



## Pneumatics -1 to 16 bar

Fluid: filtered compressed air, lubricated or unlubricated, neutral gases.

## Hydraulics / Allfluid 0 to 630 bar

Fluids: gaseous, liquid, aggressive and neutral.

- **Display of system pressure (pressure unit Bar, Psi, Mpa programmable)**
- **Compact and robust design**
- **Easy programming of set points and additional functions**
- **Economic solution for industrial applications**
- **Electronic lock**
- **Switching status indicated by LED**
- **Standard M 12 x 1 el. connection (IP 65)**
- **Mit Digital- und Analogausgang**

### Technical data

Electrical connection: M 12 x 1

Mounting: optional

Fluid temperature -10 °C to + 80 °C

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

Pressure ranges:

Pneumatics: -1 to 1 bar; 0 to 16 bar

Hydraulics/Allfluid: 0 to 10 / 0 to 40 / 0 to 100 / 0 to 160 / 0 to 250 / 0 to 400 / 0 to 630 bar

Temperature sensitivity (zero point):

0.4% of final value/10 K

Temperature sensitivity (range):

0.4% of final value/10 K

Switching point:

Adjustable between 0 to 100% of FS

Reset point: Adjustable between 0 to 100% of FS

Display:

LCD 4 digits, illuminated, pressure unit programmable bar, psi, mpa (special unit on request)

Weight: 0.09 kg (P); 0.16 kg (A/H)

Linearity: < 0.2% of FS + 1 step size

Degree of protection acc. to DIN 40050:

IP65 (with plug mounted)

Shockproof: 30g, xyz, DIN EN 60068-2-27

Vibrationproof: 3g, 5 to 500 Hz, xyz, DIN EN 60068-2-6

Materials Housing: Aluminium / Stainless steel / Polyesterfolie

Material Sensor element (Fluidberührte Teile):

Pneumatics: Silicium/Aluminium (Version -1 to +1 / 0 to 16 bar

Hydraulics/Allfluid: Stainless steel 1.4571 (0 to 250 bar versions)

Hydraulics/Allfluid: Stainless steel 1.4542 (400 to 630 bar versions)

relative pressure -1 to 630 bar  
**Electronic Pressure Switch for pressure monitoring and control functions**



**Ordering example** (pls. see stocked items)

Electronic pressure switch, pressure range 0 to 16 bar, 2 set points, G 1/4

Type **0863222**

### Electrical parameters

Electrical connection M12 x 1

Power supply  $U_B = 10$  to 32VDC

15 to 32 VDC (output) polarity safe

Permissible residual ripple:

10% (within  $U_B$ )

Current consumption:

<50 mA (plus load current)

Switching mode:

PNP, Potential-bound open collector switching to  $U_B$ , suitable for inductive load

Output signal:

Digital =  $U_B$  minus 1.5V

Analogue = 4 to 20mA

Contact rating:

$I_{max} = 500$  mA (short-circuit proof)

Switching time: < 10 ms

Turn-on/off 0 to 20 sec.

Service life:

Min. 100 million switching cycles

Switching logic: N.o. / n.c. programmable

Operating mode: Standard-Hysteresis-Window each output separately selectable

### Electromagnetic compatibility

Interference emission Acc. to EN 61326

Interference immunity Acc. to EN 61326 Part 1



### 33D Pneumatic – standard versions \*\*

#### Output signal 1 x PNP

Measuring range (bar)	Max. value (bar)	Fluid connection	Output signal	Display step size (bar)	*Type
-1 to +1	10	G 1/4 Female	1 x PNP	0,005	<b>0863012</b> Stocked item
-1 to +1	10	Flange	1 x PNP	0,005	<b>0863016</b>
0 to 16	30	G 1/4 Female	1 x PNP	0,050	<b>0863212</b> Stocked item
0 to 16	30	Flange	1 x PNP	0,050	<b>0863216</b>

#### Output signal 2 x PNP

Measuring range (bar)	Max. value (bar)	Fluid connection	Output signal	Display step size (bar)	*Type
-1 to +1	10	G 1/4 Female	2 x PNP	0,005	<b>0863022</b>
-1 to +1	10	Flange	2 x PNP	0,005	<b>0863026</b>
0 to 16	30	G 1/4 Female	2 x PNP	0,050	<b>0863222</b> Stocked item
0 to 16	30	Flange	2 x PNP	0,050	<b>0863226</b>

#### Output signal 1 x PNP / 1 x analog 4 – 20 mA

Measuring range (bar)	Max. value (bar)	Fluid connection	Output signal	Display step size (bar)	*Type
-1 to +1	10	G 1/4 Female	1 x PNP / 4 to 20 mA	0,005	<b>0863042</b>
-1 to +1	10	Flange	1 x PNP / 4 to 20 mA	0,005	<b>0863046</b>
0 to 16	30	G 1/4 Female	1 x PNP / 4 to 20 mA	0,050	<b>0863242</b> Stocked item
0 to 16	30	Flange	1 x PNP / 4 to 20 mA	0,050	<b>0863246</b>

### 33D Hydraulic / Allfluid – standard versions \*\*

#### Output signal 1 x PNP

Measuring range (bar)	Max. value (bar)	Fluid connection	Output signal	Display step size (bar)	*Type
0 to 10	40	G 1/4 Female	1 x PNP	0,050	<b>0863112</b>
0 to 10	40	Flange	1 x PNP	0,050	<b>0863116</b>
0 to 40	100	G 1/4 Female	1 x PNP	0,200	<b>0863312</b> Stocked item
0 to 40	100	Flange	1 x PNP	0,200	<b>0863316</b>
0 to 100	200	G 1/4 Female	1 x PNP	0,500	<b>0863412</b> Stocked item
0 to 100	200	Flange	1 x PNP	0,500	<b>0863416</b>
0 to 160	300	G 1/4 Female	1 x PNP	0,500	<b>0863512</b>
0 to 160	300	Flange	1 x PNP	0,500	<b>0863516</b>
0 to 250	500	G 1/4 Female	1 x PNP	1,000	<b>0863612</b> Stocked item
0 to 250	500	Flange	1 x PNP	1,000	<b>0863616</b>
0 to 400	750	G 1/4 Female	1 x PNP	2,000	<b>0863712</b> Stocked item
0 to 630	1000	G 1/4 Female	1 x PNP	2,000	<b>0863812</b>

#### Output signal 2 x PNP

Measuring range (bar)	Max. value (bar)	Fluid connection	Output signal	Display step size (bar)	*Type
0 to 10	40	G 1/4 Female	2 x PNP	0,050	<b>0863122</b>
0 to 10	40	Flange	2 x PNP	0,050	<b>0863126</b>
0 to 40	100	G 1/4 Female	2 x PNP	0,200	<b>0863322</b>
0 to 40	100	Flange	2 x PNP	0,200	<b>0863326</b>
0 to 100	200	G 1/4 Female	2 x PNP	0,500	<b>0863422</b> Stocked item
0 to 100	200	Flange	2 x PNP	0,500	<b>0863426</b>
0 to 160	300	G 1/4 Female	2 x PNP	0,500	<b>0863522</b>
0 to 160	300	Flange	2 x PNP	0,500	<b>0863526</b>
0 to 250	500	G 1/4 Female	2 x PNP	1,000	<b>0863622</b> Stocked item
0 to 250	500	Flange	2 x PNP	1,000	<b>0863626</b>
0 to 400	750	G 1/4 Female	2 x PNP	2,000	<b>0863722</b> Stocked item
0 to 630	1000	G 1/4 Female	2 x PNP	2,000	<b>0863822</b>

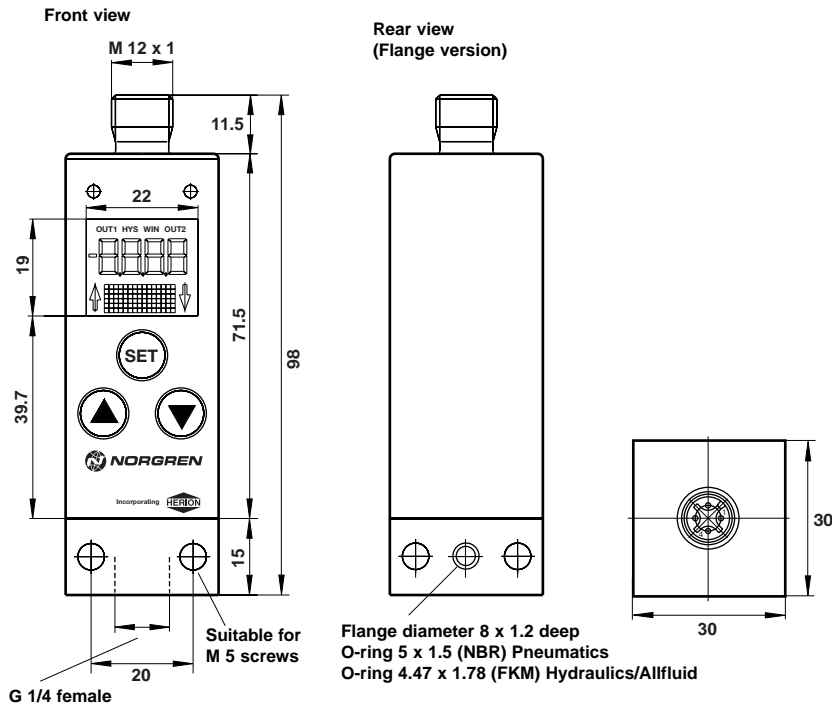
#### Output signal 1 x PNP / 1 x analog 4 – 20 mA

Measuring range (bar)	Max. value (bar)	Fluid connection	Output signal	Electrical connection	*Type
0 to 10	40	G 1/4 Female	1 x PNP / 4 to 20 mA	0,050	<b>0863142</b>
0 to 10	40	Flange	1 x PNP / 4 to 20 mA	0,050	<b>0863146</b>
0 to 40	100	G 1/4 Female	1 x PNP / 4 to 20 mA	0,200	<b>0863342</b>
0 to 40	100	Flange	1 x PNP / 4 to 20 mA	0,200	<b>0863346</b>
0 to 100	200	G 1/4 Female	1 x PNP / 4 to 20 mA	0,500	<b>0863442</b> Stocked item
0 to 100	200	Flange	1 x PNP / 4 to 20 mA	0,500	<b>0863446</b>
0 to 160	300	G 1/4 Female	1 x PNP / 4 to 20 mA	0,500	<b>0863542</b>
0 to 160	300	Flange	1 x PNP / 4 to 20 mA	0,500	<b>0863546</b>
0 to 250	500	G 1/4 Female	1 x PNP / 4 to 20 mA	1,000	<b>0863642</b> Stocked item
0 to 250	500	Flange	1 x PNP / 4 to 20 mA	1,000	<b>0863646</b>
0 to 400	750	G 1/4 Female	1 x PNP / 4 to 20 mA	2,000	<b>0863742</b>
0 to 630	1000	G 1/4 Female	1 x PNP / 4 to 20 mA	2,000	<b>0863842</b>

\* Connector is not included. Pls. see accessories on page 3.

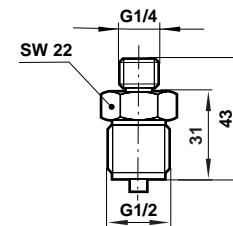
\*\*Versions with fluid connection 1/4 NPTF on request.

## Dimensional drawing



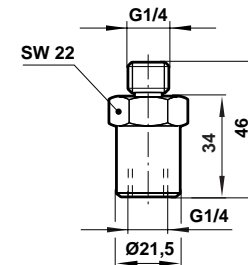
## Reducer G 1/2 to G 1/4, external

Type **0550083** (Stainless steel 1.4571)

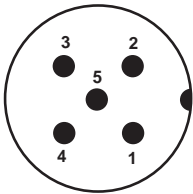
Type **0574767** (Stainless steel 1.4104)


## Snubber G 1/4

Type **0574773** Brass/Steel

Type **0553258** Stainless steel 1.4301


## Steckerbelegung M 12 x 1



Electrical connection M 12 x 1		
Pin	Signal	Cable
1	+ U <sub>B</sub>	brown
2	Out 2 (PNP) / analog 4 to 20 mA	white
3	0 Volt	blue
4	Out 1 (PNP)	black
5	PE	grey

## Accessories

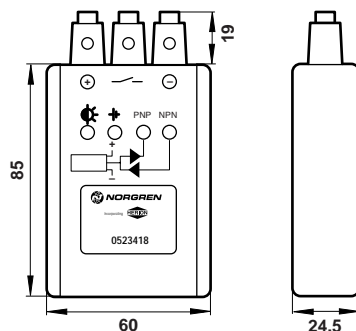
Cat. No.	Connectors for M 12 x 1 *
<b>0523055</b>	M 12 x 1, straight, no cable
<b>0523057</b>	M 12 x 1, straight, 2 m cable, 4 pins
<b>0523052</b>	M 12 x 1, straight, 5 m cable, 4 pins
<b>0523056</b>	M 12 x 1, 90°, no cable
<b>0523058</b>	M 12 x 1, 90°, 2 m cable, 4 pins
<b>0523053</b>	M 12 x 1, 90°, 5 m cable, 4 pins
<b>0799845 **</b>	M 12 x 1, 90°, 2 m cable, 5 pins (on PE-requirement)
<b>0250081 **</b>	M 12 x 1, 90°, 5 m cable, 5 pins (on PE-requirement)

\* Connector must be ordered separately.

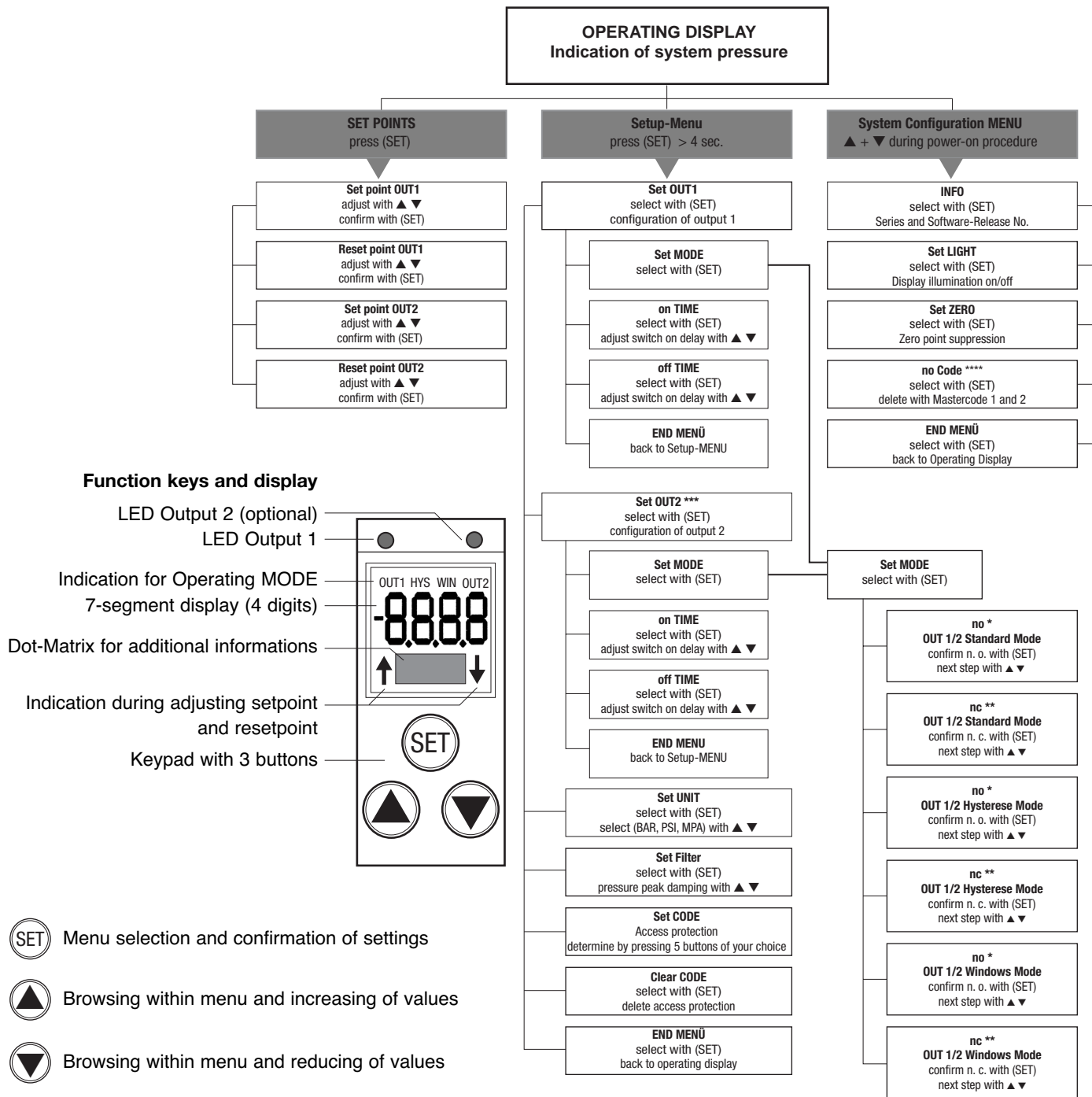
\*\* Cable with sheilded wires.

## Sensor tester

Incl. 2 x 9 V batteries for 33D demo

Type **0523418**


## Operating instructions



- \* no = output signal at atmosphere (0 bar) = 0 V  
 \*\* nc = output signal at atmosphere (0 bar) = +U<sub>B</sub>

\*\*\* Variation 33D for vacuum and with analogue signal 4 to 20 mA (0863042 and 0863046) can be programmed as follows:

a) 4 to 20 mA adapted to range	-1 to +1 bar (0 bar = 12 mA)
b) 4 to 20 mA adapted to range	0 to +1 bar (0 bar = 4 mA)

\*\*\*\* **Mastercode 1**



– 33D is coded: Code can be deleted.

\*\*\*\* **Mastercode 2**



– 33D is not coded: Menu function „SET CODE“ can be deleted/activated.