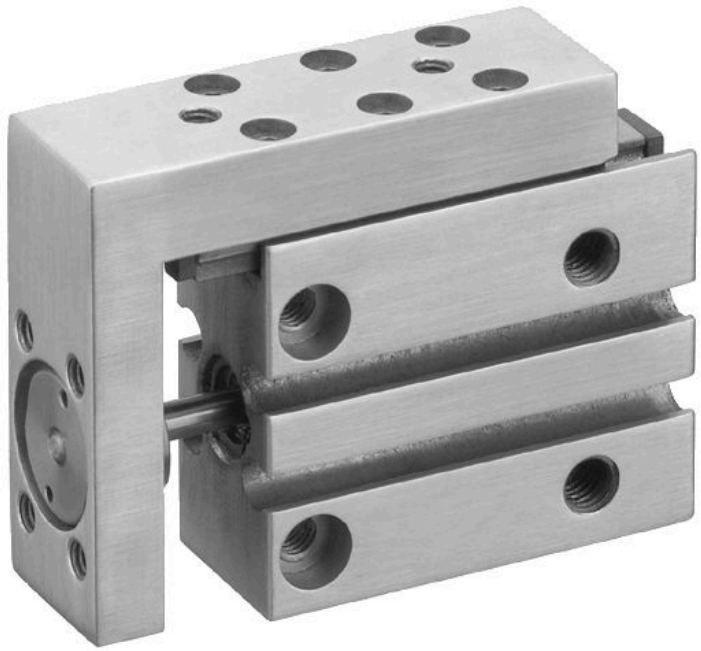
Series MSN



AVENTICS™

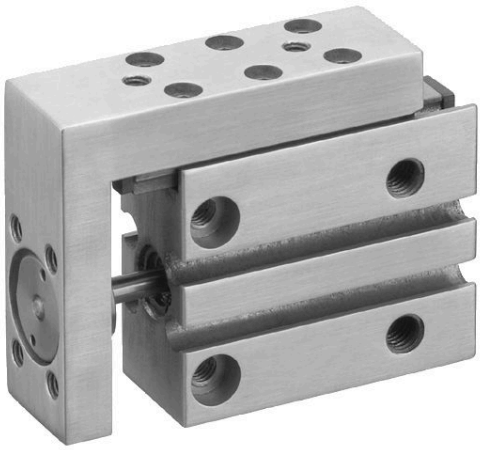
AVENTICS Series MSN Guide cylinders

EMERSON™

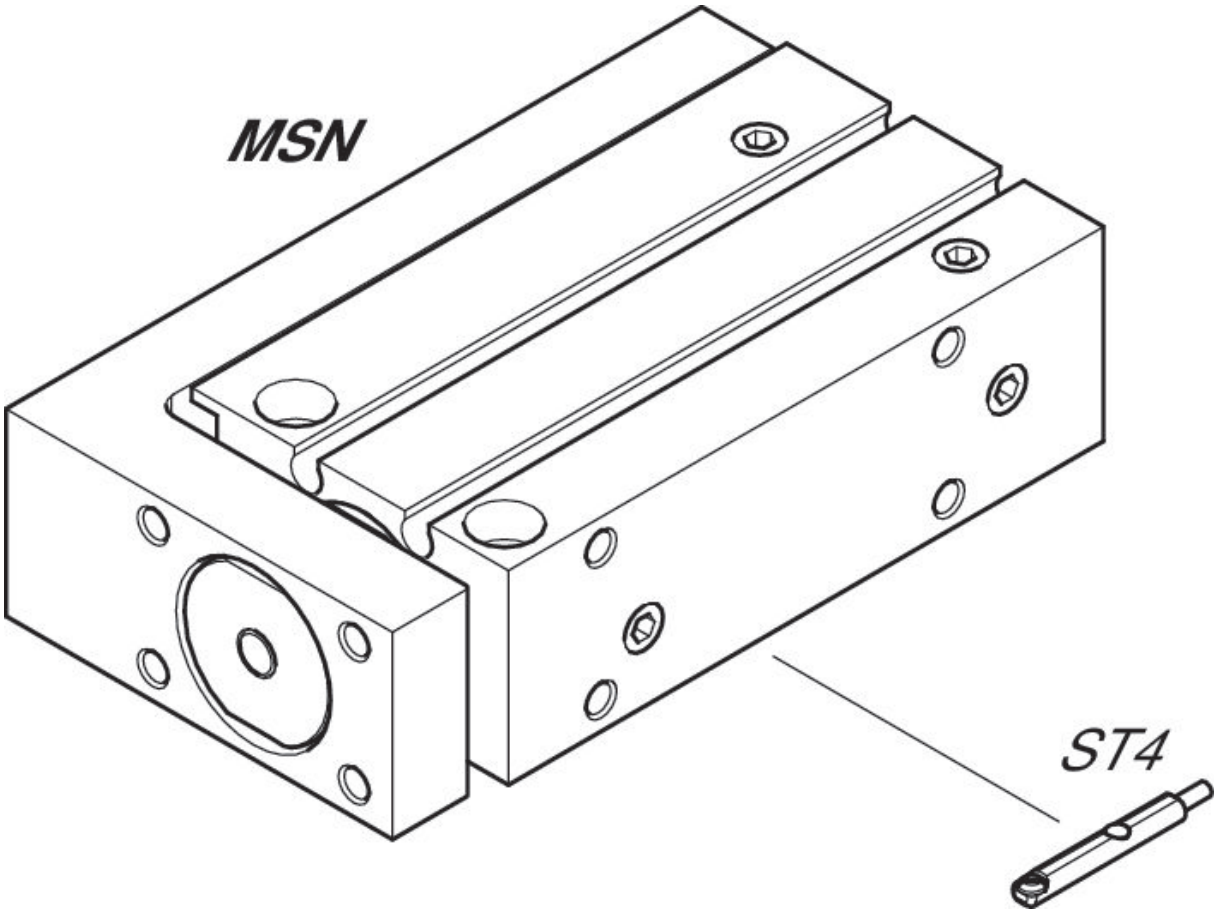
Series MSN

The AVENTICS Series MSN mini slides offer precise guidance without play in a very narrow package. With their wide variety of mounting and air supply options the Series allows for applications in virtually any position and location.

- Compact narrow design
- Precise load capacity
- Unlimited mounting options



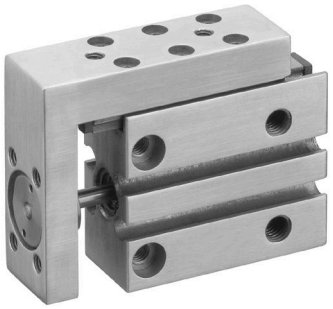
Overview drawing



Product overview

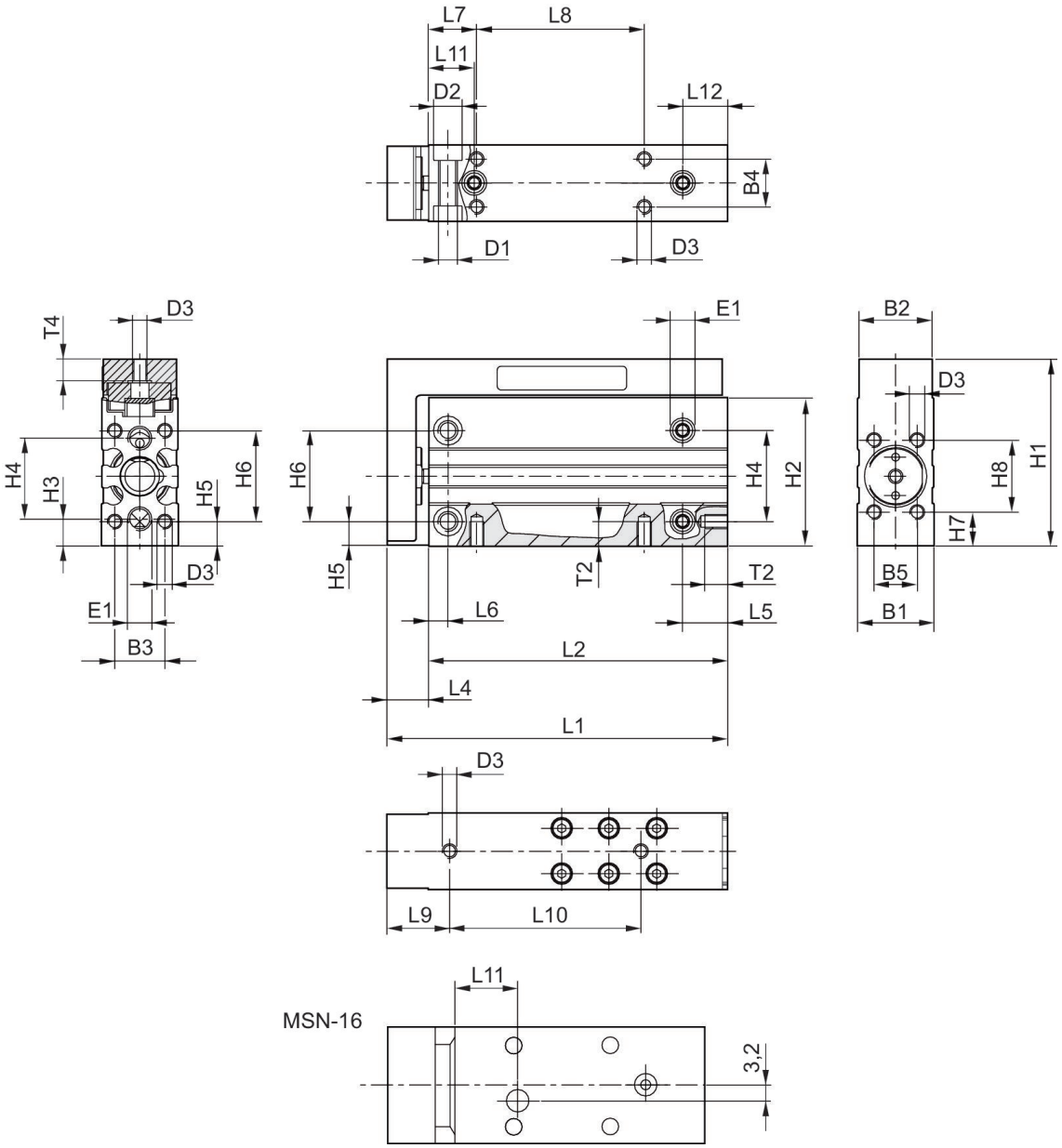
Mini slide, Series MSN

: Guide cylinders
Magnetic piston: with magnetic piston
Cushioning: elastic
Functional principle: Double-acting



Piston Ø [mm]	Stroke [mm]	Min. working pressure [bar]	Max. working pressure [bar]	Retracting piston force [N]	Extracting piston force [N]	Max. extracting speed [m/s]	Part No.
6	5	2.5	10	13	18	0.5	R452000840
6	10	2.5	10	13	18	0.5	R452000841
6	15	2.5	10	13	18	0.5	R452000842
6	20	2.5	10	13	18	0.5	R452000843
6	25	2.5	10	13	18	0.5	R452000844
6	30	2.5	10	13	18	0.5	R452000845
10	5	1	10	42	49	0.8	R452000846
10	10	1	10	42	49	0.8	R452000847
10	15	1	10	42	49	0.8	R452000848
10	20	1	10	42	49	0.8	R452000849
10	25	1	10	42	49	0.8	R452000850
10	30	1	10	42	49	0.8	R452000851
16	5	1	10	95	127	0.8	R452000852
16	10	1	10	95	127	0.8	R452000853
16	15	1	10	95	127	0.8	R452000854
16	20	1	10	95	127	0.8	R452000855
16	25	1	10	95	127	0.8	R452000856
16	30	1	10	95	127	0.8	R452000857

Dimensions



Dimensions

Piston Ø	B1	B2	B3	B4	B5	D1	D2	D3	E1 Compressed air connection	H1
6	16	15.3	10.5	10	9	M4	6	M3	M5	39
10	20	19.3	13	13	11	M5	7.5	M4	M5	45
16	24	23.3	17	17	16	M5	7.5	M4	M5	51

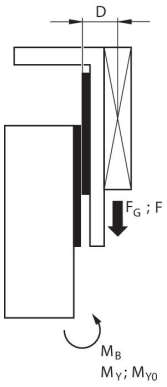
Piston Ø	H2	H3	H4	H5	H6	H7	H8
6	31	5.5	17	5	19	7	15
10	36	6.5	20	5	23	7.5	18

Piston Ø	H2	H3	H4	H5	H6	H7	H8
16	41	6	25	5.5	27	6	26

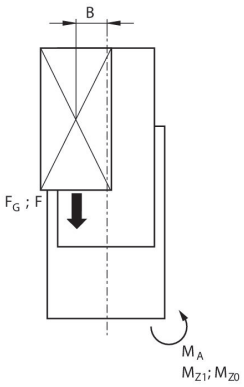
Max. permissible torque

Part No.	Piston Ø	Stroke	a [mm]	d [mm]	Mx0 Static moment M [Nm]	My0 Static moment M [Nm]	Mz0 Static moment M [Nm]	Mx Dynamic moment M [Nm]	My Dynamic moment M [Nm]	Mz Dynamic moment M [Nm]
R452000840	6	5	27	6	1.3	0.6	0.6	0.35	0.4	0.4
R452000841	6	10	32	6	1.3	0.6	0.6	0.35	0.4	0.4
R452000842	6	15	32	6	1.3	0.6	0.6	0.35	0.4	0.4
R452000843	6	20	37	6	1.3	0.6	0.6	0.35	0.4	0.4
R452000844	6	25	42	6	1.3	0.6	0.6	0.35	0.4	0.4
R452000845	6	30	47	6	1.3	0.6	0.6	0.35	0.4	0.4
R452000846	10	5	31	6.8	2.3	2.4	2.4	0.6	0.8	0.8
R452000847	10	10	36	6.8	2.3	2.4	2.4	0.6	0.8	0.8
R452000848	10	15	41	6.8	2.3	2.4	2.4	0.6	0.8	0.8
R452000849	10	20	41	6.8	2.3	2.4	2.4	0.6	0.8	0.8
R452000850	10	25	48	6.8	2.3	2.4	2.4	0.6	0.8	0.8
R452000851	10	30	53	6.8	2.3	2.4	2.4	0.6	0.8	0.8
R452000852	16	5	40	7.5	7.3	4.3	4.3	1.8	2	2
R452000853	16	10	40	7.5	7.3	4.3	4.3	1.8	2	2
R452000854	16	15	50	7.5	7.3	4.3	4.3	1.8	2	2
R452000855	16	20	50	7.5	7.3	4.3	4.3	1.8	2	2
R452000856	16	25	55	7.5	7.3	4.3	4.3	1.8	2	2
R452000857	16	30	60	7.5	7.3	4.3	4.3	1.8	2	2

Correction factor (a, d)



stat.	$M_{B0} = (F_G + F) \cdot D$
dyn.	$M_B = F_G \cdot D$

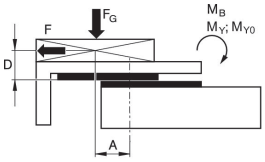


stat.	$M_{AO} = (F_G + F) \cdot B$
dyn.	$M_A = F_G \cdot B$

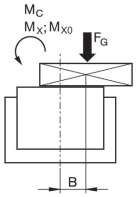
dyn.	$\frac{M_A}{M_1} + \frac{M_B}{M_2} \leq 1$
stat.	$\frac{M_{A0}}{M_{Z0}} + \frac{M_{B0}}{M_{Y0}} \leq 1$

F = m • a FG = m • g a = 1250•V²/H
F = deceleration force [N] F_G = force due to weight [N] m = load mass [kg] a = deceleration [m/s²] g = gravitational acceleration 9,81 [m/s²] V = velocity [m/s] H = stroke length of shock absorber [mm]

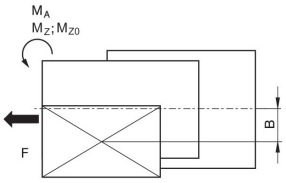
Correction factor (a, d)



stat.	$M_{B0} = F_G \cdot A + F \cdot D$
dyn.	$M_B = F_G \cdot A$



stat.	$M_{CO} = F_G \cdot B$
dyn.	$M_C = F_G \cdot B$

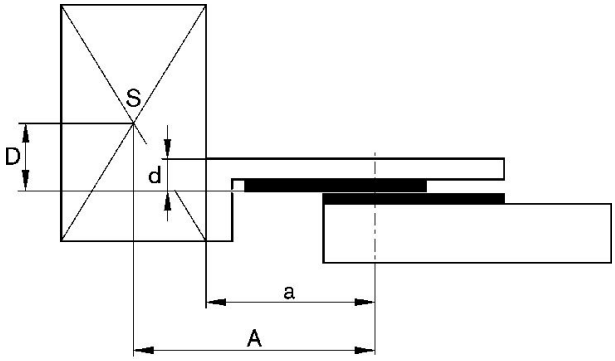


stat.	$M_{A0} = F \cdot B$
dyn.	$M_A = 0$

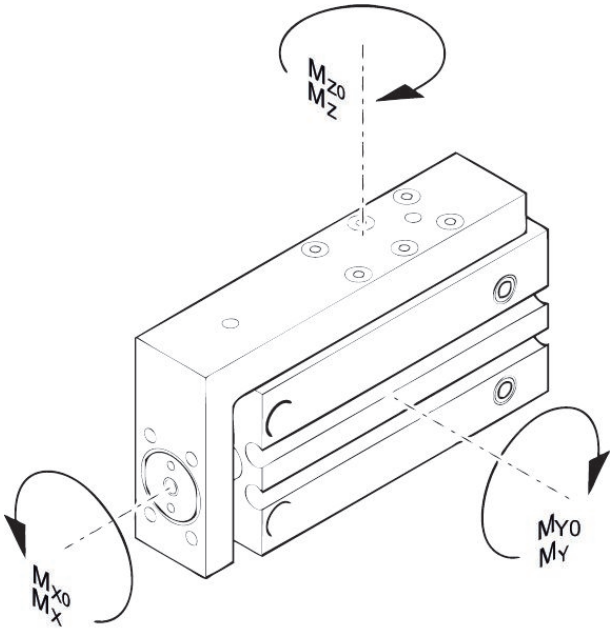
dyn.	$\frac{M_A}{M_1} + \frac{M_B}{M_2} + \frac{M_C}{M_3} \leq 1$
stat.	$\frac{M_{A0}}{M_{Z0}} + \frac{M_{B0}}{M_{Y0}} + \frac{M_{C0}}{M_{X0}} \leq 1$

F = m • a FG = m • g a = 1250•V²/H
F = deceleration force [N] F_G = force due to weight [N] m = load mass [kg] a = deceleration [m/s²] g = gravitational acceleration 9,81 [m/s²] V = velocity [m/s] H = stroke length of shock absorber [mm]

Correction factor (a, d)



Max. permissible torque

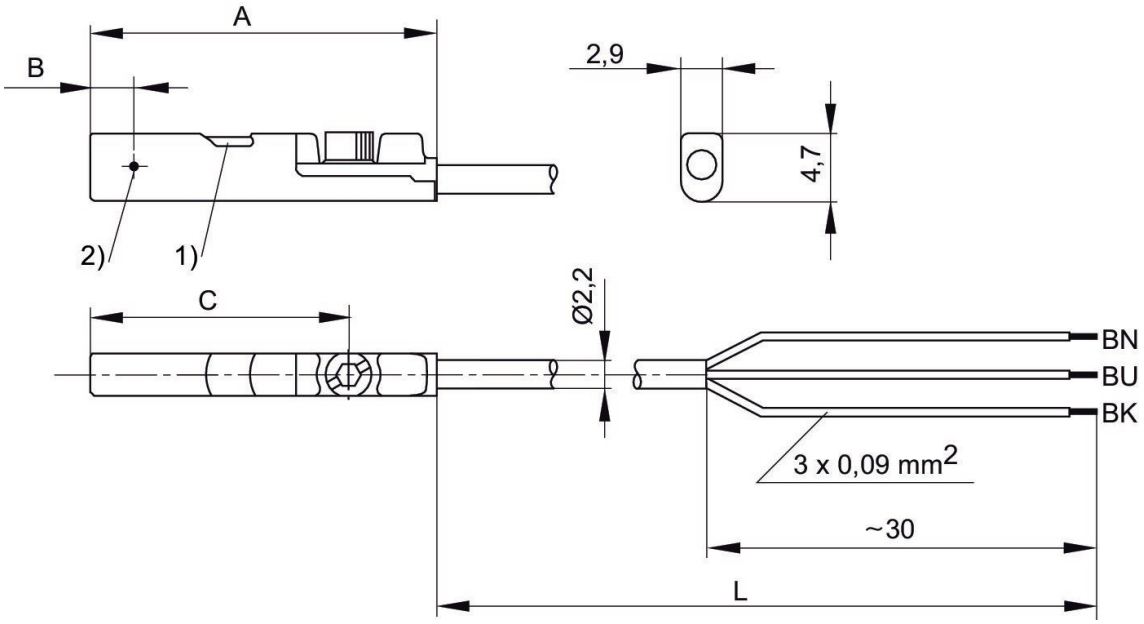


Sensors, Series ST4, open cable ends

For series: PRA SSI GSU RTC CKP GPC MSC MSN RCM CVI
Electrical connection 2, type: open cable ends
Certificates: UL (Underwriters Laboratories) cULus RoHS

Direct mounting for series	Indirect mounting for series	Slot width	Switch descr.	Electrical connection number of poles	Part No.
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	Reed	3-pin	R412019488
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	Reed	3-pin	R412019489
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	3-pin	R412019680
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	3-pin	R412019681
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	NPN	3-pin	R412019684
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	NPN	3-pin	R412019685

Dimensions



1) LED 2) Switching point
L = cable length BN = brown, BK = black, BU = blue

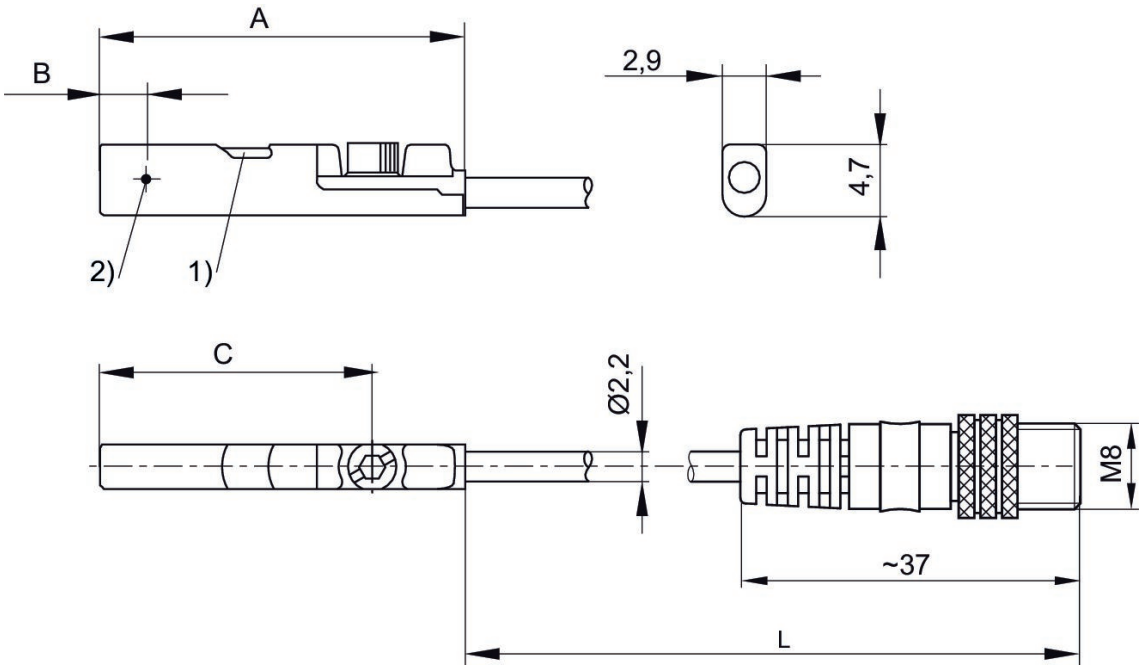
Part No.	A	B	C
R412019488	26.3	6.3	20.3
R412019489	26.3	6.3	20.3
R412019680	23.7	2.8	17.7
R412019681	23.7	2.8	17.7
R412019684	23.7	2.8	17.7
R412019685	23.7	2.8	17.7

Sensors, Series ST4, plug M8, with knurled screw

For series: PRA SSI GSU RTC CKP GPC MSC MSN RCM CVI
Electrical connection 2, type: Plug
Electrical connection 2, thread size: M8
Certificates: UL (Underwriters Laboratories) cULus RoHS
Electrical connection 2, number of poles: 3-pin

Direct mounting for series	Indirect mounting for series	Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	Reed	M8	3-pin	R412019490
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	Reed	M8	3-pin	R412019686
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	M8	3-pin	R412019493
PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	M8	3-pin	R412019687

Dimensions

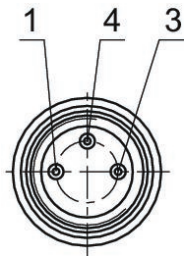


1) LED 2) Switching point
L = cable length

Part No.	A	B	C
R412019490	26.3	6.3	20.3
R412019686	26.3	6.3	20.3
R412019493	23.7	2.8	17.7
R412019687	23.7	2.8	17.7

R412019490, R412019686, R412019493, R412019687

Pin assignment M8x1 (3-pin)



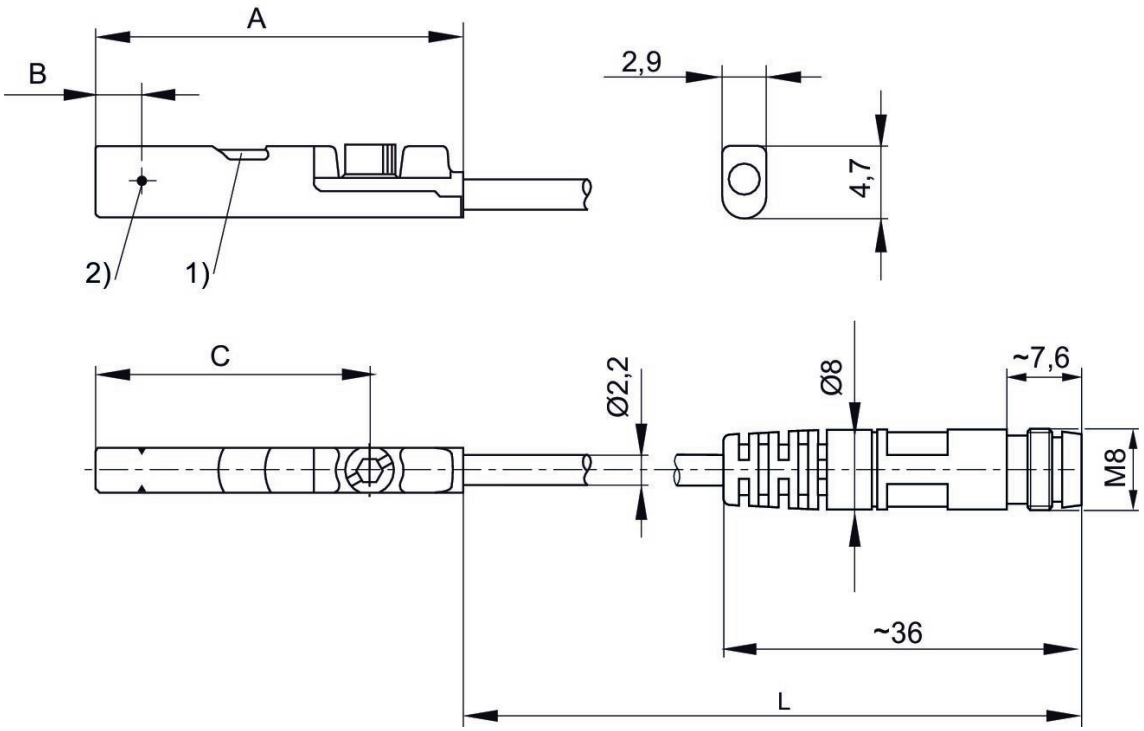
Pin	Allocation
1	(+)
3	(-)
4	(OUT)

Sensors, Series ST4, plug M8

For series: PRA SSI GSU RTC CKP GSP MSC MSN RCM CVI
Electrical connection 2, type: Plug
Electrical connection 2, thread size: M8
Certificates: UL (Underwriters Laboratories) cULus RoHS
Electrical connection 2, number of poles: 3-pin

Direct mounting for series	Indirect mounting for series	Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	Reed	M8	3-pin	R412019682
PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	M8	3-pin	R412019683
PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	NPN	M8	3-pin	R412019694

Dimensions

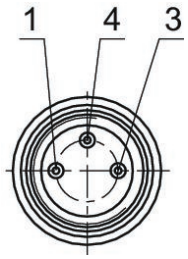


1) LED 2) Switching point
L = cable length

Part No.	A	B	C
R412019682	26.3	6.3	20.3
R412019683	23.7	2.8	17.7
R412019694	23.7	2.8	17.7

R412019682, R412019683, R412019694

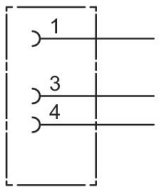
Pin assignment M8x1 (3-pin)



Pin	Allocation
1	(+)
3	(-)
4	(OUT)

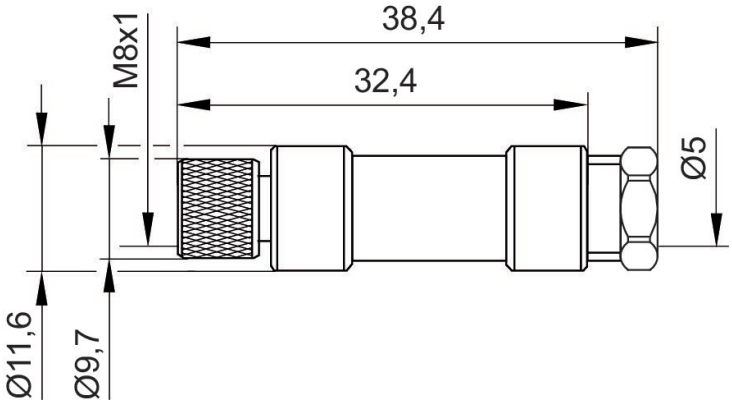
Round plug connector, Series CON-RD, straight

Electrical connection 1, type: Socket
Electrical connection 1, thread size: M8x1
Electrical connection 1, number of poles: 3-pin



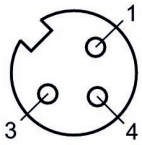
Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
48 V AC/DC	3-pin	A-coded	unshielded	Soldering	4	3.5	5	-25	80	1834484173

Dimensions



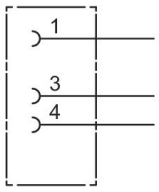
1834484173

Pin assignment, socket



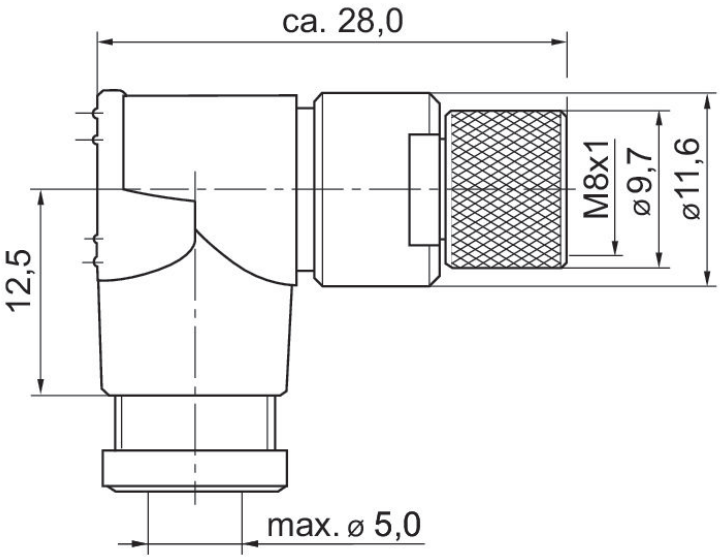
Round plug connector, Series CON-RD, angled

Electrical connection 1, type: Socket
Electrical connection 1, thread size: M8x1
Electrical connection 1, number of poles: 3-pin



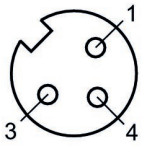
Operational voltage	Contact assignment	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
48 V AC/DC	3-pin	A-coded	unshielded	Soldering	4	3.5	5	-40	85	1834484174

Dimensions in mm



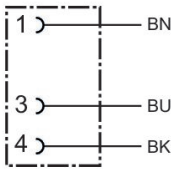
1834484174

Pin assignment, socket



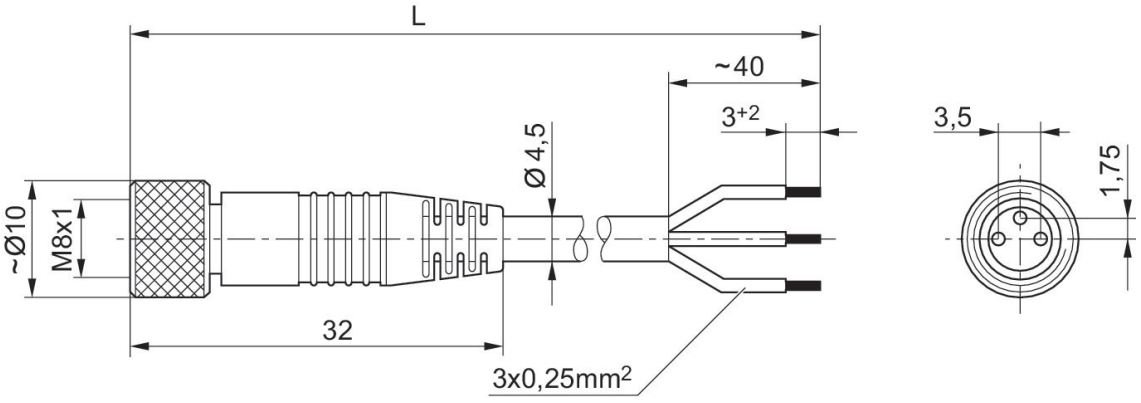
Round plug connector, Series CON-RD, open cable ends, straight

Electrical connection 1, type: Socket
Electrical connection 1, thread size: M8x1
Electrical connection 1, number of poles: 3-pin



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, coding	Electrical connection 2, type	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
48 V AC/DC	4	unshielded	Socket	M8x1	A-coded	open cable ends	3	4.5	0.24	-25	85	1834484166
48 V AC/DC	4	unshielded	Socket	M8x1	A-coded	open cable ends	5	4.5	0.24	-25	85	1834484168
48 V AC/DC	4	unshielded	Socket	M8x1	A-coded	open cable ends	10	4.5	0.24	-25	85	1834484247

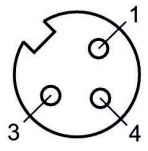
Dimensions



L = length

1834484166, 1834484168, 1834484247

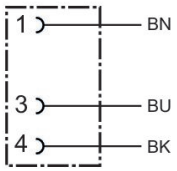
Pin assignment, socket



(1) BN=brown (3) BU=blue (4) BK=black

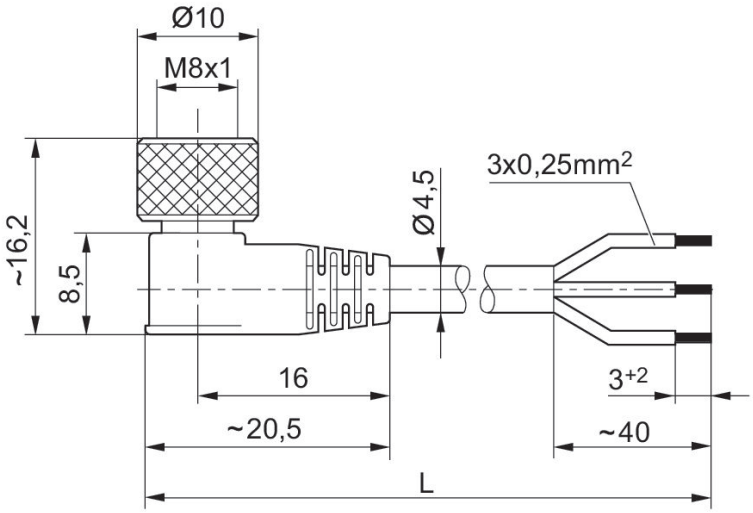
Round plug connector, Series CON-RD, open cable ends, angled

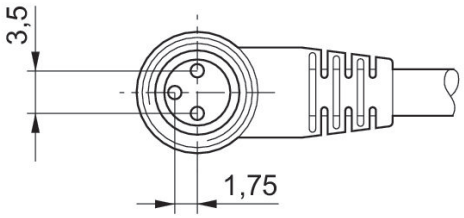
Electrical connection 1, type: Socket
Electrical connection 1, thread size: M8x1
Electrical connection 1, number of poles: 3-pin



Operational voltage	Current [A]	Shielding	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, coding	Electrical connection 2, type	Cable length [m]	Cable-Ø [mm]	Wire cross-section [mm²]	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
48 V AC/DC	4	unshielded	Socket	M8x1	A-coded	open cable ends	3	4.5	0.24	-40	85	1834484167
48 V AC/DC	4	unshielded	Socket	M8x1	A-coded	open cable ends	5	4.5	0.24	-40	85	1834484169
48 V AC/DC	4	unshielded	Socket	M8x1	A-coded	open cable ends	10	4.5	0.24	-40	85	1834484248

Dimensions

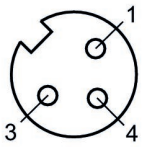




L = length

1834484167, 1834484169, 1834484248

Pin assignment, socket



(1) BN=brown (3) BU=blue (4) BK=black

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