699

Relativ-, Vakuum- und Differenzdrucktransmitter
Bedienungsanleitung

Relative, vacuum and differential pressure transmitter
Operating instructions

Transmetteur de pression relative, dépression et pression différentielle
Mode d'emploi

Huba Control

114507 / EDITION 12/2009

English

Safety information

Allgemeine Hinweise

General information

In order to ensure safe operation, the device may only be operated in accordance to the specifications stated in this operation manual. Futhermore, all legal and safety regulations concerning this specific application should be observed.This also applies to the use of accessories.

Correct use to the intended purpose

These devices are designed for indication and monitoring of process variables. All other forms of usage do not comply with the intended purpose. These sensors may not be used solely as means for prevention of dangerous machine and system conditions. Machines and systems must be constructed in such a way, that faulty states cannot lead to a dangerous situation for the operating staff (e.g. due to independent limit switches, mechanical interlocking devices, etc.).

Qualified staff

The devices may only be installed, connected, set-up and operated by qualified staff and in compliance with the technical specifications. Qualified staff is defined as persons, who are familiar with set-up, mounting, start-up and operation of this device and who possess a recognized degree or certificate of appropriate professional training.

Remaining hazards

These sensors employ state-of-the-art technology and are safe to operate. However, if they are installed and operated by unqualified staff, an element of risk remains.

In this manual the remaining risks are marked by the following symbol:

This symbol is posted where there is a risk of serious injury or death or the damage of material and property, if the warning is ignored

Installation and set-up instructions

1. Even though the device is excellently protected against electromagnetic interference, installation and cabling must be carried out correctly to ensure interference immunity.

2. Never route signal and control cables together with the trunk line or feeder cables of motors, cylinder coils, rectifiers etc. The cables must be routed in conductive and grounded cable conduits. This applies especially to long-distance cables, or environments in which the cables are exposed to strong radio waves from broad casting stations.

3. Signal lines should be installed in mounting cabinets and as far away as possible from contactors, control relays, transformers and other sources of interference.

Mounting

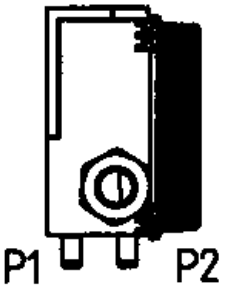
- Prior to mounting or removing the sensor it must be verified that the system is depressurized.
- Do not mount sensors in locations subject to high pressure pulses.
- Significant thermal changes in the sensor environment can lead to a zero shift. As a result, the measuring value displayed in a depressurized state will read zero. This kind of drift can be corrected by zero point reset.

Further information

Voltage version 0 ... 5, 0 ... 10V
Please consider a possible fall of voltage in the GND supply especially in connection with the use of the display and display lighting. Recommended is a short cable with a large crosssection.

To prevent over-heating the display lighting swtiches off automatically with higher temperatures.

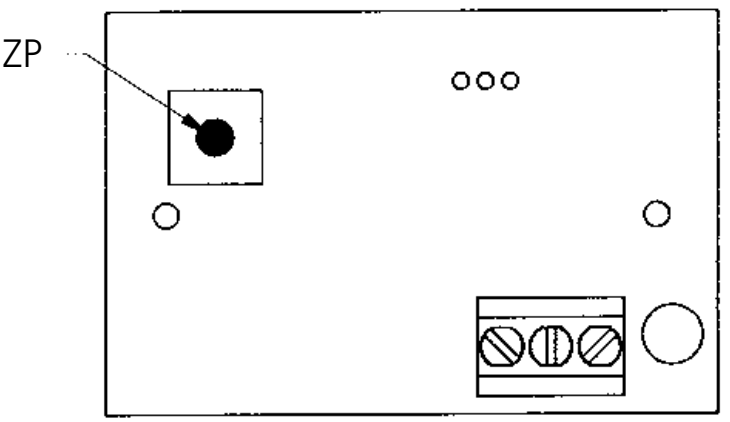
Installation arrangement



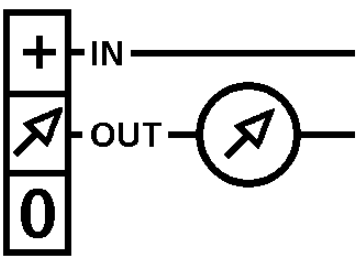
Recommended installation arrangement:
vertical, with pressure connections facing downward, drain of possible condensed water (factory calibration).

Notice: Mount the transmitter with minimum 10 mm distance to magnetic material. If this is not possible there is a failure of up to minus 1 Pa for transmitters mounted on sheet steel.bis minus 1 Pa entstehen.

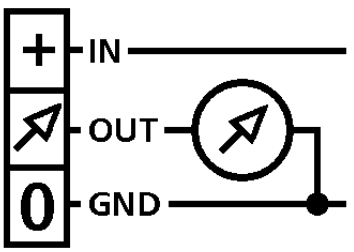
ZP = Push Zero point reset.
The installation position is variable by using the zero point reset button. Pressure variations are resettable after installation.



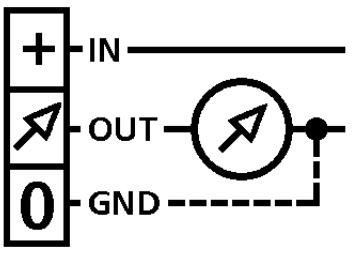
Connection diagrams



2 wire



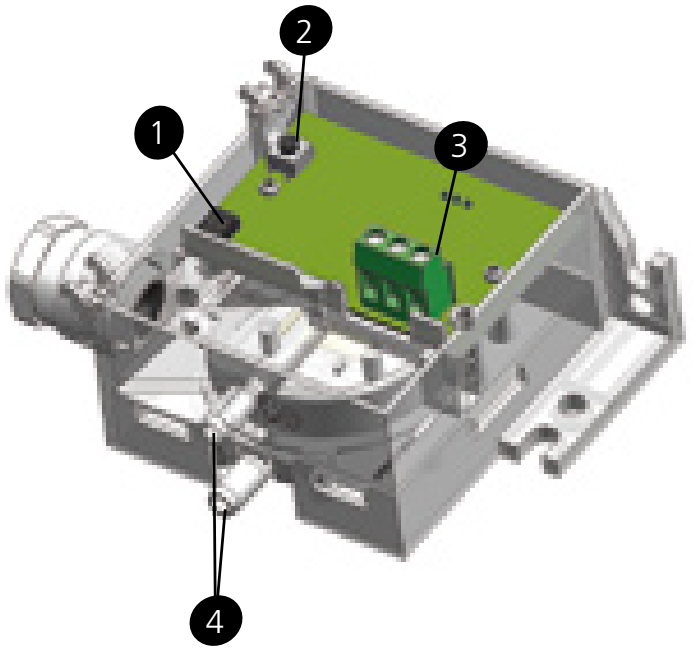
3 wire



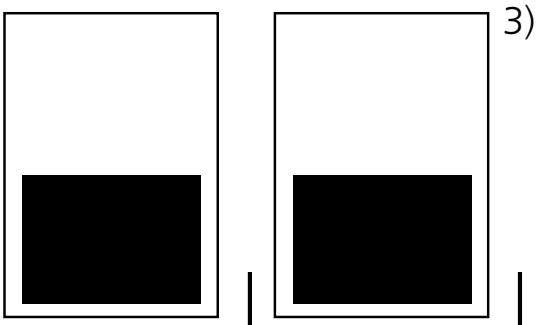
Universal-operating
2 and 3 wire

Version with measurement configuration only

(Adjustability 1)



1. DIP-Switch (dual)
2. Zero point reset
3. Connecting terminal
4. Pressure connector P1 and P2

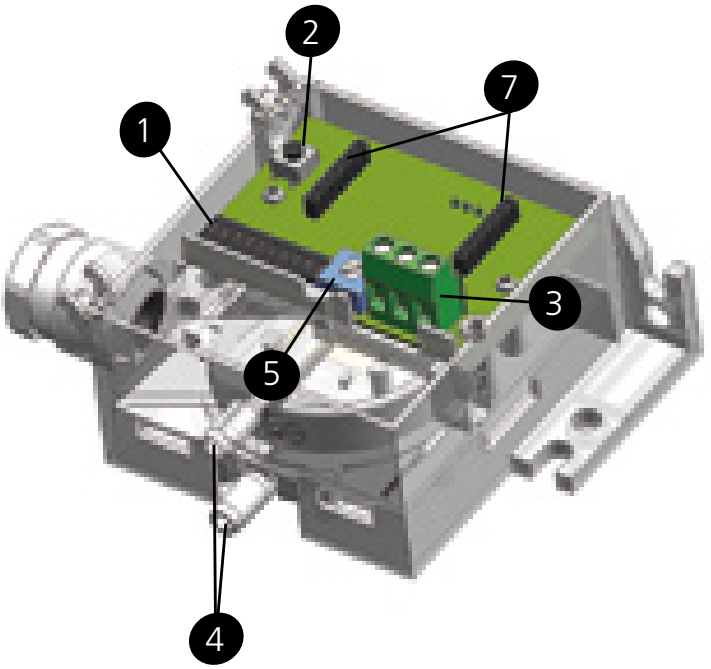


Pressure range [1]		
Range00	0	0
Range01	0	1
Range10	1	0
customer adjustment [2]	1	1

[1] Pressure range
[2] Customized factory adjustment
[3] DIP-Switch position according to factory adjustment *(see inside cover)*

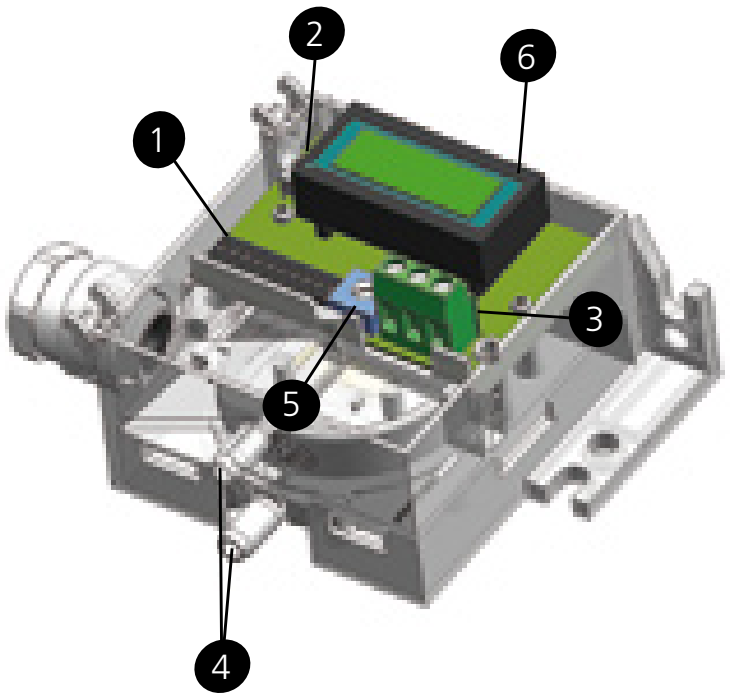
Complete configurable version

(Adjustability 2)



1. DIP-Switch (tenfold)
2. Zero point reset
3. Connecting terminal
4. Pressure connector
   P1 and P2
5. Turbo poteniometer
   (Signal amplifications potentiometer)
6. LCD *(by adjustability 3 only)*
7. LCD receptacle

(Adjustability 3 - with display)



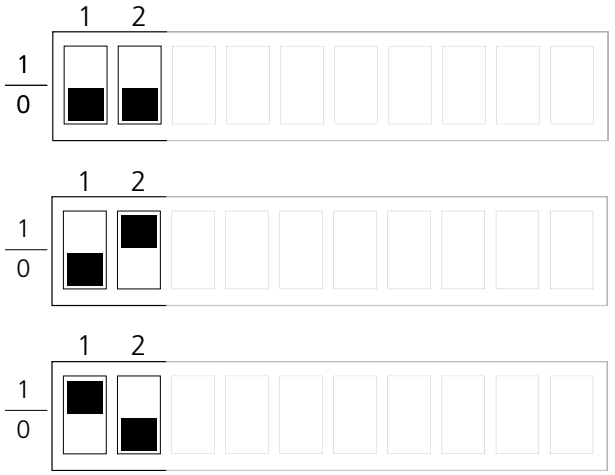
Adjustable pressure ranges

Factory Settings

		1	2	3	4	5	6	7	8	9	10 2)
	1 / 0	■	■								
Pressure range[1]	Range00	0	0								
	Range01	0	1								
	Range10	1	0								
Output	0 ... 10 V 3W			1	1	0	0	0	0		
	0 ... 20 mA 3W			0	1	1	1	0	1		
	4 ... 20 mA 3W			0	1	1	0	0	1		
	4 ... 20 mA 2W			0	0	1	1	1	0		
Filter	off: 0 / on: 1									x	
Signal	linear: 0 / root extracted: 1										x

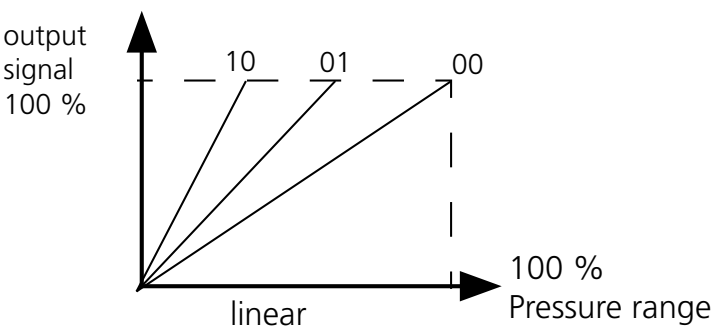
[1] Pressure ranges
[2] DIP-Switch position according to factory adjustment *(see inside cover)*

DIP-Switch position



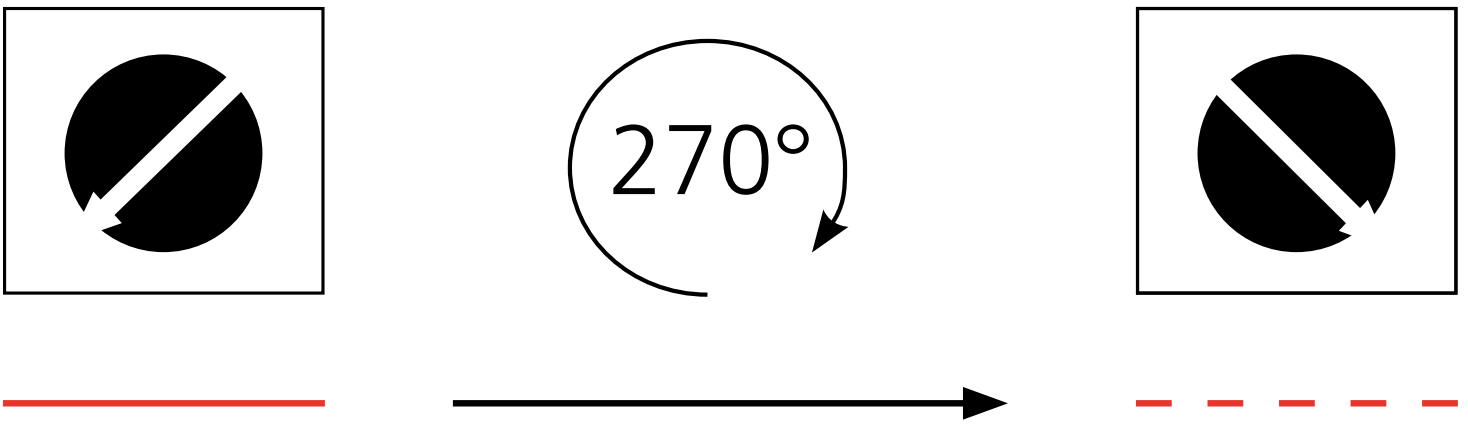
switchable pressure ranges

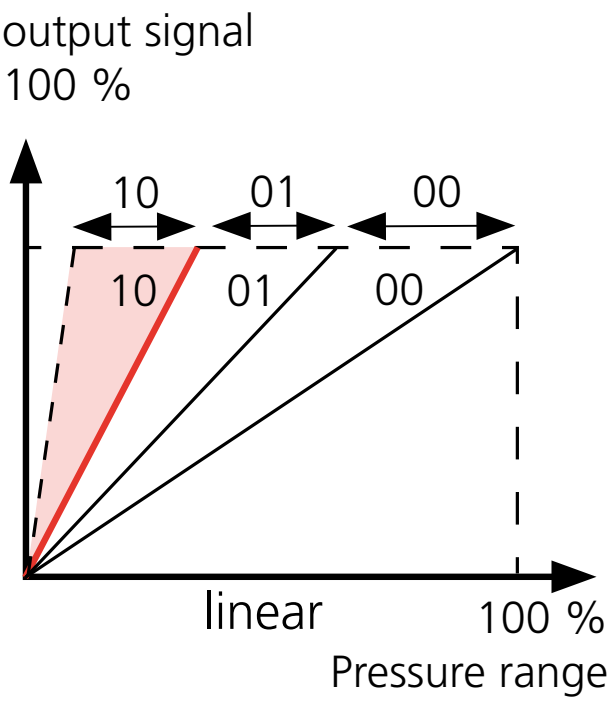
Range 00 *(in mbar)*	0.5	1	3	5	10	16	25	50
Range 01 *(in mbar)*	0.3	0.5	1	3	5	10	16	25
Range 10 *(in mbar)*	0.3	0.3	0.5	1	3	5	10	16

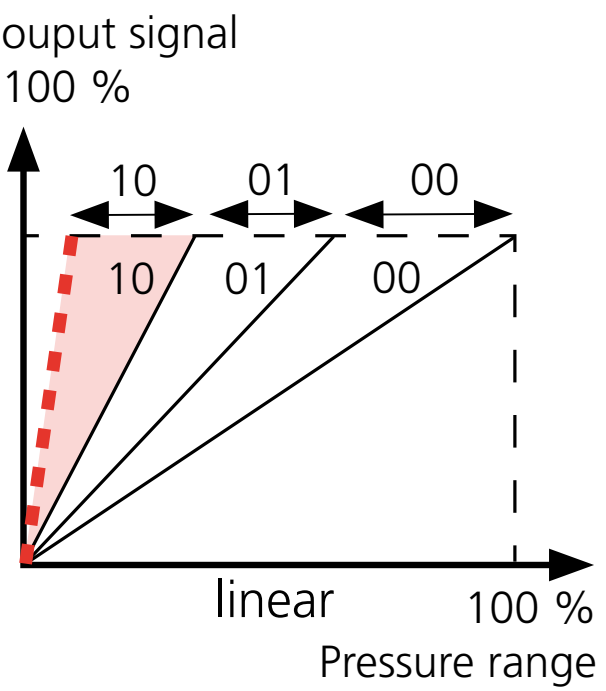


Adjustable full scale pressure inside the pressure ranges

With turbo potentiometer it`s possible to make additional continuously variable adjustment inside the pressure ranges.





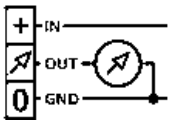
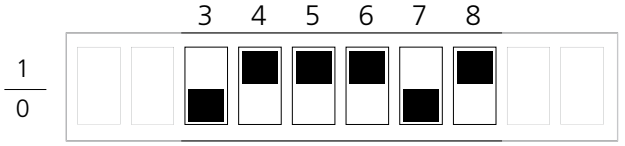
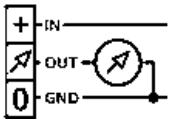
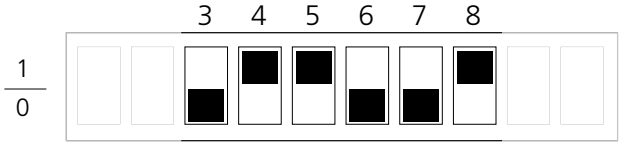
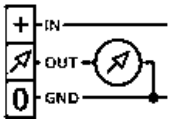
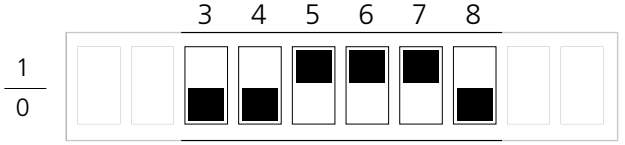
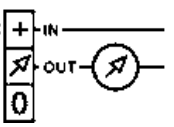


Adjustable output signals

Factory Settings

		1	2	3	4	5	6	7	8	9	10
1 / 0				■	■	■	■	■	■		
Pressure range	Range00	0	0								
	Range01	0	1								
	Range10	1	0								
Output [1]	0 ... 10 V 3W			1	1	0	0	0	0		
	0 ... 20 mA 3W			0	1	1	1	0	1		
	4 ... 20 mA 3W			0	1	1	0	0	1		
	4 ... 20 mA 2W			0	0	1	1	1	0		
Filter	off: 0 / on: 1									x	
Signal	linear: 0 / root extracted: 1										x

[1] four possible setting options, otherwise an output error may occur

DIP-Switch position	output signal	Connection diagrams
	0 ... 10 V 0 ... 5 V*	3 wire 
	0 ... 20 mA	3 wire 
	4 ... 20 mA	3 wire 
	4 ... 20 mA	2 wire 

* 0-5V only possibile with adjustability 3 - adjust via menu control

Adjustable filter fuction

Factory Settings

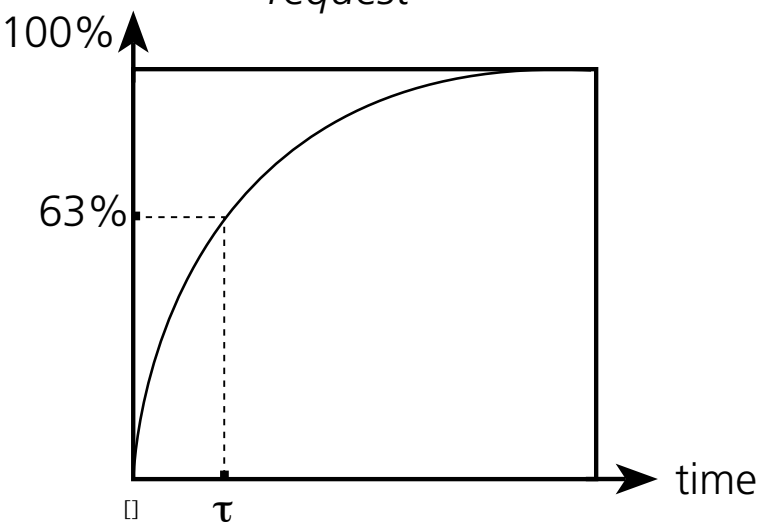
		1	2	3	4	5	6	7	8	9	10
	1 / 0	▭	▭	▭	▭	▭	▭	▭	▭	■	▭
Pressure range	Range00	0	0								
	Range01	0	1								
	Range10	1	0								
Output	0 ... 10 V 3W			1	1	0	0	0	0		
	0 ... 20 mA 3W			0	1	1	1	0	1		
	4 ... 20 mA 3W			0	1	1	0	0	1		
	4 ... 20 mA 2W			0	0	1	1	1	0		
Filter	off: 0 / on: 1									x	
Signal	linear: 0 / root extracted: 1										x

DIP-Switch position

Filter off

Filter on (1 sec.)
other response time on request

ATTENTION:
Filter „on“ = Other filter response time are selectable via software - only possible with adjustability 3 *(see menu control)*



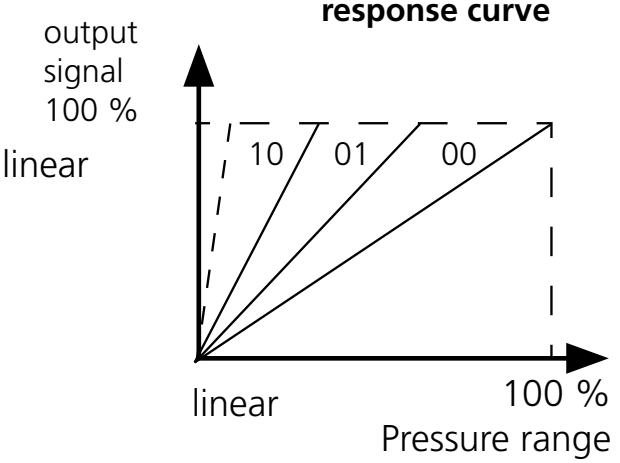
Adjustable reponse curve

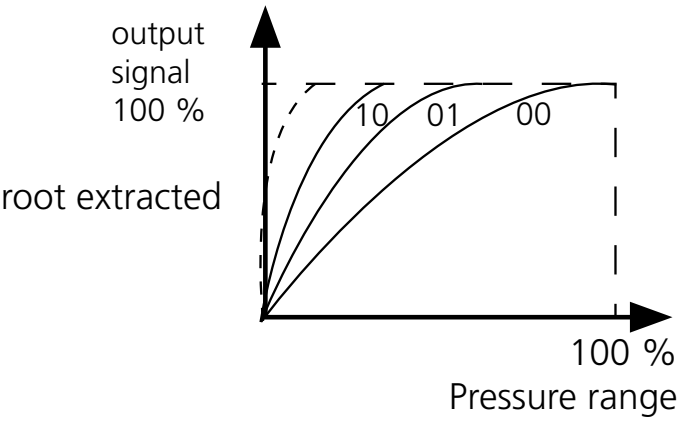
Factory Settings

		1	2	3	4	5	6	7	8	9	10
	1 / 0										
Pressure range	Range00	0	0								
	Range01	0	1								
	Range10	1	0								
Output	0 ... 10 V 3W			1	1	0	0	0	0		
	0 ... 20 mA 3W			0	1	1	1	0	1		
	4 ... 20 mA 3W			0	1	1	0	0	1		
	4 ... 20 mA 2W			0	0	1	1	1	0		
Filter	off: 0 / on: 1									x	
Signal	linear: 0 / root extracted: 1										x

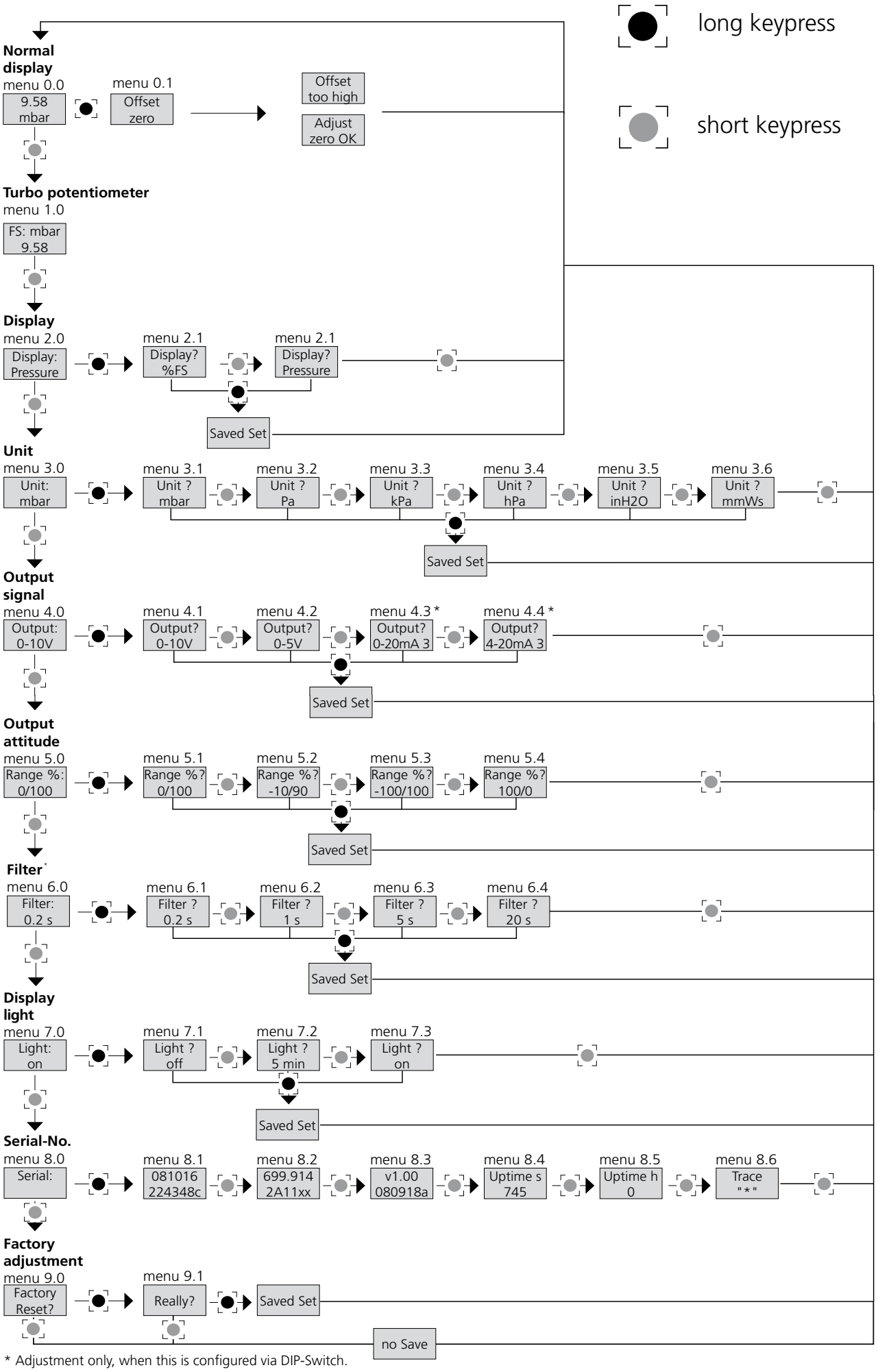
DIP-Switch position

response curve





Menu control



* Adjustment only, when this is configured via DIP-Switch.

Menu descriptions

Normal Display → Pressure display in selected pressure range

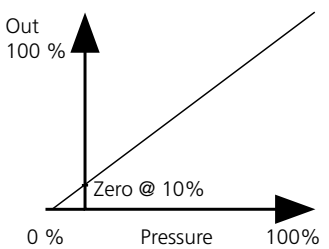
Turbo-Poti → Display pressure adjustment by turpopotentiometer

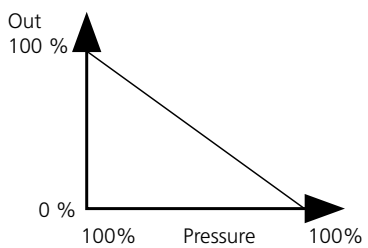
Display → Select pressure or % full scale available

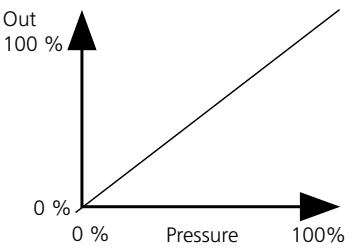
Unit → Select pressure unit *(no direct translation of the pressure unit - see order code selection table)*

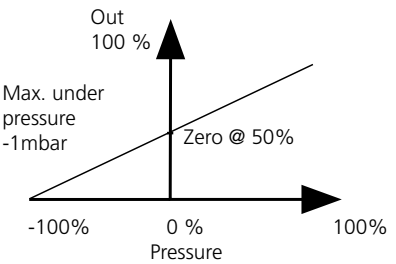
Output signal → Select the output signal

Output attitude → Adjustment oft pressure range









Filter → Adjust response time

Display light → Select light - on/off and automatic power shut-off after 5 min.

Serial number → Product information - reference only

Factory Adjustment → Software reset to variant by specification plate or DIP-Switch position

Artikel-Nr. auf Leistungsschild entspricht Werkseinstellung. Abweichung der Artikel-Nr. kann auf Grund kundenseitig Einstellung, abweichen.

Article no. at specification plate accord factory setting. Deviation of the article No. can depart because of customer factory.

Le code de commande sur la plaque signalétique correspond au réglage d'usine. Le fonctionnement du capteur peut être changé après un réglage ou une sélection opérée par l'utilisateur.

CE

Elektromagnetische Verträglichkeit
Electromagnetic compatibility
Compatibilité électromagnétique

CE-konform gemäss EN 61326-2-3.
CE conformity according EN 61326-2-3.
Conformité (CEM) selon EN 61326-2-3.