

M.1

hex 24 integrated

Pressure switches hex 24 with integrated connector

NC or NO, maximum operating voltage up to 42 V

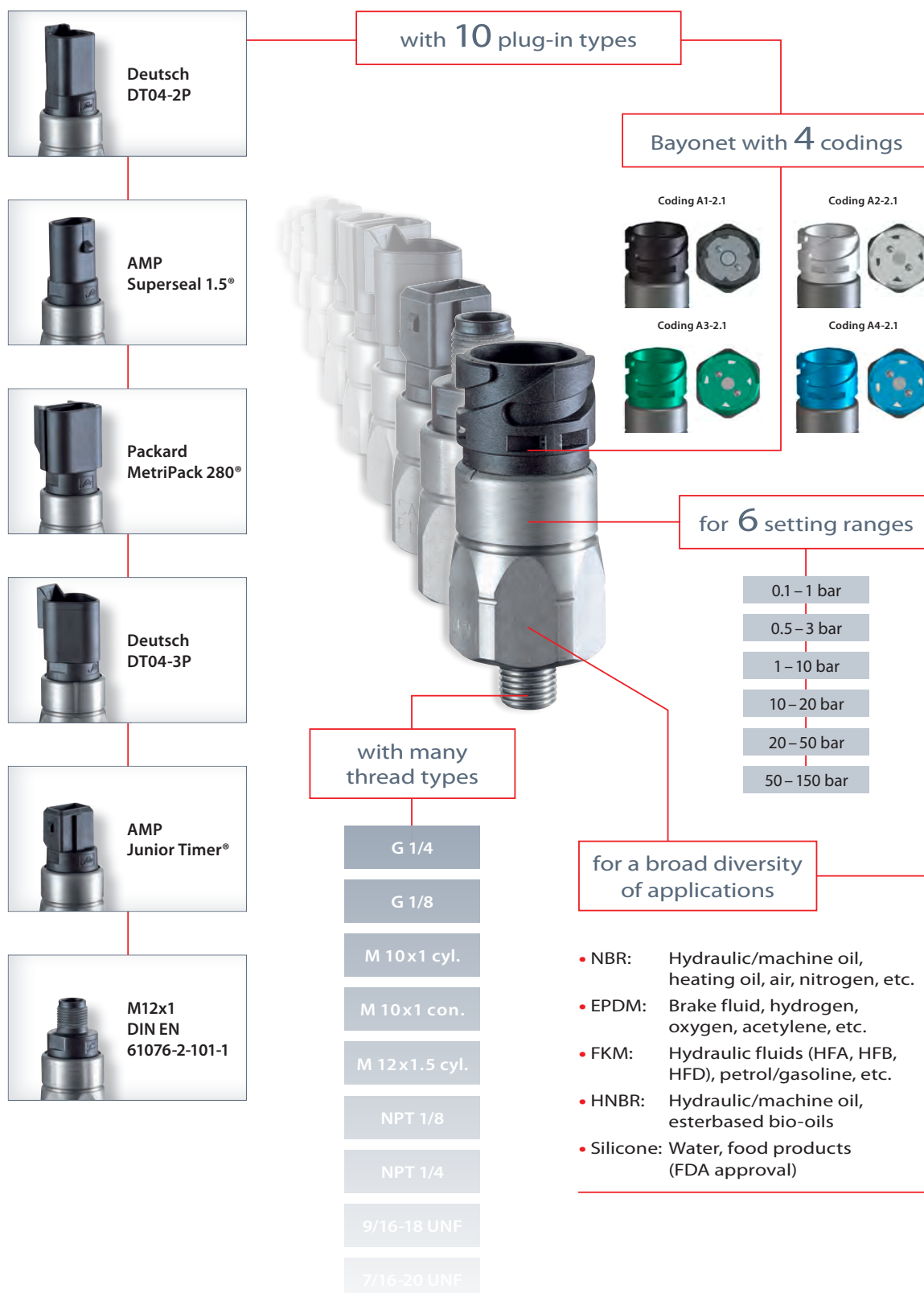


- Large selection of electrical plug-in types for quick attachment and reliable connection
- High protection class (to IP67 or IP6K9K)
- Compact and rugged design in industrial environments like construction and agricultural machinery or commercial vehicles
- Switching point can be set on site with adjusting screw in the connector¹⁾
- High overpressure resistance, compact, small switches, available as normally open or normally closed

¹⁾ Pressure switches can also be supplied preset at factory.
The switching point is embossed onto pressure switches preset at factory.

The all-rounder with the broad selection of options

NC or NO, maximum operating voltage up to 42 V



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Technical data



0110/0111

**Deutsch
DT04-2P**

IP67, IP6K9K



0112/0113

**AMP
Superseal 1.5°**

IP67



0114/0115

**Packard
MetriPack 280°**

IP67



0116/0117

**Deutsch
DT04-3P**

IP67, IP6K9K



0118/0119

**AMP
Junior Timer®**

IP65, IPx4K



0120/0121

**Bayonet
DIN 72585**

IP67, IP6K9K



0122/0123

**M12x1
DIN EN
61076-2-101-1**

IP67

Rated working voltage:	10 ... 42 VAC/DC	
Rated current range (resistive load, 12 DC and 12 AC):	10 mA ... 4 A	
Switching power DC12 / AC12:	100 W / 100 VA	
Temperature resistance of sealing materials:	NBR	-40 °C ... +100 °C
	EPDM	-30 °C ... +120 °C
	FKM (in diaphragm pressure switch)	-5 °C ... +120 °C
	FKM (in piston pressure switch)	-15 °C ... +120 °C
	Silicone	-40 °C ... +120 °C
	HNBR	-30 °C ... +120 °C
Switching frequency:	200 / min.	
Mechanical life expectancy:	1,000,000 cycles (for diaphragm pressure switches, life expectancy value only applies for switching pressures to max. 50 bar)	
Pressure rise rate:	≤ 1 bar/ms	
Hysteresis:	Average value 5...30 % depending on type, not adjustable	
Vibration resistance:	10 g; 5...200 Hz sine wave, DIN EN 60068-2-6	
Shock resistance:	294 m/s ² ; 14 ms half sine wave; DIN EN 60068-2-27	
Protection class:	Up to IP67 / IP6K9K according to the manufacturer's specifications for the respective plug-in system only when plugged in, otherwise IP00	
Weight:	approx. 90 g	

Contact assignment for bayonet connectors

Coding A1-2.1	Coding A2-2.1	Coding A3-2.1	Coding A4-2.1

0110/0112/0114/0116/0118/0122

Diaphragm pressure switches with integrated connector

- Setting ranges to up to 50 bar (higher settings refer to page 26)
- NC or NO, maximum voltage 42 V
- Zinc-plated steel (Cr VI-free)
- Overpressure safety up to 300 bar¹⁾

Plug-in types for diaphragm pressure switches

Deutsch DT04-2P	0110 – XXX XX – X – XXX	0110 – XXX XX – X – XXX
AMP Superseal 1.5®	0112 – XXX XX – X – XXX	0112 – XXX XX – X – XXX
Packard MetriPack 280®	0114 – XXX XX – X – XXX	0114 – XXX XX – X – XXX
Deutsch DT04-3P	0116 – XXX XX – X – XXX	0116 – XXX XX – X – XXX
AMP Junior Timer®	0118 – XXX XX – X – XXX	0118 – XXX XX – X – XXX
M12x1 DIN EN 61076-2-D	0122 – XXX XX – X – XXX	0122 – XXX XX – X – XXX

Adjustment range tolerance at room temperature	Male thread	Order number NO → :	Order number NC → :
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Diaphragm pressure switches with integrated connector

0.1 – 1 (±0.2) bar	G 1/4	XXXX – 403 03 – X – 011	XXXX – 404 03 – X – 015
	G 1/8	XXXX – 403 28 – X – 603	XXXX – 404 28 – X – 604
	M 10x1 cyl.	XXXX – 403 13 – X – 003	XXXX – 404 13 – X – 004
	M 10x1 con.	XXXX – 403 01 – X – 009	XXXX – 404 01 – X – 013
	M 12x1.5 cyl.	XXXX – 403 02 – X – 010	XXXX – 404 02 – X – 014
	NPT 1/8	XXXX – 403 04 – X – 012	XXXX – 404 04 – X – 016
0.5 – 3 (±0.3) bar	G 1/4	XXXX – 423 03 – X – 070	XXXX – 424 03 – X – 070
	G 1/8	XXXX – 423 28 – X – 070	XXXX – 424 28 – X – 070
	M 10x1 cyl.	XXXX – 423 13 – X – 070	XXXX – 424 13 – X – 070
	M 10x1 con.	XXXX – 423 01 – X – 070	XXXX – 424 01 – X – 070
	M 12x1.5 cyl.	XXXX – 423 02 – X – 070	XXXX – 424 02 – X – 070
	NPT 1/8	XXXX – 423 04 – X – 070	XXXX – 424 04 – X – 070
1 – 10 (±0.5) bar	G 1/4	XXXX – 407 03 – X – 027	XXXX – 408 03 – X – 031
	G 1/8	XXXX – 407 28 – X – 607	XXXX – 408 28 – X – 608
	M 10x1 cyl.	XXXX – 407 13 – X – 007	XXXX – 408 13 – X – 008
	M 10x1 con.	XXXX – 407 01 – X – 025	XXXX – 408 01 – X – 029
	M 12x1.5 cyl.	XXXX – 407 02 – X – 026	XXXX – 408 02 – X – 030
	NPT 1/8	XXXX – 407 04 – X – 028	XXXX – 408 04 – X – 032

Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

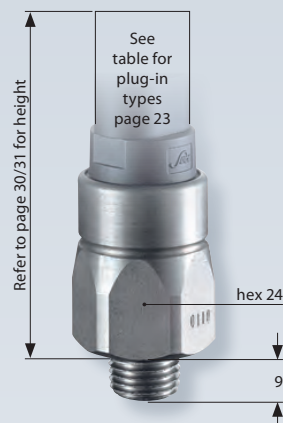
Refer to page 24 for the temperature range and application thresholds of sealing materials.

Your order number:

01XX – XXX XX – X – XXX

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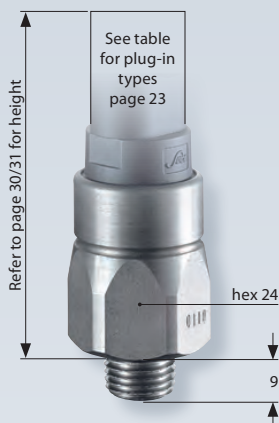
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¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.



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hex 24 integrated



0110/0112/0114/0116/0118/0122

Diaphragm pressure switches with integrated connector

- Setting ranges up to 50 bar (lower settings refer to page 25)
- NC or NO, maximum operating voltage up to 42 V
- Zinc-plated steel (Cr VI-free)
- Overpressure safety up to 300 bar¹⁾

Plug-in types for diaphragm pressure switches

Deutsch DT04-2P	0110 – XXX XX – X – XXX	0110 – XXX XX – X – XXX
AMP Superseal 1.5®	0112 – XXX XX – X – XXX	0112 – XXX XX – X – XXX
Packard MetriPack 280®	0114 – XXX XX – X – XXX	0114 – XXX XX – X – XXX
Deutsch DT04-3P (A+B)	0116 – XXX XX – X – XXX	0116 – XXX XX – X – XXX
AMP Junior Timer®	0118 – XXX XX – X – XXX	0118 – XXX XX – X – XXX
M12x1 DIN EN 61076-2-D (1 + 3)	0122 – XXX XX – X – XXX	0122 – XXX XX – X – XXX

Adjustment range tolerance at room temperature	Male thread	Order number NO → ;	Order number NC → :
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Diaphragm pressure switches with integrated connector

10 – 20 (±1) bar	G 1/4	XXXX – 411 03 – X – 043	XXXX – 412 03 – X – 047
	G 1/8	XXXX – 411 28 – X – 611	XXXX – 412 28 – X – 612
	M 10x1 cyl.	XXXX – 411 13 – X – 011	XXXX – 412 13 – X – 012
	M 10x1 con.	XXXX – 411 01 – X – 041	XXXX – 412 01 – X – 045
	M 12x1.5 cyl.	XXXX – 411 02 – X – 042	XXXX – 412 02 – X – 046
	NPT 1/8	XXXX – 411 04 – X – 044	XXXX – 412 04 – X – 048
20 – 50 (±2) bar	G 1/4	XXXX – 415 03 – X – 059	XXXX – 416 03 – X – 063
	G 1/8	XXXX – 415 28 – X – 615	XXXX – 416 28 – X – 616
	M 10x1 cyl.	XXXX – 415 13 – X – 015	XXXX – 416 13 – X – 016
	M 10x1 con.	XXXX – 415 01 – X – 057	XXXX – 416 01 – X – 061
	M 12x1.5 cyl.	XXXX – 415 02 – X – 058	XXXX – 416 02 – X – 062
	NPT 1/8	XXXX – 415 04 – X – 060	XXXX – 416 04 – X – 064

Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 24 for the temperature range and application thresholds of sealing materials.

Your order number: 01XX – XXX XX – X – XXX

¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.

0111 / 0113 / 0115 / 0117 / 0119 / 0123

Piston pressure switches with integrated connector

- Setting range up to 150 bar
- NC or NO, maximum operating voltage up to 42 V
- Zinc-plated steel (Cr VI-free)
- Overpressure safety up to 600 bar¹⁾

Plug-in types for piston pressure switches

Deutsch DT04-2P	0111 - XXX XX - X - XXX	0111 - XXX XX - X - XXX
AMP Superseal 1.5®	0113 - XXX XX - X - XXX	0113 - XXX XX - X - XXX
Packard MetriPack 280®	0115 - XXX XX - X - XXX	0115 - XXX XX - X - XXX
Deutsch DT04-3P (A+B)	0117 - XXX XX - X - XXX	0117 - XXX XX - X - XXX
AMP Junior Timer®	0119 - XXX XX - X - XXX	0119 - XXX XX - X - XXX
M12x1 DIN EN 61076-2-D (1 + 3)	0123 - XXX XX - X - XXX	0123 - XXX XX - X - XXX

Adjustment range tolerance at room temperature	Male thread	Order number NO → :	Order number NC → :
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Piston pressure switches with integrated connector

50 – 150 (± 5) bar	G 1/4	XXXX - 419 03 - X - 011	XXXX - 420 03 - X - 015
	G 1/8	XXXX - 419 28 - X - 603	XXXX - 420 28 - X - 604
	M 10x1 cyl.	XXXX - 419 13 - X - 003	XXXX - 420 13 - X - 004
	M 10x1 con.	XXXX - 419 01 - X - 009	XXXX - 420 01 - X - 013
	M 12x1.5 cyl.	XXXX - 419 02 - X - 010	XXXX - 420 02 - X - 014
	NPT 1/8	XXXX - 419 04 - X - 012	XXXX - 420 04 - X - 016

Seal material – Application areas

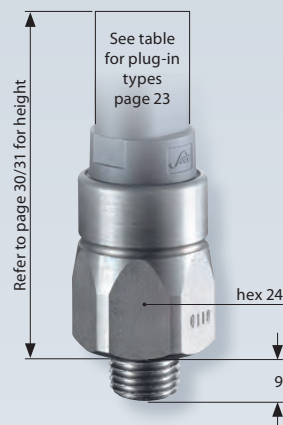
NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 24 for the temperature range and application thresholds of sealing materials.

Your order number: 01XX - XXX XX - X - XXX

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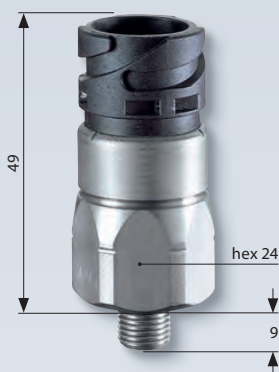
¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.



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Bayonet ISO 15170
(DIN 72585)



0120

Diaphragm pressure switches with integrated bayonet connector

- NC or NO, maximum operating voltage up to 42 V
- Zinc-plated steel (Cr VI-free)
- Overpressure safety up to 300 bar¹⁾

Adjustment range tolerance at room temperature	Male thread	Order number NO → :	Order number NC → :
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0120 Diaphragm pressure switches with integrated connector

0.1 – 1 (±0.2) bar	G 1/4	0120 – X03 03 – X – 011	0120 – X04 03 – X – 015
	G 1/8	0120 – X03 28 – X – 603	0120 – X04 28 – X – 604
	M 10x1 cyl.	0120 – X03 13 – X – 003	0120 – X04 13 – X – 004
	M 10x1 con.	0120 – X03 01 – X – 009	0120 – X04 01 – X – 013
	M 12x1.5 cyl.	0120 – X03 02 – X – 010	0120 – X04 02 – X – 014
	NPT 1/8	0120 – X03 04 – X – 012	0120 – X04 04 – X – 016
0.5 – 3 (±0.3) bar	G 1/4	0120 – X23 03 – X – 070	0120 – X24 03 – X – 070
	G 1/8	0120 – X23 28 – X – 070	0120 – X24 28 – X – 070
	M 10x1 cyl.	0120 – X23 13 – X – 070	0120 – X24 13 – X – 070
	M 10x1 con.	0120 – X23 01 – X – 070	0120 – X24 01 – X – 070
	M 12x1.5 cyl.	0120 – X23 02 – X – 070	0120 – X24 02 – X – 070
	NPT 1/8	0120 – X23 04 – X – 070	0120 – X24 04 – X – 070
1 – 10 (±0.5) bar	G 1/4	0120 – X07 03 – X – 027	0120 – X08 03 – X – 031
	G 1/8	0120 – X07 28 – X – 607	0120 – X08 28 – X – 608
	M 10x1 cyl.	0120 – X07 13 – X – 007	0120 – X08 13 – X – 008
	M 10x1 con.	0120 – X07 01 – X – 025	0120 – X08 01 – X – 029
	M 12x1.5 cyl.	0120 – X07 02 – X – 026	0120 – X08 02 – X – 030
	NPT 1/8	0120 – X07 04 – X – 028	0120 – X08 04 – X – 032

Coding

A1-2.1	4XX	4XX
A2-2.1	3XX	3XX
A3-2.1	2XX	2XX
A4-2.1	1XX	1XX

Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 24 for the temperature range and application thresholds of sealing materials.

Your order number:

0120 – XXX XX – X – XXX

¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.

0120 / 0121

Diaphragm/piston pressure switches with integrated bayonet

- NC or NO, maximum operating voltage up to 42 V
- Zinc-plated steel (Cr VI-free)
- Overpressure safety up to 300 bar¹⁾ for diaphragm variant
Overpressure safety up to 600 bar¹⁾ for piston variant

Adjustment range tolerance at room temperature	Male thread	Order number NO → :	Order number NC → :
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0120 Diaphragm pressure switches with integrated connector

10–20 (±1) bar	G 1/4	0120 – X11 03 – X – 043	0120 – X12 03 – X – 047
	G 1/8	0120 – X11 28 – X – 611	0120 – X12 28 – X – 612
	M 10x1 cyl.	0120 – X11 13 – X – 011	0120 – X12 13 – X – 012
	M 10x1 con.	0120 – X11 01 – X – 041	0120 – X12 01 – X – 045
	M 12x1.5 cyl.	0120 – X11 02 – X – 042	0120 – X12 02 – X – 046
	NPT 1/8	0120 – X11 04 – X – 044	0120 – X12 04 – X – 048
20–50 (±2) bar	G 1/4	0120 – X15 03 – X – 059	0120 – X16 03 – X – 063
	G 1/8	0120 – X15 28 – X – 615	0120 – X16 28 – X – 616
	M 10x1 cyl.	0120 – X15 13 – X – 015	0120 – X16 13 – X – 016
	M 10x1 con.	0120 – X15 01 – X – 057	0120 – X16 01 – X – 061
	M 12x1.5 cyl.	0120 – X15 02 – X – 058	0120 – X16 02 – X – 062
	NPT 1/8	0120 – X15 04 – X – 060	0120 – X16 04 – X – 064

0121 Piston pressure switches with integrated connector

50–150 (±5) bar	G 1/4	0121 – X19 03 – X – 011	0121 – X20 03 – X – 015
	G 1/8	0121 – X19 28 – X – 603	0121 – X20 28 – X – 604
	M 10x1 cyl.	0121 – X19 13 – X – 003	0121 – X20 13 – X – 004
	M 10x1 con.	0121 – X19 01 – X – 009	0121 – X20 01 – X – 013
	M 12x1.5 cyl.	0121 – X19 02 – X – 010	0121 – X20 02 – X – 014
	NPT 1/8	0121 – X19 04 – X – 012	0121 – X20 04 – X – 016

Coding

A1-2.1	4XX	4XX
A2-2.1	3XX	3XX
A3-2.1	2XX	2XX
A4-2.1	1XX	1XX

Seal material – Application areas

NBR	Hydraulic/machine oil, heating oil, air, nitrogen, etc.	1
EPDM	Brake fluid, hydrogen, oxygen, acetylene, etc.	2
FKM	Hydraulic fluids (HFA, HFB, HFD), petrol/gasoline, etc.	3
HNBR	Hydraulic/machine oil, ester-based bio-oils	9

Refer to page 24 for the temperature range and application thresholds of sealing materials.

Your order number:

012X – XXX XX – X – XXX

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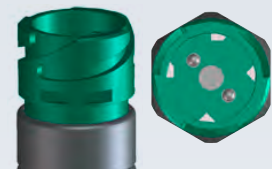
Coding A1-2.1



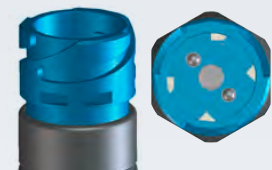
Coding A2-2.1



Coding A3-2.1



Coding A4-2.1



¹⁾ Static value. Dynamic value is 30-50 % lower. Values pertain to the hydraulic/pneumatic part of the pressure switch.

M.1

hex 24 integrated

Technical details, contact assignment and accessories

for hex 24 pressure switches with integrated connector

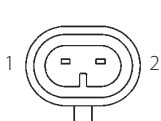
Please note:

Mating plugs are not included in the delivery and can be ordered separately.

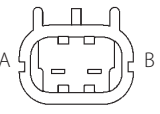
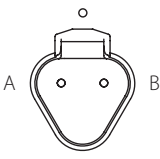
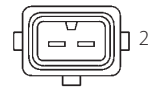
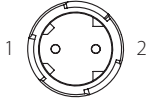
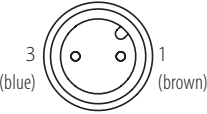
Mating plug accessories

Mating plug type ▶	Deutsch DT06-2S (für DT04-2P)	AMP- Superseal 1.5®
Including 2 m cable ▶		
Cable cross-section ▶	2 x 0.5 mm ² Radox cables	2 x 0.5 mm ² Radox cables
Protection class ▶	IP65	IP65
Order number ▶	1-1-10-653-118	1-1-12-653-113

Plug-in types for hex 24 diaphragm and piston pressure switches

Model / type ▶	0110 / 0111	0112 / 0113
		
Connector ▶	Deutsch DT04-2P	AMP Superseal 1.5®
Protection class ▶	IP67, IP6K9K	IP67
Overall height ▶	H ≈ 61 mm	H ≈ 61 mm
Contact assignment ▶		

Packard MetriPack 280®	Deutsch DT06-3S (für DT04-3P)	AMP Junior Timer®	Bayonet DIN 72585 / ISO 15170 A1-2.1	M12x1 DIN EN 61076-2-101-LF
				
2 x 0.5 mm ² Radox cables	2 x 0.5 mm ² PUR-cables	2 x 0.5 mm ² Radox cables	2 x 0.5 mm ² Radox cables	4 x 0.34 mm ² PUR-cables
IP65	IP67	IP65	IP65	IP67
1-1-14-653-114	1-1-36-653-160	1-1-18-653-116	1-1-20-653-112	1-1-00-653-162

0114 / 0115	0116 / 0117	0118 / 0117	0120 / 0121	0122 / 0123
				
Packard MetriPack 280®	Deutsch DT04-3P	AMP Junior Timer®	Bayonet DIN 72585/ISO 15170	M12x1 DIN EN 61076-2-101-1
IP67	IP67, IP6K9K	IP65, IPx4K	IP67, IP6K9K	IP67
H ≈ 62 mm	H ≈ 63 mm	H ≈ 54 mm	H ≈ 49 mm	H ≈ 51 mm
			 Coding: A1-2.1	 3 (blue) 1 (brown)