



APPLICATION

The three-phase multifunction meter TNM 96 combines in one single instrument the measuring capabilities of voltmeters, ammeters and frequency-meters. It is suitable for three-phase installations with or without neutral wire, measuring the true r.m.s. value of line-to-line and line-to-neutral voltages, line currents, as well as the frequency of the supply voltage.

All the readings are displayed on the front panel by means of 5 displays with 3 digits each, that show simultaneously the three currents, the frequency and one voltage. (selectable by keyboard).

Current transformer ratio (see attached table) is easily programmed from the keyboard, and it remains permanently stored, so that current readings represent directly primary values. Galvanic insulation implemented between inputs makes also possible a direct connection, without external current transformers.

TNM 96 are suitable for transformer stations, industrial installations in general, commercial buildings, etc.

SYSTEM DESCRIPTION

Current inputs are galvanically separated by means of internal measuring transformers. Current and voltage waves are sampled by an analog-digital converter, and the obtained values managed by a microprocessor-based system which controls the whole operation of the unit and calculates the various electrical quantities. There is galvanic separation between different current inputs, voltage input and auxiliary power supply. This instrument requires an auxiliary 240V AC power supply. ACCURACY 1% measuring range + 1 digit

STRUCTURAL CHARACTERISTICS

Housing:

Case for flush-mounting according to DIN IEC 61544 in self-extinguishing plastic V0 according to UL 94. Black bezel. Front panel with 4 keys. Degree of protection (according to IEC and EN 60529): IP 20 (IP 30 front side). Quick panel fixing through 2 toothed fixing clamps, with no tool required.

ELECTRICAL SPECIFICATIONS

Current inputs:

Nominal current $I_n = 5 \text{ A}$
 Measuring range: 0...5 A
 Overload capacity: 6 A continuously
 30 I_n for 1 second
 Consumption (per phase): less than 1 VA
 Frequency: 45-65 Hz

Voltage inputs:

Measuring ranges:
 Line-to-line: 0...500 V
 Line-to-neutral: 0...300 V
 Overload capacity: 550 V (line-to-line) continuously
 Consumption (per phase): less than 0.2 VA

Power supply:

Tolerance: $\pm 10 \%$
 Frequency: 50-60 Hz
 Consumption: 4 VA max.
 Operating temperature
 $-5^\circ\text{C} \dots +50^\circ\text{C}$
 CE Approved

Displays:

5 3-digits displays with 7 segments red LEDs, 10 mm high. LEDs indicate the quantity displayed and the measuring unit.

Terminals:

Connection via plug-in connectors at the rear side. Degree of protection IP 00 (according to IEC and EN 60529)

Allowable CT primary currents (.../5 A)		
1	200	2200
5	250	2250
10	300	2400
15	400	2500
20	500	2750
25	600	3000
30	700	3500
40	750	4000
50	800	4500
60	900	5000
70	1000	5500
75	1200	6000
80	1250	6500
90	1400	7000
100	1500	7500
120	1600	8000
125	1750	9000
150	1800	10000
160	2000	

