



Data Sheet

RISH CD30/60 Compact VAF Meter



Measure



Control



Record



Analyze



Optimize

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RISH CD30/60 Compact VAF Meter

Application:

RISH CD30/60 Compact VAF Meter measures electrical parameters in 1 Phase Network for AC direct current measurement application.

Salient Features:

- True RMS measurement.
- 2 Line 4 digits ultra bright LED display.
- Direct current measurement upto 30/60 A depending on model.
- Fast & Easy Installation on housing with self clicking.
- Optional RS485 (MODBUS) for remote settings and monitoring.



Product Features:

Display parameters:

Voltage VLN, Line current, Frequency, RPM, System Min-Max Voltage and Current, System Voltage and Current THD

True RMS Measurement:

The instrument measures distorted waveform upto 15th harmonic.

2 line 4 digits LED display:

2 Line 4 digits seven segment LED display for simultaneous reading of voltage and current.

Storage of system parameters:

The instrument stores minimum and maximum values for system voltage, system current available on both display and MODBUS.

Front panel keys:

Using three key, it is possible to go to desired parameter on screen instantly. Three keys are also useful for easy setup navigation and changing setup parameters.

Display Autoscroll:

Display auto scroll enables user to see all parameters without key operation.

On site selection of auto/manual scrolling.

Direct Connected Current Measurement:

Instrument measures current upto 30/60A depending on variant, without any external CT.

Communication:

Optional Isolated multi baud rate RS485 (MODBUS) output for remote viewing, configuration and external logging.

On site programmable PT parameters:

Potential Transformer (PT) primary and secondary is programmable on site through front panel keys and MODBUS. PT Primary value ranging from 57VLN to 4618 kVLN. PT Secondary value ranging from 57VLN to 300VLN.

Auxiliary supply:

Higher Auxiliary power supply with voltage range 60V-280V AC / DC. Lower Auxiliary power supply with voltage range 20-60V AC/DC.

Enclosure Protection for dust and water:

Conforms to IP 54 (for front face) & IP 20 (for back) & as per IEC60529.

EMC Compatibility:

Compliance to IEC61326



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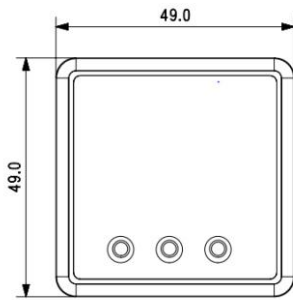


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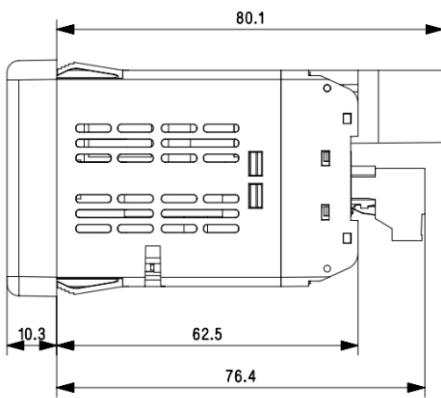
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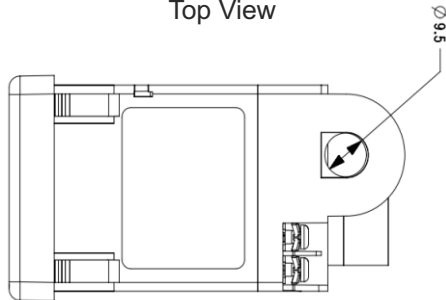
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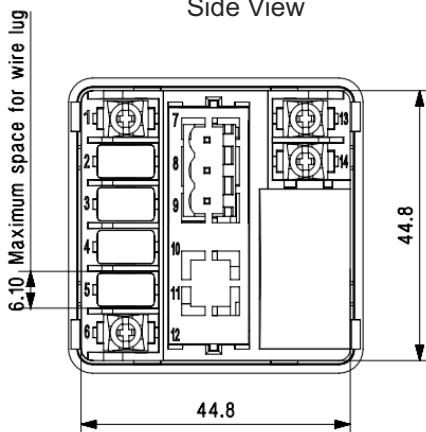
Front View



Top View



Side View



Back View

Technical Specifications:

Operating Measuring Ranges:

Voltage Range	5.77VLN 360VLN (AC RMS)
Current Range:	RISH CD30: 1A36A (AC RMS) RISH CD60: 1A.....72A (AC RMS)
Frequency	45...65 Hz

Input Voltage:

Nominal input voltage (Vn)	57.7-300V L-N
Max continuous input voltage	120% of Nominal value
Nominal input voltage burden	0.3 VA approx at nominal Voltage 240 VLN
System PT secondary values	57 VLN to 300 VLN programmable on site
System PT primary values	57 VLN to 4618 kVLN programmable on site

Input Current:

Nominal input current (In)	RISH CD30 - 30A RISH CD60 - 60A
Max continuous input current	120% of Nominal current
Nominal input current burden	0.1 VA approx.

Auxiliary Supply:

Higher AC-DC External Aux.	60-280V AC-DC (230V AC/DC Nominal)
Lower AC-DC External Aux.	20-60V AC/DC (24V AC / 48V DC Nominal)
Frequency range	45 to 65 Hz
VA burden	< 5 VA Approx.

Overload Withstand:

Voltage	2 x Nominal value for 1 second, repeated 10 times at 10 second intervals
Current	20 x Nominal value for 1 second, repeated 5 times at 5 second intervals

Reference conditions for Accuracy:

Reference temperature	23°C ±2°C
Input waveform	Sinusoidal (distortion factor 0.005)
Input frequency	50 or 60 Hz ±2%
Auxiliary supply voltage	Nominal Value ±1%
Auxiliary supply frequency	Nominal Value ±1%
Total Harmonics distortion	THD-V < 30 % at Vn upto 15th harmonics (Individual 15th harmonics < 30 %) THD-I < 50 % at In upto 15th harmonics (Individual 15th harmonics < 30 %)

Display update rate:

Response time to step input	Less than 1 second
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Accuracy:

Voltage	± 0.5 % of Nominal Voltage (20... 100% of Nominal value)
Current	± 0.5 % of Nominal Current (10... 100% of Nominal value)
Frequency	± 0.2 % of mid frequency
%THD Accuracy	±4%

Influence of Variations:

Temperature coefficient :	0.025 % /°C for Voltage and Frequency 0.05 % /°C for Current
(for nominal value range of use	-20°C to 60°C)

Applicable Standards:

EMC	IEC 61326 - 1 : 2012, Table 2
Safety	IEC 61010-1-2010, Permanently connected use
IP for water & dust	IEC 60529

Interfaces:

MODBUS	RS485 Baud rate : 4.8, 9.6, 19.2, 38.4, 57.6 kbps
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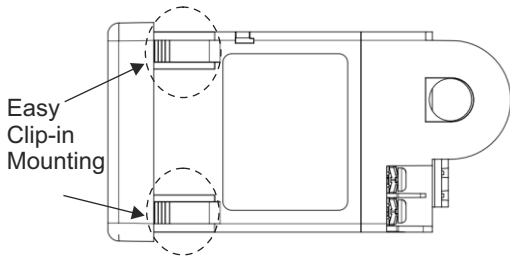


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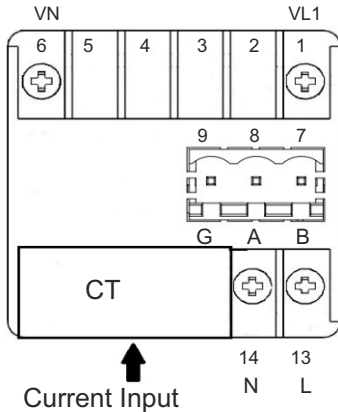
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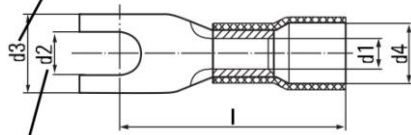
Installation



Terminal Connection



d3 should be less than equal to 6mm



d2 should be greater than equal to 3.2mm

Lug for Voltage and Aux Connection

Note:

1. For MODBUS B refers to Positive, A refers to Negative and G refers to ground.
2. Use stranded wire for terminal connection.

Technical Specifications:

Environmental:

Operating temperature	-20°C to +60°C
Storage temperature	-30°C to +70°C
Relative humidity	0... 90% non condensing
Warm up time	Minimum 3 minute
Shock	Half sine wave, Peak acceleration 30gn (300 m/s ²), duration of 18ms 3 axis - 6 shocks in each axis
Vibration	10... 55 Hz, 0.15mm amplitude
Altitude	2000 m max

Enclosure:

Front	IP 54
Back	IP 20

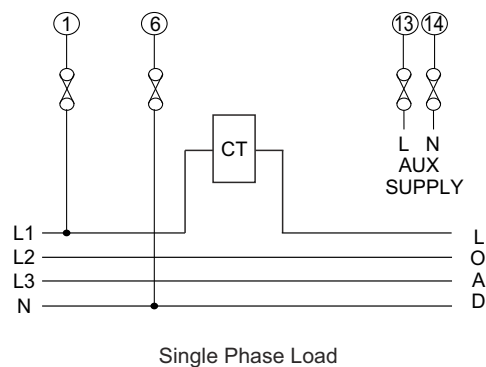
Mechanical:

Housing dimensions	49 x 49 x 90.4 mm ³
Panel cut-out	45 x 45 mm ²
Back depth	80.1 mm
Packed/Unpacked Weight	145 gm, 115 gm
Clamp Screw Size	M3
Cable size for Voltage and Aux	2.5 mm ²
Cable size for Modbus	2.5 mm ²
Cable size for Current	90.25 mm ²
Torque to be applied	0.3 N-m to 0.5 N-m

Safety:

Pollution degree	2
Installation category	III
High Voltage Test	3.3 kV AC, 50Hz for 1 minute between aux. and measuring inputs 2.2 kV AC, 50Hz for 1 minute between aux. and modbus

Electrical Connection



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Electrical Parameters:

Sr No.	Parameters	1 Phase 2 Wire
1.	System Voltage	✓
2.	Max System Voltage/Current	✓
3.	Min System Voltage/Current	✓
4.	System Frequency	✓
5.	RPM	✓
6.	System Voltage and Current THD	✓

Ordering Information:

Parameters	AV00-	X	X	X	X	X	X	X	X	100000
Size	48 x 48mm	S								
Accuracy	Class 0.5	5								
System Type	1 Phase	1								
Input Voltage	57.7 - 300VLN	1								
Input Current	30A (CD30) 60A (CD60)	0 2								
Optional Output	RS485 communication Not Required					R Z				
Power Supply	60V – 280V AC/DC 20V–60V AC/DC						H L			

Ordering Example

AV00-S5110RH100000 - 48 x 48mm, Class 0.5, 1 Phase, 57.7 - 300VLN, 30A, RS485 communication, 60V – 280V AC/DC



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