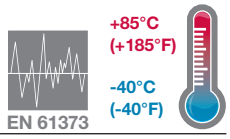
18D-LTx2
Electro-mechanical pneumatic pressure switches

- Port size: G1/4, 1/4 NPT, flange
- Microswitch with gold plated contacts
- High number of switching cycles
- Microswitch approved by UL and CSA
- Intrinsically safe operation
- Wide range of temperature
- Shock and vibration resistant to EN 61373, Category 1, class A and B





Technical features

Medium:
For neutral, gaseous and liquid fluids, non-combustible

Operation:
Diaphragm

Over pressure:
26 bar (377 psi) maximum

Repeatability:
0,2 ... 2 bar (2.9 ... 29 psi):
±0,2 bar (2.9 psi)
0,5 ... 8 bar: (7.2 ... 116 psi)
±0,4 bar (5.6 psi)
1,0 ... 10 bar: (7.2 ... 116 psi)
±0,6 bar (8.7 psi)
1,6 ... 16 bar: (23.2 ... 232 psi)
±0,75 bar (10.8 psi)

Port size:
G1/4, 1/4 NPT or flange

Media viscosity:
Up to 1000 mm^2/s

Switching pressure difference/hysteresis:
Fixed

Switching cycles:
100/min

Life cycle of mechanical parts:
10^7 switching cycles

Switching element:
Microswitch with gold plated contacts

Mounting position:
Optional

Degree of protection:
IP65 (with connector)

Electrical connection:
DIN EN 175301-803
(DIN 43650) form A

Weight:
0,5 kg (1.10 lbs)

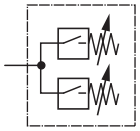
Operating temperature range:
Ambient/Media (reliability)
Standard
-40 ... +85°C (-40 ... +185°F)
Optional
-55 ... +85°C (-67 ... +185°F)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F).

Materials:
Body: Aluminium (brass)
Seals: EPDM , VMQ, NBR

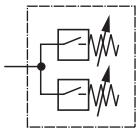
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Technical data

Thread port connection – plug included in scope of supply

Symbol	Port size	Pressure range *1) Switch A (bar)	(psi)	Switch B (bar)	psi)	Materials press sensor Body	Seal	Drawing No.	Model
	G1/4	0,2 ... 2	2.9 ... 29	0,2 ... 2	2.9 ... 29	AL anodized	EPDM, VMQ	1	DS-M2#440202*A00
	G1/4	0,5 ... 8	7.2 ... 116	0,5 ... 8	7.2 ... 116	AL anodized	EPDM, VMQ	1	DS-M2#440808*A00
	G1/4	1 ... 10	7.2 ... 116	1 ... 10	7.2 ... 116	AL anodized	EPDM, VMQ	1	DS-M2#441010*A00
	G1/4,	1 ... 16	23.2 ... 232	1 ... 16	23.2 ... 232	AL anodized	EPDM, VMQ	1	DS-M2#441616*A00
	G1/4	0,2 ... 2	2.9 ... 29	0,5 ... 8	7.2 ... 116	AL anodized	EPDM, VMQ	1	DS-M2#440208*A00
	G1/4	0,2 ... 2	2.9 ... 29	1 ... 10	7.2 ... 116	AL anodized	EPDM, VMQ	1	DS-M2#440210*A00
	G1/4	0,2 ... 2	2.9 ... 29	1 ... 16	23.2 ... 232	AL anodized	EPDM, VMQ	1	DS-M2#440216*A00
	G1/4	0,5 ... 8	7.2 ... 116	1 ... 10	7.2 ... 116	AL anodized	EPDM, VMQ	1	DS-M2#440810*A00
	G1/4	0,5 ... 8	7.2 ... 116	1 ... 16	23.2 ... 232	AL anodized	EPDM, VMQ	1	DS-M2#440816*A00

Flange connection – plug included in scope of supply

Symbol	Port size	Pressure range *1) Switch A (bar)	(psi)	Switch B (bar)	psi)	Materials press sensor Body	Seal	Drawing No.	Model
	Flange	0,2 ... 2	2.9 ... 29	0,2 ... 2	2.9 ... 29	AL anodized	EPDM, VMQ, NBR	2	DS-M2FF40202*A00
	Flange	0,5 ... 8	7.2 ... 116	0,5 ... 8	7.2 ... 116	AL anodized	EPDM, VMQ, NBR	2	DS-M2FF40808*A00
	Flange	1 ... 10	7.2 ... 116	1 ... 10	7.2 ... 116	AL anodized	EPDM, VMQ , NBR	2	DS-M2FF41010*A00
	Flange	1 ... 16	23.2 ... 232	1 ... 16	23.2 ... 232	AL anodized	EPDM, VMQ , NBR	2	DS-M2FF41616*A00
	Flange	0,2 ... 2	2.9 ... 29	0,5 ... 8	7.2 ... 116	AL anodized	EPDM, VMQ , NBR	2	DS-M2FF40208*A00
	Flange	0,2 ... 2	2.9 ... 29	1 ... 10	7.2 ... 116	AL anodized	EPDM, VMQ , NBR	2	DS-M2FF40210*A00
	Flange	0,2 ... 2	2.9 ... 29	1 ... 16	23.2 ... 232	AL anodized	EPDM, VMQ, NBR	2	DS-M2FF40216*A00
	Flange	0,5 ... 8	7.2 ... 116	1 ... 10	7.2 ... 116	AL anodized	EPDM, VMQ , NBR	2	DS-M2FF40810*A00
	Flange	0,5 ... 8	7.2 ... 116	1 ... 16	23.2 ... 232	AL anodized	EPDM, VMQ , NBR	2	DS-M2FF40816*A00

* Please insert X, Y, O or C for electrical switching function / # Please insert 'G' for ISO G, 'N' for NPT thread

*1) Setpoints should be ideally in the middle of the switching pressure range. Reference pressure = atmospheric pressure. Switching pressure must not exceed the indicated values.

Switching pressure difference see table on page 2

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Option selector

DS-M2★★★★★★★★A00

Thread form	Substitute
ISO G	G
NPT	N
Flange	F
Port size	**Substitute**
1/4"	4
Flange	F
Temperature range °C)	**Substitute**
-40 ... +85 (standard)	4
-55 ... +85 (optional) *	5

* Not at all pressure ranges are available contact Norgren.

Electrical switching function Switch 'A'	Switch 'B'	Substitute
NO	NC	X
NC	NO	Y
NO	NO	O
NC	NC	C
Pressure range switch 'A' (bar)		**Substitute**
0,2 ... 2		02
0,5 ... 8		08
1,0 ... 10		10
1,0 ... 16		16
Pressure range switch 'B' (bar)		**Substitute**
0,2 ... 2		02
0,5 ... 8		08
1,0 ... 10		10
1,0 ... 16		16

Pressure range and switching pressure difference

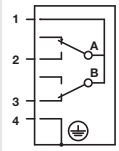
Pressure range (bar)	Max. switching pressure difference lower range (bar)	upper range (bar)
0,2 ... 2	0,25	0,45
0,5 ... 8	0,4	0,9
1,0 ... 10	0,45	1,0
1,0 ... 16	0,5	1,1

Accessories

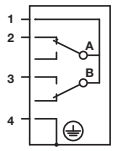
Pressure port reducing nipple	Surge damper	Connector DIN EN 175301-803
		
Page 3	Page 3	
0574767 (brass)	0574773 (brass)	0570110 (Form A) *1)
0550083 (stainless steel)	0553258 (stainless steel)	

*1) Connector included as standard in scope of supply of switch

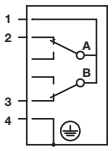
Accessories



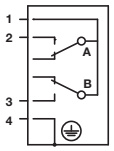
Switch 'A': NO
Terminals 1 - 2:
Contacts closed on rising pressure.
Switch 'B': NC
Terminals 1 - 3:
Contacts closed on falling pressure.



Switch 'A': NC
Terminals 1 - 2:
Contacts closed on falling pressure.
Switch 'B': NO
Terminals 1 - 3:
Contacts closed on rising pressure.



Switch 'A': NC
Terminals 1 - 2:
Contacts closed on falling pressure.
Switch 'B': NC
Terminals 1 - 3:
Contacts closed on falling pressure.



Switch 'A': NO
Terminals 1 - 2:
Contacts closed on rising pressure.
Switch 'B': NO
Terminals 1 - 3:
Contacts closed on rising pressure.

Switching capacity
Commutator with gold plated contacts

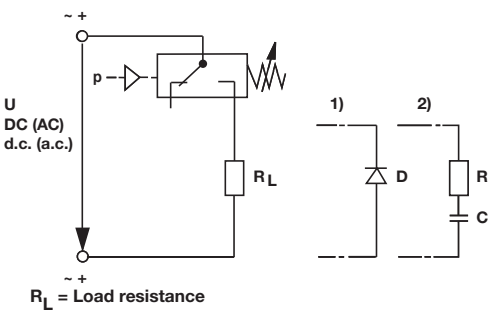
Current type	Load type *2)	U min [V]	Max. permissible persistent current Imax [A] at U *1) 30 V	48 V	125 V	250 V	Electrical life-time
a.c.	ohmic, inductive	6	0,1	0,1	0,1	0,1	≥ 2 x 105 Switching cycles
d.c.	ohmic, inductive	6	0,1	–	–	–	

Reference number: 20/min, Reference temperature: +20°C.
I min = 1 mA at 24 V DC or 5 mA at 6 V DC
*1) Higher currents (5 A max) will cause a reduction of the durability of the micro-switch contacts. Futhermore additional measures has to be taken to fulfil the EMV regulation 2004/108/EG by the manufacturer
*2) Spark quenching/overload protection will be necessary using inductive loads.

Recommended circuit
Spark quenching and EMV intrinsically safe

1. Quick diode (D) with tv ≤ 200 ns, parallel to inductive load.

2. RC link in parallel to load in parallel to switching contact.
Dimensioning principles:
RL in Ω ≈ 0,2 x RLoad in Ω
C in [µF] ≈ ILoad in [A]



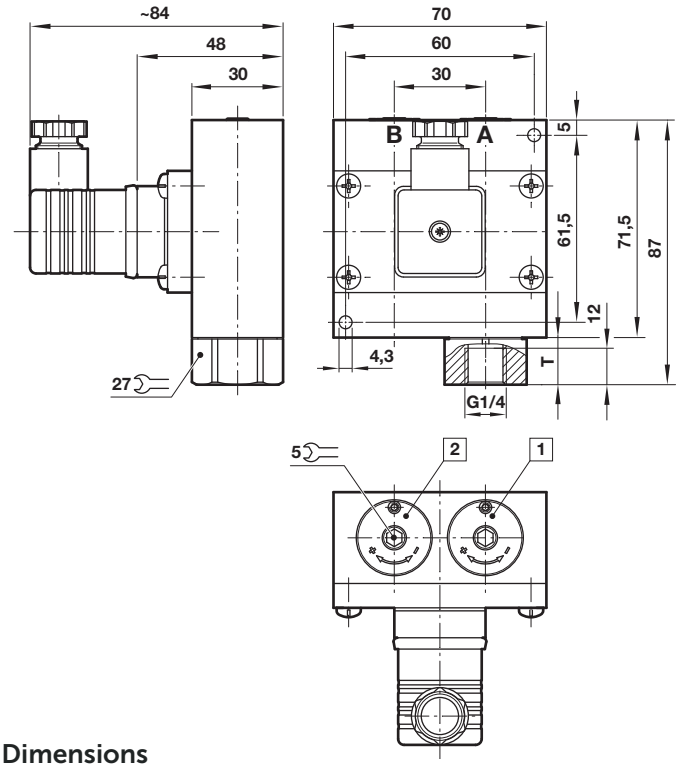
R_L = Load resistance

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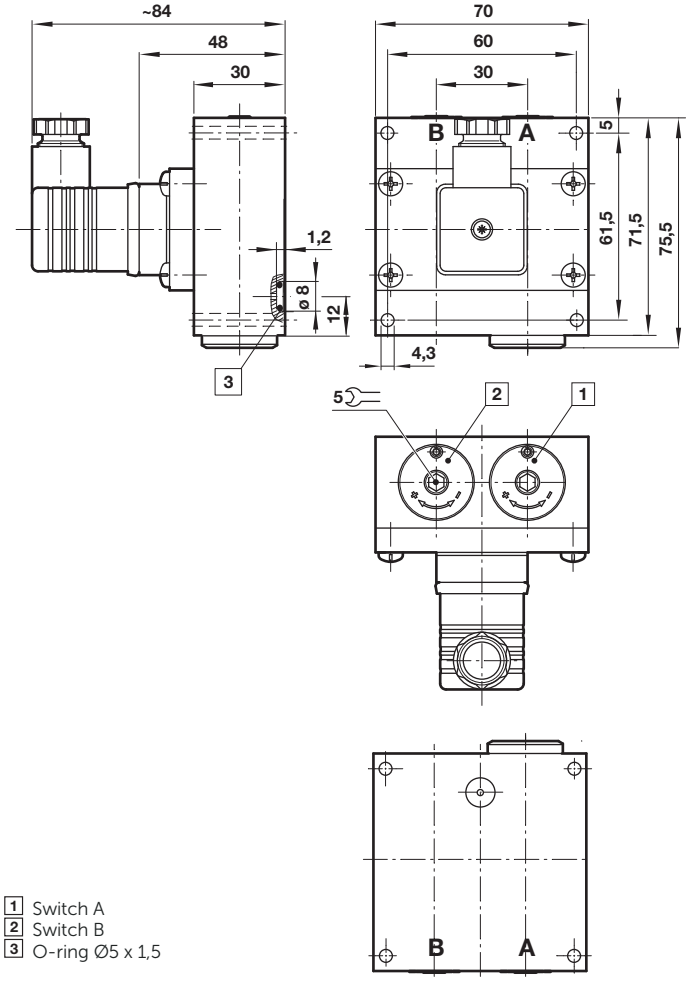
Drawings

Dimensions in mm
Projection/First angle

1



2



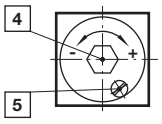
1 Switch A
2 Switch B
3 O-ring Ø5 x 1,5

Dimensions

Pressure range	T (mm)
0,2 ... 2 bar	15
0,5 ... 8 bar	9
1,0 ... 10 bar	9
1,0 ... 16 bar	9

Adjustable switch point

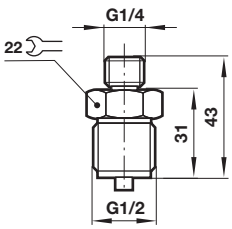
After releasing the locking screw
Clockwise rotation = increasing switch point
Counter clockwise rotation = decreasing the switch point



4 Switch point screw
5 Locking screw

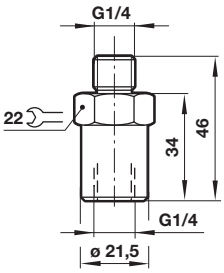
Pressure port reducing nipple

Model: 0574767 (brass)
0550083 (stainless steel)



Surge damper

Model: 0574773 (brass)
0553258 (stainless steel)



Warning

These products are intended for use in industrial compressed air and rail transport systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult
IMI Precision Engineering, Norgren GmbH.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.
System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.
System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

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