INTRA-AUTOMATION

MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL

TÜVRheinland® CERT ISO 9001

Digital Panel Meter IntraDigit

Series IA-N20

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

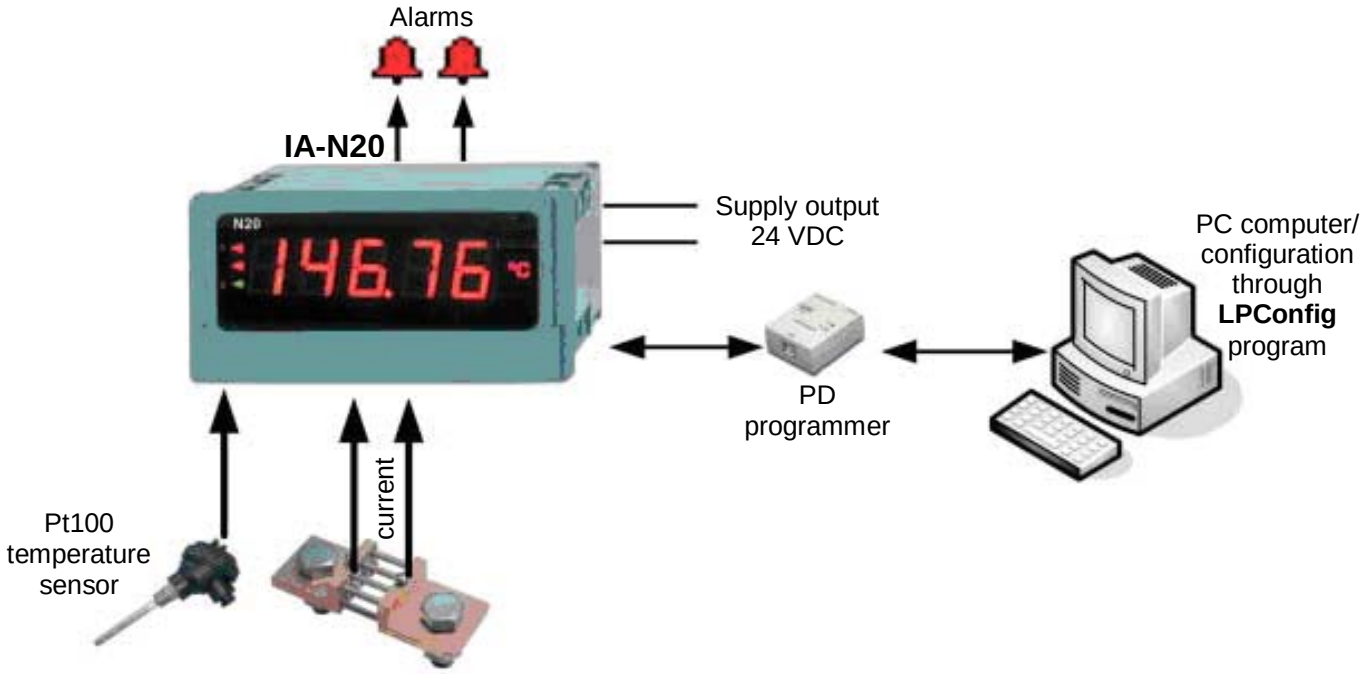
IA-N20
IntraDigit
Digital Panel Meter

List of Contents:

1 Features

- Measurement of voltage or DC current and temperature (Pt100, J, K)
- Three-colour LED display (5 digits, 14 mm high)
- 2 alarm outputs of OC type
- Galvanic separation between the supply, measuring inputs and the programmer input
- Programmable parameters through the PD14 programmer
  - recounting of indications (individual characteristic)
  - two alarms of OC type operating in 6 working models
  - display colour programmable in three intervals
  - thresholds of displayed overflows
  - highlight of the unit
  - automatic or manual compensation: temperature of cold ends (for J, K) or wire resistance (for Pt100)
  - measurement averaging time
- Supply of object transducers

2 Application example



Measurement and signalling of temperature overflows or DC current

3 Technical details

Inputs			
Kind of input	**Measuring range**	**Parameters**	**Basic error**
Voltage input	-11…-10…10…66 mV -1…0…10…11 V -11…-10…10…11 V	Input resistance: > 1 MΩ	± (0,2 % of range + 1 digit)
Current input	-1…0…20…22 mA 3,6…4…20…22 mA -22…-20…20…22 mA	Input resistance: 10 Ω ± 1 % Input resistance: 10 Ω ± 1 % Input resistance: 5 Ω ± 1 %	
Temperature (Pt100)	-50…400 °C		
Temperature (thermocouple J)	-50…1200 °C		
Temperature (thermocouple K)	-50…1370 °C		

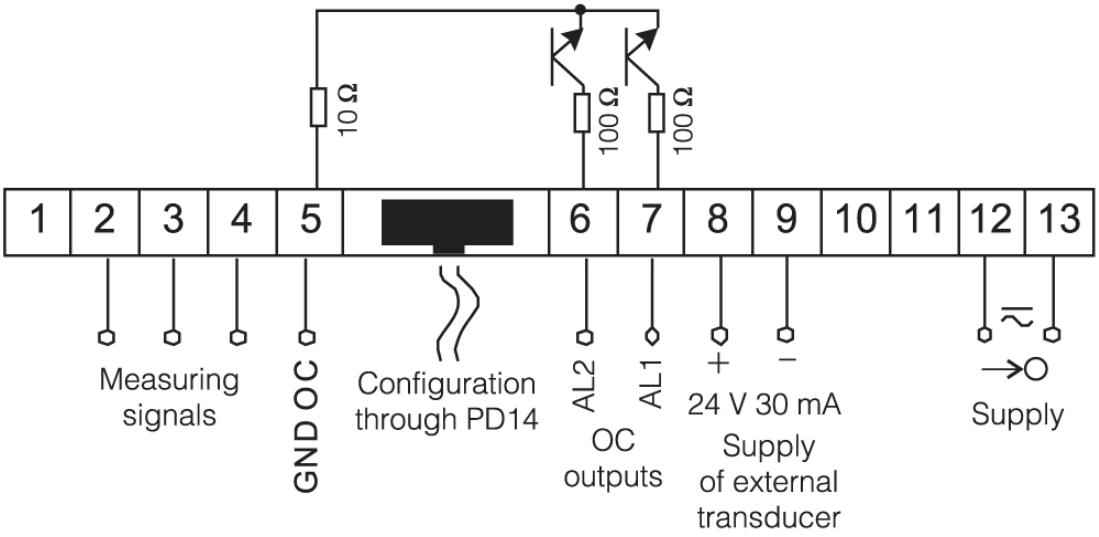
Outputs	
Kind of output	**Features**
Alarm outputs	♦ 2 alarm outputs of OC type
Outputs for external supply of transducers	♦ 24 V ± 5 %, 30 mA

External features		
Read-out field	5-digit LED display Indication range: -19999…99999 Digit height: 14 mm	Three-colour display (changes of colour depend on the displayed value): red, green, orange
Weight	< 0,25 kg	
Overall dimensions	96 x 48 x 64 mm	Panel cut-out: $92^{+0,6}$ x $45^{+0,6}$ mm
Protection grade	IP65 (Front side)	IP10 (Terminal side)

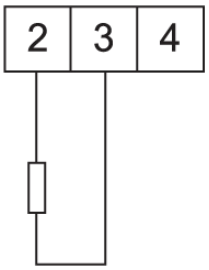
Rated operating conditions		
Supply	85..253 VAC (45…65 Hz) or DC 20..40 VAC (45…65 Hz) or DC	Power consumption < 6VA
Temperature	Ambient: -10…23…55 °C	Storage: -25…85 °C
Relative Humidity	< 95 %	Condensation inadmissible
Operating position	Any	

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
Galvanic isolation between supply and measuring unit.	3,2 kV DC	

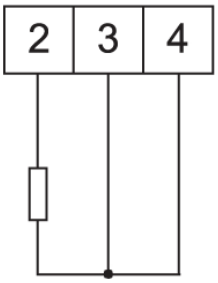
4 Connecting diagrams



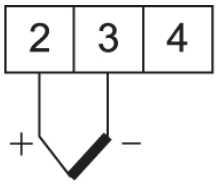
Electrical connections of IA-N20 meter



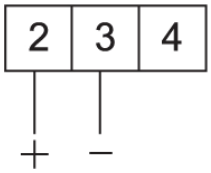
RTD in two-wire system
with manual compensation



RTD in three-wire system
with automatic compensation



J, K thermocouples



current input
voltage input

5 Order codes

Code	Description					
IA-N20Z	Digital panel meter					
	Input					
	1	Pt100: -50…400°C				
	2	Thermocouple J: -50…1200°C				
	3	Thermocouple K: -50…1370°C				
	4	0…20 mA				
	5	4…20 mA				
	6	± 20 mA				
	7	0…60 mV				
	8	0…10 V				
	9	± 10 V				
		Supply				
		1	85…235 V AC/DC			
		2	20..40 V AC/DC			
			Unit			
			XX	see table 1		
				Version		
				00	standard	
				XX	custom-made*	
				99	non-standard settings (please see ordering example)	
					Certification	
					8	without additional quality inspection certificate
					7	with additional quality inspection certificate
					X	on request*
IA-N20Z						

*Please contact manufacturer

Table 1: Unit codes

Code	Unit	Code	Unit	Code	Unit
00	without	17	µm	34	bar
01	V	18	mm	35	rad
02	A	19	cm	36	Ω
03	mV	20	m	37	kΩ
04	kV	21	km	38	%
05	MV	22	l	39	°
06	mA	23	l/s	40	turns
07	kA	24	l/h	41	rps
08	MA	25	ms	42	rpm
09	°C	26	s	43	rph
10	°F	27	h	44	m/h
11	K	28	N	45	km/h
12	Hz	29	kN	46	imp
13	kHz	30	Pa	XX	on order*
14	Ah	31	hPa		
15	kAh	32	kPa		
16	m/s	33	MPa		

*Please contact manufacturer

Order examples:

Example 1: **N20-9-1-01-00-8** means:
N20 meter with voltage input on ± 10 V, supply: 85…253 V AC, without extra certification requirements, "V"-unit

Example 2: **N20-5-2-38-99-8** + description:

Parameter	Range/Value
Displayed colour of the upper measured value	Red
Displayed colour of the median measured value	Green
Displayed colour of the lower measured value	Orange
Upper threshold – KpH	44.00
Lower threshold – KpL	40.00
Decimal point	000.00
Highlight of the measured unit	ON
Automatic compensation of terminal temperature	OFF
Manual compensation of terminal temperature	0
Averaging time	1 s
Upper overflow of measurement	9999
Lower overflow of measurement	-19999
Individual characteristic	ON
Parameter ***a*** of the individual characteristic	10.0
Parameter ***b*** of the individual characteristic	0
Kind of the alarm output 1 operation	ON
Upper value to switch the alarm 1 – Aon	40.00
Lower value to switch the alarm 1 – Aoff	0.00
Delay of the alarm 1 switching time	0 second
Kind of the alarm output 2 operation	n-on
Upper value to switch the alarm 2 – Aon	44.00
Lower value to switch the alarm 2 – Aoff	40.00
Delay of the alarm 1 switching time	0 second

- means: N20 meter with current input on 4…20 mA, supply: 20…40 V AC/DC, executed according to the given detailed description by the user, without extra certificate, "mV"-units

➔ When ordering a meter with parameters different from the standard, all parameters have to be provided! ←

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

INTRA-AUTOMATION

MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL

TÜVRheinland® CERT ISO 9001

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

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

💻 www.intra-automation.com