

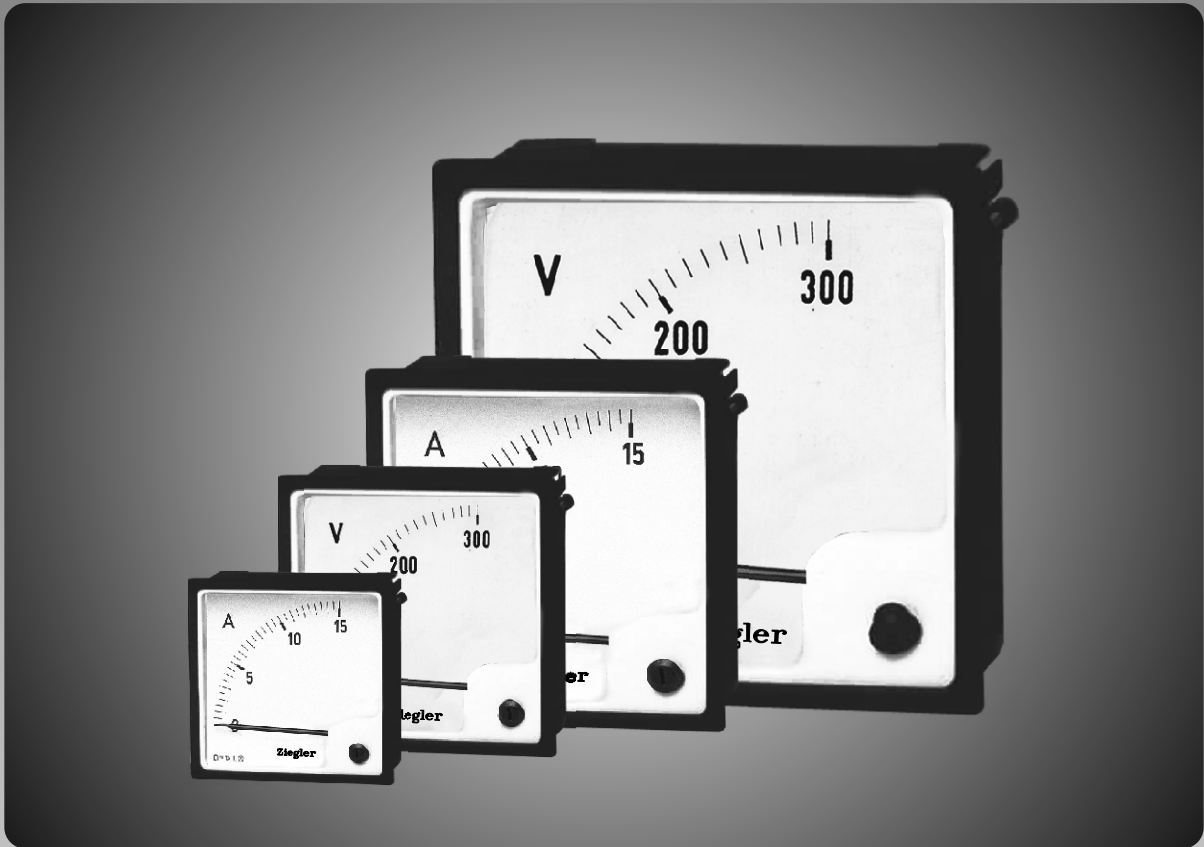
VQ	48
VQ	72
VQ	96
VQ	144



# Data Sheet

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Analogue Meters with  
Moving - Coil Movement  
and Rectifier





## Environmental conditions

Climatic suitability	Climatic class 3 according to VDE/VDI 3540
Operating Temperature	-10 ... +55° C
Storage Temperature	-25 ... +65° C
Relative humidity	≤ 75% annual average, non-condensing
Shock resistance	15g, 11 ms
Vibration resistance	10-150-10 Hz / 0.15 mm 1.5 g at about 50 Hz

## Applicable standards

Nominal case & cutout dimensions for : DIN 43700  
indicating Electrical instruments

Scales and pointer for electrical measuring : DIN 43802  
instruments

Connections and Terminal markings for panel : DIN 43807  
meters

Terminal bolts / leads : DIN 46200/46282

Clamp straps for connections : DIN 46282

Safety requirements and protective measures for Electrical indicating instruments and their accessories : DIN 40050 / 8-70  
VDE 0110 / 11-72  
VDE 0410 / 10-76  
IEC 529, IEC 1010

Performance specifications for direct acting indicating analogue electrical measuring instruments and their accessories : IEC 51/  
DIN EN 60051  
DIN 43701

Environmental conditions : VDE / VDI 3540

Front frames for indicating measuring instruments Principle dimensions : DIN 43718

UL Combustibility class : UL 94 V-O

Technical conditions of delivery for electrical instruments : DIN 43701

Mechanical strength (Free fall test, vibration test) : VDE 0411, part 1,  
Sec.43/44,  
IEC 1010

## Options

### Case

Front facia	Antiglare glass
Colour of bezel	Red, Yellow, Blue, White
Red index pointer	Front adjustable on site
Position of use	On request 0° .... 180°

### Dial

Blank dial	With initial and end values marked
Specific markings	Numbering / Lettering
Division dials	Basic divisions without numbering
Colour markings/bands	Red or green

### Others

Zero position	Centre zero or off-set zero
Increased sensitivity	4kohm/V for voltmeters 1...600V
Adjustment of Resistance (sensitivity)	Within ± 1% at 23° C

# Data Sheet

## Analogue Meters with Moving - coil Movement and Rectifier

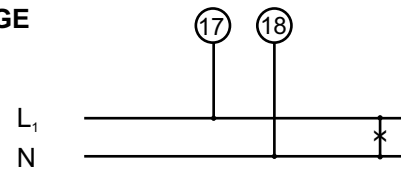
## Accessories

### Safety Terminal Protection

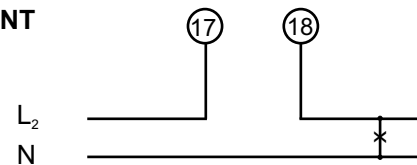
Full sized polycarbonate back cover to provide protection against accidental contact (hand and fingers) acc. to VDE 0410.

## Connections

### AC VOLTAGE

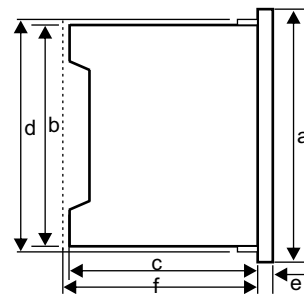


### AC CURRENT

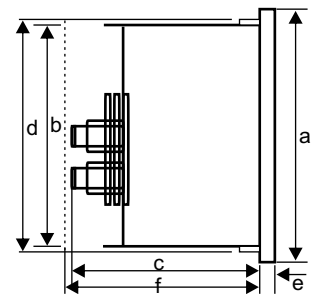


## Dimensions

For Voltmeters & Ammeters < 6A



For Ammeters 6 - 10A



Dimensions (in mm)	VQ48	VQ72	VQ96	VQ144
Bezel a	□ 48	□ 72	□ 96	□ 144
Case b	□ 43.5	□ 66	□ 90	□ 136
Depth c*	53	53	53	53
d	□ 44.5	□ 67.5	□ 91.5	□ 137.5
e	5.5	5.5	5.5	5.5
cutout size	□ 45 <sup>+0.6</sup>	□ 68 <sup>+0.7</sup>	□ 92 <sup>+0.8</sup>	□ 138 <sup>+1</sup>
Wt. (approx.)	0.20 kg	0.25 kg	0.30 kg	0.58 kg
Depth with back cover f**	64	64	64	64

\* c = 68mm, for I = 6 to 10 A

\*\* f = 70 mm, for I = 6 to 10 A

\*\* f = 75 mm, for VQ 48, I > 6A

## Ordering Information

<b>Type VQ</b>	Moving - coil with rectifier panel meter
<b>Front dimension</b> 48 72 96 144	48 mm x 48 mm 72 mm x 72 mm 96 mm x 96 mm 144 mm x 144 mm
<b>Measuring ranges</b>	Refer to table inside
<b>Front facia</b>	Normal glass <sup>*1</sup> antiglare glass <sup>*3</sup>
<b>Colour of Bezel</b>	Black <sup>*1</sup> Red, Blue, Yellow, White <sup>*3</sup>
<b>Position of use</b>	Vertical <sup>*1</sup> on request 0...180° <sup>*3</sup>
<b>Terminal protection</b>	full sized polycarbonate back cover
<b>Zero position</b>	Centre <sup>*1</sup> , off-set zero <sup>*3</sup>
<b>Increased sensitivity</b>	4 kohm/V for voltmeters 1...600 V <sup>*3</sup>
<b>Adjustment of resistance (sensitivity)</b>	within $\pm 1\%$ to 23° C <sup>*3</sup>
<b>Dial</b>	Standard scale same as measuring range <sup>*1</sup> blank dial with division <sup>*3</sup> additional lettering on request <sup>*3</sup> additional numbering on request <sup>*3</sup> coloured marking red or green <sup>*3</sup> coloured sector red or green <sup>*3</sup>
<b>logo</b>	Without <sup>*3</sup> OEM logo <sup>*3</sup>

<sup>\*1</sup> standard

<sup>\*3</sup> please clearly add the desired specifications while ordering.

## Safety precautions

- Instruments with damaged bezels or window glasses must be disconnected from the mains.
- Adequate safety clearance must be maintained to control panel fasteners and to sheet metal housing, if non-insulated connector wires are used.
- The back cover must be snapped into place after the connector wires have been clamped for protection against accidental contact.
- Scales should be replaced under voltage-free conditions.
- Bezels and window glasses should be replaced under voltage-free conditions.

### Ordering example

VQ72 measuring range 0 ... 100 mA, dial with 0 ... 100° C, red mark at 37° C.

Specifications are subject to change without notice (07/02)

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