

**INTRA-AUTOMATION**

MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL



TÜVRheinland®  
**CERT**  
ISO 9001

# Digital Panel Meter IntraDigit Series IA-N30H



## 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](mailto:info@intra-automation.de)

# IA-N30H IntraDigit Digital Panel Meter

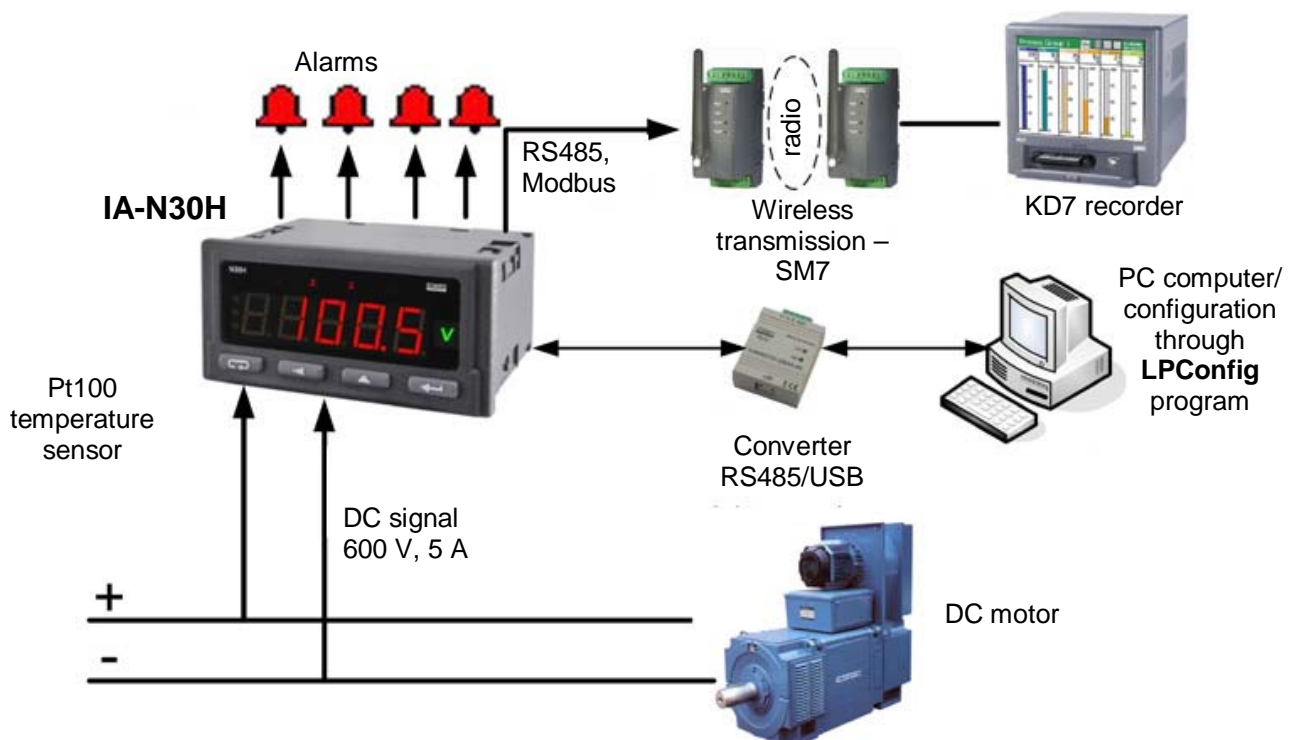
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## 1 Features

- ◆ Measurement: current and DC voltage up to 5 A and 600 V
- ◆ 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 maximum values for all measured values
- ◆ 21-point individual characteristic for the measured value

## 2 Application example



Measurement and recording of DC motor voltage and current.  
Measured data are transmitted to the recorder via radio modules.

### 3 Technical details

Inputs		
Kind of input	Maximal measuring range	Class
± 500 V DC	-600...600 V DC	0.1
± 100 V DC	-200...200 V DC	0.1
± 5 A DC	-6...6 A DC	0.1
± 1 A DC	-1.2...1.2 A DC	0.1
Current time	00.00...23.59	0.5 second/h

Outputs		
Kind of output	Properties	Remarks
Relay output	<ul style="list-style-type: none"> <li>◆ 2x relays , voltageless NO contacts, load-carrying capacity 250 V AC / 0.5 A AC</li> <li>◆ 2x relays, voltageless switched contacts, load-carrying capacity 250 V AC / 0.5 A AC</li> </ul>	
Analogue output	<ul style="list-style-type: none"> <li>◆ current programmable 0/4...20 mA, load resistance ≤ 500 Ω</li> <li>◆ voltage programmable 0...10 V, load resistance ≤ 500 Ω</li> <li>◆ Error of output: 0.2 % of the set range</li> </ul>	Additional error from temperature changes: <b>50 % of class/10 K</b>
OC output	◆ OC type, passive npn, 30 V DC / 30 mA	voltage output
Auxilliar 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

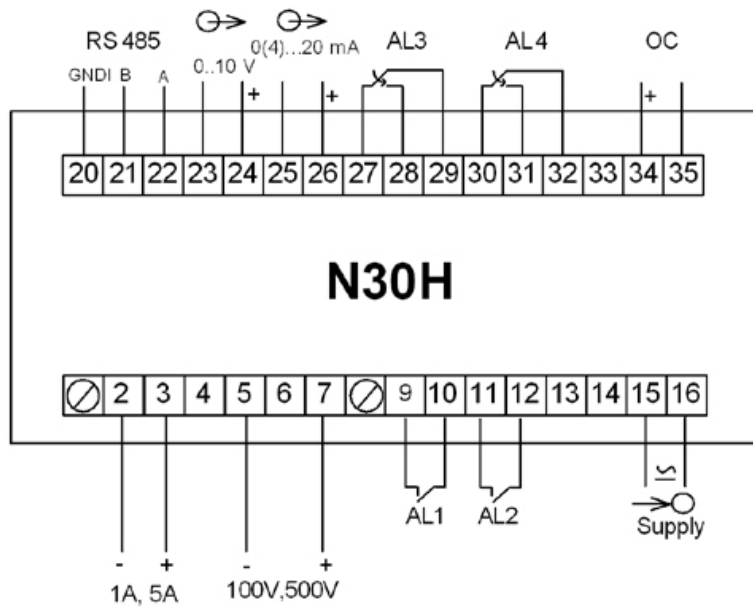
External features		
Readout field	5-digit LED display, Indication range: -19999...99999 digit height: 14 mm	Three colour display( colour changes depending on displayed value): red, green, orange
Weight	< 0.2 kg	
Overall dimensions	96 x 48 x 93 mm	Panel cut-out: 90 <sup>+0.6</sup> x 45 <sup>+0.6</sup> 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	

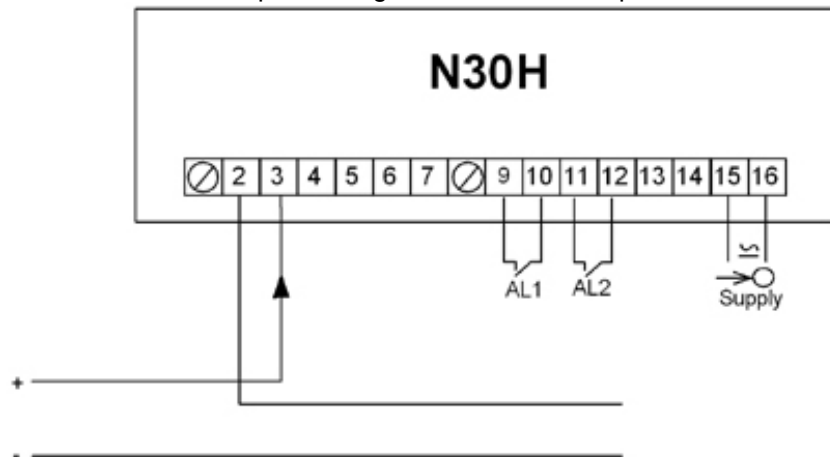
Safety and compatibility conditions		
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation between circuits	basic	acc. to EN 61010-1
Pollution grade	2	
Installation category	III	
Maximal phase-to-earth working voltage	for the supply circuit: 300 V	
	for remaining circuits: 50 V	
Altitude above sea level	< 2000 m	

**4 Connecting diagrams**

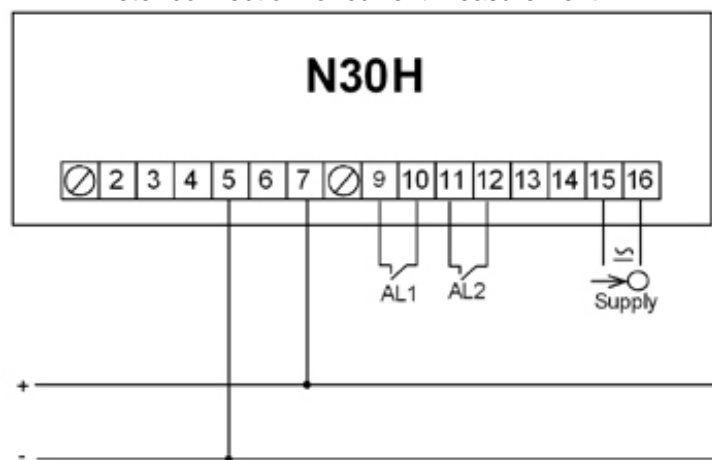
Additional output signals



Description of signals on terminal strip



Meter connection for current measurement



Meter connection for voltage measurement

5 Order codes	
Code	Description
IA-N30H	Digital panel meter
	<b>Supply</b>
1	85...253 V AC/DC
2	20..40 V AC/DC
	<b>Additional outputs</b>
0	without
1	OC output, RS485, analogue outputs
2	OC output, RS485, analogue outputs, switched-over relay outputs
	<b>Unit</b>
XX	unit acc. to table 1
	<b>Version</b>
00	standard
XX	custom-made*
	<b>Language</b>
E	English
X	other*
	<b>Certification</b>
0	without additional quality inspection certificate
1	with additional quality inspection certificate
X	on request*

IA-N30H						
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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	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 <sup>3</sup> /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 <sup>3</sup> /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 <sup>3</sup>		
19	Mvarh	39	obr		

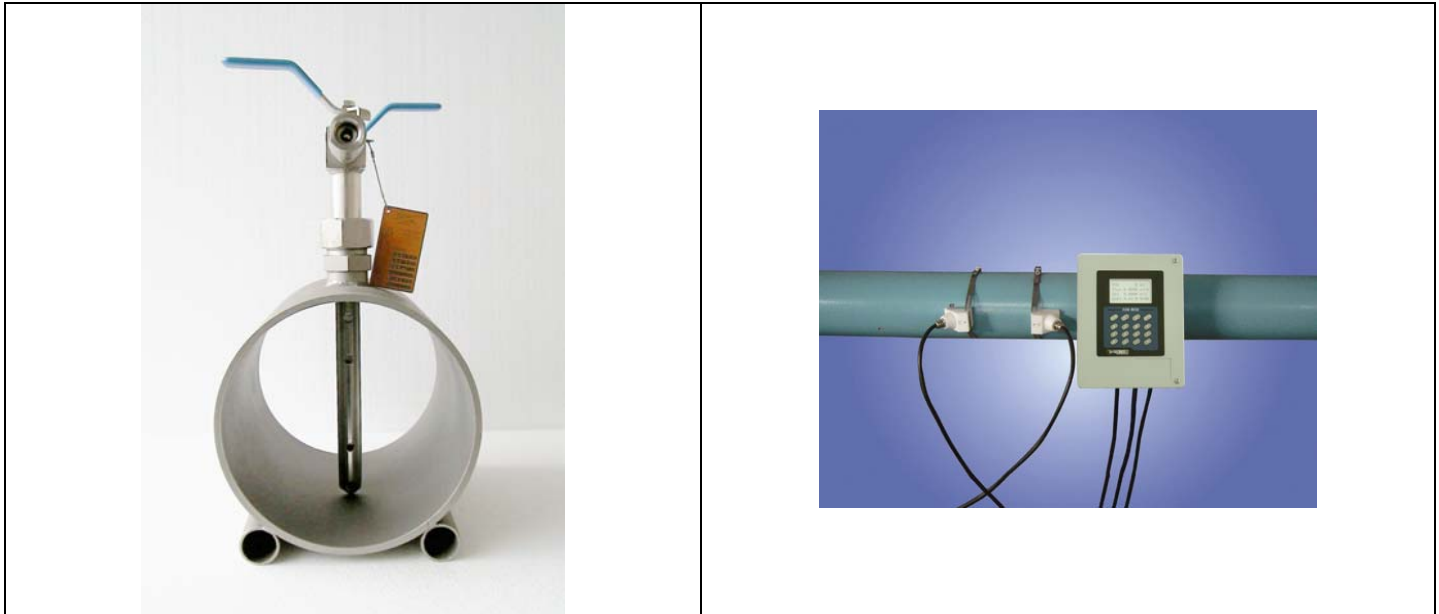
\*Please contact the manufacturer





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).

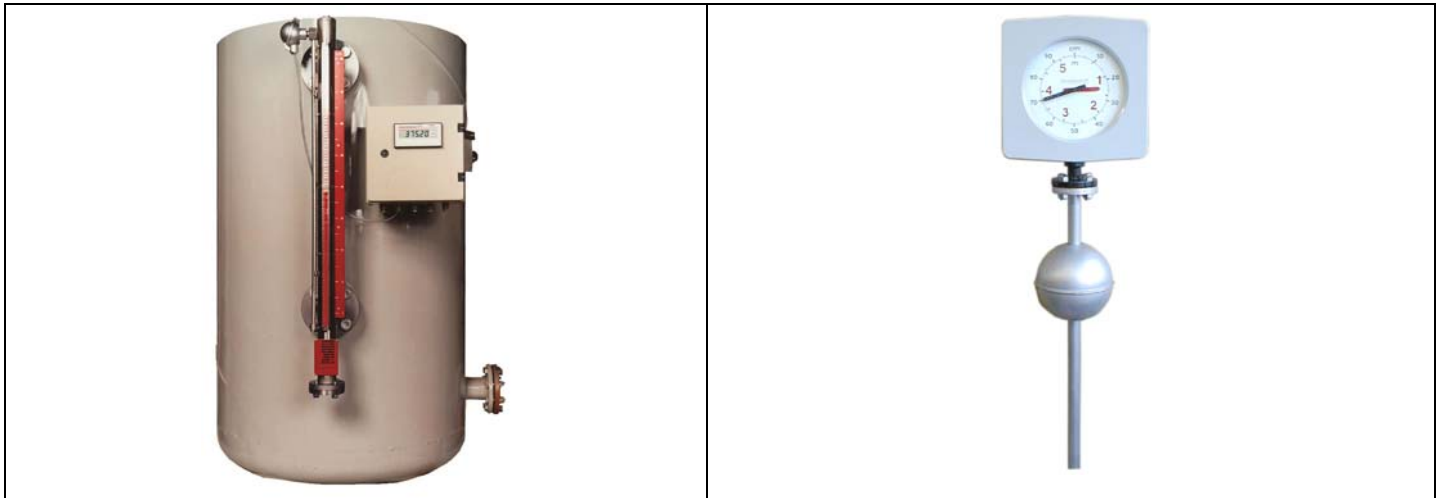
### Flow measurement



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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### International Headquarters:

Intra-Automation GmbH  
Otto-Hahn-Str. 20  
41515 Grevenbroich  
GERMANY

☎ +49 – (0) 21 81 / 7 56 65-0

☎ +49 – (0) 21 81 / 6 44 92

✉ [info@intra-automation.de](mailto:info@intra-automation.de)

🌐 [www.intra-automation.com](http://www.intra-automation.com)

### Sales Office for the BENELUX:

B.V. Intra-Automation HTP  
PO Box 10  
4730 AA Oudenbosch  
THE NETHERLANDS

☎ +31 – (0)165 – 32 22 01

☎ +31 – (0)165 – 32 29 70

✉ [info@intra-automation.nl](mailto:info@intra-automation.nl)