

Ziegler

Redefine Innovative Metering

EQC 96

Analogue Meters Contact type Moving - Iron Movement



© Ziegler Instruments Order No. EQC_90_Deg Data sheet-EI.R0-920806-43-2013-EN



Application

These meters offer several advantages in switchboards and Transformers Panels. Front window glass and bezel can be easily replaced.

Movement

Moving iron movement has pivots of very high hardness. Movement is suspended between spring loaded sapphire jewels. Movement is critically damped by use of silicon coil

Specifications

Scale and Pointer

Pointer	Knife - edge pointer
Pointer deflection	0...90°
Scale characteristics	Near Linear above 10% of nominal Full Scale value
Scale division	Coarse - fine
Scale length	EQC96 97mm
Over range: Ammeters	2 times nominal current
Voltmeters for use on	1.2 times nominal voltage
Voltage transformer Scale Interchangeability	Interchangeable

Mechanical Data

Case details	Moulded square case suitable for mounting in Control / Switchgear panels, Machinery consoles.
Case material	Glass filled polycarbonate, flame retardant and drip proof as per UL 94 V-0.
Front facia	Glass
Colour of bezel	Black
Position of use	Vertical
Panel fixing	Swivel screws
Mounting	Stackable in a single cutout
Panel thickness	≤ 40 mm
Terminals	Plug in screw terminal block

Electrical Data

Measured quantity	AC current or Voltage
Power consumption	< 0.5VA
Aux Supply	230VAC +/- 15%, 45-65Hz
Aux Power consumption	< 5.5VA
Overload capacity	(acc. to IS: 1248 / IEC 51)
Continuously	1.2 times rated current
Short duration	
5 s max.	10 times (200A max). 10 times
1 s max	-- 40 times (250A max.)
Relay contact rating	10A @ 250VAC
Time delay	0 - 20 Sec. +/- 3 Sec.
Set Accuracy	+/- 5 %
Trip Setting	0 - 100%
Set Accuracy	+/- 5 %
Hysterisys	2% of the scale

Enclosure code (IEC 529)	IP 52 case IP 00 for terminals without back cover IP 20 for terminals without back cover
Insulation class	Group A according to VDE 0110
Rated insulation voltage	1000V
Proofvoltage	EQC 96 : 2kV
Installation category	600 V CAT III (IEC 1010)
Insulation resistance	> 50 Mohm at 500 V d.c

Accuracy at Reference Conditions

Accuracy class	1.5 according to IS: 1248
Reference conditions	(IEC 51/ DIN EN 60051)
Ambient temperature	23°C ± 2
Position of use	Nominal position ± 1°
Input	Rated value of measured quantity
Wave form	sine wave, distortion factor ≤ 5 %
Frequency	45...65HZ
Other conditions	IS : 1248 (IEC 51/ DIN EN 60051)

Nominal Range of Use

Ambient Temperature	0...50°C
Position of use	Vertical ± 5°
Frequency	15...400Hz (current)
External magnetic field	At 0.4 kA/m, less than 6 % of fiducial value (not as a percentage class index)

Environmental Conditions

Climatic suitability	Climate category II as per IS : 1248 (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	1.5 g at about 50 Hz

Standard Measuring range	5A
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Options

Case	
Front facia	Antiglare glass
Colour of bezel	Red, Yellow, Blue, White
Red index pointer	Front adjustable on site
Dial	
Blank dial	With initial and end values marked.
Special markings	Numbering / Lettering.
Division dials	Basic divisions without numbering.
Colour markings/bands	Red or green

Accessories

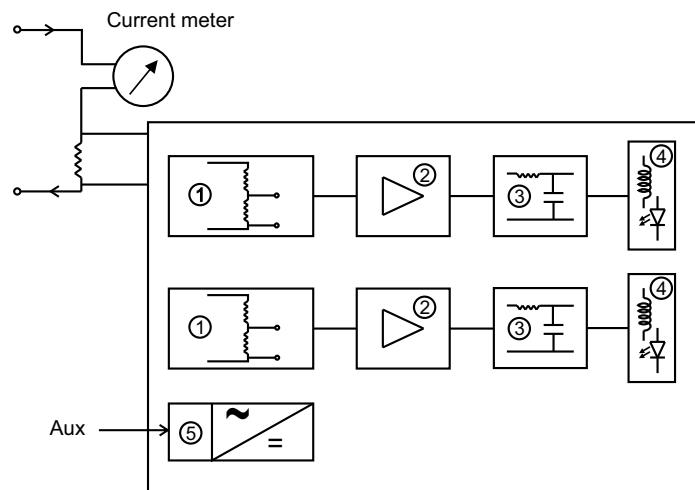
Safety Terminal Protection

Full sized polycarbonate back cover to provide protection against accidental contact (hand and fingers) acc.to IS 9249, VDE 0410.

Applicable Standards

- Nominal case and cutout dimensions for indicating Electrical instruments** : IS 2419
DIN 43700
 - Scale and pointer for electrical measuring instruments** : IS 1248
DIN 43802
 - Connections and Terminal markings for panel meters** : IS 1248-1983
DIN 43807
 - Terminal bolts / leads.** : DIN 46200/46282
 - Safety requirements and protective measures for Electrical indicating instruments and their accessories.** : IS 9249-1979
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 Environmental conditions** : IS 1248-1983
IEC51/DINEN60051
DIN 43701
 - Front frames for indicating measuring instruments Principle dimensions** : IS 1248 - 1983
IS: 9000, Part 5,7,8,
VDE / VDI 3540
 - UL Combustibility Class** : DIN 43718
 - Comply with following European directives** : UL 94 V-0
89 / 336 / EEC
- (EMC Directive), 73 / 23 / EEC (low voltage directive) & ammendment 93 / 68 / EEC, For CE Marking

Schematic Diagram

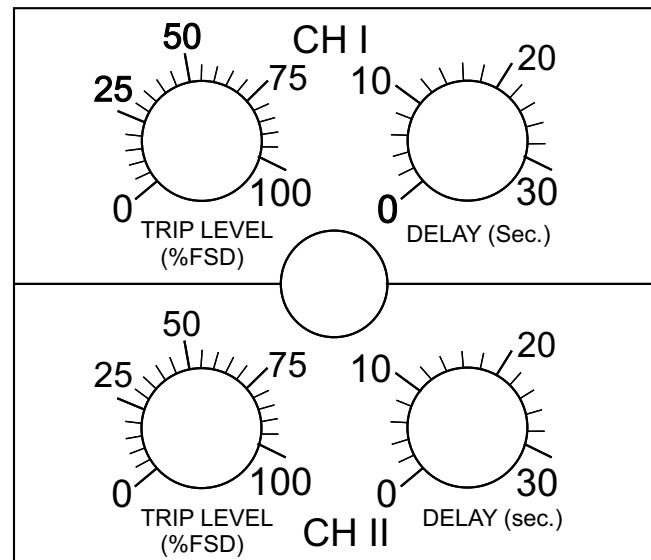


- ① Attenuator
- ② Comparator
- ③ Delay Circuit
- ④ Trip Circuit
- ⑤ Power Supply

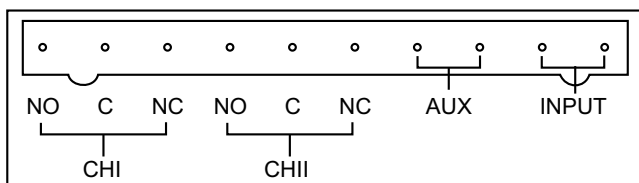
Safety Precautions

- 1) Instruments with damaged bezels or window glasses must be disconnected from the mains.
- 2) Adequate safety clearance must be maintained to control panel fasteners and to sheet metal housing. If non - insulated connector wires are used.
- 3) The back cover must be snapped into place after connector wired have been clamped for protection against accidental contact.
- 4) Scales may only be replaced under voltage - free conditions.
- 5) Bezels and window glasses may only be replaced under voltage - free Conditions.

Trip level and delay settings



Connections



	CH-I	CH-II
Trip level setting	0 - 100%	0 - 100%
Delay setting	0 - 30 sec	0 - 30 sec

Relay and LED status

Cascade I mode :

	Relay I	LED I	Relay II	LED II
Healthy condition	ON	OFF	ON	OFF
Trip condition	OFF	ON	OFF	ON

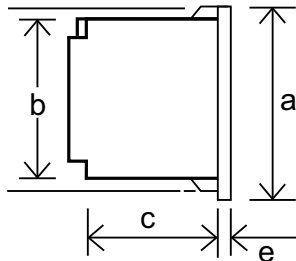
Note : Trip condition will occur after the set delay.

Cascade II mode :

	Relay I	LED I	Relay II	LED II
Healthy condition	OFF	OFF	OFF	OFF
Trip condition	ON	ON	ON	ON

Note : Trip condition will occur after the set delay.

Dimensions



Dimensions (in mm)	EQC 96
Bezel a	96
Case b	90
Depth c ^x	52
e	5
Cutout Size	92 ^{+0.8}
Weight (approx.)	450 gms

Ordering Information

Type EQC	Moving - iron panel meter with contacts
Front Dimension	96 mm x 96 mm
Over Range (ammeters)	no over range ² 2 times nominal current ¹
(voltmeters)	6 times nominal current ² 2 times rated voltage ¹
Measuring Ranges	Refer standard measuring ranges
Index Pointer	None ¹ Red ²
Front facia	Normal glass ¹ Polycarbonate ² Antiglare glass ²
Colour of bezel	Black ¹ Red, Blue, Yellow, White ²
Dial	Standard scale same as measuring range Blank dial with division ² Additional lettering on request ² Additional numbering on request ² Coloured marking red or green ² Coloured sector red or green ²
Aux	230V ac ¹
Modes	Cascade I / Cascade II
Logo	ZIEGLER

*1 Standard

*2 Please clearly add the desired specifications while ordering

Ordering example

EQC 96 - 0-5Amps - Red - Normal glass - Std - 230V ac - Cascade I - Ziegler

ZIEGLER INSTRUMENTS

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