

INTRA-AUTOMATION

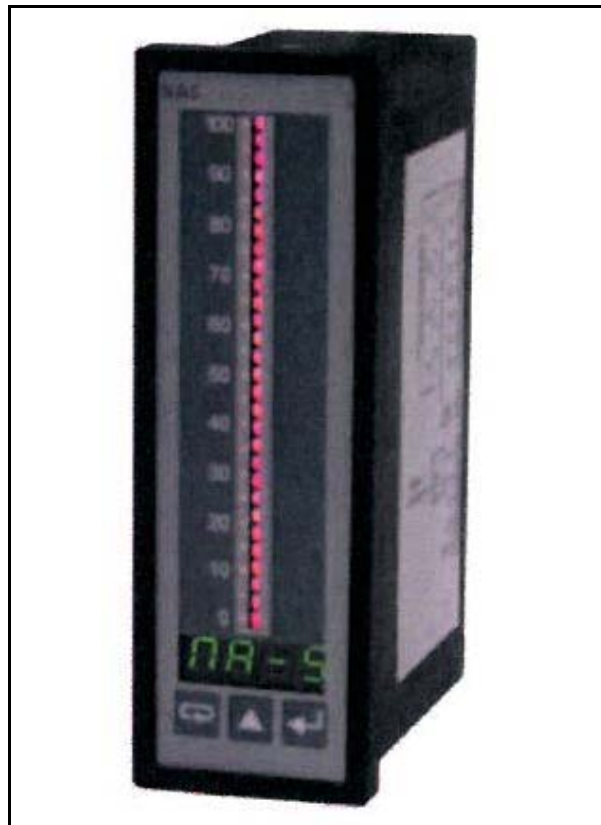
MESS- UND REGELINSTRUMENTE / MEASUREMENT AND CONTROL



TÜV Rheinland®
CERT
ISO 9001

Digital Meters with Bargraph IntraGraph

Series: IA-NA5



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-NA5 IntraGraph

Digital Meters with Bargraph

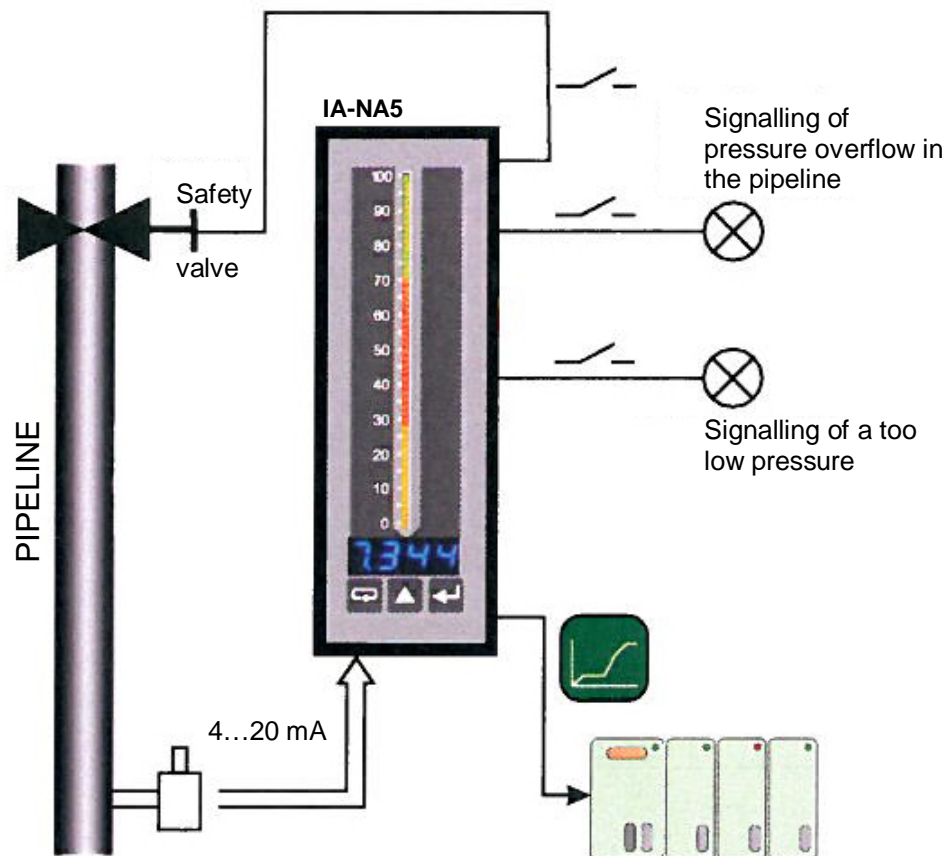
List of Contents:

Chapt.	Title	Page
1	Features	3
2	Application Example	3
3	Technical details	4
4	Electrical Connection	5
5	Ordering code	7

1 Features

- ◆ 3 or 7-colour bargraph with programmable colour switching over
- ◆ Recording of 750 measuring segments, released temporary
- ◆ Universal input
- ◆ Programmable indication characteristic and bargraph magnifier
- ◆ Up to 8 programmable alarm outputs
- ◆ Communication in SCADA systems (RS485/MODBUS interface)
- ◆ Conversion of measured quantity into an analogue standard signal for automation systems

2 Application example



Measurement of pressure in a pipeline

3 Technical details

Inputs		
Kind of input	Measuring range	Measurement sub-range
Pt100	-200...850 °C	320 °C
Pt500	-200...850 °C	230 °C
Pt1000	-200...850 °C	290 °C
J (Fe-CuNi)	-30...1100 °C	350 °C, 700 °C
K (NiCr-NiAl)	-50...1370 °C	450 °C, 950 °C
N (NiCrSi-NiSi)	-100...1300 °C	550 °C, 1000 °C
E (NiCr-CuNi)	-20...850 °C	250 °C, 520 °C
R (PtRh13-Pt)	0...1760 °C	
S (PtRh10-Pt)	0...1760 °C	
T ((Cu-CuNi)	-50...400 °C	
Resistance	0...10 kΩ	110 Ω, 220 Ω, 460 Ω, 950 Ω, 2100 Ω, 5000 Ω
Voltage	0...300 mV, $R_{inp} > 9 \text{ M}\Omega$ 0...600 V, $R_{inp} > 4,2 \text{ M}\Omega$	19 mV, 35 mV, 75 mV, 155 mV, 5 V, 11 V, 22 V, 45 V, 90 V, 180 V, 360 V
Current	$\pm 40 \text{ mA}$, $R_{inp} < 4 \Omega$ $\pm 5 \text{ A}$, $R_{inp} = 10 \text{ m}\Omega \pm 10\%$	5 mA, 11 mA, 23 mA, 1,8 A, 3,8 A
Intensity fo current flowing through the resistance thermometer: < 400 μA		
Resistance of wires connecting the resistance thermometer with the meter: < 20 Ω /1 wire		

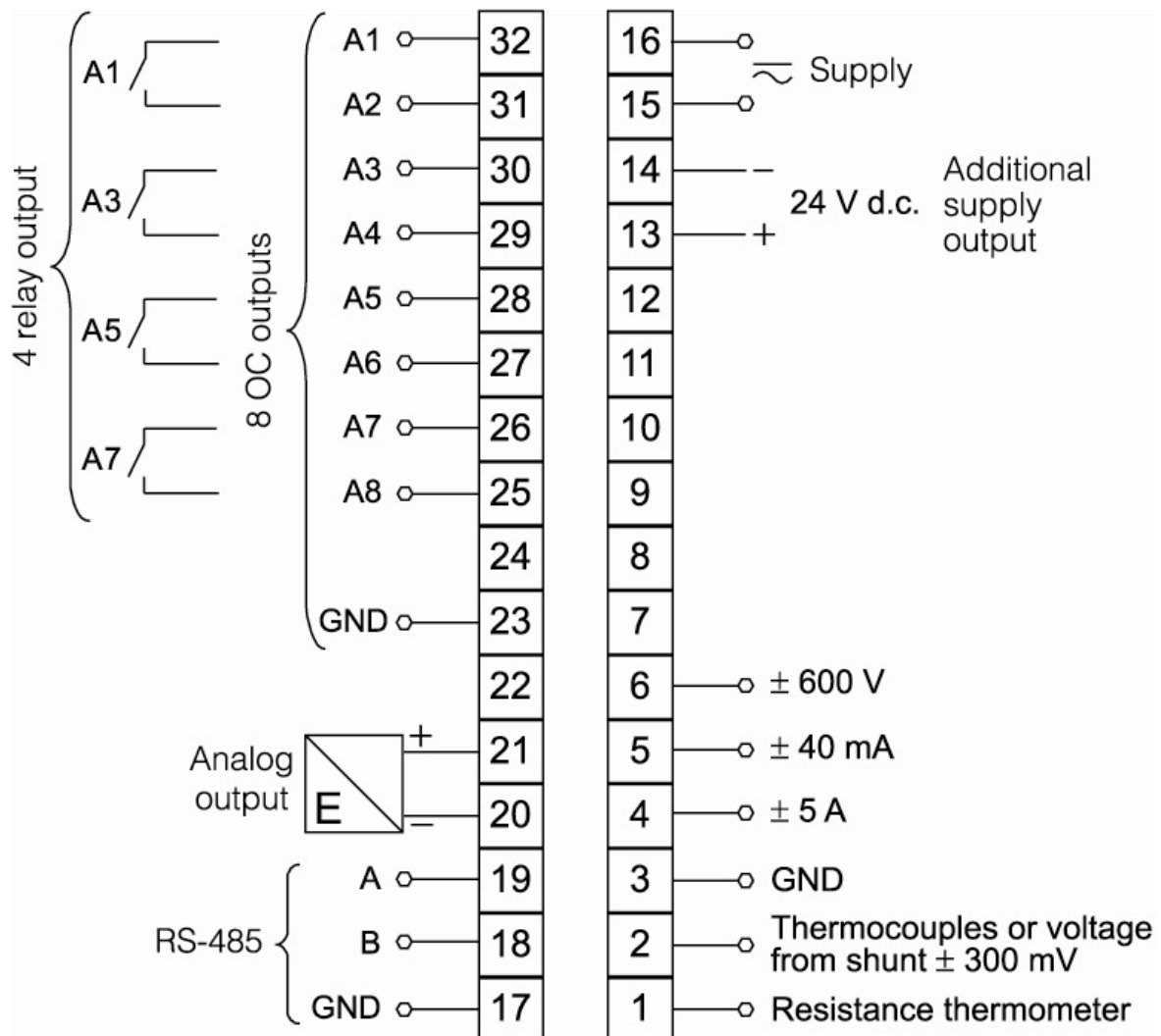
Outputs	
Kind of output	Feature
Analogue output	◆ galvanic isolation with resolution 0,025 % of range, current programmable 0/4...20 mA, load resistance $\leq 500 \Omega$ or voltage programmable 0...20 V, load resistance $\geq 500 \Omega$, output response time: 100 ms
Relay output	◆ 4 relays, NOC voltageless contacts, max. load-carrying capacity: - voltage: 250 V AC / 150 V DC - current: 5 A 30 V DC, 250 V AC - resistance load: 1250 VA, 150 W
Open collector (OC) type	◆ voltageless of OC type with npn transistor, maximal load: 25 mA, range of appended voltages: 5...24 V DC
Digital	◆ interface type: RS-485 transmission protocol: MODBUS ASCII (8N1, 7E1, 7O1), RTU (8N2, 8E1, 8N1) baud rate: 2400, 4800, 9600 bit/s
Additional supply output	◆ 24 V DC, maximal load 30 mA

External features		
Readout field	4-digit LED display	7-segment digits or 700 height, measuring range -1999...9999
	Bargraph	Bargraph of 88 mm length: - 55 segments in three-colour version - 29 segments in seven-colour version
		Bargraph resolution: programmable
		Bargraph accuracy: $\pm 0,5$ segments
Weight	< 0,4 kg	
Overall dimensions	48x144x100 mm	Panel-cut-out: $44^{+0,5} \times 137,5^{+0,5}$ mm
Protection grade	IP50 (front side)	IP 20 (terminal side)

Rated operating conditions		
Supply voltage	95...253 V AC/DC 20...40 V AC/DC	Power consumption < 8 VA
Temperature	ambient: -10...23...55 °C	storage: -25...85 °C
Relative humidity	< 95 %	condensation inadmissible

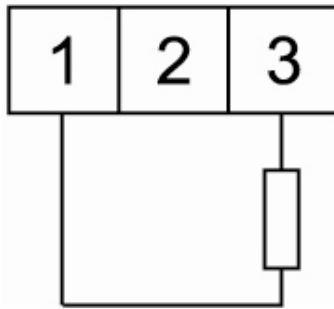
Safety and compatibility requirements		
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Pollution grade	2	acc. to EN 61010-1
Installation category	III	
Maximal phase-to-earth operating voltage	input: 600 V	
	supply: 300 V	
	relays: 300 V	
	analogue output: 50 V	
	RS-485: 50 V	

4 Electrical connection

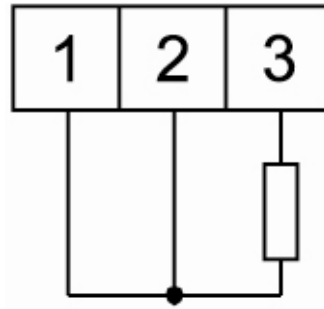


Description of the terminal strip

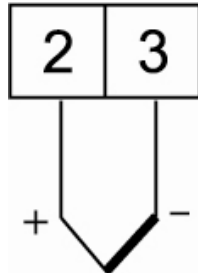
Connection of input signals:



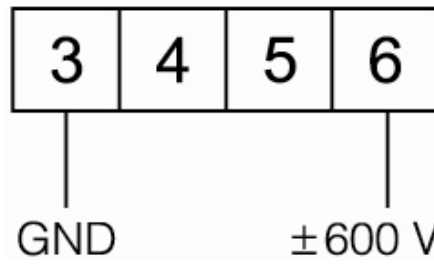
resistance thermometer in a two-wire system or
resistant measurement



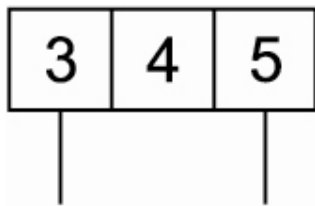
resistance thermometer in a three-wire system



thermocouple or voltage ± 300 mV

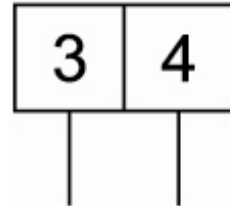


voltage input ± 600 V



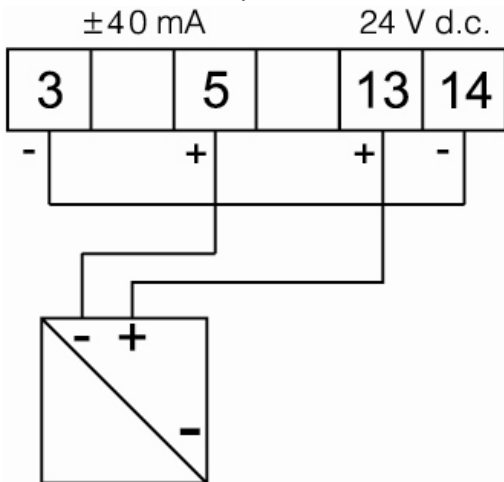
GND ± 40 mA

current input ± 40 mA

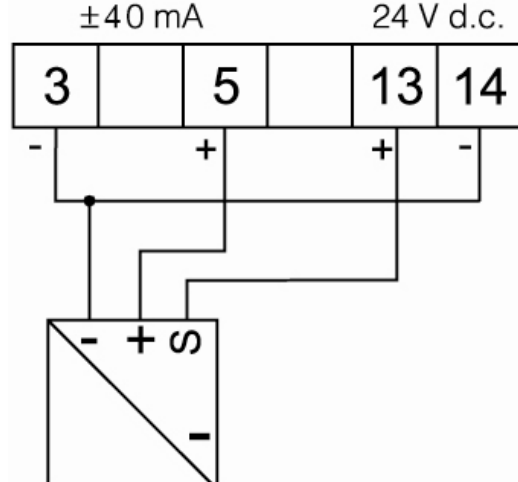


GND ± 5 A

current input ± 5 A



two-wire object transducer



three-wire object transducer

5 Order codes	
Code	Description
IA-NA5	Digital Meter with Bargraph
	Bargraph colour
T	3-colour (R, G, R+G)
M	7-colour (R, G, B, R+G, R+B, G+B, R+G+B)
	Display colour
0	without*
R	Red
G	Green
B	Blue
	Input signal
U	Universal input
	Analogue output signal
0	without
1	0/4...20 mA
2	0...10 V
	Digital output signal
0	without
1	RS-485 digital output
	Additional output
0	without*
4	4 relays
8	8 OC type outputs
	Supply
1	95...253 V AC/DC
2	20...40 V AC/DC
	Kind of terminals
0	screwed plug-in sockets
	Version
00	standard
XX	custom-made**
	Certification
8	without an extra quality insp. certificate
7	with an extra quality inspection certificate
X	on order**

IA-NA5			U				0		
---------------	--	--	----------	--	--	--	----------	--	--

*In case of meters without display, a RS-485 output has to be ordered.

**Please contact the manufacturer for details.

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

🌐 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