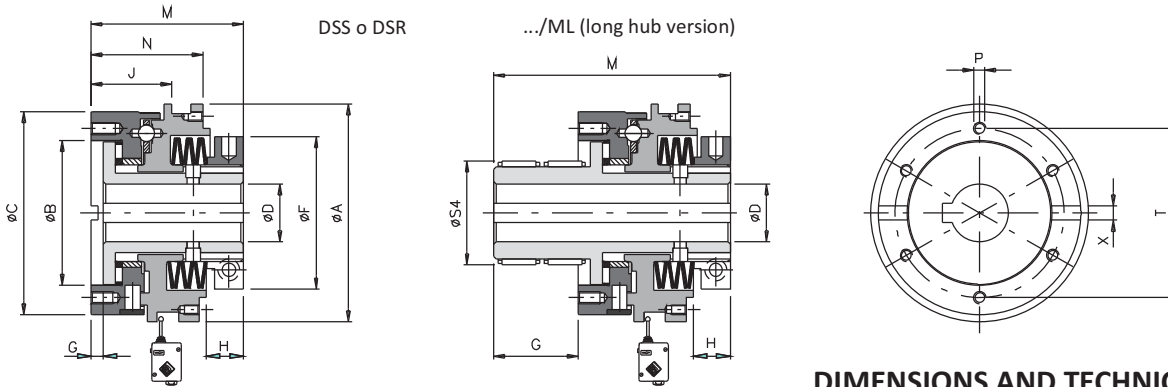


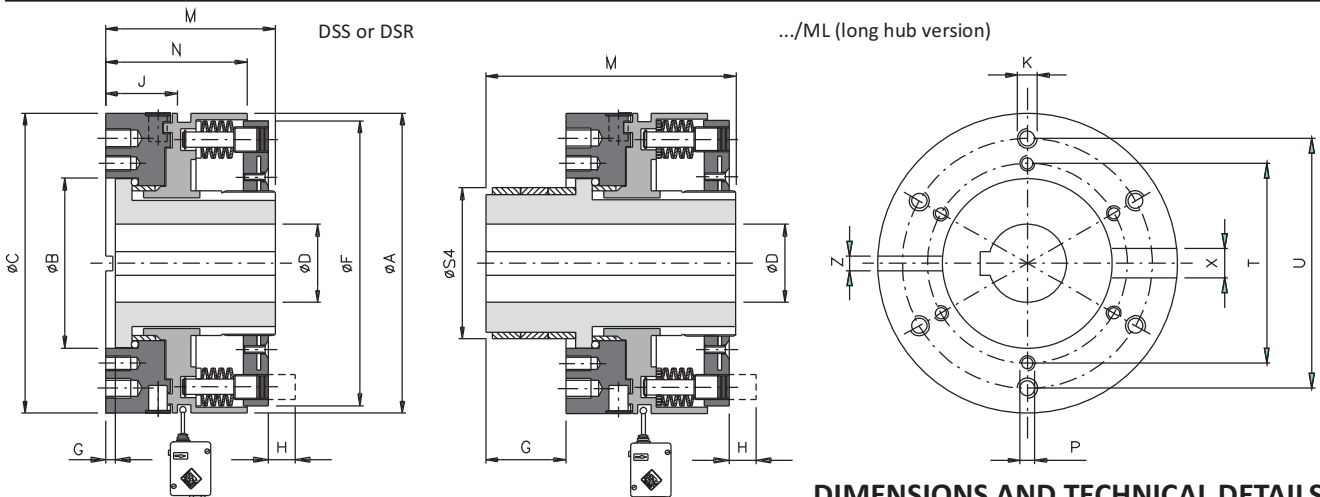
## DSS or DSR (ball or roller torque limiter): technical data

- ⊙ Basic model, connection with in-line shafts possible.
- ⊙ The assembly with helical springs allows a higher sensitivity in torque setting: .../CM.
- ⊙ Available with longer shaft for the assembly with transmission elements of large size : .../ML.
- ⊙ Available with anti-corrosive surface treatments.
- ⊙ Available with intervention signal ring.
- ⊙ Torque range from 2,5 to 12000 Nm; max. bore  $\varnothing$ 120 mm.



**DIMENSIONS AND TECHNICAL DETAILS**

Size	Mod.	Torque [Nm]	A	B H7	C	D H7		F	G		J	M		N	P	S4 h7		T	X	Max speed [Rpm]	Weight [Kg]		
						Grz	Max. /ML		/ML	/ML		/ML	/ML			Bushing	Bearing				/ML	/ML	
0.56	DSS DSR	2,5 - 32 10 - 75	56	41	56	-	20	20*	42	3,8	27,5	21 20	46	73,5	32 31,5	M5	32	33	48	6x3	4500 1500	0,6	0,7
1.90	DSS DSR	18 - 155 30 - 350	90	60	84	-	28	28*	63	5	35	33,5 27,5	63	98	47 45	M5	45	43	70	6x3	3000 1000	1,9	2,4
2.110	DSS DSR	19 - 290 60 - 620	110	78	104	-	40	38	82	6	38	39 36,5	76	114	54 52	M6	60	55	89	8x3,5	2500 800	3,6	4,4
3.130	DSS DSR	40 - 540 75 - 900	130	90,5	124	20	50	50*	104	6	47	47 45	88	135	65 64	M8	72	70	105	10x4	2000 700	6,0	7,3
4.160	DSS DSR	70 - 1280 160 - 1800	160	105	148	25	58	58*	128	8	53	58,5 54,5	107	160	76,5	M10	85	83	125	12x4	1600 550	10,7	13,2
5.194	DSS DSR	125 - 2050 275 - 2800	194	120,5	176	28	68	68*	157	6,5	57,5	65 64,5	124,5	182	88 88,5	M12	98	98	155	14x4,6	1300 400	18,2	21,6



**DIMENSIONS AND TECHNICAL DETAILS**

Size	Mod.	Torque [Nm]	A	B H7	C	D H7		F	G		J	K	M		N	P	S4 h7		T	U	Z	X	Max speed [Rpm]	Weight [Kg]	
						Pilot bore	max.		/ML	/ML			/ML	/ML			Bushing	Bushing						/ML	/ML
6.240	DSR	1600 - 8000	240	136	240	50	90	227	8	64	54,5	M 16	141	205	113,5	M12	118	160	200	16x5,1	18x5,1	300	30,6	38,5	
7.280	DSR	2000 - 12000	280	198	280	50	120	262,5	8	82	82	-	200	282	159	M20	168	230	-	-	20x6,1	200	79,0	91,8	

▲ On request

**NOTE**

⊗ **Technical details:** weights are relevant to the pilot bore torque limiter (DSS or DSR).

# BALL OR ROLLER TORQUE LIMITER "DSS/DSR": additional information



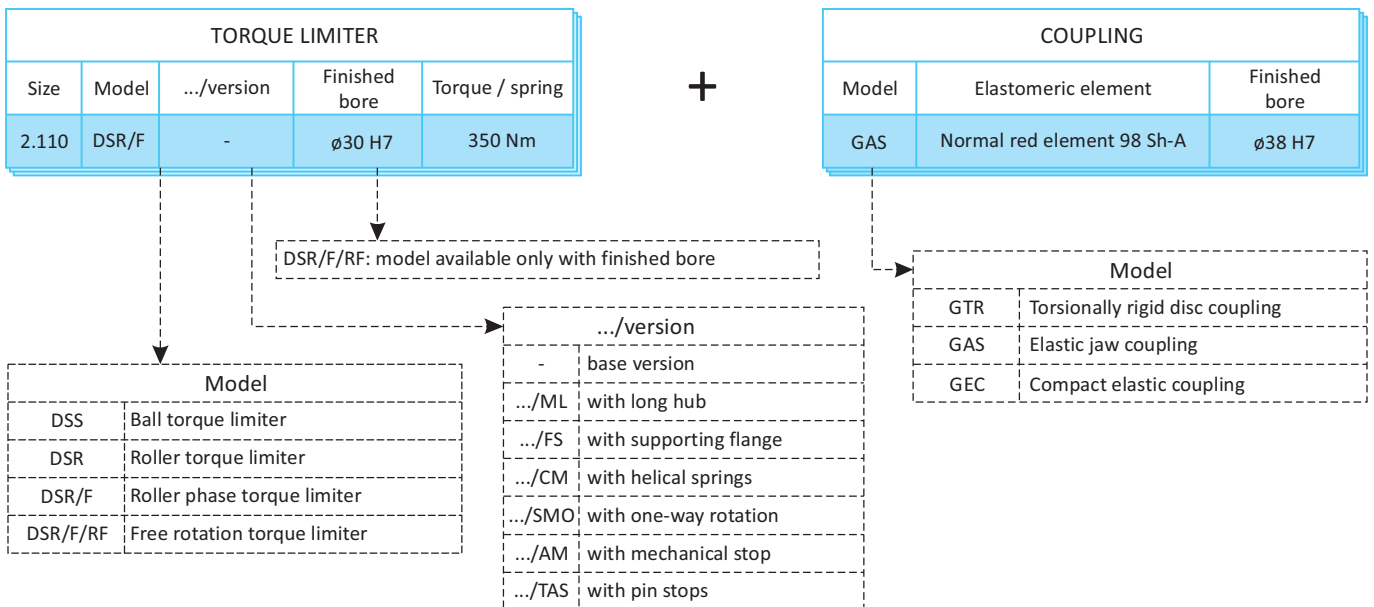
## TORQUE TRANSMISSION

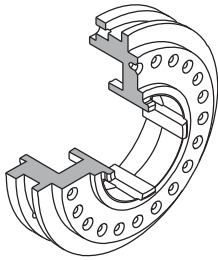
Torque transmitted [Nm] according to the spring configuration									
Size		A6S1 	A5M1 	A6M1 	A6M2 	A5G1 	A6G2 	ST 	SQ 
0.56	DSS	2,5 - 9,5		5,5 - 17,5	15 - 32			0,8 - 10,9	
	DSR	10 - 20		14 - 37	30 - 75			1,9 - 25,6	
1.90	DSS	18 - 48	24 - 55			35 - 90	55 - 155	2 - 40	5 - 90
	DSR	30 - 60	45 - 100			85 - 180	170 - 350	8 - 75	8 - 145
	DSR/F/RF	25 - 55	45 - 95			80 - 155			
2.110	DSS		19 - 72			55 - 160	80 - 290	9 - 50	12 - 100
	DSR		60 - 150			142 - 330	275 - 620	12 - 90	25 - 190
	DSR/F/RF		90 - 210			100 - 360			
3.130	DSS	40 - 100 *	50 - 225			70 - 300	130 - 540	12 - 135	24 - 190
	DSR	75 - 180 *	115 - 370			200 - 510	430 - 900	30 - 300	50 - 320
	DSR/F/RF	80 - 165 *	120 - 390			120 - 450			
4.160	DSS	70 - 200 *	90 - 325 *			150 - 690	300 - 1280		
	DSR	160 - 335 *	210 - 540 *			330 - 1040	750 - 1800		
	DSR/F/RF	125 - 310 *	190 - 550 *			310 - 1060			
5.194	DSS					360 - 1040	460 - 2050		
	DSR					540 - 1620	1050 - 2800		
	DSR/F/RF					430 - 1460			

Size		A12S1 	A14S1 	A15G1 	A16G1 				
6.240	DSR	1600 - 3800		2000 - 8000					
7.280	DSR		2000 - 5600		2500 - 12000				

\* Until stocks are finished

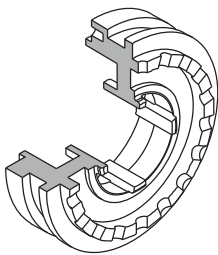
## ORDER EXAMPLE





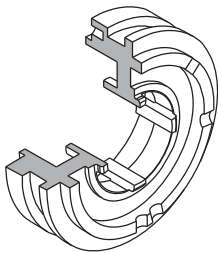
### DSS: Ball torque limiter with optimum sensitivity in case of sudden torque variations

- Ball transmission.
- High sensitivity and immediate intervention in case of minimal torque variation.
- Equidistant automatic re-engagement.
- Torque range from 2,5 to 2050 Nm; max. bore  $\varnothing$ 68 mm.
- Same intervention torque in both directions.



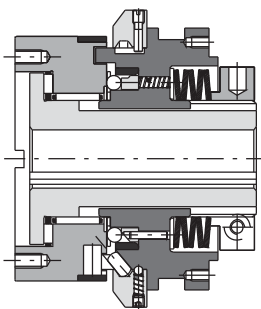
### DSR: Roller torque limiter for steady transmission at high torques and vibrations

- Roller transmission.
- Equidistant automatic re-engagement.
- High torque settings at reduced dimensions.
- Torque range from 10 to 12000 Nm; max. bore  $\varnothing$ 120 mm.
- Same intervention torque in both directions.



### DSR/F: Roller phase torque limiter, synchronised connection between input and output.

- Roller transmission.
- Optimized roller arrangement (patented) with perfect stability and 3 point contact.
- Automatic re-engagement in phase 360° or personalized (30°, 45°, 60°, 90°, 120°, ...)
- High torque settings at reduced dimensions.
- Torque range from 10 to 12000 Nm; max. bore  $\varnothing$ 120 mm.



### DSR/F/RF: roller phase torque limiter free rotation after disengagement, until inertial forces are stopped

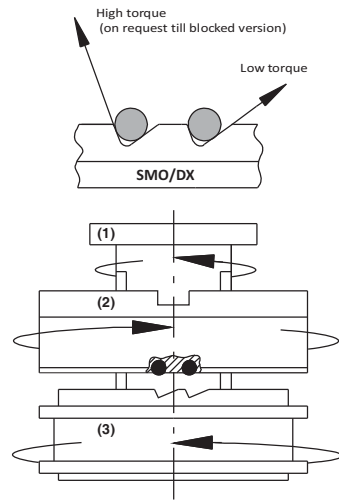
- Roller transmission.
- Free rotation after disengagement.
- one engagement in 360°.
- Same intervention torque in both directions.
- Torque range from 2,5 to 2800 Nm; max. bore  $\varnothing$ 68 mm.

## NUMBER OF RE-ENGAGEMENT IN 360°

Model	Size							
	0.56	1.90	2.110	3.130	4.160	5.194	6.240	7.280
DSS	24	22	20	20	22	15	-	-
DSR	18	18	16	16	16	24	24	24
DSR/F	1	1	1	1	1	1	1	1
DSR/F/RF	-	1	1	1	1	1	-	-

## VERSIONS

Example: DSR/F/SMO DX



### DSR/SMO: Torque limiter with different disengagement torques from clockwise to anti-clockwise rotation.

- ⦿ Different intervention torques in the two rotation directions.
- ⦿ Locking of one direction possible.
- ⦿ Roller transmission with automatic re-engagement.
- ⦿ Available with equidistant re-engagement or personalized angular phases.
- ⦿ Torque range from 10 to 12000 Nm; max. bore  $\varnothing$ 120 mm.

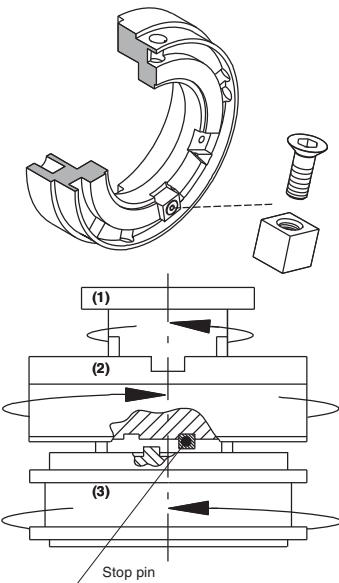
### DSR/SMO and DSR/F/SMO: determination of the rotation direction

To allow our engineers to select the correct direction "SX" or "DX" for your application, we require a drawing showing:

- 1) How the unit will be mounted on to the shaft (orientation).
- 2) The direction of rotation.
- 3) In which direction the high/low torque is required.



Example: DSR/F/AM DX



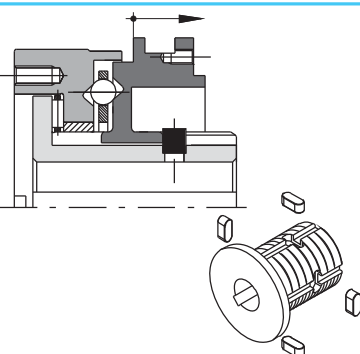
### DSR/F/AM: DSR/F/AM: Torque limiter with mechanical disconnection to maintain the timing between driver and driven

- ⦿ Stop pin resists 4 times the maximum torque.
- ⦿ 345° rotation allows the cancellation of the residual torque before the device stops.
- ⦿ Maintains the timing and re-engages in the same position.
- ⦿ High torque settings at reduced dimensions.
- ⦿ Torque range from 10 to 2800 Nm; max. bore  $\varnothing$ 68 mm.

### DSR/F/AM: determination of the rotation direction

To allow our engineers to select the correct direction "SX" or "DX" for your application, we require a drawing showing:

- 1) How the unit will be mounted on to the shaft (orientation).
- 2) The direction of rotation.
- 3) Confirm which drive will continue to rotate after the overload, the shaft or platewheel, pulley, etc.



### .../TAS: Torque limiter with stop pins

- ⦿ Complete disconnection prevented.
- ⦿ Minimum movement of the mobile base for an electrical signal to stop transmission.
- ⦿ Roller or ball transmission.
- ⦿ Torque range from 2,5 to 2800 Nm; max. bore  $\varnothing$ 68 mm.
- ⦿ Suitable for applications where the drive must not be disconnected.

# BALL AND ROLLER TORQUE LIMITERS “DSS or DSR”: introduction



- ⊙ Precise torque setting by adjusting the radially balanced locking nut.
- ⊙ The innovative regulation by the “H” dimension allows for immediate calibration.
- ⊙ Equidistant re-engagement in phase or at 360°.
- ⊙ Available with electromechanical switch / proximity for the transmission disconnection.
- ⊙ Immediate intervention for an improved reaction compared to electronic systems.
- ⊙ Maintenance-free for long lasting high reliability.
- ⊙ Suitable for oily and wet environments.

**ON REQUEST**

- ⊙ Complete with transmission gear, fully turned and mounted (plate wheel, pulley, gear pair).
- ⊙ Possibility to use helical springs for low intervention torques.
- ⊙ Connections with bore and keyway, locking assembly possible.
- ⊙ Version with personalized re-engagement in phase 30°, 45°, 60°, 90°... possible.

	DSS or DSR: basic model for coupling connections.	from 2,5 to 12000 Nm max. bore ø120 mm	Page 19	Models and versions described on pages 17 and 18
	.../FS: for the assembly of simple transmission elements.	from 2,5 to 12000 Nm max. bore ø120 mm	Page 20	
	DSR/F/RF: mechanical model with free rotation and phase 360°.	from 25 to 1460 Nm max. bore ø68 mm	Page 21	
	... + GTR: connection with torsionally rigid coupling.	from 2,5 to 2800 Nm max. bore ø90 mm	Page 22	
	... + GAS: connection with elastic coupling with high misalignments.	from 2,5 to 2800 Nm max. bore ø110 mm	Page 22	
	... + GEC: connection with elastic coupling with low misalignments.	from 2,5 to 12000 Nm max. bore ø180 mm	Page 23	

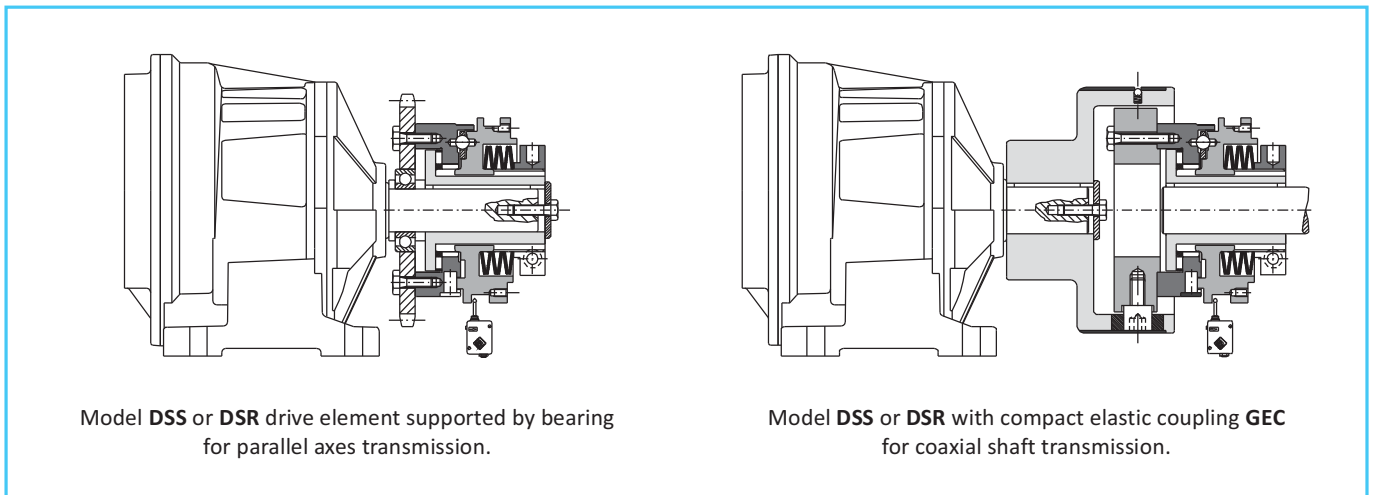
**MAIN APPLICATIONS**

- ⊙ Packaging and wrapping machines.
- ⊙ Labelling machines.
- ⊙ Bottling machines.
- ⊙ Conveyors.

**ADVANTAGES AND BENEFITS**

- ⊙ Protects the gearbox from jamming due to foreign matters.
- ⊙ Protects packages from squashing and deforming.
- ⊙ Protects the product handling elements from accumulations.
- ⊙ Maintains the timing between driver and driven after an overload.

**APPLICATION EXAMPLE**



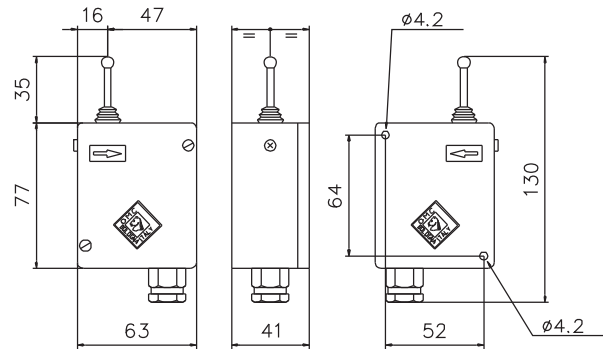
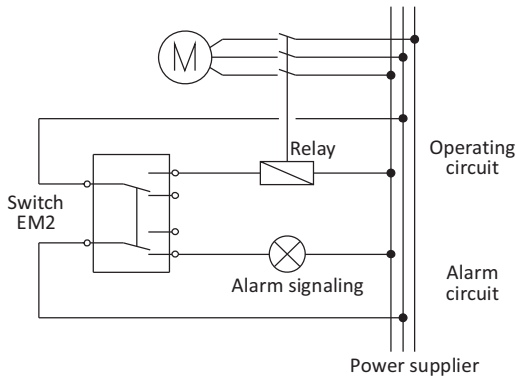
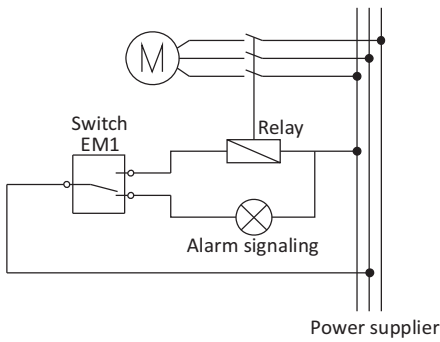
Model DSS or DSR drive element supported by bearing for parallel axes transmission.

Model DSS or DSR with compact elastic coupling GEC for coaxial shaft transmission.

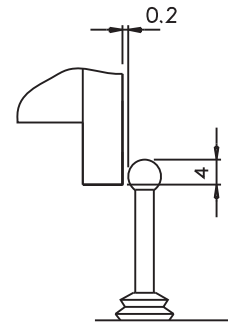


# ELECTROMECHANICAL SWITCH "EM1"

- Die-cast aluminium box with rotection level **IP57** DIN 40050.
- Adjustment of the lever end position possible.
- Operation temperature range from  $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ .
- Three different options of voltage input: 15A-250VCA; 5A-24VCC; 0,2A-250VCC.
- 1 or 2 contacts available.
- Initial stroke 0,5 mm, Extra stroke:  $4 \div 8$  mm depending on setting (possible in a range of 6 mm).

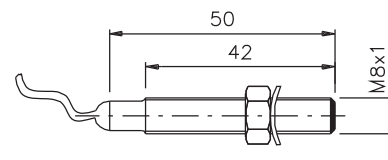
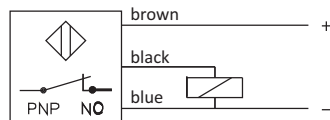
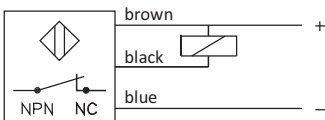
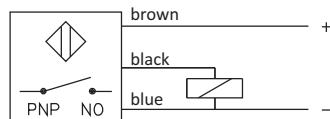
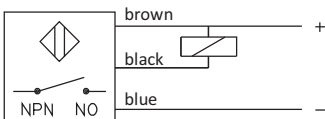


Weight: 350g



## PROXIMITY SENSOR "PRX"

- Standard version: Brass cover with protection level **IP67** DIN 40050.
- Electric contact:  $5 \div 24$  VdC.
- Frequency: 2000 Hz.
- Output: NPN (N.O.-N.C.) – PNP (N.O.-N.C.).
- Operating distance: max 1 mm.
- Cable length: 2 m (3x0,2).



Weight: 50g

