TNM 96 VAF-O - Multimeter

- True RMS measurement
- On site Programmable
- Low Back Depth
- 3 Line ultra bright LED Display
- Run hours / On hour indication

TNM96 VAF-O measures important electrical parameters in 3 phase 4 Wire, 3 phase 3 Wire and 1 phase Network and replaces the multiple analog panel meters. It measures electrical parameters like AC Voltage, AC Current, Frequency and many more. The instrument also has an optional limit switch.

Produt Features

True RMS measurement

Measures distorted waveform up to 15th Harmonic.

Onsite programmable

- Onsite Programable System Configuration 3PH4W / 3PH3W and Single phase.
- Onsite Programable CT ratios and PT ratios

3 line 3 digits Ultra Bright LED display

Simultaneous display of 3 different parameters.

Run Hour, ON Hour, Number of Interruptions

Run Hour records the number of hours load is connected. ON Hour is the period for which the auxiliary supply is ON. Number of Interruptions indicates the number of times the auxiliary supply was interrupted.

RPM Measurement

The instrument display rotation per minutes for generator applications. Number of poles can be set on site depending upon application requirement.

Storage of Parameters possible

The instrument stores minimum and maximum values for System Voltage, System Current, Run Hour, ON Hour and number of Interrupts. Every 60 sec stored values are updated.

Low Back Depth

The instrument has very low back depth (behind the panel) of less than 55 mm.

Parameter Screen recall

In case of power failure, the instrument memorizes the last displayed screen.

Onsite selection of Auto scroll / Fixed Screen

User can set the display in auto scrolling mode or fixed screen mode locally via front panel keys by entering into Programming mode.

Enclosure Protection for dust and water

Conforms to IP 54 (front face) as per IEC60529.

Compliance to International Safety standards

Compliance to International Safety standard IEC 61010-1- 2010.

EMC Compatibility

Compliance to International standard IEC 61326.

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Technical Specifications

Input Voltage		
Nominal input voltage (AC RMS)		100 VL-L - 500 VL-L (57.7 VL-N - 290 VL-N)
System PT primary values		100 VLL to 799 kVLL programmable on site.
System PT secondary values		100 VLL to 500 VLL programmable on site.
Max continuous input voltage		120% of Nominal value
Input Current		
Nominal input current		1A / 5A AC RMS
System CT primary values		From 1A up to 799 kA programmable on site.
System CT secondary values		1A / 5A Programmable at site.
Max continuous input current		120% of Nominal value
Auxiliary supply		
External Auxiliary		40 V – 300V AC-DC (± 5 %) or 20 V – 40V AC / 20 V – 60V DC
Aux supply frequency		45 to 65 Hz range
VA Burden		
Nominal input voltage burden		< 0.3 VA approx. per phase
Nominal input current burden		< 0.2 VA approx. per phase
Auxiliary Supply burden		< 4 VA approx
Operating Measuring Ranges		
Current		5... 120% of Nominal value
Voltage		10... 120% of Nominal value
Frequency		45 - 65 Hz
Reference conditions for Accuracy		
Reference Temperature		23°C +/- 2°C
Input Frequency		50/60 Hz ±2%
Current		10... 100% of Nominal value
Voltage		20... 100% of Nominal value
Auxiliary Supply Voltage		Nominal Value ±1%
Auxiliary Supply Frequency		Nominal Value ±1%
Accuracy		
Voltage		±1.0% of Nominal Value
Current		±1.0% of Nominal Value
Frequency		±0.5% of Mid Frequency
Overload withstand		
Voltage		2 x Nominal value for 1 second, repeated 10 times at 10 second intervals
Current		20x Nominal value for 1 second, repeated 5 times at 5 min intervals
Influence of variations		
Temperature coefficient		0.05%/°C
Applicable standards		
EMC		IEC 61326
Immunity		IEC 61000-4-3. 10V/m min – Level 3 industrial Low level
Safety		IEC 61010-1-2010 , Permanently connected use
IP for water and dust		IEC60529
Pollution degree		2
Installation category		III
High Voltage Test		
	3510V AC r.m.s,	for 1 minute between Enclosure Vs Power supply + All measuring input Power supply Vs All measuring input
	2210V AC r.m.s,	for 1 minute between Input Voltage Vs Input Current Input Current Vs Input Current
Display update rate		
Response time to step up		1 sec approx.
Environmental		
Operating temperature		-10 to +55°C
Storage temperature		-20 to +65°C
Relative humidity		0... 90% non condensing
Warm up time Minimum		3 minute
Shock		15g in 3 planes
Vibration		10... 150 ... 10 Hz, 0.15mm amplitude

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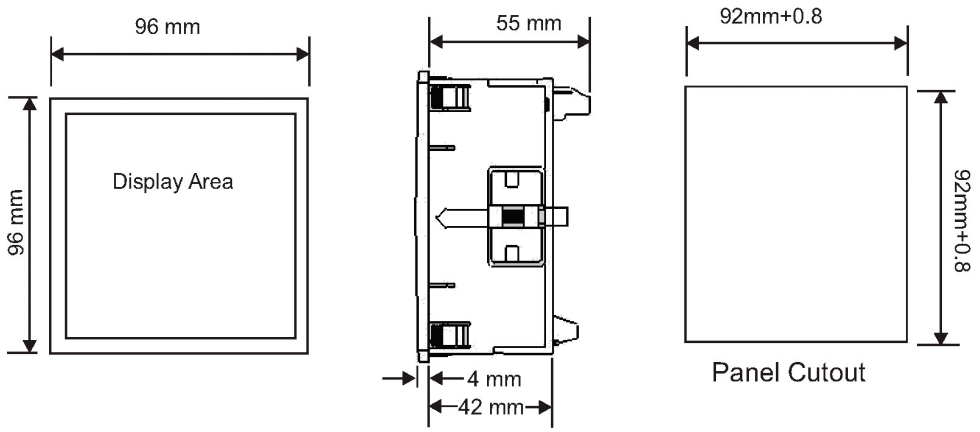
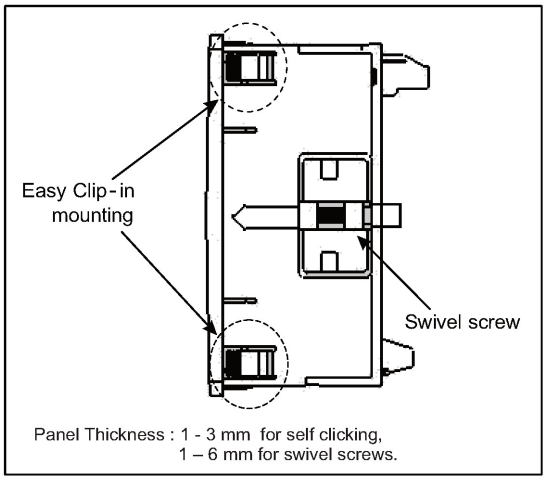
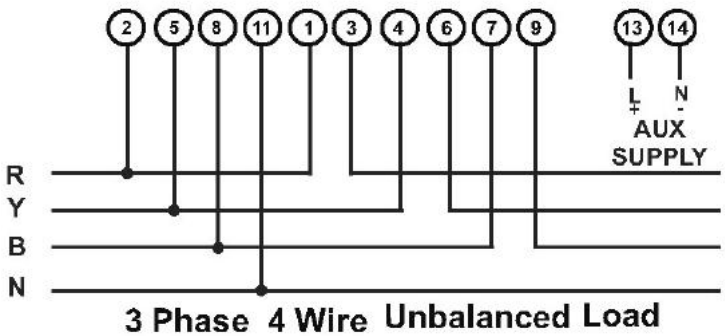
Dimensions:

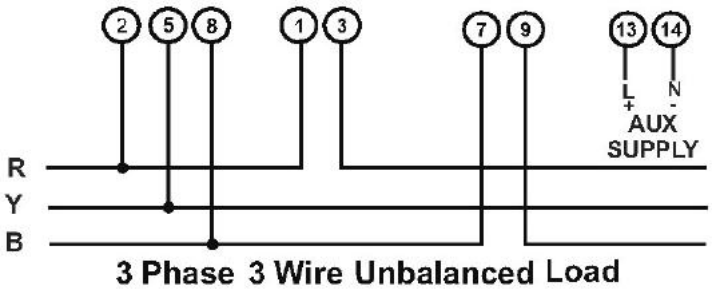


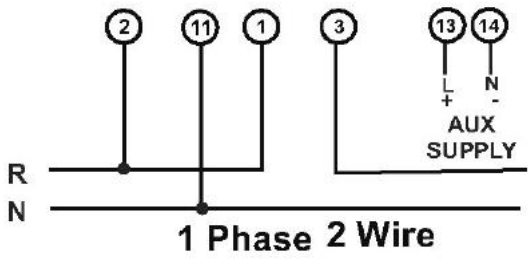
Installation:



Electrical connections:







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No.	Parameter	3 Phase 4 Wire	3 Phase 3 Wire	1 Phase 2 Wire
1.	System Voltage	●	●	-
2.	Voltage L1 - N	●	-	●
3.	Voltage L2 - N	●	-	-
4.	Voltage L3 - N	●	-	-
5.	Voltage L1 - L2	●	●	-
6.	Voltage L2 - L3	●	●	-
7.	Voltage L3 - L1	●	●	-
8.	System Current	●	●	-
9.	Current L1	●	●	●
10.	Current L2	●	●	-
11.	Current L3	●	●	-
12.	Frequency	●	●	●
13.	RPM	●	●	●
14.	Max (System Voltage/ System Current)	●	-	●
15.	Min (System Voltage/ System Current)	●	-	●
16.	Hour Run	●	-	●
17.	ON Hour	●	●	●
18.	Number of auxiliary interrupt	●	-	●

●: Available - : Not available

Order Information:

Model: TNM96 VAF-O

System Type (connection network)

3 Phase (programmable as 4 Wire or 3 Wire on site)

or 1 Phase

Auxiliary supply voltage

40 - 300 V AC DC + 5%

or 20 - 40 V AC / 20 - 60 V DC

Order Example:

TNM96 VAF-O, 3Phase 3Wire, with auxiliary supply: 40V - 300V AC/DC ± 5%.

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