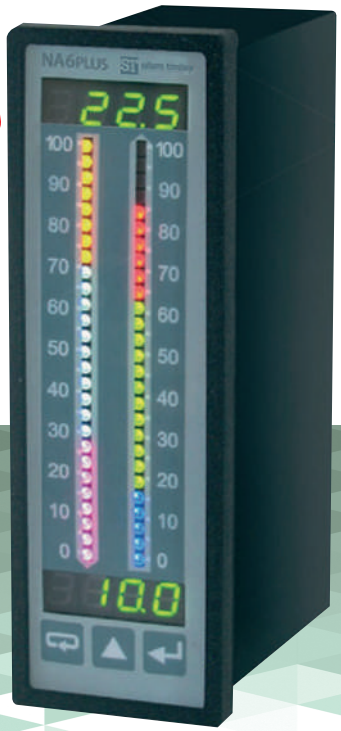
sifam tinsley
PRECISION INSTRUMENTATION

NA6PLUS
www.sifamtinsley.co.uk

DATASHEET Issue 1.0

NEW PRODUCT



Multifunction Meters
Transducers & Isolators
Temperature Controllers
Converters & Recorders
Digital Panel Meters
Current Transformers
Analogue Panel Meters
Shunts
Digital Multimeters
Clamp Meters
Insulation Testers

NA6PLUS
DIGITAL METER WITH BARGRAPH

Features

- 3 or 7-colour bargraph with programmable colour switching over.
- I-Logging of the measured signal in porgramed time intervals (800 samples).
- 2 independent measuring channels with universal input.
- Programmable indication characteristic (21-point rescaling) and bargraph magnifier.
- Up to 8 programmable alarm outputs.
- Alarm triggered by the rate of change of the measured signal over time.
- Mathematical operations on channels.
- Communication in Scada systems (rS485/modbus interfaces).
- Converstion of any measured value into a current or voltage analog signal.

SUBJECT TO CHANGE WITHOUT NOTICE
This manual superseded all previous versions – please keep for future reference

NA6PLUS

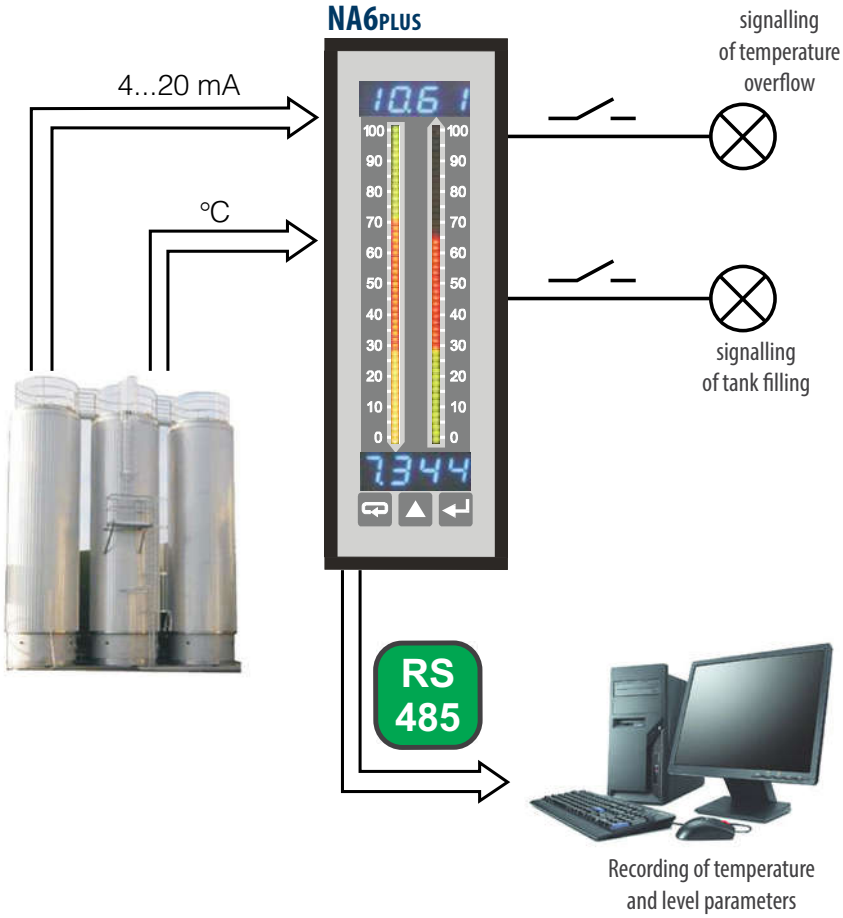
Features

- 3 or 7-colour bargraph with programmable colour switching over.
- Logging of the measured signal in porgramed time intervals (800 samples).
- 2 independent measuring channels with universal input.
- Programmable indication characteristic (21-point rescaling) and bargraph magnifier.
- Up to 8 programmable alarm outputs.
- Alarm triggered by the rate of change of the measured signal over time.
- Mathematical operations on channels.
- Communication in Scada systems (RS485/modbus interfaces).
- Converstion of any measured value into a current or voltage analog signal.



Example of application

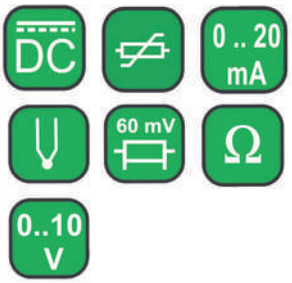
Level and temperature measurement in the tank.



Features



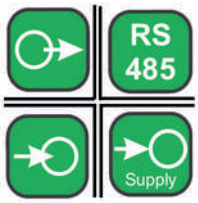
Inputs



Outputs



Galvanic Isolation



Technical data

INPUTS

Input type	Measurement range	Basic error	Additional error
Pt100	-200...850°C	0.1%	compensation of temperature changes of reference welds ≤ ±1°C compensation of cable resistance changes - when changing the resistance of wires < 10Ω the error is ≤ ±0.5°C - when changing the resistance of wires < 20Ω the error is ≤ ±1°C change in ambient temperature ≤ ± 0.1% of the range
Pt500	-200...850°C		
Pt1000	-200...850°C		
J (Fe-CuNi)	-100...1100°C		
K (NiCr-NiAl)	-100...1370°C		
N (NiCrSi-NiSi)	-100...1300°C		
E (NiCr-CuNi)	-100...850°C		
R (PtRh13-Pt)	0...1760°C	0.2%	
S (PtRh10-Pt)	0...1760°C		
T (Cu-CuNi)	-50...400°C		
Resistance	0...10 kΩ	0.1%	
Voltage	± 75 mV, $R_{inp.}$ > 100 kΩ ± 300 mV, $R_{inp.}$ > 100 kΩ ± 0...600 V, $R_{inp.}$ > 3.5 MΩ		
Current	± 40 mA, $R_{inp.}$ < 4 Ω ± 5 A, $R_{inp.}$ = 10 mΩ ± 10%		

Intensity of current flowing through the resistance thermometer: < 400 uA
Resistance of wires connecting the resistance thermometer with the meter: < 20 Ω/1 wire

OUTPUTS

Output type	Features
Current analog output	1 or 2 programmable 0/4...20 mA; load resistance ≤ 500 Ω
Voltage analog output	1 or 2 programmable 0-10 V; load resistance ≥ 500 Ω
Relay output	4 relays; NOC voltageless contacts, maximal load: - voltage: 250 V a.c., 150 V d.c. - current: 5 A 30 V d.c., 250 V a.c.
Open collector (OC) type	8 outputs of OC type: maximal load: - voltage: 5...30V d.c. - current: 25mA d.c.
Digital interface	interface type: RS-485; transmission protocol: MODBUS, RTU (8N2, 8E1, 8O1, 8N1) baud rate: 2400, 4800, 9600, 19200, 57600, 115200 b/s
Additional supply output	24 V d.c., maximal load 30 mA

EXTERNAL FEATURE

Readout field	2 x 4 -digits LED dispaly	7-segment digits of 7 mm high, measuring range -1999...9999
	bargraph	bargraph of 100 mm lenght: - 55 segments in three-colour version - 28 segments in seven-colour version
		Bargraph resolution: programmable
Overall dimensions	48 x 144 x 100 mm	
Weight	< 0.4 kg	panel cut-out: 44+0.5 x 137.5+0.5 mm
Protection grade (acc. to EN 60529)	from frontal side: IP50	from terminal side: IP20

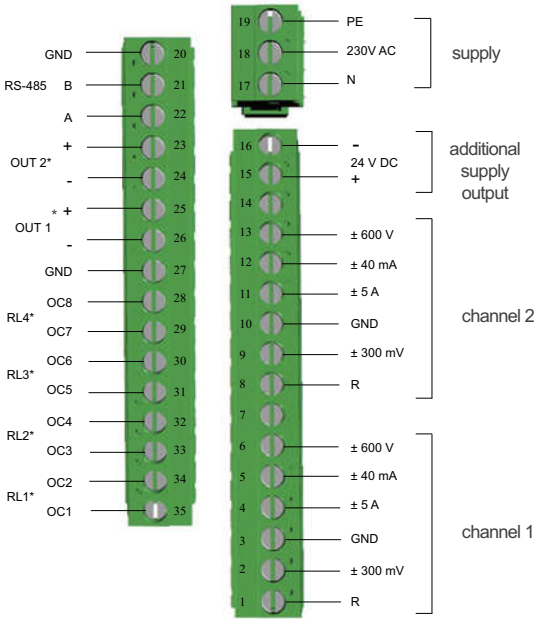
RATED OPERATING CONDITIONS

Supply voltage	95...253 V a.c. 40..400 Hz; 90...300 V d.c. 20...40 V a.c. 40...400 Hz, 20...60 V d.c.	power consumption ≤ 13 VA
Temperature	ambient: -10...23...55°C	storage: -25...85°C
Relative humidity	< 95%	Condensation inadmissible

SAFETY AND COMPATIBILITY REQUIREMENTS

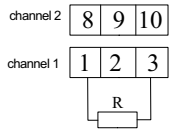
Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Pollution grade	2	acc. to EN 61010-1
Installation category	III	
Maximal phase-to-earth operating voltage	• for input circuit: 600 V • for supply circuit: 300 V • for other circuits: 50 V	
Altitude above sea level	< 2000 m	

Electrical Connections

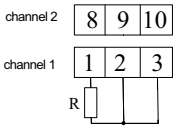


*-optional elements depend on the meter's version

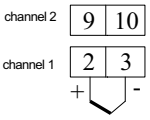
Fig. 1 Description of the terminal strip.



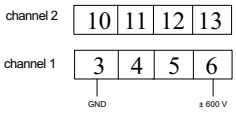
resistance thermometer in a two-wire system or resistance measurement



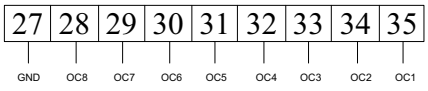
resistance thermometer in a three-wire system



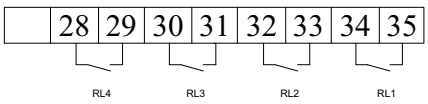
thermocouple or voltage ± 75mV, ±300 mV



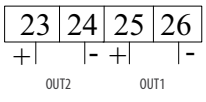
voltage input ± 10 V, ±600 V



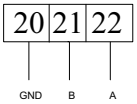
8 open collector outputs (OC)



4 relay outputs

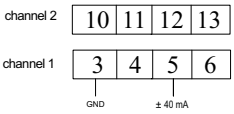


analog outputs (voltage/ current)

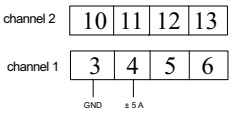


interface RS-485 (Modbus)

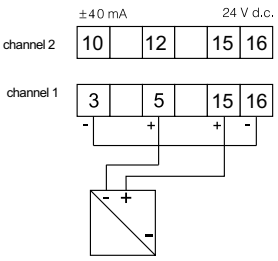
Fig.3. Connection way of output signals depending on the execution code.



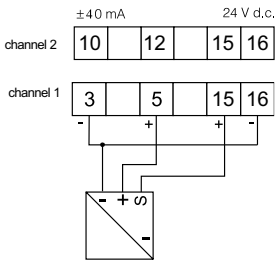
current input ± 40 mA



current input ± 5 A



two-wire object transducer



three-wire object transducer

Fig. 2 Connection way of input signals.

Ordering

NA6PLUS -	X	XX	X	X	X	X	XX	X	X
Bargraph colour:									
3-colour(R, G, R+G)	T								
7-colour (R, G, B, R+G, R+B, G+B, R+G+B)	M								
Display colour on channels 1 and 2:									
red-red		RR							
red-green		RG							
green-red		GR							
green-green		GG							
Input signal:									
universal input			U						
custom-made*			X						
Analog output:									
lack				0					
0/4...20mA				1					
0...10 V				2					
2 x 0/4...20 mA				3					
2 x 0...10 V				4					
1 x 0/4...20 mA, 1 x 0...10 V				5					
Additional output:									
lack					0				
4 relays					4				
8 outputs of OC type					8				
Supply voltage:									
95...253 V a.c./d.c.						1			
20...40 V a.c., 20...60 V d.c.						3			
Version:									
standard							00		
custom-made**							XX		
Language:									
English								U	
other*								X	
Acceptance tests:									
without extra requirements									0
with an extra quality inspection certificate									1
acc. to customer's request**									X

* - after agreeing with the manufacturer

Odering example:
The code **NA6PLUS- TRRU18100E0** means:
NA6PLUS - NA6PLUS meter
T - bargraph RG
RR - red display coulr
U - universal inputs
1 - current output 0/4...20 mA
8 - 8 outputs of OC type
1 - supply 95...253V a.c./ 90...300 V d.c.
00 - standard version
E - english version
0 - without extra requirements