

recdigit **NODUS™** Energy Display

96 x 96 POWER MONITOR FOR THREE-PHASE LV ELECTRICAL NETWORKS

A universal product designed for all measurement, display and monitoring applications on low-voltage networks

Simplicity: intuitive operation and programming

Easy-to-read LCD display

Electricity metering with pulse output

Single model for CT .../1 A and .../5 A



Energy
D
Display

The **recdigit NODUS™** has been designed to make things much simpler for you:

- **When you are deciding what to buy.** This self-contained unit integrates all the necessary functions. The input and output ranges are fixed on this device, that comes as standard with all the technical specifications needed for L.V applications. This means that you can be sure of buying a device which is perfectly adapted to the needs of your L.V. network. Because there is no configuration at the production stage, the instrument can be delivered to you right away.
- **During implementation.** It has a DIN 96 x 96 square format and a side-profile of 110 mm. Ergonomic connection design: connection is via pull-out terminal strips. However, for safety reasons, the current circuits are connected by multi-headed screw terminals for 6mm² wires.
- **During programming.** This has been designed to be an easy process: mnemonic code available in English, French, German and Spanish. The programming menu is only displayed on the LCD screen when this mode is activated. The programming parameters are preselected according to the users' criteria.
- **During operation.** 22 parameters displayable on an easy-to-read LCD screen, directly accessible using the 4 direct-access keys on the front panel. The 75 parameters measured by **recdigit NODUS™** are accessible via the RS485 link under the ModBus/JBus protocol.

There is a space waiting for the **recdigit NODUS™** in all electrical control panels on industrial and major tertiary sites; such as business centres, hospitals, sports and tourist centres, etc., where measurement/metering supervision is necessary.



The LCD display

4 lines of characters and a large number of pictograms accessible using the 4 keys provide the local operator with constant information.



$$\frac{I}{I_{max}}$$

Display 1

I_1 (A)
 I_2 (A)
 I_3 (A)
 U_{1-2} (V)

Display 2

I_1 max (A)
 I_2 max (A)
 I_3 max (A)
Max. total active power (kW)

$$\frac{U}{V}$$

Display 3

U_{1-2} (V)
 U_{2-3} (V)
 U_{3-1} (V)
Frequency (Hz)

Display 4

V_{1-N} (V)
 V_{2-N} (V)
 V_{3-N} (V)
Frequency (Hz)

$$\frac{P/Q}{S}$$

Display 5

Total active power (kW)
Total reactive power (kvar)
Power factor
Total active energy (kWh)

Display 6

Total active power (kW)
Total reactive power (kvar)
Power factor
Total reactive energy (kvarh)

Display 7

Total apparent power (kVA)
Total reactive power (kvar)
Power factor
Total apparent energy (kVAh)

$$?$$

Display 8

VT x CT ratio
Transmission speed (bds)
Modbus/JBus address
Machine serial number

Main specifications

Measurement accuracy	voltage/current: $\pm 0.5\% R \pm 0.05\% U_N/I_N$ (10 to 130% of U_N/I_N) active power P: $\pm 1\% R \pm 0.05\% S_N$ (10 to 130% of S_N for $0.8 \text{ CAP/IND} \leq \cos \varphi \leq 1$) reactive power Q: $\pm 1\% R \pm 0.05\% S_N$ (10 to 130% of S_N for $0.8 \text{ CAP/IND} \leq \sin \varphi \leq 1$) apparent power S: $\pm 1\% R \pm 0.05\% S_N$ (10 to 130% of S_N) power factor: ± 0.02 (measurement on 2 quadrants) frequency: ± 0.2 Hz from 45 to 65 Hz
Metering accuracy	active energy E_p : class 1 according to IEC 61036 reactive energy E_Q : class 2 according to IEC 61268 apparent energy E_S : $\pm 1\% R$ (10 to 130% of S_N)
Measurement inputs	voltage (3 phases + neutral): $V_N/U_N = 230/400$ V, consumption < 1 VA per phase intensity (3 phases on shunt): $I_N = 1$ A and 5 A, consumption < 1 VA Warning : current inputs on internal shunts : do not earth secondary coils of CT's, do not create a common point between the current inputs
Display	black LCD on light background, high contrast ; "measurement" figures 10 mm
Pictograms	phase to phase voltage measurement, wrong phase sequence, flow on RS communication link
Digital output	RS485 (2 wires + shielding), Modbus/JBus™ protocol - RTU mode, rate from 600 to 19200 bauds, even or odd or no parity, 1 or 2 stop bits
Pulse output	energy pulse (E_p, E_Q, E_S): width 300 ms, parameterizable size 1, 10 or 100 kWh (or kvarh or kVAh) output via optically insulated SSR : $250 V_{AC \text{ or } DC} - 120\text{mA}$
Auxiliary power supply	$230/400$ or $110-127/230 V_{AC} \pm 15\%$ 45/65 Hz or $125/220$ or $24/110 V_{DC} \pm 20\%$ (cons. < 5 VA / 5 W)
Connection	current circuit : terminal strip with double-headed screws for 6 mm^2 wires voltage circuit, RS, SSR and power supply: pullable terminal strips for 2.5 mm^2 wires
Dimensions	front DIN 96×96 mm; panel cut-out: 92×92 mm; depth: 110 mm with terminal strips
Weight	approx. 600 g
Fastening	by metal strips for panels between 1 and 5 mm
EC directives	IEC 61010-1, EN 50081-2, EN 50082-2

To order:

recdigit NODUS D, power supply $230/400 V_{AC}$ ref. NODD1001
 recdigit NODUS D, power supply $110-127/230 V_{AC}$ ref. NODD1002
 recdigit NODUS D, power supply $125/220 V_{DC}$ ref. NODD1003
 recdigit NODUS D, power supply $24/110 V_{DC}$ ref. NODD1004

Your distributor:

POWER MEASUREMENT & CONTROL DIVISION OF 

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