

Differential pressure control, type MBC 5080 and MBC 5180

Description



- Designed for use in severe marine and industrial environments
- High vibration stability
- Part of the Danfoss block-system, consisting of MBC pressure switches, MBS pressure transmitters and MBV test-valves
- MBC 5180 with 10 ship approvals
- Low fixed hysteresis and high repeatability
- Optimal compact design for machine building purposes
- Intended for alarm indication, shut-down, control and diagnosing in many applications - motors, gears, thrusters, pumps, filters, compressors etc.

Approvals

EN 60947-4-1
EN 60947-5-1
CCC, China Compulsory Certificate

Ship approvals

Lloyd's register of Shipping
Germanischer Lloyd
RINA, Registro Italiano Navale
NKK, Nippon Kaiji Kyokai
Det Norske Veritas

Bureau Veritas
American Bureau of Shipping
Korean Register of Shipping
RMRS, Russian Maritime Register of Shipping

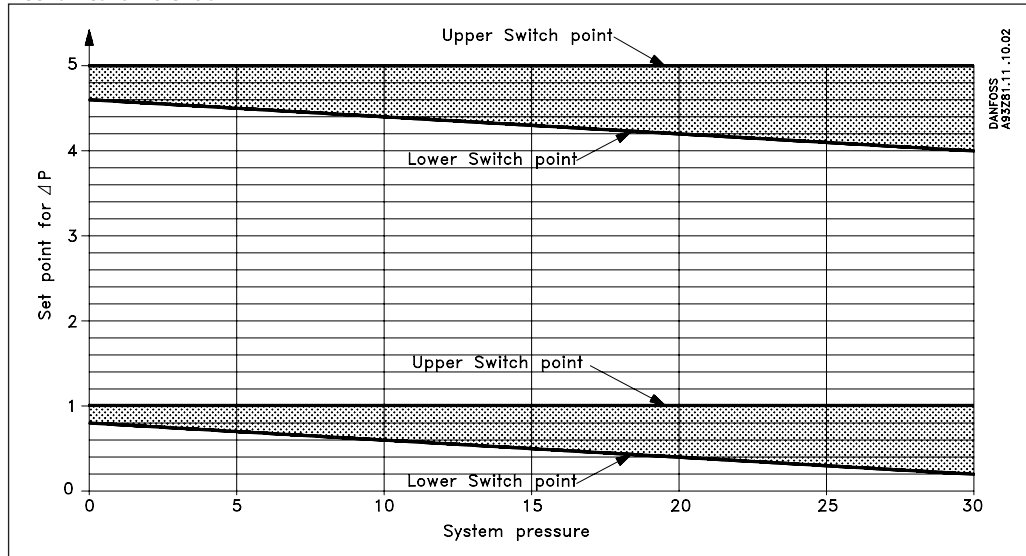
Technical data

Performance

Repeatability upper switch point Static pressure on LP-side (Pressure released totally after activating the switch point)		±0.1 bar (typ.) ±0.2 bar (max.)
Response time		< 4 ms
Max. switch frequency		10/min. (0.16 Hz)
Permissible operating pressure (HP)		45 bar
Min. bursting pressure		135 bar
Life time	Mechanical Electrical at max. contact load	> 400.000 cycles > 100.000 cycles

Technical data (continued)

Mechanical differential



Electrical specifications

Switch		SPDT
Contact load	AC15	0.5 A, 250 V
	DC13	12 W, 125 V

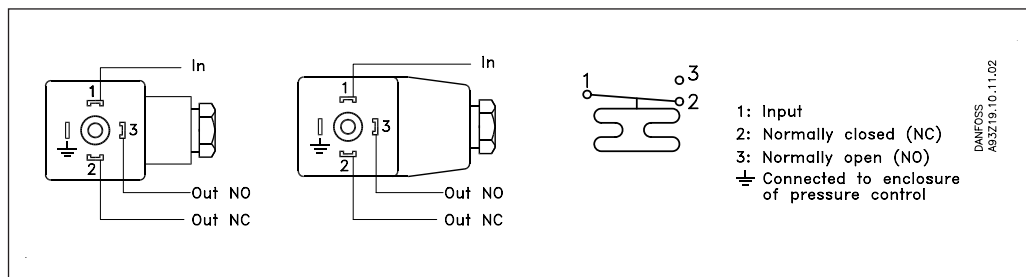
Environmental conditions

Temperature	Operation	-10 to 85°C
	Transport	-50 to 85°C
Enclosure		IP 65, IEC 529
Vibration stability	Sinusoidal	4g, 25Hz - 100 Hz
Shock resistance	Shock	50g / 6 ms
	Free fall	IEC 68-2-27 IEC 68-2-32

Mechanical characteristics

Pressure connection	Standard Option	G ¹ / ₄ female (ISO 228/1) or flange See specification form, page 4
Electrical connection	Plug	DIN 43650, Pg9, Pg11 or Pg 13.5
Wetted parts material	Housing Diaphragm O-ring Hole plug (flange version) O-ring (flange version)	Anodized AlMgSi1 NBR NBR Nickel plated brass NBR
Enclosure material	Housing Plug fixture	Anodized AlMgSi1 Glass filled plyamid, PA 6.6
Weight		0.5 kg

Electrical connection



Ordering standard types

Setting range bar Δp	Type no. MBC 5080 MBC 5180	Ship approved MBC 5180 Code no.	Standard MBC 5080 Code no.
0.3 - 5	MBC 5080-2031-1DB04		061B126066
	MBC 5080-2031-1CB04		061B127066
	MBC 5180-2031-1DB04	061B128066¹⁾	
	MBC 5180-2031-1CB04	061B129066	

¹⁾ Preferred version

Mechanical differential, see technical data page 2.

MBC standard versions are adjusted at minimum differential range 0.3 bar.

Variation in the system pressure will not affect the differential setting.

If the differential is set to a high value at 0 bar system pressure, there will be a small change in the setpoint.

Example:

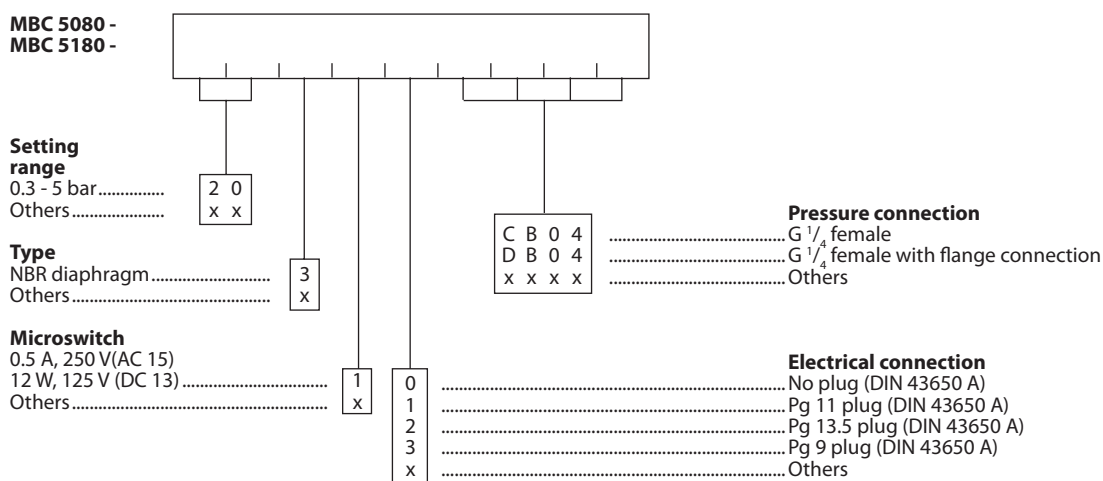
MBC 5080/5180 set to 5.0 bar differential at 0

bar system pressure will at 30 bar system pressure give alarm at approx. 34.2 bar. Differential decreased 0.8 bar.

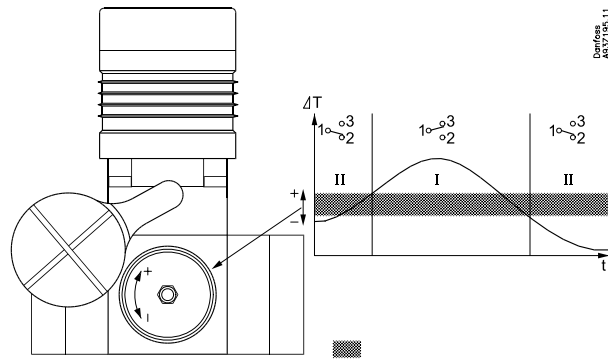
Our experience is that MBC 5080/5180 often are used at a differential setting close to minimum, where the differential would be independent of the system pressure.

If a high differential is needed, we recommend to make a differential setting at the system pressure that is normal for the application.

Ordering of customized types

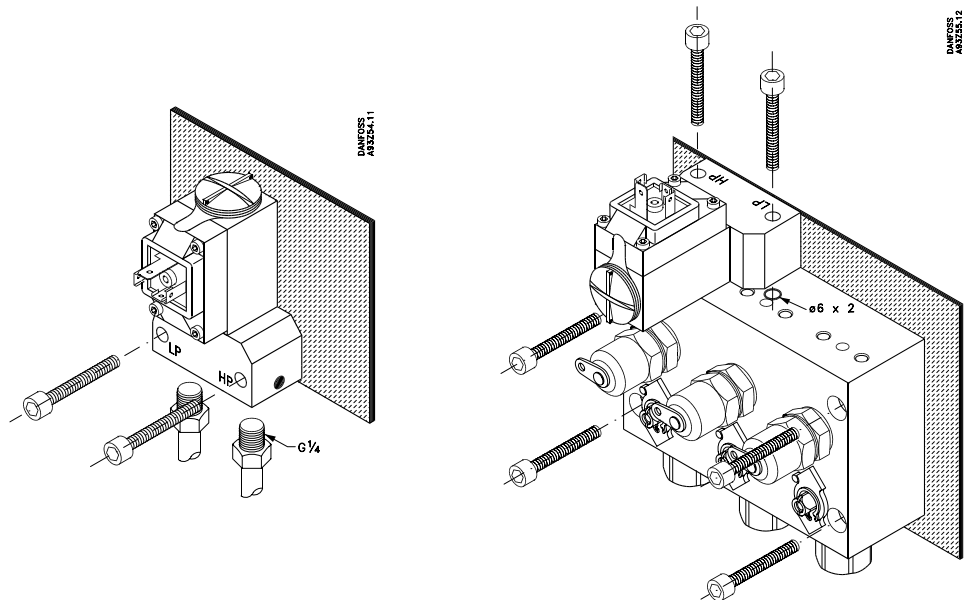


Adjustment

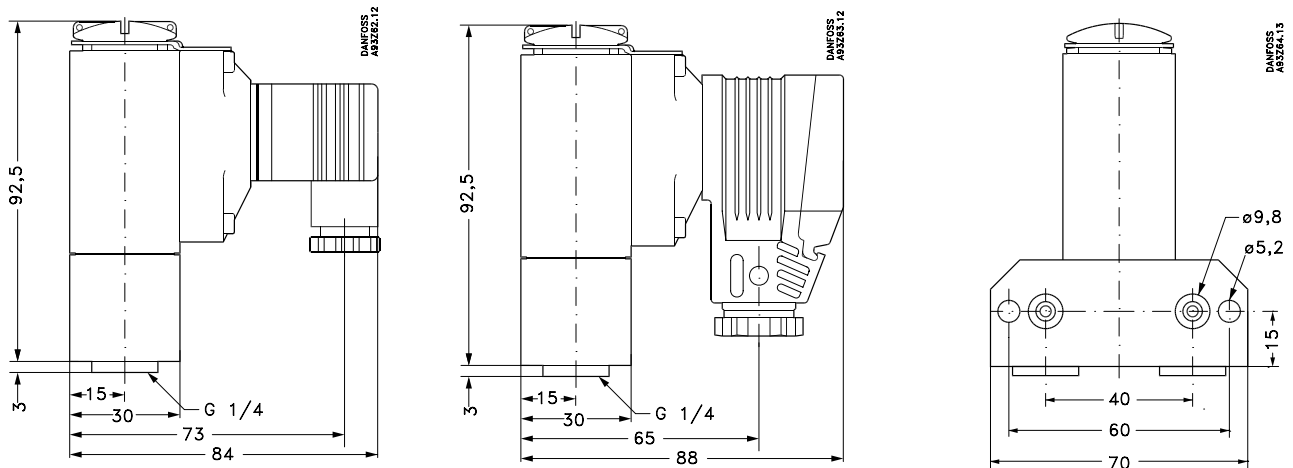


One turn of the MBC setting-screw is approx. equal to 7% of FS (max. setting range)

Mechanical connections



Dimensions



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