

Thank you for choosing a NIVELCO instrument.
We are sure that you will be satisfied throughout its use.

1. APPLICATION

The NIVOPRESS submersible hydrostatic level transmitter is applicable for the continuous level measurement of clean or chemically faintly contaminated liquids in bored well, open reservoirs and tanks. The NIVOPRESS is easy to install in already existing tanks and in deep bored well and is especially recommended for controlling of submersible pumps.

2. TECHNICAL DATA

Type	NPK	NPH
Ranges	0 ... 1, 2, 5 etc max 200 m. water head (see order codes)	
Overload allowed	For models with measuring limit below 20 m w. h. 2 x measuring limit For models with measuring limit over 20 m w. h. 1.5 x measuring limit	
Output	4 ... 20 mA 2-wire	0 ... 10V 3-wire
Operating voltage	9 to 30 V DC	18 to 30 V DC
Maximum load resistance	$R_s = (U_s - 9 V) / 0.02 A$ $U_s = \text{voltage of the power supply}$	$\geq 5 k\Omega$
Current	—	$< 6 \text{ mA}$
Accuracy (FSO)	$\leq \pm 0.5 \%$	
Zero drift	$\leq \pm 0.1 \text{ mA}$	$\leq 80 \text{ mV}$
Temperature coefficient	$\leq \pm 0.1 \%/10K$	$\leq \pm 0.2\%/10 K$
Operating temperature	-10 °C to +60 °C for special request +75 °C	
Ingress	IP 68	
Cable cross section	0.34 mm ²	
Cable coating	Polyurethane $\varnothing 7\text{mm}$	
Cable length	up to 300 m according to the order	
Probe size	$\varnothing 22 \times 215 \text{ mm}$	
Mass	probe: 0.2 k g cable: 0.06 kg/m	
Wetted parts	Sensor: stainless steel 316L Probe: stainless steel 1.4571 Cable coating: polyurethane Sealing: VITON Protecting cap: ABS	

USER'S MANUAL

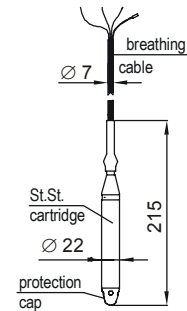


Cable mounting plate NAA-103	
Applicable	With cable length up to 150 m
Operating temperature	-10 °C to +45 °C
Dimensions	110 x 110 mm
Cable terminal box NAA-101	
Dimensions	139 x 119 x 70 mm
Ingress	IP 65
Operating temperature	-40 °C to +65 °C
Material	Plastic
Cable gland	ASM16 ($\varnothing 5$ to $\varnothing 10\text{mm}$)
Electric connection	Terminal block for cable with max cross section of 2.5 mm ²
Cable terminal box with over voltage protection NAA-102 (for 2-wire models only)	
Voltage clipping	33 V _{pp}
Serial resistance	13 ohm $\pm 10 \%$
Leakage current	10 μA
Other data	Same as with NAA101
Over voltage protection unit OVP12/33 and OVP32/33	
Electric data	Same as with NAA102
	OVP12/33 OVP32/33 DIN rail mount
Ingress protection	IP 54 IP 20
Dimensions	72 x 42 x 19 mm 62 x 65 x 18 mm

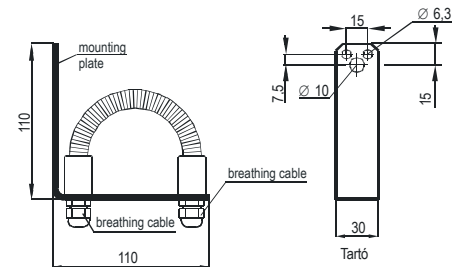
Manufacturer:
NIVELCO Process Control Co.
H-1043 Budapest, Dugonics u. 11.
Tel: (36-1) 369-7575 Fax: (36-1) 369-8585
e-mail: sales@nivelco.com http://www.nivelco.com

2.3 DIMENSIONS in mm

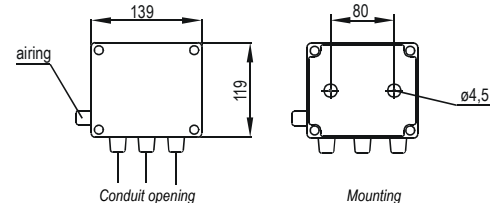
NIVOPRESS NP probe



Cable mounting plate NAA103



Cable terminal box NAA101/NAA102



2.1 ACCESSORIES

User's Manual
Guarantee sheet

Optional (to be ordered)

Cable mounting plate NAA 103
Cable terminal box NAA 101
Cable terminal box with OVP12/33 NAA 102
DIN rail mount over voltage protection OVP32/33

2.2 ORDER CODE

NIVOPRESS NP - 2 -

Output	Code	Range **	Code	Cable length	Code	Cable length	Code
two-wire 4 ... 20 mA	K	0 ... 1 m water head	1	10 m	1	1 m	1
		0 ... 2 m water head	2	20 m	2	2 m	2
three-wire 0 ... 10 V DC	H	0 ... 5 m water head	3	30 m	3	3 m	3
		0 ... 10 m water head	4	40 m	4	4 m	4
		0 ... 20 m water head	5	50 m	5	5 m	5
		0 ... 50 m water head	6	60 m	6	6 m	6
		0 ... 100 m w. head	7	70 m	7	7 m	7
		0 ... 200 m w. head	8	80 m	8	8 m	8
				90 m	9	9 m	9
				100 m	A	0 m	0
				200 m	B	10 m	1
				300 m	C	:	:
						90 m	9

up to 100 m
over 100 m

** Different span within the range on special request.

3. INSTALLATION

For fastening the cable use cable mounting plate NAA103 that provides a solution for hanging the cable without slipping and risk of crushing. This mounting plate can be applied with cable length of max 150 m. Over length of 150 m special design has to be used.

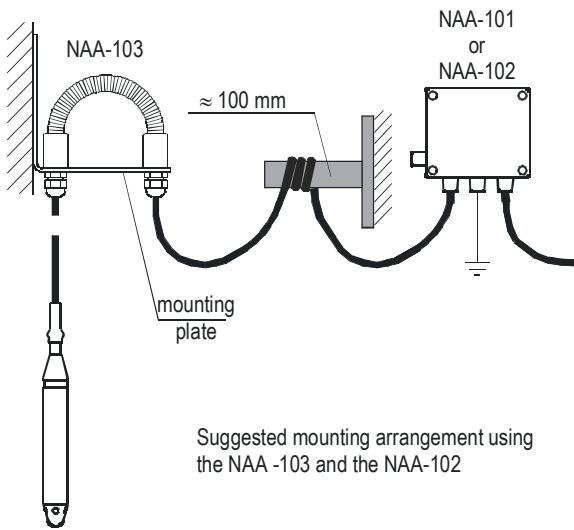
Steps of installation:

- Pass the special cable through the glands, arrange proper length of cable and fasten the cable with the glands.
- Fasten cable mount plate (e.g. by the use of 2 pcs of M5 screw) to a plain surface.
- Excessive cable part has to be wound on a pipe with a min. diameter of 100mm
The special cable must not be cut short!
- Let the probe down to the lowest possible point, for only the height of the liquid above the probe will be measured..

For connecting of the special breathing cable and the signal cable use the cable terminal box NAA101 or NAA102 (with IP65), that accommodates the cable end in an ambience free of dust and humidity. In open air or industrial applications the transmitter should be protected against surges/over-voltage. The GND of the OVP must be connected with the shortest possible wire (and without direction changes) to the protecting ground. For this case the application of the SAA-102 terminal box (with OVP) is suggested preferably next to the measurement

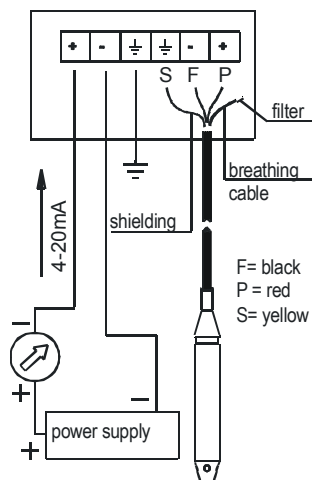
In case of distances over 15 to 20 m with cabling in open air between transmitter and processing unit the use of an additional over voltage protection is advised to protect the processing unit against overvoltage.

For protection against surges coming through the medium, a protecting electrode e.g. a steel pipe is also recommended



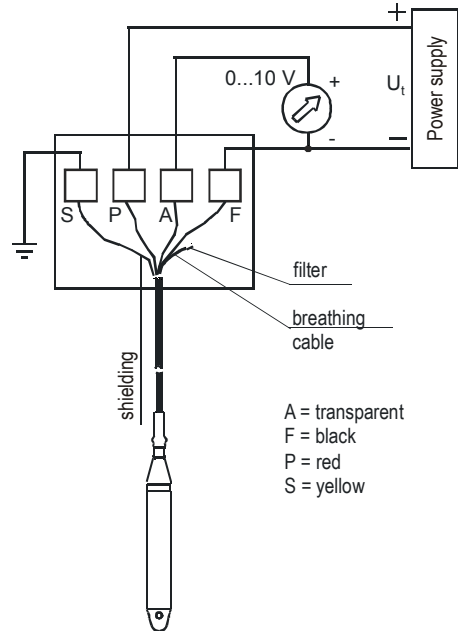
4. WIRING

TWO-WIRE (4 ... 20 mA) VERSION

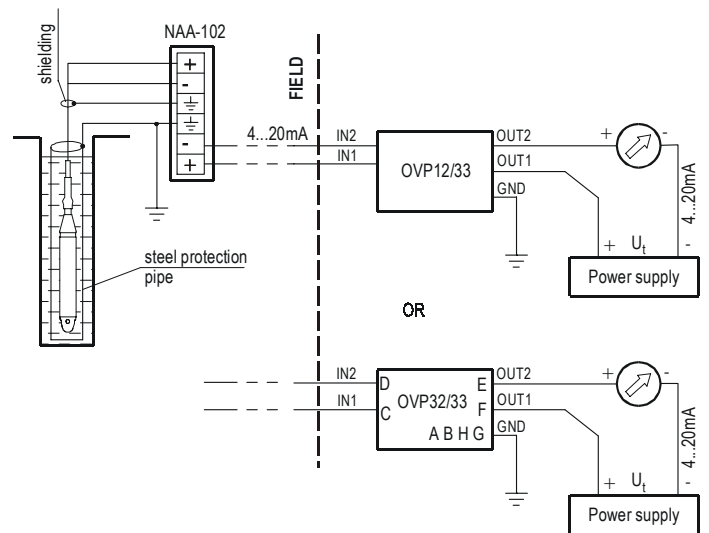


After completing the wiring pull the filter (found in the cable terminal box) onto the end of the cable!

THREE-WIRE (0 ... 10 V) VERSION



Wiring of the over voltage protection



5. PUTTING INTO OPERATION, ADJUSTMENT

The unit installed and wired according to the specification is immediately operable, however the specified accuracy will be reached in one-hour time.

6. MAINTENANCE, REPAIR

The unit does not require regular maintenance. In some instances however, the probe may need occasional cleaning to remove surface deposits within the protective cap that can easily be flipped out. Do not touch the sensor membrane. Repairs during or beyond guarantee period are to be carried out solely by the manufacturer.

7. STORAGE CONDITIONS

Ambient temperature: - 10 °C to +60 °C

8. GUARANTEE

The Manufacturer guarantees the above product for a period of two (2) year from the date of purchase. Claims under guarantee will be dealt with only on presentation of the Guarantee Sheet and a copy of the Purchase Invoice.

Repairs under guarantee are carried out at the Manufacturer's premises. The Purchaser is liable for costs of dismantling and re-installation as well as transport costs.

Guarantee claims shall not be accepted for defects arising from rupture, disaster, from incompetent installation or usage.

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February, 2002

Technical specification may be changed without notice.