

INTRA-AUTOMATION

MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL



TÜVRheinland®
CERT
ISO 9001

Digital Panel Meter IntraDigit Series IA-N30P



Technical Information

02/2011



Accessories

THE EXPERT IN LEVEL AND FLOW

Intra-Automation
Technical Information
02/2011

Technical details subject to be changed without notice.

For comments regarding this brochure, please contact:
info@intra-automation.de

IA-N30P IntraDigit Digital Panel Meter

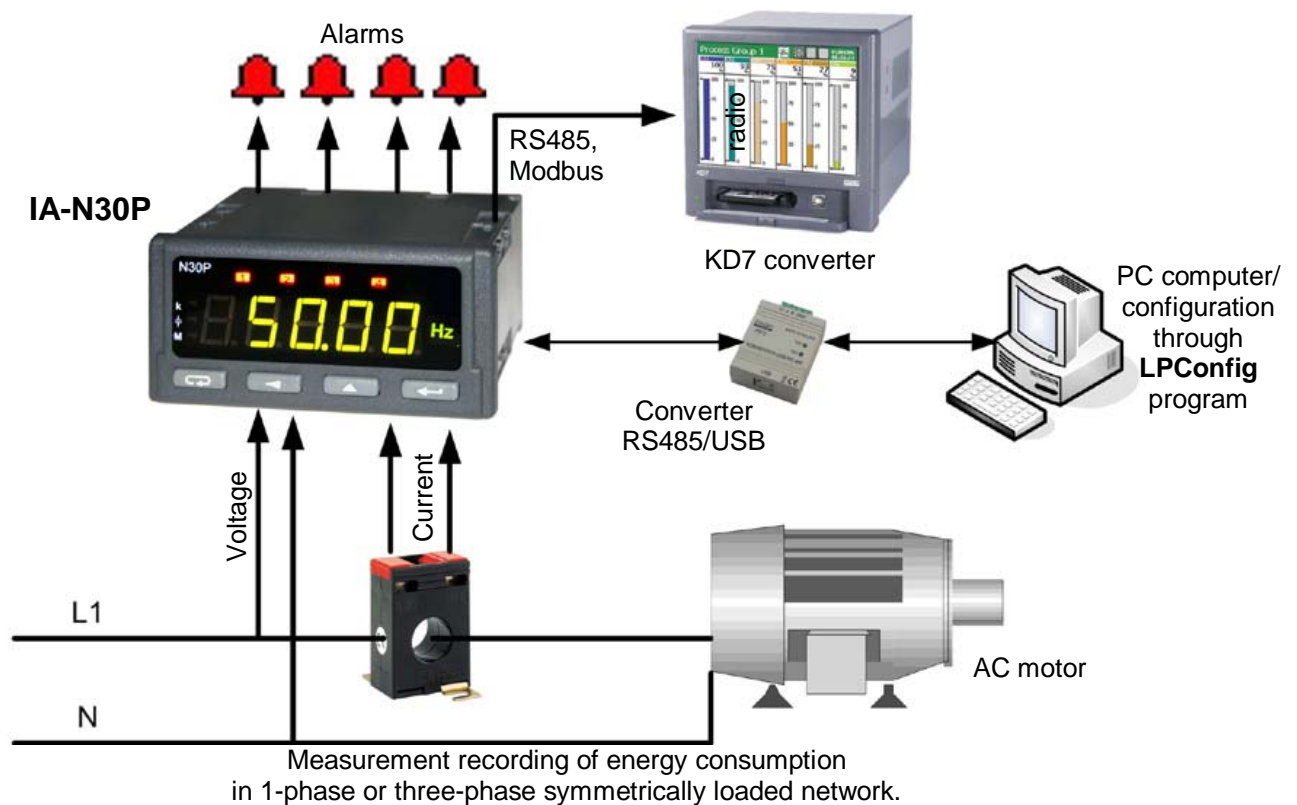
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1 Features

- ◆ Measurement of single phase network parameters: voltage, current, active, reactive and apparent power, $\cos\varphi$, $\tan\varphi$, φ , frequency, active, reactive and apparent energy, 15 minutes' active power, 10 minutes' voltage, 10 seconds' frequency
- ◆ Three-colour display (14 mm high), programmed in three intervals of the measured value
- ◆ Meter programming from the keyboard or through the RS-485 interface by means of the free delivered LPConfig program
- ◆ Four alarm outputs with signalling by LED diodes, operating in 6 different modes
- ◆ Conversion of any measured value into a 0/4...20 mA, or 0...10 V analogue signal
- ◆ Storage of minimal and maximal values for all measured values

2 Application example



3 Technical details

Inputs

Kind of input	Measuring range	Rated operation conditions	Ratio values
Voltage input	0...100 V or 0...400 V	0.05...1.2 Un	0.1...4000.0
Current input	0..1 A or 0...5 A	0.005...1.2 In	1...10000

Measuring ranges

Kind of input	Indication range	Measuring range	Basic error
Current 1 A/5 A	0.000...60 kA	0.06...6 A AC	± 0.2 %
Voltage 100 V/400 V	0.0...192 MV	1...480 V AC	
Frequency	45.00...100.00 Hz	45.00...66.00...100.00 Hz	
Active power	-19999...99999 MW	-2.88 kW...1.40 W...2.88 kW	± 0.5 %
Reactive power	-19999...99999 Mvar	-2.88 kvar...1.40 W...2.88 kvar	
Apparent power	0.00...99999 MVA	1.40 VA...2.88 kVA	
Cosinus φ	-1...1	-1...0...1	± 1 %
Tangens φ	-1.2...1.2	-1.2...0...1.2	
φ	0...359	0...359	± 0.5 %
Active energy	0...9 999 999.9 kWh	0...9 999 999.9 kWh	
Reactive energy	0...9 999 999.9 kvarh	0...9 999 999.9 kvarh	
Apparent energy	0...9 999 999.9 kVA	0...9 999 999.9 kVA	1 sec/24 h
Current	0.00...23.59	0.00...23.59	

Outputs

Kind of output	Properties
Relay output	<ul style="list-style-type: none"> ◆ 2x relays , voltageless NO contacts, load-carrying capacity 250 V AC / 0.5 A AC ◆ 2x relays, voltageless switched contacts, load-carrying capacity 250 V AC / 0.5 A AC
Analogue output	<ul style="list-style-type: none"> ◆ current programmable 0/4...20 mA, load resistance $\leq 500 \Omega$ ◆ voltage programmable 0...10 V, load resistance $\leq 500 \Omega$ ◆ resolution: 0.01 % of the range
Energy pulse output	<ul style="list-style-type: none"> ◆ OC type output, passive o class A, acc. to EN 62053-31, supply 18..27 V, current 10...27 mA ◆ Output pulse constant: 5000 imp./kWh, independently of Ku and Ki settings.

Digital interfaces

Interface type	Transmission protocol	Modes	Baud rates
RS-485	MODBUS RTU	8N2, 8E1, 8O1, 8N1	4.8, 9.6, 19.2, 38.4, 57.6, 115.2 kbit/s

External features

Readout field	5-digit LED display, Indication range: -19999...99999 digit height: 14 mm	Three colour display(colour changes depending on displayed value): red, green, orange
Weight	< 0.2 kg	
Overall dimensions	96 x 48 x 93 mm	Panel cut-out: $90^{+0.6} \times 45^{+0.6}$ mm
Protection:	IP65 (front side)	IP10 (terminal side)

Rated operating conditions

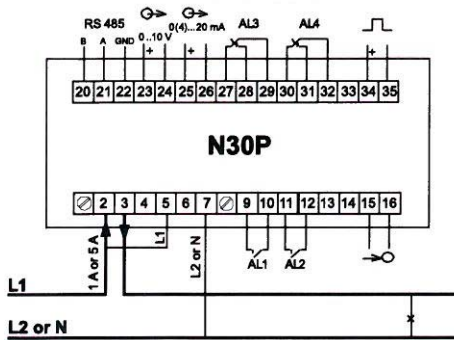
Supply	85..253 VAC (40...400 Hz) or DC 20..40 VAC (40...400 Hz) or DC	Power consumption < 6VA
Temperature	Ambient: -10...23...55 °C	Storage: -25...85 °C
Relative Humidity	< 95 %	Condensation inadmissible
Operating position	Any	
External magnetic field	0...400 A/m	

Safety and compatibility conditions

Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Safety requirements		acc. to EN 61010-1

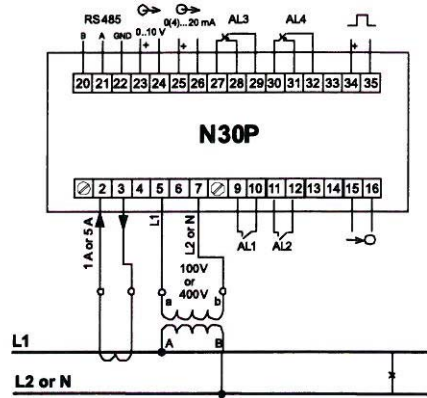
4 Connecting diagrams

Additional output signals (option)



Electrical connections of the IA-N30P meter for direct measurements

Additional output signals (option)



Electrical connections of the IA-N30P meter for indirect measurements

5 Order codes

Code	Description
IA-N30P	Digital panel meter
	Supply
1	85...253 V AC/DC
2	20..40 V AC/DC
	Additional outputs
0	without
1	Pulse output, RS485, analogue outputs
2	Pulse output, RS485, analogue outputs, switched-over relay outputs
	Unit
XX	unit acc. to table 1
	Version
00	standard
XX	custom-made*
	Language
E	English
X	other*
	Certification
0	without additional quality inspection certificate
1	with additional quality inspection certificate
X	on request*

IA-N30P							
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*Please contact manufacturer

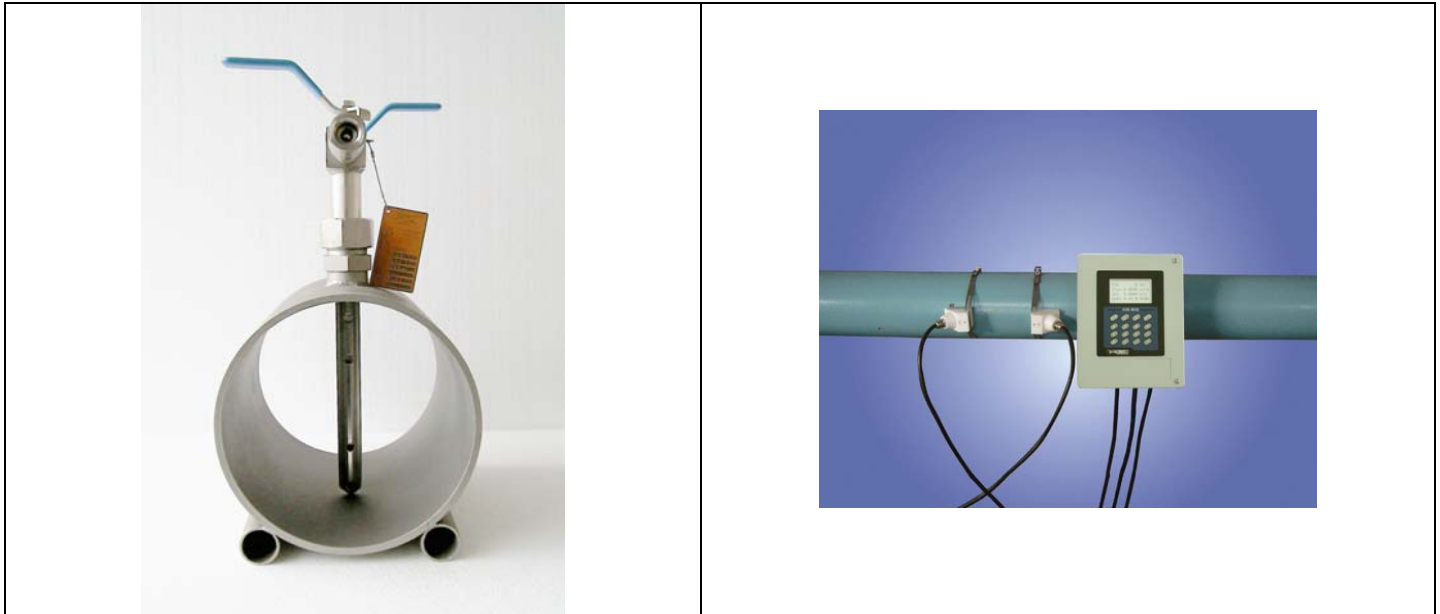
Table 1: Unit codes

Code	Unit	Code	Unit	Code	Unit
00	without	20	kVAh	41	St.
01	V	21	MVAh	41	imp
02	A	22	Hz	42	rps
03	mV	23	kHz	43	m/s
04	kV	24	Ω	44	l/s
05	mA	25	k Ω	45	obr/min
06	kA	26	$^{\circ}\text{C}$	46	rpm
07	W	27	$^{\circ}\text{F}$	47	mm/min
08	kW	28	K	48	m/min
09	MW	29	%	49	l/min
10	var	30	%RH	50	m ³ /min
11	kvar	31	pH	51	St./h
12	Mvar	32	kg	52	m/h
13	VA	33	bar	53	km/h
14	kVA	34	m	54	m ³ /h
15	MVA	35	l	55	kg/h
16	kWh	36	s	56	l/h
17	MWh	37	h	XX	on order*
18	kvarh	38	m ³		
19	Mvarh	39	obr		

*Please contact the manufacturer

Besides the products covered by this brochure, Intra-Automation GmbH also manufactures other high-quality and high precision instruments for industrial measurement tasks. For more information, please contact us (contact details on the backside of this brochure).

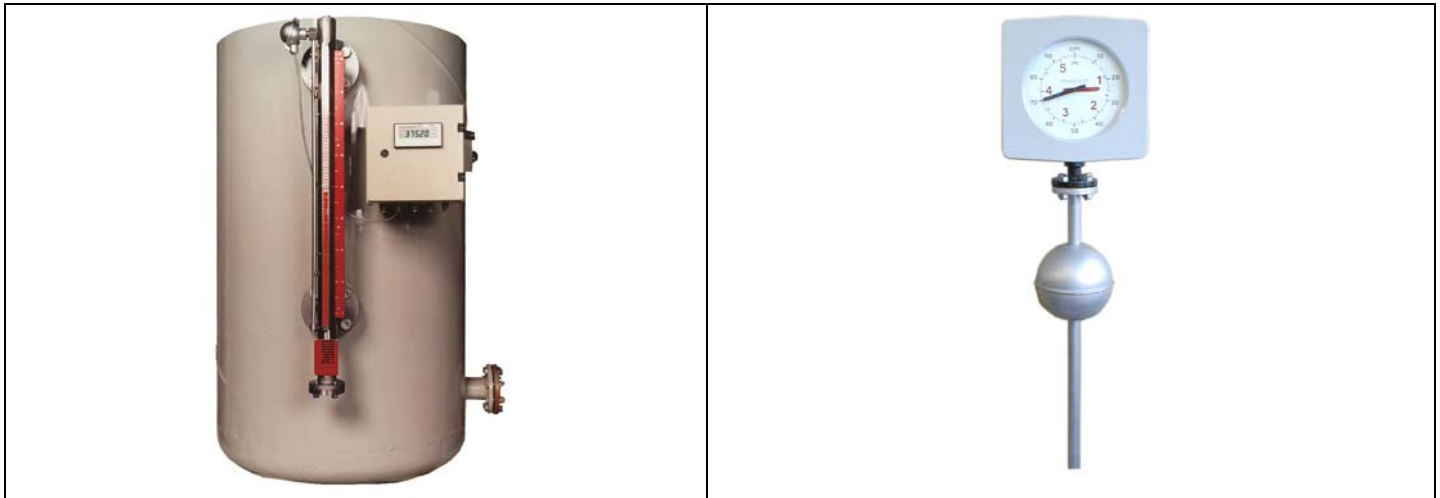
Flow measurement



Itabar®-Flow Sensor

IntraSonic IS210 Ultrasonic Flow Meter

Level measurement



ITA-mag. Level Gauge

MAGLINK Level Indicator

Other Measurement Tasks:



DigiFlow Flow and Level Computers

IntraCon Digital Controllers

IntraDigit Digital Indicators / Meters



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IA



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