



Pressure switch MDR 5

High-performance pressure switch for switching motors



Contents

› Description, Type overview - MDR 5	3 - 4
› Description, Type overview - MDR 5 special version IP 65 „Water“	5
› Accessories	6 - 7
› Technical data	8
› Pressure Ranges, Pressure setting	9
› Pressure diagrams	10
› Dimensions drawings	11
› Tripping curves	11
› Circuit Diagrams	11



MDR 5

The high-performance pressure switch for switching motors (compressors and pumps), available in various versions and with optional accessories. Optionally, the pressure switch is available with an overload relay.

Pressure adjustment is possible without tools.

The MDR 5 pressure switch has been successfully tested and certified by the KEMA KEUR Test and Certification Institute. Its robust and hard-wearing design ensures a long service life, also under high loads.

The MDR-5 pressure switch is fitted as standard with the possibility for pressure difference adjustment. A handwheel permits switching point and hysteresis to be adjusted, whereby the cut-out pressure is adjusted with the handwheel in the upper position (the spindle also turns). The cut-in pressure is adjusted with the handwheel in the lower position (the spindle also turns) - page 9.



Applications:

Compressed air systems / compressors, Water technology / pumps, Engine technology, Agriculture, Shipbuilding & offshore



Features

- > High-performance pressure switch for 3-phase voltage
- > for compressors / for pumps
- > Motor switching capacity 5,5 kW
- > Voltage ≤ 400 V
- > 3-pole (NC)
- > max. cut-out pressure 45 bar
- > Pressure difference adjustment (standard)
- > Simple manual adjustment of the switching point via a handwheel
- > Acc. to EN 60947
- > Pressure connector material = die-cast aluminium
- > high reliability and robust construction
- > Protection class (EN 60529) IP 54
- > Overload relay (optional)



> Condor Pressure switches

Because of the wide range of pressure switch versions, please contact us if you have questions on a special application or have technical requirements. As a manufacturer of pressure switches and controls, we offer a wide range of services, including standard and customer-specific solutions for individual applications.

Type overview

Order reference	Type code	ON / OFF Rotary knob	Pressure range in bar P _{AUS}	Pressure connection	Weight (in g)	Part No.
MDR 5/5	MDR-5 CAA BAAA 015A030 XXX XXX	-	1,5 - 5	G 1/2" Alu	820	212850
MDR 5/5-K	MDR-5 CAA AAAA 015A030 XXX XXX	K*	1,5 - 5	G 1/2" Alu	860	212867
MDR 5/5	MDR-5 COA BAAA 015A030 XXX XXX	-	1,5 - 5	G 1/2" + G 1/4" Alu	860	212874
MDR 5/5-K	MDR-5 COA AAAA 015A030 XXX XXX	K*	1,5 - 5	G 1/2" + G 1/4" Alu	900	212881
MDR 5/8	MDR-5 EAA BAAA 070A080 XXX XXX	-	2 - 8	G 1/2" Alu	820	212898
MDR 5/8-K	MDR-5 EAA AAAA 070A080 XXX XXX	K*	2 - 8	G 1/2" Alu	860	212904
MDR 5/8	MDR-5 EOA BAAA 070A080 XXX XXX	-	2 - 8	G 1/2" + G 1/4" Alu	860	212911
MDR 5/8-K	MDR-5 EOA AAAA 070A080 XXX XXX	K*	2 - 8	G 1/2" + G 1/4" Alu	900	212928
MDR 5/11	MDR 5 GAA BAAA 090A110 XXX XXX	-	2 - 11	G 1/2" Alu	820	212935
MDR 5/11-K	MDR-5 GAA AAAA 090A110 XXX XXX	K*	2 - 11	G 1/2" Alu	860	212942
MDR 5/11	MDR-5 GOA BAAA 090A110 XXX XXX	-	2 - 11	G 1/2" + G 1/4" Alu	860	212959
MDR 5/11-K	MDR-5 GOA AAAA 090A110 XXX XXX	K*	2 - 11	G 1/2" + G 1/4" Alu	900	212966
MDR-5/16	MDR-5 HAA BAAA 130A160 XXX XXX	-	2,5 - 16	G 1/2" Alu	820	212973
MDR-5/16-K	MDR-5 HAA AAAA 130A160 XXX XXX	K*	2,5 - 16	G 1/2" Alu	860	212980
MDR-5/16	MDR 5 HOA BAAA 130A160 XXX XXX	-	2,5 - 16	G 1/2" + G 1/4" Alu	860	212997
MDR-5/16-K	MDR-5 HOA AAAA 130A160 XXX XXX	K*	2,5 - 16	G 1/2" + G 1/4" Alu	900	213000
MDR-5/45	MDR-5 KAA BAAA 300 A400 XXX XXX	-	13 - 45	G 1/2" Alu	820	256182
MDR-5/45-K	MDR-5 KAA AAAA 300 A400 XXX XXX	K*	13 - 45	G 1/2" Alu	860	258513

*For these switches, a thermal, 3-pole overload relay has to be ordered separately, the ON/OFF mechanism will only work with an additional relay
Unloader valves and cable glands for retrofitting, see accessories!



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MDR 5 /5 - Pressure connection G 1/2" stainless steel

The high-performance pressure switch in the special version IP65 „Pressure coupling, water“ for switching motors (pumps).

In order to cater for different application areas, you can select from different pressure connector materials (stainless steel, brass or galvanized). Choice of a pressure connector material suited to the application will increase service life

Its robust and hard-wearing design ensures a long service life, also under high loads. Applications, e.g. in pump shafts, domestic water systems with stainless steel pump, etc.

The MDR-5 pressure switch is fitted as standard with the possibility for pressure difference adjustment. A handwheel permits switching point and hysteresis to be adjusted, whereby the cut-out pressure is adjusted with the handwheel in the upper position (the spindle also turns) - page 9.



Applications:

Water technology / pumps, Agriculture, Shipbuilding & offshore

Features

- > High-performance pressure switch
- > Three-phase current version
- > for pumps
- > Motor switching capacity 5,5 kW
- > Voltage ≤ 400 V
- > NC contact" switching function (3-pole)
- > Max. cut-out pressures ≤ 8 bar
- > Pressure difference adjustment (standard)
- > simple manual adjustment of the switching point via 2 adjustment screws
- > Acc. to EN 60947
- > Pressure connector material = stainless steel, brass, or galvanised steel
- > high reliability and robust construction
- > Protection class (EN 60529) IP 65
- > incl. M 20 cable entry glands

Type overview

MDR 5 - Special version pressure connection water / IP 65

Order reference	Type code	ON / OFF Rotary knob	Pressure range in bar P_{AUS}	Pressure connection	Weight (in g)	Part No.
MDR 5/5	MDR 5 CYA BAAA 015A030 X00 XXZ	-	1,5 - 5	G 1/2" galv. steel	775	279273
MDR 5/8	MDR-5 EYA BAAA 070A080 X00 XXZ	-	2 - 8	G 1/2" galv. steel	775	279280
MDR 5/5	MDR-5 CVA BAAA 015A030 X00 XXZ	-	1,5 - 5	G 1/2" Stainless steel	775	275152
MDR 5/8	MDR-5 EVA BAAA 070A080 X00 XXZ	-	2 - 8	G 1/2" Stainless steel	775	275169
MDR 5/5	MDR-5 CRA BAAA 015A030 X00 XXZ	-	1,5 - 5	G 1/2" brass	775	275176
MDR 5/8	MDR-5 ERA BAAA 070A080 X00 XXZ	-	2 - 8	G 1/2" brass	775	275183



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Accessoires

Order reference	Description	Weight (in g)	Part No.
Unloader valves			
EV 5 ¹⁾	with screw connection for 6 mm plastic or copper discharge tubes, screw connection for vent port	30	201878
EV 5i ¹⁾	with screw connection for 1/4" plastic or copper discharge tubes	30	201885
EV 5E ¹⁾	with screw connection for 6 mm plastic or copper discharge tubes	25	201892
EV 5Ei ¹⁾	with screw connection for 1/4" plastic or copper discharge tubes	25	201908
EV 5H	High pressure relief valve from 16 bar with screw connection for 6 mm copper relief line	30	201915
Delayed unloader valves			
AEV 5	with screw connection for 6 mm plastic or copper discharge tubes	25	201939
AEV 5i	with screw connection for 1/4" plastic or copper discharge tubes	25	201946
Cable glands			
WN M20	Grommet	6	269496
VS-M20	Screw plug M20		269502
M20 Z	with strain relief, clamping range 6-12 mm	12	269533
M20 ZK	with strain relief and cable support, clamping range 6-12 mm	12	269540
M20 L	with strain relief, clamping range 10-14 mm	12	269519
M20 LK	with strain relief and cable support, clamping range 10-14 mm	12	269526
MW 5	Mounting bracket	120	230045
Cover			
H5 (Cover MDR 5)	Cover without push-buttons	130	230052
H5-K (Cover MDR 5+K)	Cover wit ON/OFF push-buttons (Only functions together with the thermal R5 overload relay)	150	217527
Thermal, 3-pole overload relay			
R 5/1,5	0,86 - 1,50 A	150	202028
R 5/2,45	1,50 - 2,45 A	150	202035
R 5/4,2	2,40 - 4,20 A	150	202042
R 5/7,0	4,00 - 7,00 A	150	202059
R 5/10,3	6,10 - 10,3 A	150	202066
R 5/14,0	9,00 - 14,0 A	150	202073
R 5/18,0	11,0 - 18,0 A	150	202080

¹⁾ up to < 16 bar

Valves

Cover



EV 5, EV 5i, EV SH
Unloader valve



EV 5E / EV 5 Ei
Unloader valve



AEV 5 / AEV 5i
Delayed unloader valve



H5 Cover without
push-buttons



H5 -K
Cover with push-buttons

Cable glands

Other accessories



WN-M 20
Grommet



VS - M20
Screw plug



M 20 Z / M 20 L
Cable gland



M 20 ZK / M 20 LK
Cable gland

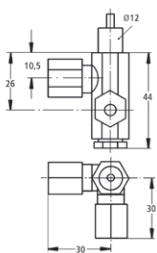


MW 5
Mounting bracket

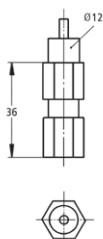


R 5/.. Thermal, 3 pole
overload relay

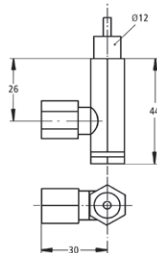
Dimensions Valves



EV 5, EV 5i, EV SH
Unloader valve



EV 5E / EV 5 Ei
Unloader valve



AEV 5 / AEV 5i
Delayed unloader valve

Technical data acc. to EN 60947

	MDR-5	MDR-5 Special model „Water IP 65“
Medium	Air, Water (see media resistance table)	Water (see media resistance table)
Voltage type	Three-phase current version	Three-phase current version
Type	Elektro-mechanical	Elektro-mechanical
Rated frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Rated insulation voltage U_i	500 V	500 V
Motor switching capacity (AC 3) $U_e = 240$ V (1~)	2,5 kW	2,5 kW
Motor switching capacity (AC 3) $U_e = 230$ V (3~)	4,0 kW	4,0 kW
Motor switching capacity (AC 3) $U_e = 400$ V (3~)	5,5 kW	5,5 kW
Motor switching capacity (AC 3) $U_e = 500$ V (3~)	4,0 kW	4,0 kW
Electrical life (AC 3) Cycles	$> 1 \times 10^5$	$> 1 \times 10^5$
Mechanical life Cycles	$> 5 \times 10^5$	$> 5 \times 10^5$
Max. electrical cycles Cycles/h	120	120
Max. mechanical cycles Cycles/h	600	600
Rated operational current I_e at 400 V AC 3 / 500 V AC 3	16 A / 12 A	16 A / 12 A
Bursting strength P_z	up to 16 bar up to 45 bar ≥ 40 bar ≥ 45 bar	≥ 30 bar
Permissible medium temperature Air	-5...+ 80°C	-
Permissible medium temperature Water	+ 80°C	+ 80°C
Degree of Protection acc. to EN 60529	IP 54 / IP 65	IP 65
Conductor cross-section 1... fine stranded cable 1x / 2	2,5 / 2,5 mm ²	2,5 / 2,5 mm ²
Conductor cross-section 1... rigid cable 1x / 2 x	4 / 4 mm ²	4 / 4 mm ²
Voltage (U)	≤ 400 V	≤ 400 V
Contact functions	3 NC contacts	3 NC contacts
Gold-plated contacts	no	no
Pressure adjustment	Pressure difference adjustment (standard)	Pressure difference adjustment (standard)
Pressure range (bar)	≤ 45 bar	≤ 8 bar
Pressure coupling	G1/2" aluminium female thread (main pressure coupling G1/2", pressure connector material = die-cast aluminium) G1/2 + G1/4" female thread (main pressure coupling G1/2", side outlet G1/4", pressure connector material = die-cast aluminium)	G1/2" female thread (main pressure coupling G1/2", pressure connector material = stainless steel, brass, or steel)

Media Resistance

A detailed selection chart of the media resistance of all pressure switches can be found on our website. Please note the information on this page!

Pressure Ranges

Pressure range P_{AUS} (in bar)	Default setting (in bar)
1,5 - 5	1,5 - 3
2 - 8	7 - 8
2 - 11	9 - 11
2,5 - 16	13 - 16
13 - 45	30 - 40

Pressure Setting

Pressure switch settings

Please make sure all power is disconnected before attempting to adjust pressure settings! When calibrating the pressure switch it will be necessary to apply pressure to the device. Use a calibrated pressure gage to adjust the switches set points. The setting scales on some devices are only intended as a guide.

When the main pressure spring is adjusted, the cut-in and cut-out value of all pressure switches change proportionally. In other words, the differential pressure remains the same. If the range between cut-in and cut-out value is to be increased, the differential pressure screw must be used.

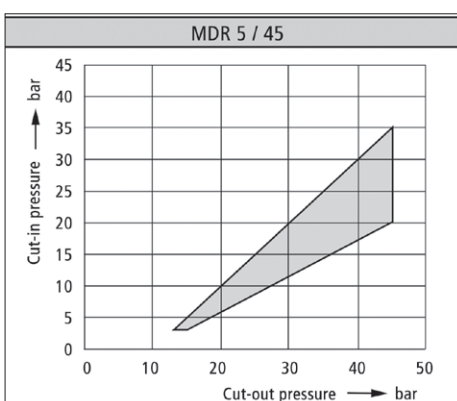
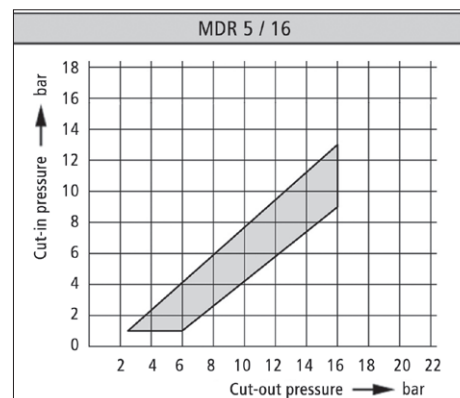
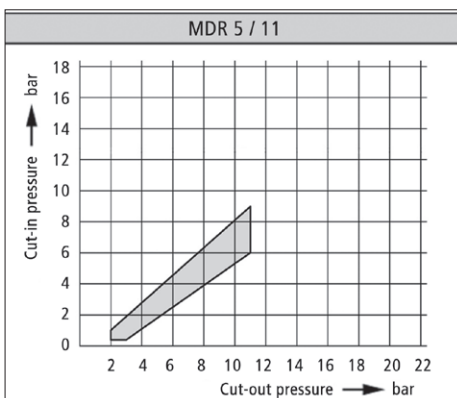
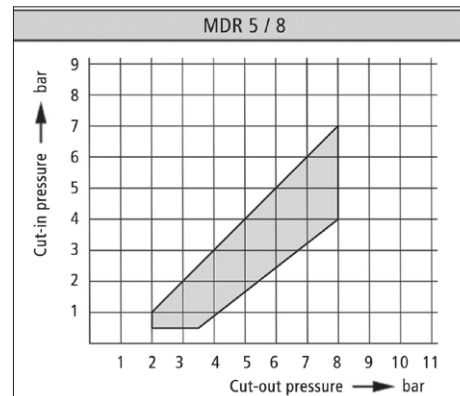
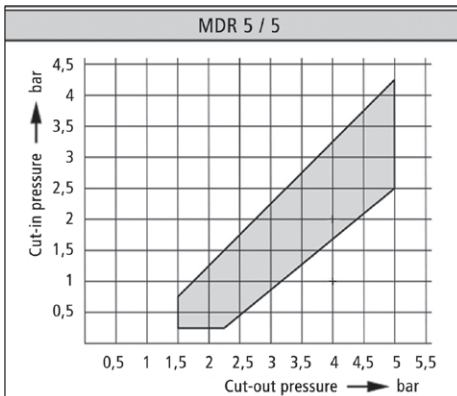
When carrying out a differential pressure adjustment on the pressure switch types MDR 1, MDR 11, MDR 2 and MDR 21 the cut-out pressure value changes and the cut-in pressure value remains constant. For all other pressure switch types the cut-in pressure value changes and the cut-out pressure value remains constant.

The MDR-5 pressure switch is fitted as standard with the possibility for pressure difference adjustment. A handwheel permits switching point and hysteresis to be adjusted, whereby the cut-out pressure is adjusted with the handwheel in the upper position (the spindle also turns). The cut-in pressure is adjusted with the handwheel in the lower position (the spindle also turns). By selecting a pair of values for cut-in and cut-out pressures, an intersection point is determined in the diagram. If the point lies within the shaded area, this pair of values can be adjusted (without tools) on the pressure switch. If the point lies outside the shaded area, this pair of values cannot be adjusted on the pressure switch.



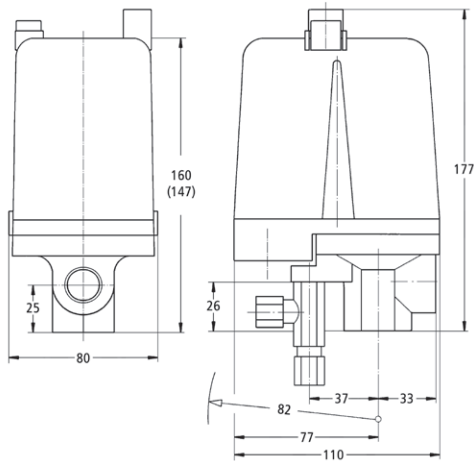
> Condor YouTube channel - Pressure switch settings MDR 5

Pressure Diagrams

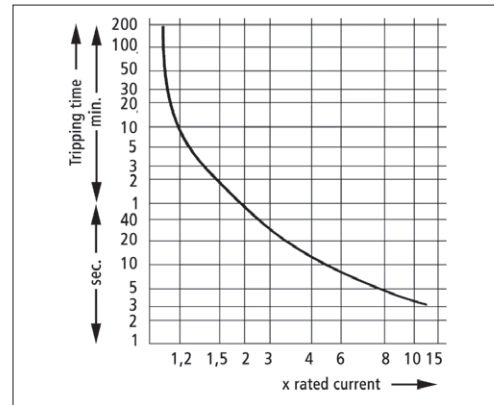


> Condor-YouTube-Kanal

Dimension

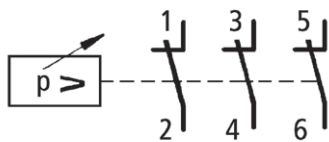


Tripping curves R5 (average)

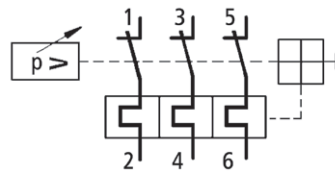


Pressure switch MDR 5 - Manometer pressure connector 1/2" - 1/4"

Circuit Diagrams



MDR 5



MDR 5K - R5



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