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.

Moving Coil – for measurement of DC current or voltage

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<th>Voltmeter</th>
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Direct Connection

Ammeters

Shunt Operated

Specification

Accuracy:
- Class 1.5 (±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 20mA

Weight:
- FE48 140g, FE72 190g, FE96 280g
- FE72LS 310g, FE96LS 360g

Example: FE72MC V 100Vdc
**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

**DIN Square Blanking Plates**
Available on all sizes of FE72, FE96 and EL 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 ±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**

Max. Panel Thickness 12mm
Panel Cutout 45mm square

**FE72/EL72 Enclosure**

Max. Panel Thickness 10mm
Panel Cutout 68mm square

**FE96/EL96 Enclosure**

Max. Panel Thickness 9mm
Panel Cutout 92mm square

**Watt/Var/cosØ Converter Unit Enclosure**

All dimensions in mm
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%/ ºC
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.