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Pressure Switch MDR 1 | Compressor version



High-performance pressure switch for switching motors (Compressor version), available in various versions and with optional accessories. The tried and tested MDR series represent reliability and competence. The high quality of pressure controls is continuously confirmed in extensive tests, for example lifetime and vibration tests.

The MDR 1 is fitted as standard with the possibility for pressure difference adjustment. Two adjusting screws permit switching point and hysteresis to be adjusted - page 6.

To determine the pump or compressor run-time, the MDR 1 can be fitted/retro-fitted with an (optional) operating hours counter. The operating hours counter is available as a kit, and can be mounted to the cover in 4 different positions at 90° intervals. This ensures optimum readability. The kit consists of an operating hours counter for 230 V, and a perforated MDR 1 cover with/without On/Off switch



Applications:

Compressed air systems / compressors - piston compressors (for compressors that do not require additional motor protection), Mining, Agriculture, Medical technology



Features

- › High-performance pressure switch for AC voltage
- › For compressors
- › Medium: Airt
- › Motor switching capacity 2,5 kW
- › Max. media temperature 80°C
- › Voltage ≤ 250 V AC
- › 2-pole (NC)
- › Max. cut-out pressure ≤ 11 bar
- › Pressure difference adjustment (standard)
- › Two adjusting screws permit switching point and hysteresis to be adjusted
- › Acc. to EN 60947
- › Incl. cable glands PG 11 Z/ZK
- › With start-up relief valve (AEV 1S)
- › With start-up relief valve (AEV)
- › Pressure connector material = die-cast aluminium)
- › High reliability and robust construction
- › Protection class (EN 60529) IP 44

Type Overview

Order reference	Type code	ON / OFF Rotary knob	Pressure range P_{AUS} in bar	Pressure connection	Weight (in g)	Part No.
MDR1/11-EA	MDR 1 GBA AAAA 060A080 QDE XXX	EA	2,5 - 11	G 1/4"Alu	220	212133
MDR1/11-EA	MDR 1 GEA AAAA 060A080 QDE XXX	EA	2,5 - 11	F4 1/4"Alu	220	212140
MDR1/11-EA	MDR 1 GFA AAAA 060A080 QDE XXX	EA	2,5 - 11	F4 3/8"Alu	220	212157
MDR1/11	MDR 1 GBA BAAA 060A080 QDE XXX	-	2,5 - 11	G 1/4"Alu	220	216049
MDR1/11	MDR 1 GEA BAAA 060A080 QDE XXX	-	2,5 - 11	F4 1/4"Alu	220	216025
MDR1/11	MDR 1 GFA BAAA 060A080 QDE XXX	-	2,5 - 11	F4 3/8"Alu	220	216063



› Condor Pressure Switch

Accessories

Order reference	Description	Weight (in g)	Part No.
Unloader valves			
EV 1S*	with quick-connect 6 mm for plastic unloader valves	25	226765
Delayed unloader valves			
AEV 1S*	with quick-connect 6 mm for plastic unloader valves	25	217541
EV 1 WS	90° with quick-connect for 6 mm plastic discharge tubes	15	300243
* only for pneumatic tubes with outside tolerances according to e. g. Festo PAN 6x1mm			
Cable glands			
WN MDR 1	Grommet	6	200888
PG 11 G	Conduits for mounting of cable glands (inner thread)	6	255024
PG 11 Z	with strain relief	12	255031
PG 11 ZK	with strain relief and cable support	12	255048
Cover			
H1 (Cover MDR 1)	Cover without ON/OFF lever (Neutral version, without marking)	40	230700
H1-EA (Cover MDR 1 + EA)	Cover with ON/OFF lever for manual ON/OFF (Neutral version, without marking)	40	227366
Cover MDR 1 + EA + lever	Conversion kit H1 to cover H1-EA	40	230717

Order reference	Description	Voltage	Packing (units)	Part No.
H1-B230	Hourmeter and Cover for MDR 1	230 V / 50 Hz	1	279297
H1-EA-B 230	Hourmeter and Cover for MDR 1+EA	230 V / 50 Hz	1	279303

Valves**



EV 1S

AEV 1S

EV 1S / AEV 1S

Cable glands



PG 11 G

PG 11 Z

PG 11 ZK

90° Valve



EV 1WS

WN

Cover



H1

H1-EA.

Cover MDR 1 + EA +
Stößel

Hourmeter



H1-EA-B 230

*Technical changes and errors reserved
** Other valve types available on request!



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Technical Data acc to EN 60947

Medium	Air
Voltage type	Alternating current (AC) - single-phase
Type	Elektro-mechanical
Rated frequency	50 Hz / 60 Hz
Rated Insulation voltage U_i	500 V
Motor switching capacity (AC 3) $U_e = 240 V (1\sim)$	2,5 kW
Electrical life (AC 3) Cycles	$> 1 \times 10^5$
Mechanical life Cycles	$> 5 \times 10^5$
Max. electrical cycles Cycles/h	120
Max. mechanical cycles Cycles/h	600
Rated operational current I_e at 240 V AC	20 A
Bursting strength P_z	$> 35 \text{ bar}$
Permissible medium temperature Air	$-5...+ 80^\circ\text{C}$
Degree of Protection acc. to EN 60529	IP 44
Conductor cross section 1 ..fine stranded cable 1 x / 2 x	2,5 / 2,5 mm ²
Conductor cross section 1 ..rigid cable 1 x / 2 x	2,5 / 2,5 mm ²
Voltage (U)	$\leq 250 \text{ V}$
Contact function	2-2 NC contacts
Gold-plated contacts	no
Pressure adjustment	Pressure difference adjustment (standard)
Pressure range (bar)	$2,5 \leq 11 \text{ bar}$
Pressure coupling	• G1/4" aluminium female thread (main pressure coupling G1/4", pressure connector material = die-cast aluminium) • F4 1/4" aluminium female thread (main pressure coupling G1/4", 3 side outlets G1/4", pressure connector material = die-cast aluminium) • F4 3/8" aluminium female thread (main pressure coupling G3/8", 3 side outlets G1/4", pressure connector material = die-cast aluminium) • F4 1/4" NPT (main pressure coupling 1/4", 3 side outlets 1/4" NPT (National Pipe Thread) female thread, pressure connector material = die-cast aluminium)

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 Switch MDR 1 | Compressor version

Pressure Ranges

Pressure range P_{AUS} in bar	Default setting
2,5 - 6	1,7 - 3 bar

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.

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.

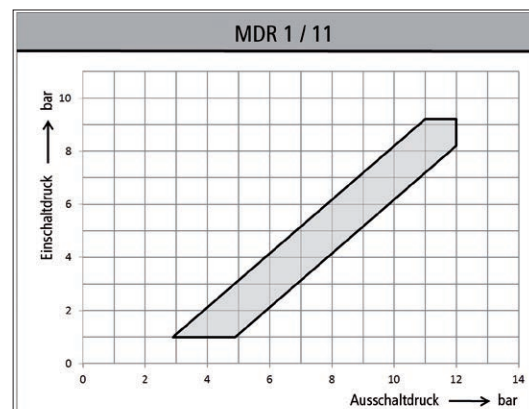
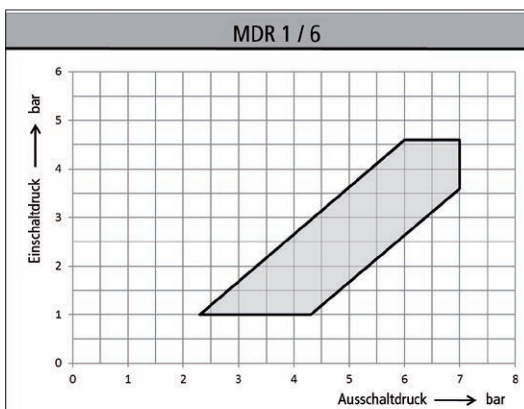
The MDR 1 is fitted as standard with the possibility for pressure difference adjustment.

Two adjusting screws permit switching point and hysteresis to be adjusted, whereby the cut-out point is first adjusted via the main pressure spring and then the cut-in point via the pressure difference setting. 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 on the pressure switch. If the point lies outside the shaded area, this pair of values cannot be adjusted on the pressure switch. Example: MDR 1/11 with pressure difference adjustment. With a selected cut-in pressure of 4 bar, the cut-out pressure can be specified and adjusted between 5, 4 and 8 bar using the pressure difference adjustment.

Example: MDR 1/11 with differential pressure adjustment

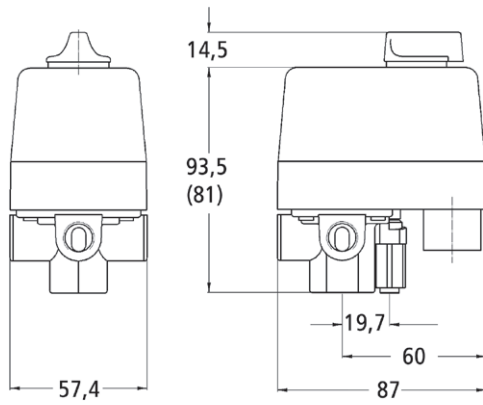
With a preselected cut-in pressure of 4 bar, the cut-out pressure can be determined and set between 5.4 and 8 bar using the differential pressure adjustment.

Pressure Diagrams



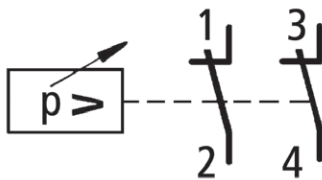
> Condor-YouTube Channel / Pressure Setting

Dimensions



Pressure switch MDR 1

Circuit Diagram



Pressure switch MDR 1



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