Data sheet

Differential pressure switch Types MBC 5080 and MBC 5180

MBC differential pressure switches are used in industry and marine applications where space and reliability are the most important features.

MBCs are compact pressure switches, designed according to our new block design to survive in the harsh conditions known from machine rooms onboard ships.

MBCs have high vibration resistance and feature all commonly marine approvals.

Features

- 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 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
EN 60947-1

China Compulsory Certificate, CCC

Ship approvals, Type MBC 5180

Lloyd's Register, LR
Germanischer Lloyd, GL
Registro Italiano Navale, RINA
Nippon Kaiji Kyokai, NKK,

Det Norske Veritas, DNV
China Classification Society, CCS
American Bureau of Shipping, ABS
Korean Register of Shipping, KR

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		90 bar
Life time	Mechanical	> 400.000 cycles
	Electrical at max. contact load	> 100.000 cycles

Electrical specifications

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

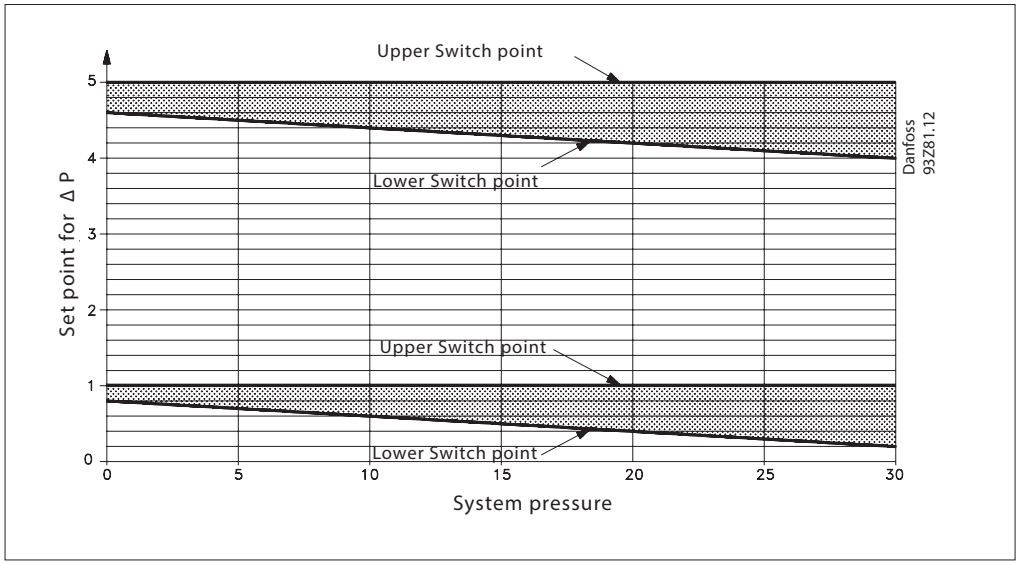
Environmental conditions

Temperature	Operation	-10 – 85 °C
	Transport	-50 – 85 °C
Enclosure		IP65, EN 60529
Vibration stability	Sinusoidal 4g, 25Hz - 100 Hz	EN 60068-2-6
Shock resistance	Shock 50g/6 ms	EN 60068-2-27
	Free fall	EN 60068-2-32

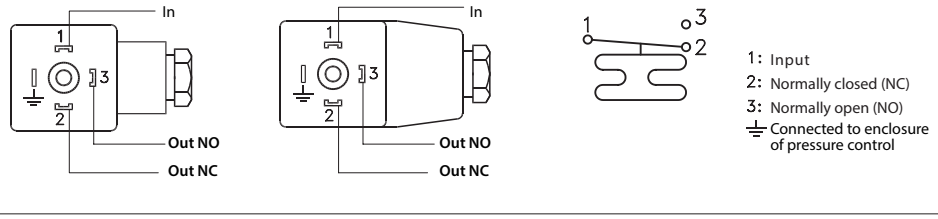
Mechanical characteristics

Pressure connection	Standard	G¼ female (ISO 228-1) or flange
	Option	See specification form, page 3
Electrical connection	Plug	DIN 43650, Pg9, Pg11 or Pg 13.5
Wetted parts material	Housing	Anodized AlMgSi1, AW-6082 T6
	Diaphragm	NBR
	O-ring	NBR
	Hole plug (flange version)	Nickel plated brass
	O-ring (flange version)	NBR
Enclosure material	Housing	Anodized AlMgSi1, AW-6082 T6
	Plug fixture	Glass filled polyamid, PA 6.6
Net weight		0.35 kg

Mechanical differential



Electrical connection



Ordering standard types

Setting range Δp [bar]	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	**061B128066**[1)]	—
	MBC 5180-2031-1CB04	**061B129066**	—

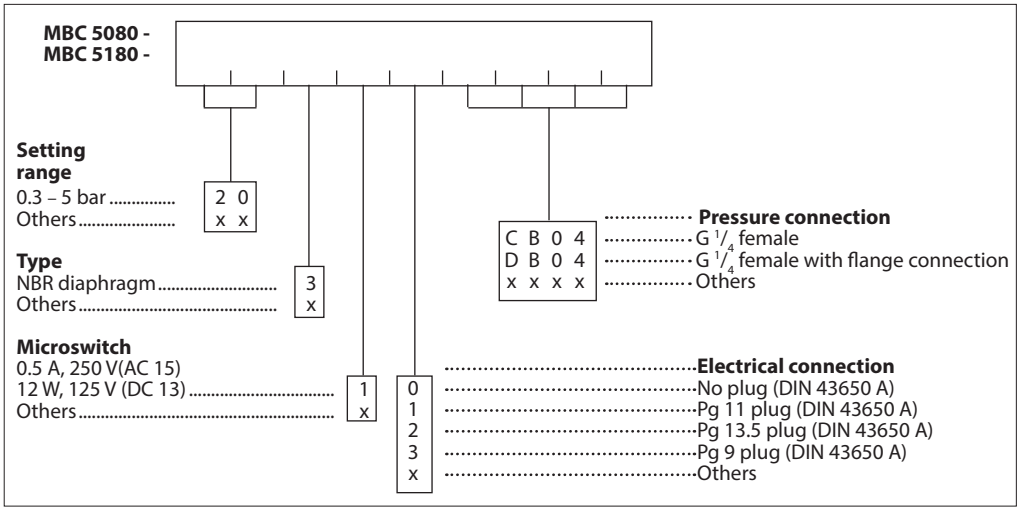
[1)] Preferred version

Mechanical differential, see technical data page 2.

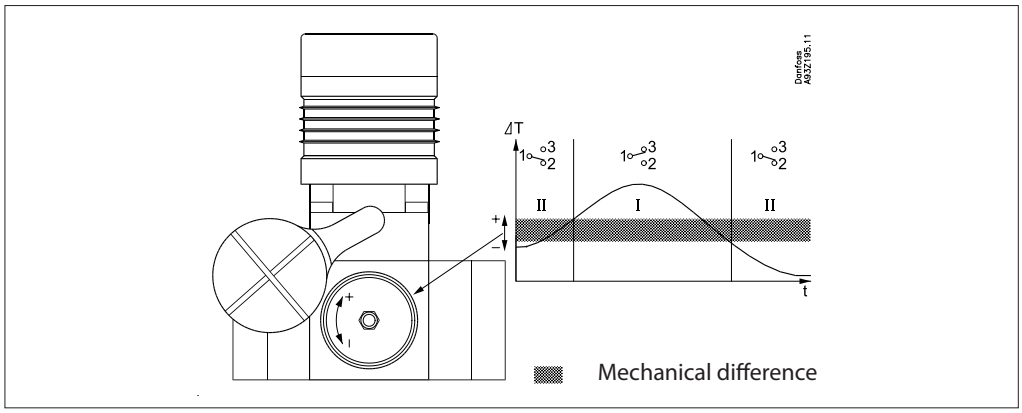
MBC standard versions are adjusted at minimum differential range 0.3 bar.
Variation in the system pressure will not affect the differential setting.
If the differential is set to a high value at 0 bar system pressure, there will be a small change in the setpoint.

Example:
MBC 5080 and MBC 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 and MBC 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.

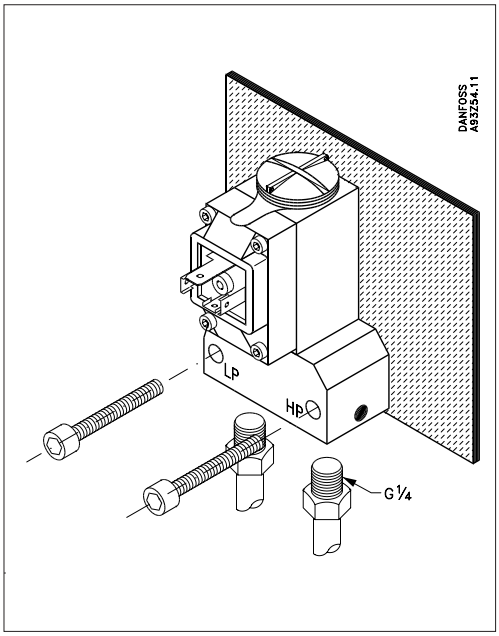
Ordering of customized types

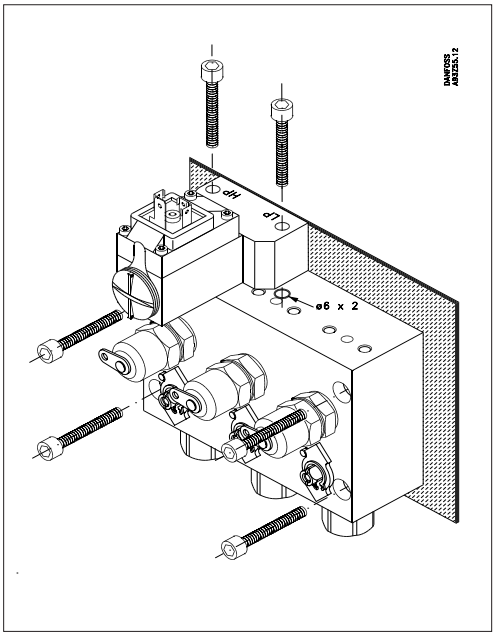


Adjustment

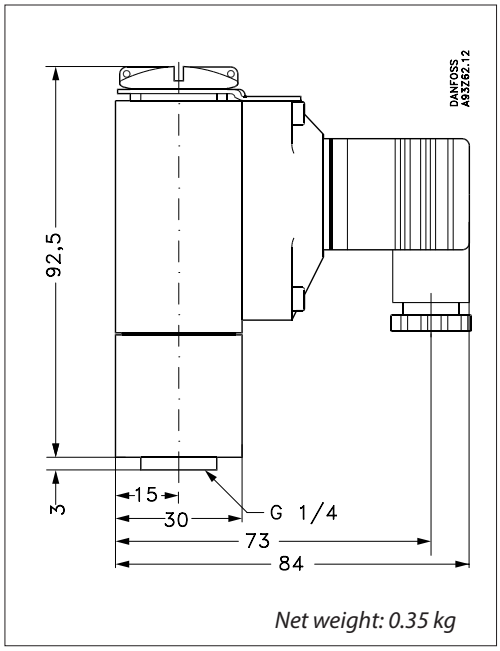


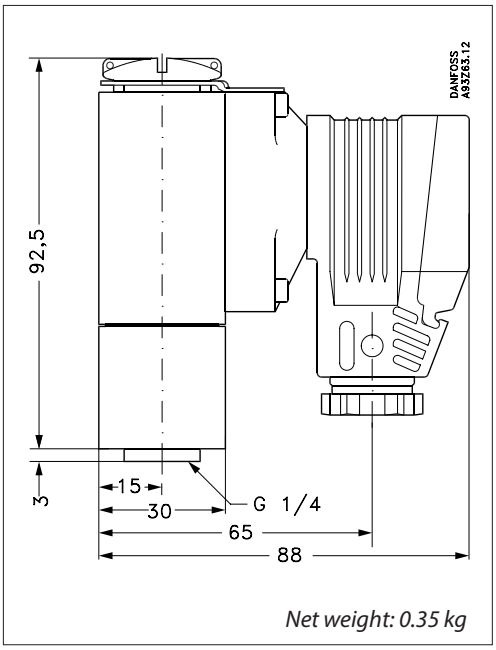
Mechanical connections





Dimensions [mm] and weights [kg]





Dimensions [mm] and weights [kg]
(continued)