

Comparison of power network meters and analyzers

Device	N30P	N14	N13	ND20	N10 / N10A	ND1
Picture						
BASIC INFORMATION						
1-phase network	•	-	-	-	-	-
3-phase network	-	•	•	•	•	•
Display type	LED 1 x 5 digits	LED 3 x 3 digits	LED 4 x 4 digits	3.5" LCD 3 x 4 + 1 x 5 digits	LED 4 x 5 digits	5.7" TFT touchscreen 320x240 px
Digit height [mm]	14	14	10	11	14	-
Color of digits	multicolor (red, green and orange)	red	red or green, brightness control	black, backlit	red or green	256 colors, backlit
Dimensions [mm]	96 x 48	96 x 96	96 x 96	96 x 96	144 x 144	144 x 144
Depth [mm]	93	70.5	70.5	77	77	155
Portable version	no	no	no	no	no	yes
Supply voltage	85.. 253 V a.c./d.c. or 20..40 V a.c./d.c.	85..253 V a.c./d.c.	85...253 V a.c./d.c.	85.. 253 V a.c./d.c. or 20..40 V a.c./d.c.	85...250 V a.c./d.c.	85..253 V a.c./d.c.
Protection (from frontal side)	IP65	IP40	IP40	IP65	IP40	IP65
INPUTS						
Current	1A and 5A	1A or 5A	1A or 5A	1A or 5A	1A or 5A	1A or 5A
Voltage	100 V and 400 V	57.7/100 V or 230/400 V or 400/690 V	57.7/100 V or 230/400 V or 400/690 V	57.7/100 V or 230/400 V	100 V or 400 V (phase voltage)	57.7/100 V or 230/400 V or 400/690 V
Configurable voltage and current transformer ratios	yes	yes	yes	yes	yes	yes
Logic (qty)	-	-	-	-	-	yes (12)
Pulse	-	-	-	-	yes (N10)	-
OUTPUTS						
Analog (qty)	yes (1)	-	yes (1)	yes (1)	yes (1 in N10, 3 in N10A)	yes (4)
Type of analog output	0..10V, 0/4..20 mA	-	-20..+20 mA	0/4..20 mA	0/4..20 mA (N10) -5..+5 mA (N10A)	0/4..20 mA
Relays (qty)	yes (4)	yes (1)	yes (1)	yes (1)	yes (3 in N10, 1 in N10A)	Yes (6)
Pulse	yes	yes	-	yes	yes (N10 only)	-
Auxiliary supply	-	-	-	-	-	yes (2x 24 V d.c./30 mA)

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DIGITAL INTERFACES						
RS-485	yes	yes	yes	yes	yes	yes (2x: 1 master and 1 slave)
RS-485 protocol	MODBUS RTU	MODBUS RTU	MODBUS (RTU, ASCII)	MODBUS RTU	MODBUS (RTU, ASCII)	MODBUS (RTU, ASCII)
Baud rate [kb/s]	4.8, 9.6, 19.2, 38.4	4.8, 9.6, 19.2, 38.4	4.8, 9.6, 19.2	4.8, 9.6, 19.2, 38.4	0.3...19.2	0.3...256
Ethernet	-	-	-	-	-	yes
Ethernet protocol	-	-	-	-	-	TCP/IP, NTP, FTP, MODBUS TCP
USB	-	-	-	-	-	yes
MEASURED AND CALCULATED QUANTITIES						
Phase voltage	yes	yes	yes	yes	yes	yes
Mean 3-phase voltage	-	yes	yes	yes	yes	yes
Phase-to-phase voltage	yes	yes	yes	yes	yes	yes
Mean phase-to-phase voltage	-	yes	-	yes	yes	yes
Phase current	yes	yes	yes	yes	yes	yes
Mean 3-phase current	-	yes	yes	yes	yes	yes
Current in neutral wire	-	-	yes	yes	yes	yes
Active power	yes	yes	yes	yes	yes	yes
Reactive power	yes	yes	yes	yes	yes	yes
Apparent power	yes	yes	yes	yes	yes	yes
3-phase powers	-	yes	yes	yes	yes	yes
Power factor	yes	yes	yes	yes	yes	yes
Phase shift angle	yes	yes	yes	yes	yes	yes
Coefficient tgφ	yes	yes	yes	yes	yes	yes
Frequency	yes	yes	yes	yes	yes	yes
15 min active power	yes	yes	yes	yes	yes	yes
active, reactive and apparent 3-phase energy	active and reactive only (1-phase)	active and reactive only	yes	active and reactive only	yes	yes
4 quadrants measurement	yes	yes	yes	yes	yes	yes
Energy tariffs (gty)	-	-	-	-	-	yes (4)
THD	-	-	yes	yes	yes	yes
Harmonics	-	-	yes (up to 25 th) (only through RS-485)	yes (up to 21 st)	yes (up to 25 th)	yes (up to 51 st)
Max and min values	yes	yes	yes	yes	yes	yes
Dips and voltage decays	-	-	-	-	-	yes
Voltage asymmetry	-	-	-	-	-	yes

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ADDITIONAL FEATURES						
Measurement and recording of energy quality acc. to EN 50160	-	-	-	-	-	yes
Memory	-	-	-	9000 samples of mean active power	-	CF card, 4 GB
Oscilloscope	-	-	-	-	-	yes
WWW and FTP server	-	-	-	-	-	yes
Clock	time	-	time and date	time and date	time and date	time and date, synchronization with time server
PC Software	LPConfig	LPConfig	LPConfig, WizPar	LPConfig	LPConfig, WizPar	ND1 Setup, ND Archive, ND Connect, ND Check

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More details available in datasheets.