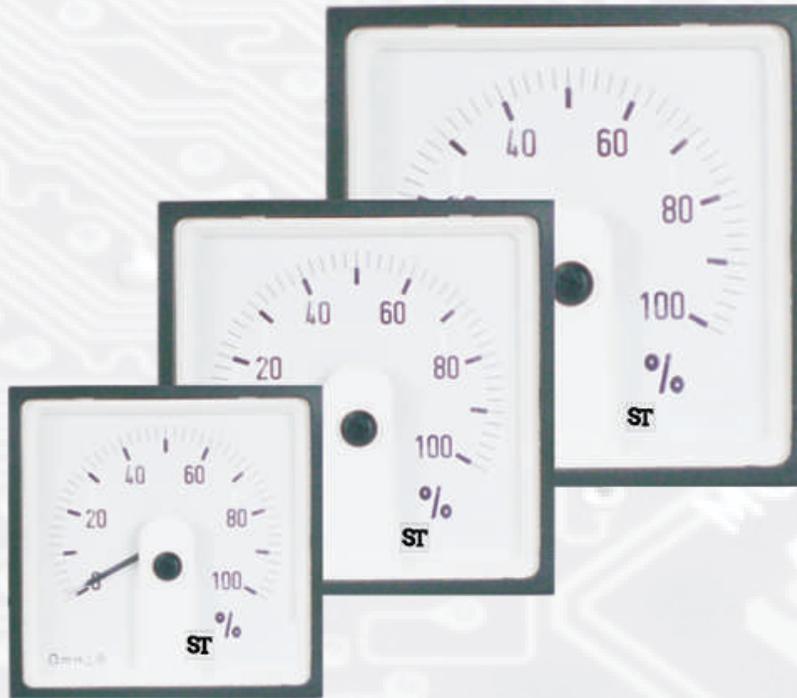




## Technical Data Sheet

# *Sigma Series DGL Meter*



The moving coil, rectifier panel meters, DGL 48/72/96/144 housed in moulded polycarbonate cases are suitable for the measurement of AC currents and voltages.

### Special Features

- Better resolution.
- Linear scale.
- Less VA burden.
- Glass filled polycarbonate housing (UL 94-V-0)
- Knife edge pointer.
- Easily replaceable glass and bezel.

## Application

The moving coil, rectifier panel meters, DGL 48/72/96,144 housed in moulded polycarbonate cases are suitable for the measurement of AC currents and voltages.

## Movement

Moving coil movement has pivots of very high hardness. Movement is suspended between spring loaded sapphire jewels. Movement is properly shielded & critically damped by eddy currents induced in coil former.

### Applicable Standards

Nominal case and cutout dimensions for indicating Electrical instruments	DIN IEC 61554
Scale and pointer for electrical measuring instruments	DIN 43802
Connections and Terminal markings for panel meters	DIN 43807
Terminal bolts/leads	DIN 46200/46282
Clamp straps or connections.	DIN 46282
Safety requirements and protective measures for Electrical indicating instruments and their accessories	DIN 40050, VDE 0110, VDE 0410 IEC 529, IEC 1010
Performance specifications for direct acting indicating analogue electrical measuring instruments and their accessories	IEC51/DINEN60051 DIN 43701
Environmental conditions	VDE / VDI 3540
Front frames for indicating measuring instruments Principle dimensions	DIN 43718
UL Combustibility Class	UL 94 V-0
Technical conditions of delivery for electrical instruments	DIN 43701
Mechanical strength (Free all test, Vibration test)	VDE 0411,IEC 1010

Comply with following European directives: 2004 / 108 / EC (EMC directive) , 2006 / 95 /EC (low voltage directive) & amendment 93/68/EEC, For CE Marking.

### Scale and Pointer

Pointer	Knife - edge pointer
Pointer deflection	0...240°
Scale characteristics	Linear
Scale division	Coarse - fine

Scale length	DGL48	DGL72	DGL96	DGL144
	70 mm	106mm	142mm	230mm
Scale Interchangeability	Interchangeable			

### Mechanical Data

Case details	Moulded square case suitable for mounting in Control / switchgear panels Machinery consoles.
Case material	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	Mounting Clamp
Mounting	Stackable in a single cutout
Panel thickness	≤ 25 mm

### Terminals

Voltmeters and Ammeters < 10 A	Hexagon studs, M4 screws and wire clamps E3 (DIN46282)
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### Electrical Data

Measured Quantity	AC voltage or current
Overload capacity	acc. to IEC 51
Continuously	1.2 times rated voltage /current

### Short Duration

Ammeters	2 times for 5 sec Max : 1 overload 10 times for 0.5 sec Max : 9 overloads
Enclosures code (IEC 529)	IP 52 case IP 00 for terminals without backcover IP 20 for terminals with backcover
Insulation class	Group A according to VDE 0110

<b>Rated insulation voltage</b>	660 V
<b>Proof voltage testing</b>	2 kV
<b>Installation category</b>	600 VCAT III
<b>Insulation resistance</b>	> 50 Mohm at 500V DC

## Reference Conditions

<b>Accuracy class</b>	1.5 according to IEC 51/ DIN EN 60051
<b>Reference conditions</b>	
<b>Ambient temperature</b>	23 °C ± 2 °C
<b>Position of use</b>	Nominal position + 1°
<b>Input</b>	Rated value of measured quantity
<b>Other conditions</b>	IEC 51/ DIN EN 60051

## Nominal range of use

<b>Ambient temperature</b>	IEC 51/ DIN EN 60051
<b>Position of use</b>	Vertical + 5°
<b>Frequency</b>	40.5...71.5 Hz
<b>External magnetic field</b>	At 0.4 kA/m

## Environmental Conditions

<b>Climatic suitability</b>	Climate category II as per IS :1248 (climatic class 3 according to VDE/VDI 3540)
<b>Operating temperature</b>	-10 ... + 55°C
<b>Storage temperature</b>	-25 ... + 65°C
<b>Relative humidity</b>	< 75% annual average, non- condensing
<b>Shock resistance</b>	15g for pulse duration 11 ms
<b>Vibration resistance</b>	10-55-10Hz for ampli. 0.15mm (1.5 g at 50Hz)
<b>Pollution degree</b>	2

## Options

<b>Case</b>	
<b>Front Facia</b>	Antiglare glass
<b>Color of bezel</b>	Red, yellow, blue, white
<b>Red index pointer</b>	Front adjustable on site
<b>position of use</b>	on request 0° ...180°

<b>Dial</b>	
<b>Blank dial</b>	With initial and end values marked
<b>Special markings</b>	Numbering/Lettering
<b>Division dials</b>	Basic divisions without numbering
<b>Color markings/bands</b>	Red or green

<b>Others</b>	
<b>Increased sensitivity</b>	4kohm/V for voltmeters 1...600V 10 kohm/V for Voltmeters 15..150V
<b>Adjustment of Resistance (Sensitivity)</b>	Within ± 1% at 23°C

## Standard Measuring Ranges

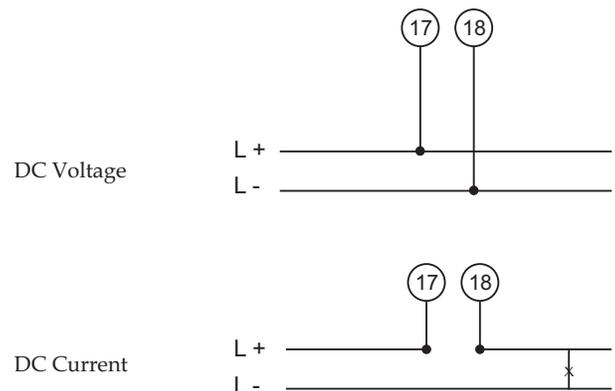
A. C. Current		A. C. Voltage	
Rated Value	Approx Voltage drop	Rated Value	Sensitivity (+ 10%)
100 mA	1.8 V	6 V	900 ohm/ V
1 A	75 mV	10 V	900 ohm/ V
5 A	75 mV	15 V	900 ohm/ V
10 A	75 mV	25 V	900 ohm/ V
		30 V	900 ohm/ V
		40 V	900 ohm/ V
		60 V	900 ohm/ V
		100 V	900 ohm/ V
		150 V	900 ohm/ V
		250 V	900 ohm/ V
		300 V	900 ohm/ V
		400 V	900 ohm/ V
		500 V	900 ohm/ V
		600 V	900 ohm/ V

### Accessories

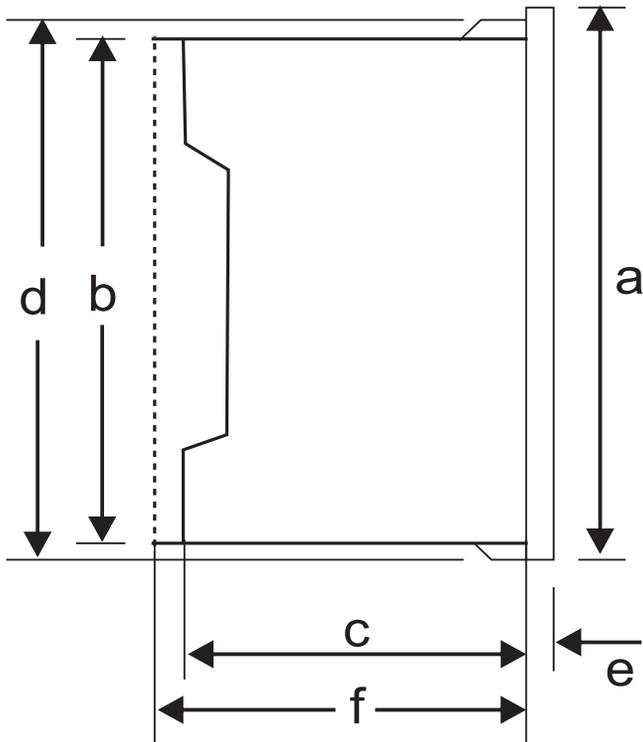
#### Safety Terminal protection

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

### Connection



**Dimensions**



Dimensions (in mm)		DGL48	DGL72	DGL96	DGL144
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>+0.1</sup>
Weight (approx.)		0.13 kg.	0.25 kg.	0.30 kg.	0.43 kg.
Depth with Back cover	f**	64	64	64	64

**Safety Precautions**

- 1) Instruments with damaged bezel or 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 wires have been clamped for protection against accidental contact.
- 4) Bezel, Scale and Glass may only be replaced under voltage free conditions.
- 5) Instruments to be used in grounded panel.

**Ordering Information\***

Size: 72 x 72

Part No.	Description	Class
VL74-I6EL2N1CAW0ST	1 A, SCALE 0-1 A	CL-1
VL74-I7HL2N1CAW0ST	20 A. SCALE 0-20A	CL-1
VL74-VABL2N1CAW0ST	0...10V . SCALE 0-10V	CL-1
VL74-VDEL2N1CAW0ST	200V SCALE 0-200 V	CL-1
VL74-VDRL2N1CAW0ST	300V SCALE 0-300V	CL-1

**\*As a representative only**  
**Kindly contact our local office more product codes**



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