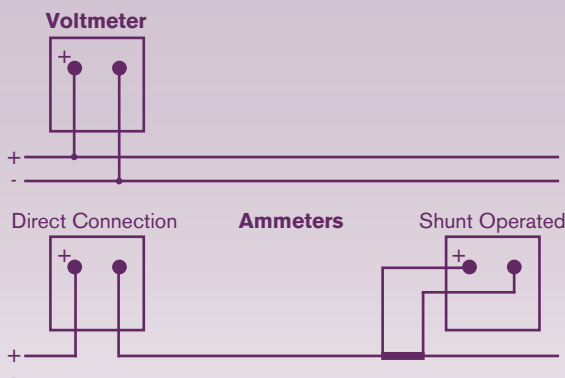
Product Features

- DC current or DC voltage
- Standard DIN square sizes
- Interchangeable scaleplates

For dimensions see pages 17-18

Moving Coil - for measurement of DC current or voltage

Connections



Ordering information

Code	DIN Square Size & Movement Type	Meter Type	Input & Scaling
FE48MC	48 x 48mm Shortscale (90°)	-	-
FE72MC	72 x 72mm Shortscale (90°)	-	-
FE96MC	96 x 96mm Shortscale (90°)	-	-
FE72LS	72 x 72mm Longscale (240°)	-	-
FE96LS	96 x 96mm Longscale (240°)	-	-
A	-	Moving Coil Ammeter	-
V	-	Moving Coil Voltmeter	-
Specify	-	-	50µA to 25A
Specify	-	-	> 25A use shunt & 50, 60, 75mV Voltmeter (c/w scale)
Specify	-	-	4-20mA (c/w scale)
Specify	-	-	50mV to 800V (FE48 - 500V max.)
Example	FE72MC	V	100Vdc

Specification

- Accuracy:**
 - Class 1.5 ($\pm 1.5\%$ max. error)
- Input Current, I_n :**
 - 0-50µA to 0-25A direct connected
 - > 0-25A use shunt and mV voltmeter
 - 4-20mA
- Input Voltage, U_n :**
 - 0-50mV to 0-800V direct connected
 - FE48 500V maximum
- Scales:**
 - 0-1, 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, 3000 µA, mA, A, mV, V
- Overload:**
 - 1.2 x I_n or U_n for 2 hours
 - 10 x I_n or U_n for 5 seconds
- Voltage Drop:**
 - Ammeter < 100mV
- Current Consumption:**
 - Voltmeter < 200V 1mA, > 200V 200µA
- Weight:**
 - FE48 140g, FE72 190g, FE96 280g
 - FE72LS 310g, FE96LS 360g

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**)

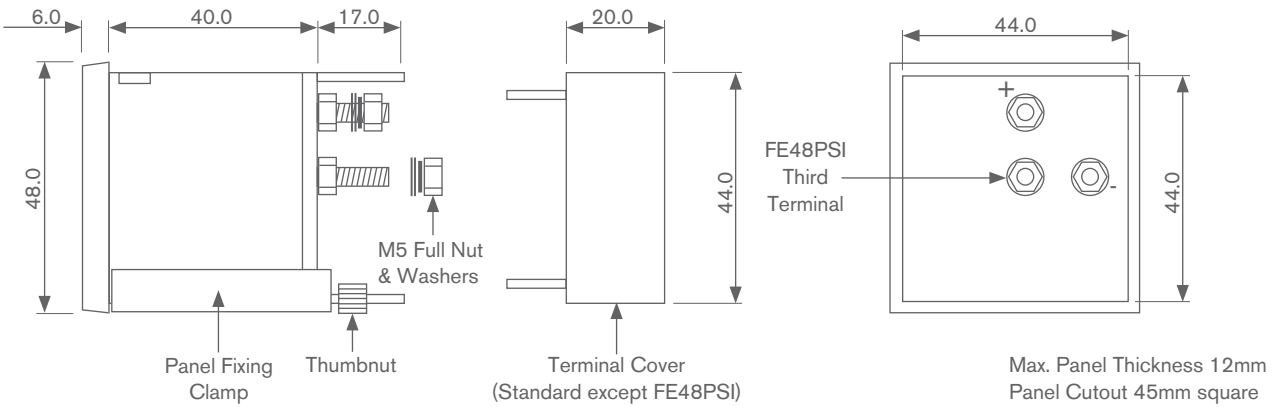
Anti-Glare Window

Anti-glare windows are available for all meters.

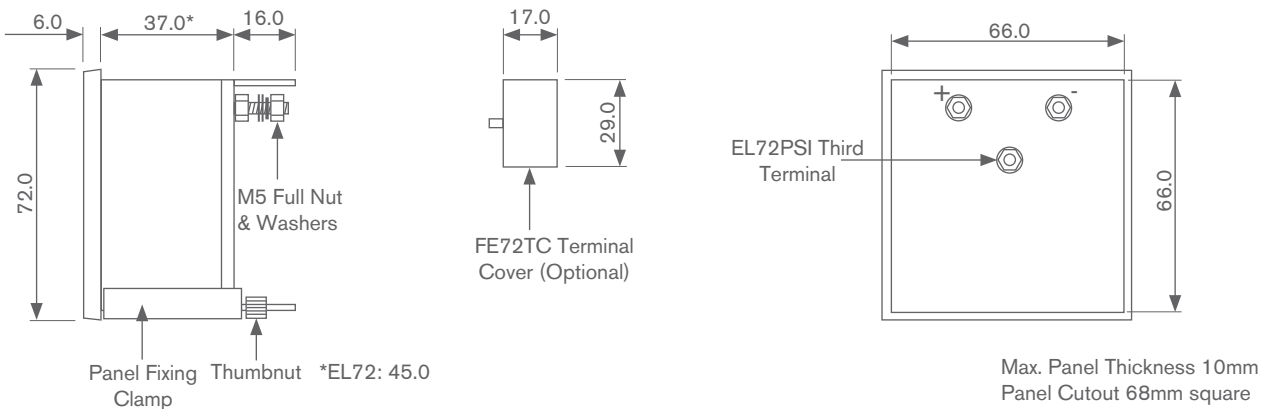
(Order Code: **AG window**)

Dimensions

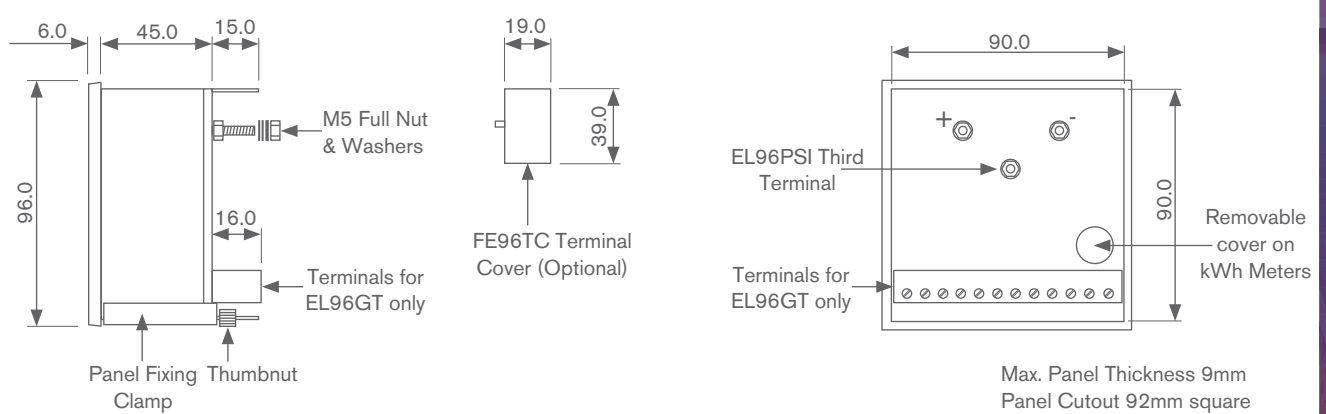
FE48 Enclosure



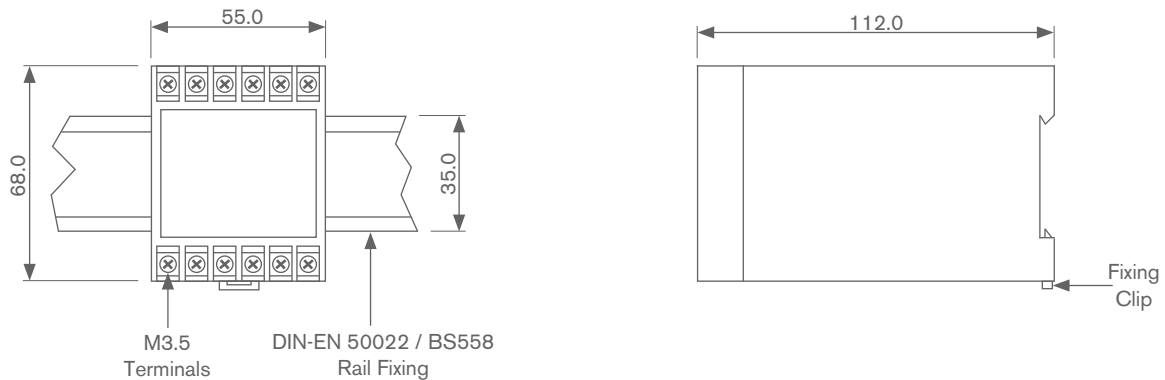
FE72/EL72 Enclosure



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.