sifam tinsley
PRECISION INSTRUMENTATION

ANALOGUE PANEL METERS
SELECTOR SWITCH METER
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CE

DATASHEET Issue 1.0



Multifunction Meters

Transducers & Isolators

Temperature Controllers

Converters & Recorders

Digital Panel Meters

Current Transformers

Analogue Panel Meters

Shunts

Digital Multimeters

Clamp Meters

Insulation Testers

SELECTOR SWITCH METER

The moving iron, panel meters, EQ 72/96 housed in moulded polycarbonate cases are suitable for the measurement of AC currents for frequency range of 15...400Hz and voltages in the frequency range of 15...100Hz.

Features

- 3 ph 3 wire & 4 wire voltage & current measurement possible.
- Near Linear scale.
- Knife edge pointer.
- Glass filled polycarbonate housing(UL 94 V-0).
- Easy installation with swivel screws.

SUBJECT TO CHANGE WITHOUT NOTICE
This manual superseded all previous versions – please keep for future reference

Movement

Moving iron movement has pivots of very high hardness.Movement is suspended between spring loaded saphire jewel and silicon jewel. Movement is critically damped by use of silicon oil.

Mechanical Data

Case details	Moulded square case suitable for mounting in Control / switchgear panels Machinery consoles.
Case material	10% 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 Screw
Mounting	Stackable in a single cutout
Panel thickness	< 25 mm
Terminals	
Voltmeters and Ammeters	Hexagon studs, M4 screws and wire clamps E3

Electrical Data

Measured Quantity	AC voltage or current
Power consumption(Approx)	
Voltmeters Ammeters	< 4.5VA < 0.5VA
Overload capacity	acc to IEC 51
Continuously	1.2 times rated voltage / current
Short duration	
Ammeters	10 times for 5 sec : 1 overload 10 times for 0.5 sec : 9 overloads
Voltmeters	2 times for 5 sec : 1 overload 2 times for 0.5 sec : 9 overloads
Rated insulation Voltage	SWT 72/96 : 1KV
Proof voltage	SWT 72/96 : 3KV
Enclosures code (IEC 529)	IP 40 for case IP 00 for terminals without backcover IP 20 for terminals with backcover
Insulation class	Group A according to VDE 0110
Installation category	SWT 72/96 : 600V CAT III
Insulation resistance	> 50 Mohm at 500 V DC

Standard Measuring Ranges

A.C. Voltage	A.C. Current
120	1 A
150	5 A
300	
500	
600	

Non-Standard ranges available on request.
For Single phase system there will be 4 switch positions as-OFF L1 L2 L3
For 3 phase 3 wire system, 4 switch positions are as-OFF L1-L2 L2-L3 L3-L1
For 3 phase 4 wire system, 6 switch positions are as-L1-L3 L2-L3 L1-L2 L1-N L2-N L3-N

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	SWT 72 54 mm	SWT 96 97 mm
Scale Interchangeability	Scales are interchangeable	
Ammeters	2 times nominal current	
Voltmeters	1.2 times nominal voltage	

Reference Conditions

Accuracy class	1.5 according to IEC 51/ DIN EN 60051
Ambient temperature	23 °C ± 2 °C
Position of use	Nominal position + 1°
Input Waveform	Rated value of measured quantity sine wave, distortion factor < 5 %
Frequency	45...65HZ
Other condition	IEC 51/ DIN EN 60051
Nominal range of use	
Ambient temperature	0 ... 50°C
Position of use	Vertical +5°
Frequency	15 ... 100 Hz (voltage) 15 ... 400 Hz (current)
External magnetic Field	At 0.4 ka/m

Environmental Conditions

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

Options

Case	
Front Facia	Antiglare glass
Color 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
Special markings	Numbering/Lettering
Division dials	Basic divisions without numbering
Color markings/bands	Red or green
Over range (Ammeters)	Two times over range Six times over range

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
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 Compatibility	UL 94 V-0

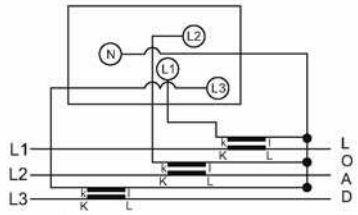
Comply with following European directives:
2004 / 108 / EC (EMC directive) , 2006 / 95 /EC (low voltage directive) & amendment 93/68/EEC, For Marking.

Safety Precautions

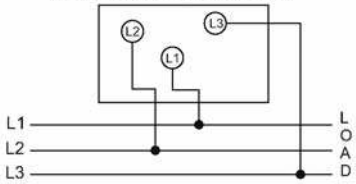
1) Instruments with damaged bezel or glasses must be disconnected from the mains.
2) Adequate safety clearance must be maintained to control panel fasteners and to sheet metal housing. If non - insulated connector wires are used.
3) The back cover must be snapped into place after connector wires have 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.

Connection Diagrams

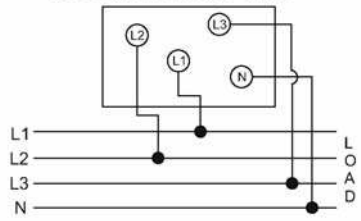
AC Ammeters With Selector Switch



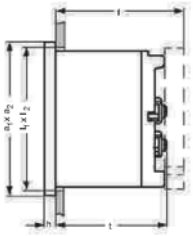
AC Voltmeters 3 Phase 3 Wire



AC Voltmeters 3 Phase 4 Wire



Dimensions



Front in mm	Nominal Dimensions, mm		Cutout, mm	Installation Depth Including Terminal (t), mm	Installation Depth Incl. Full back Cover (f), mm
	$a_1 \times a_2$	h	$l_1 \times l_2$		
72 x 72	72 x 72	5.5	$68^{+0.7} \times 68^{+0.7}$	53	64
96 x 96	96 x 96	5.5	$92^{+0.8} \times 92^{+0.8}$	53	64

Ordering Information*

Size 72 x 72		
Part No.	Description	Notation
SS74-V2CX2N1CA60ST	120V, DIAL 0-100%	6
SS74-V2LX2N1CA60ST	150V, DIAL 0-100%	6
SS74-V2QX2N1CA60ST	300V, DIAL 0-100%	6
SS74-V2VX2N1CA60ST	500V, DIAL 0-100%	6
SS74-V2WX2N1CA60ST	600V, DIAL 0-100%	6
SS74-V2CX2N1CA40ST	120V, DIAL 0-100%	4
SS74-V2LX2N1CA40ST	150V, DIAL 0-100%	4
SS74-V2QX2N1CA40ST	300V, DIAL 0-100%	4
SS74-V2VX2N1CA40ST	500V, DIAL 0-100%	4
SS74-V2WX2N1CA40ST	600V, DIAL 0-100%	4
Size 96 x 96		
Part No.	Description	Notation
SS94-V2CX2N1CA60ST	120V, DIAL 0-100%	6
SS94-V2LX2N1CA60ST	150V, DIAL 0-100%	6
SS94-V2QX2N1CA60ST	300V, DIAL 0-100%	6
SS94-V2VX2N1CA60ST	500V, DIAL 0-100%	6
SS94-V2WX2N1CA60ST	600V, DIAL 0-100%	6
SS94-V2CX2N1CA40ST	120V, DIAL 0-100%	4
SS94-V2LX2N1CA40ST	150V, DIAL 0-100%	4
SS94-V2QX2N1CA40ST	300V, DIAL 0-100%	4
SS94-V2VX2N1CA40ST	500V, DIAL 0-100%	4
SS94-V2WX2N1CA40ST	600V, DIAL 0-100%	4
Part No.	Description	Notation
SS94-I0112N1CA40ST	1A, Dial 0-100%	4
SS94-I0312N1CA40ST	5A, Dial 0-100%	4

* For more details and product codes, please contact our local office.

Contact

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