

Digital Panel Meter IntraDigit Series IA-N30U



Technical Information

03/2011



Accessories

THE EXPERT IN LEVEL AND FLOW

Intra-Automation
Technical Information
03/2011

Technical details subject to be changed without notice.

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IA-N30U IntraDigit Digital Panel Meter

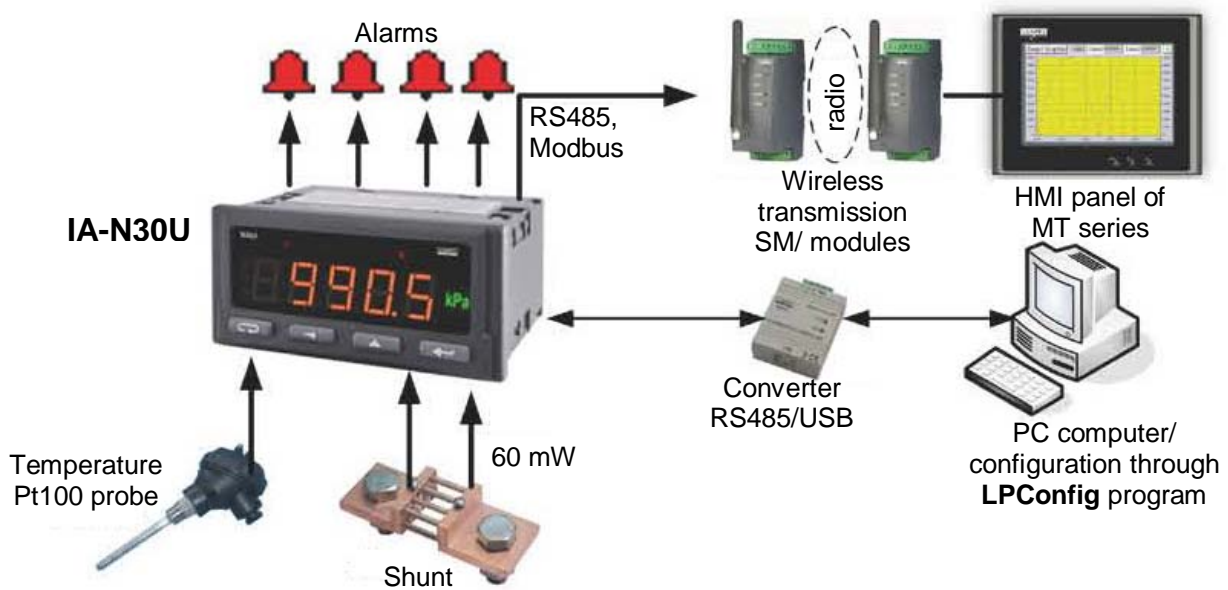
List of Contents:

Chapt.	Title	Page
1	Features	3
2	Application Example	3
3	Technical details	4
4	Electrical Connection	4
5	Ordering code	5

1 Features

- ◆ Measurement: temperature, resistance, standard signals
- ◆ Three-colour display (14 mm high), programmed in three ranges 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
- ◆ Supply of object transducers (optional)
- ◆ 21-point individual characteristic for the measured value

2 Application example



Measurement and visualization of analogue standard signals:
Pt100, TC, 20 mA, 60 mV, 10 V.

Measured parameters are transmitted to the HMI operator panel through radio modules.

3 Technical details

Inputs			
Kind of input	Max. measuring range	Class	Add. error
Pt100	-205...850 °C (-200...850 °C)	0.1	Add. error of: - Thermocouple cold junction temperature compensation: 0.1 % of the measuring range - Wire resistance compensation: 0,1 % of the 400 Ω-range
Pt500			
Pt1000			
400 Ω	0...410 Ω (0...400 Ω)		
4000 Ω	0...4100 Ω (0...4000 Ω)		
Thermocouple J	-220...1210 °C (-200...1200 °C)		
Thermocouple K	-280...1382 °C (-270...1300 °C)		
Thermocouple N	-250...1310 °C (-240...1200 °C)		
Thermocouple E	-280...1010 °C (-270...1000 °C)		
Thermocouple R	-55...1775 °C (-50...1770 °C)		
Thermocouple S	-55...1775 °C (-50...1770 °C)		
Voltage 0...10 V	-13...13 V (-10...10 V)		
Current	-24...24 mA (-20...20 mA)		
Voltage	-10...63 mV (0..60 mV)		
Current time	00.00...23.59		

Outputs		
Kind of output	Properties	
Relay output	<ul style="list-style-type: none"> ◆ 2x relays, voltageless NOC 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 0/4...20 mA, load resistance ≤ 500 Ω ◆ Voltage 0...10 V, load resistance ≤ 500 Ω 	Error of analogue output: 0.2 % of the set range Add. error from temperature changes: 50 % from the class / 10 K
OC output	◆ Type OC, passive npn, 30 V DC, 300 mA	Voltageless output
Auxiliar supply	◆ 24 V DC / 30 mA	

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

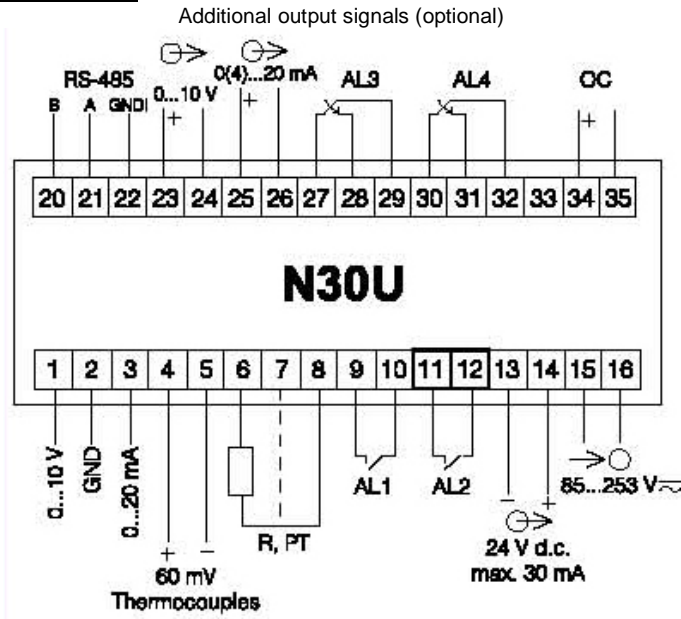
External features		
Readout field	5-digit LED display, Indication range: -19999...99999 digit height: 14 mm	Three colour display(colour changes depending on displayed value): red, green, orange
Weight	< 0.2 kg	
Overall dimensions	96 x 48 x 93 mm	Panel cut-out: 90 ^{+0.6} x 45 ^{+0.6} mm
Protection:	IP65 (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
Isolation between circuits	basic	acc. to EN 61010-1
Pollution grade	2	
Installation category	III	
Maximal phase-to-earth working voltage	for the supply circuit: 300 V	
	for remaining circuits: 50 V	
Altitude above sea level	< 2000 m	

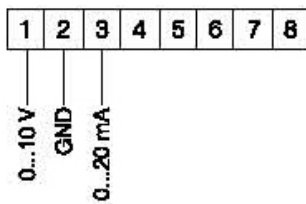
4 Connecting diagrams

Signals on connection terminal

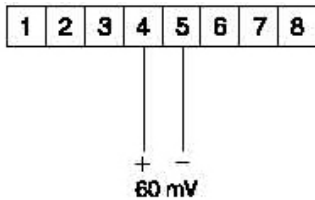


Meter connection

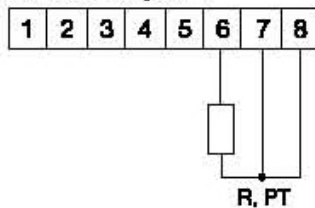
Standard signals
0...10 V or 0/4...20 mA



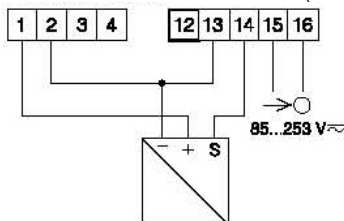
Voltage 0...60 mV



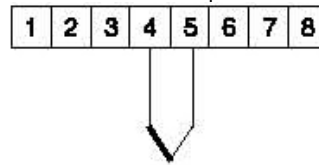
Resistor, RTD sensor in three-wire system



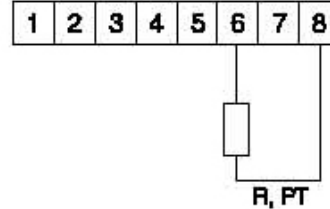
Connection of three-wire transducer (0...10 V)



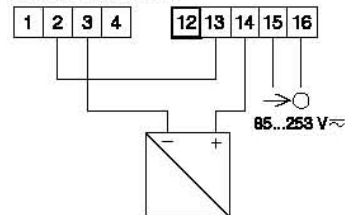
Thermocouple



Resistor, RTD sensor in two-wire system



Connection of two wire transducer (4...20 mA)



5 Order codes	
Code	Description
IA-N30U	Digital panel meter
	Supply
1	85...253 V AC/DC
2	20..40 V AC/DC
	Additional outputs
0	without
1	OC output, RS485, analogue outputs
2	OC 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-N30U	

*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	kΩ	45	obr/min
06	kA	26	°C	46	rpm
07	W	27	°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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MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL

IA



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