

**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 M12x1 el. connection (IP 65)**

**Technical data**

Electrical connection: M 12 x 1

Mounting: optional

Fluid temperature -10 °C – + 80 °C

Ambient temperature: -10 °C – + 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 –100% of FS

Reset point:

Adjustable between 0 –100% of FS

Display:

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

Linearity:

< 0,2% of FS

Degree of protection acc. to DIN 40050:

IP65 (with plug mounted)

Materials Housing: Aluminium / Stainless steel

Sensor element:

Pneumatics: Silicium

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 – 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 50081. Part 1

Interference immunity Acc. to EN 50082. Part 2



**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 – +1	10	G 1/4 Female	1 x PNP	0,005	<b>0863012</b> Stocked item
-1 – +1	10	Flange	1 x PNP	0,005	<b>0863016</b>
0 – 16	30	G 1/4 Female	1 x PNP	0,050	<b>0863212</b> Stocked item
0 – 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 – +1	10	G 1/4 Female	2 x PNP	0,005	<b>0863022</b>
-1 – +1	10	Flange	2 x PNP	0,005	<b>0863026</b>
0 – 16	30	G 1/4 Female	2 x PNP	0,050	<b>0863222</b> Stocked item
0 – 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 – +1	10	G 1/4 Female	1 x PNP / 4 – 20 mA	0,005	<b>0863042</b>
-1 – +1	10	Flange	1 x PNP / 4 – 20 mA	0,005	<b>0863046</b>
0 – 16	30	G 1/4 Female	1 x PNP / 4 – 20 mA	0,050	<b>0863242</b> Stocked item
0 – 16	30	Flange	1 x PNP / 4 – 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 – 10	40	G 1/4 Female	1 x PNP	0,050	<b>0863112</b>
0 – 10	40	Flange	1 x PNP	0,050	<b>0863116</b>
0 – 40	100	G 1/4 Female	1 x PNP	0,200	<b>0863312</b> Stocked item
0 – 40	100	Flange	1 x PNP	0,200	<b>0863316</b>
0 – 100	200	G 1/4 Female	1 x PNP	0,500	<b>0863412</b> Stocked item
0 – 100	200	Flange	1 x PNP	0,500	<b>0863416</b>
0 – 160	300	G 1/4 Female	1 x PNP	0,500	<b>0863512</b>
0 – 160	300	Flange	1 x PNP	0,500	<b>0863516</b>
0 – 250	500	G 1/4 Female	1 x PNP	1,000	<b>0863612</b> Stocked item
0 – 250	500	Flange	1 x PNP	1,000	<b>0863616</b>
0 – 400	750	G 1/4 Female	1 x PNP	2,000	<b>0863712</b> Stocked item
0 – 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 – 10	40	G 1/4 Female	2 x PNP	0,050	<b>0863122</b>
0 – 10	40	Flange	2 x PNP	0,050	<b>0863126</b>
0 – 40	100	G 1/4 Female	2 x PNP	0,200	<b>0863322</b>
0 – 40	100	Flange	2 x PNP	0,200	<b>0863326</b>
0 – 100	200	G 1/4 Female	2 x PNP	0,500	<b>0863422</b> Stocked item
0 – 100	200	Flange	2 x PNP	0,500	<b>0863426</b>
0 – 160	300	G 1/4 Female	2 x PNP	0,500	<b>0863522</b>
0 – 160	300	Flange	2 x PNP	0,500	<b>0863526</b>
0 – 250	500	G 1/4 Female	2 x PNP	1,000	<b>0863622</b> Stocked item
0 – 250	500	Flange	2 x PNP	1,000	<b>0863626</b>
0 – 400	750	G 1/4 Female	2 x PNP	2,000	<b>0863722</b> Stocked item
0 – 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 – 10	40	G 1/4 Female	1 x PNP / 4 – 20 mA	0,050	<b>0863142</b>
0 – 10	40	Flange	1 x PNP / 4 – 20 mA	0,050	<b>0863146</b>
0 – 40	100	G 1/4 Female	1 x PNP / 4 – 20 mA	0,200	<b>0863342</b>
0 – 40	100	Flange	1 x PNP / 4 – 20 mA	0,200	<b>0863346</b>
0 – 100	200	G 1/4 Female	1 x PNP / 4 – 20 mA	0,500	<b>0863442</b> Stocked item
0 – 100	200	Flange	1 x PNP / 4 – 20 mA	0,500	<b>0863446</b>
0 – 160	300	G 1/4 Female	1 x PNP / 4 – 20 mA	0,500	<b>0863542</b>
0 – 160	300	Flange	1 x PNP / 4 – 20 mA	0,500	<b>0863546</b>
0 – 250	500	G 1/4 Female	1 x PNP / 4 – 20 mA	1,000	<b>0863642</b> Stocked item
0 – 250	500	Flange	1 x PNP / 4 – 20 mA	1,000	<b>0863646</b>
0 – 400	750	G 1/4 Female	1 x PNP / 4 – 20 mA	2,000	<b>0863742</b>
0 – 630	1000	G 1/4 Female	1 x PNP / 4 – 20 mA	2,000	<b>0863842</b>

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

\*\*Versions with fluid connection 1/4 NPTF pls. see option selector on page 3.



Option selector

<p><b>0 8 6 3</b> Series 33D</p>	<p><b>X</b> Pressure range</p>	<p><b>X</b> Output signal</p>	<p><b>X</b> Fluid connection</p>	<p>2 = G 1/4 female / M 12 x 1 4 = 1/4 NPTF / M 12 x 1 6 = flange / M 12 x 1</p> <p>X = Fluid connection / Electrical connection</p> <p>X = Output signal</p> <p>X = Pressure range</p>	<p>1 = 1 digital output PNP 2 = 2 digital outputs PNP 4 = 1 digital output PNP/1 analog 4 – 20 mA</p> <p>0 = -1 – +1 bar Pneumatic 1 = 0 – 10 bar Hydraulic / Allfluid 2 = 0 – 16 bar Pneumatic 3 = 0 – 40 bar Hydraulic / Allfluid 4 = 0 – 100 bar Hydraulic / Allfluid 5 = 0 – 160 bar Hydraulic / Allfluid 6 = 0 – 250 bar Hydraulic / Allfluid 7 = 0 – 400 bar Hydraulic / Allfluid 8 = 0 – 630 bar Hydraulic / Allfluid</p>
Series 33D 0863				33D Pressure Switch	

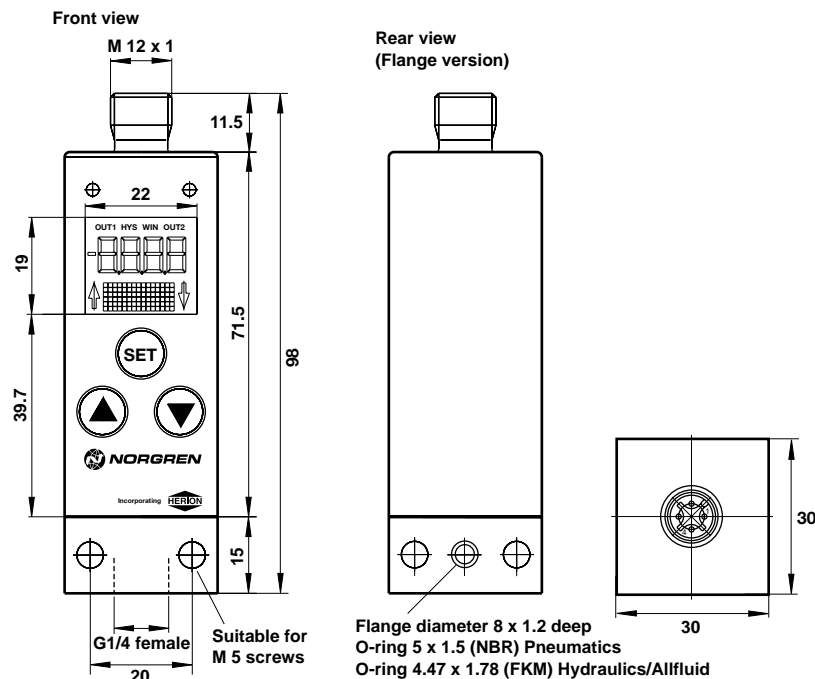
Electrical connection M 12 x 1		
Pin	Signal	Cable
1	+ U <sub>B</sub>	brown
2	Out 2 (PNP) / analog 4 to 20 mA	white
3	0 Volt	blue
4	Out 1 (PNP)	black
5	PE	grey

Accessories

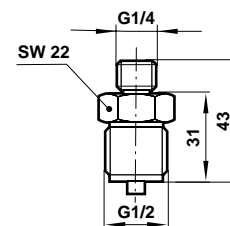
Cat. No.	Connectors for M 12 x 1 *
0523055	M 12 x 1, straight, no cable
0523057	M 12 x 1, straight, 2 m cable, 4 pins
0523052	M 12 x 1, straight, 5 m cable, 4 pins
0523056	M 12 x 1, 90°, no cable
0523058	M 12 x 1, 90°, 2 m cable, 4 pins
0523053	M 12 x 1, 90°, 5 m cable, 4 pins
0799845	M 12 x 1, 90°, 2 m cable, 5 pins
0250081	M 12 x 1, 90°, 5 m cable, 5 pins

\* Connector must be ordered separately.

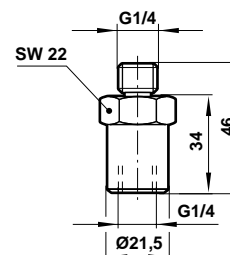
Dimensional drawing



Reducer G 1/2 to G 1/4, external  
Type 0550083



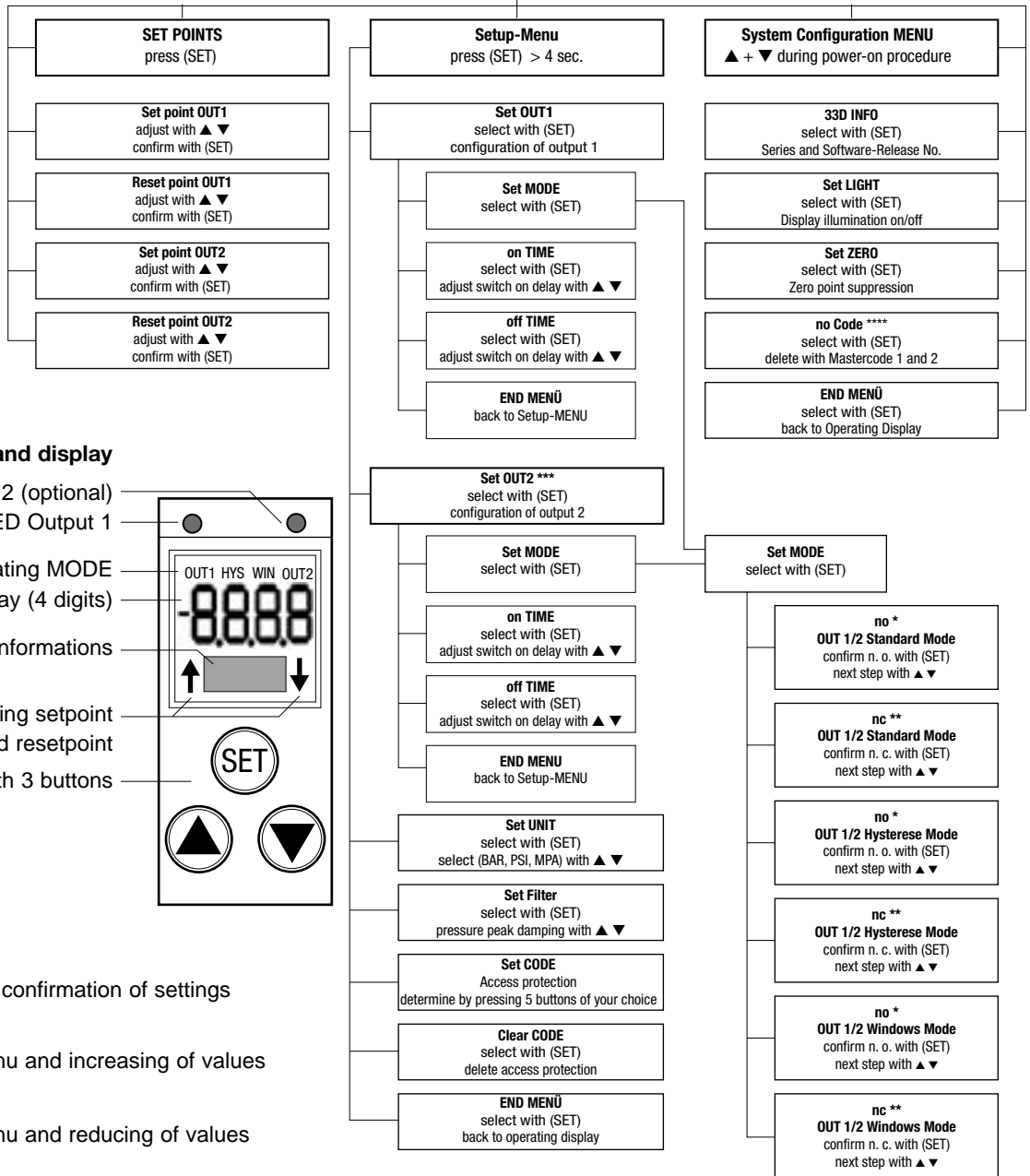
Snubber G 1/4  
Type 0574773 Brass/Steel  
Type 0553258 Stainless steel 1.4301



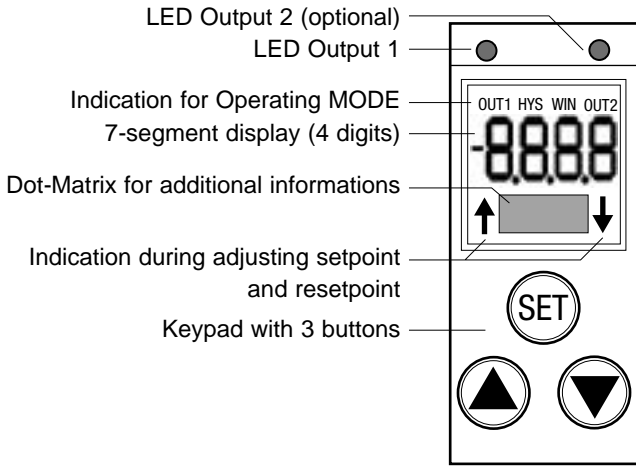


# Operating instructions

## OPERATING DISPLAY Indication of system pressure



### Function keys and display



- Menu selection and confirmation of settings
- Browsing within menu and increasing of values
- Browsing within menu and reducing of values

\* 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**      \*\*\*\* **Mastercode 2**

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