

Type DR-2212, Type DR-2212-R

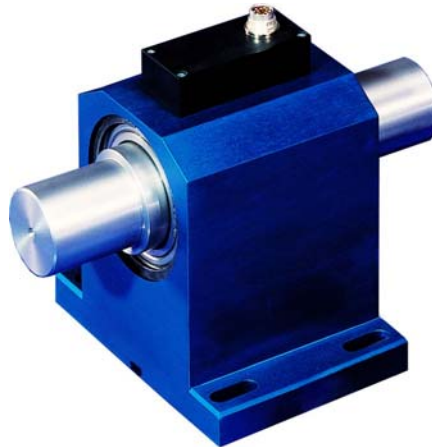
Miniatur torque sensor, analogue output

- active output signal $\pm 5V$
- sample rate 10 kSample

Type DR-2512, Type DR-2512-R

Miniatur torque sensor, RS485-interface

- RS485 interface
- auto identification of: measuring range, serial number, date of calibration
- sample rate 4 kSample



Both types have a contactless and digital signal transmission from shaft to case, that means no failure of transmission and maintenance free.

Artikel Nr. DR-2212	Artikel-Nr. DR-2512	nominal torque [Nm]	max. speed [min ⁻¹]		spring rate [Nm/rad]	moment of inertia J in [kg m ²]		Axial max. thrust load [N]
			standard	special		drive side	test side	
103704	104181	0,03	10000	15000	$5,8 \cdot 10^{-1}$	$1,6 \cdot 10^{-6}$	$1,7 \cdot 10^{-7}$	10
103818	104182	0,05	10000	15000	$5,8 \cdot 10^{-1}$	$1,6 \cdot 10^{-6}$	$1,7 \cdot 10^{-7}$	10
103819	104183	0,1	10000	15000	1,0	$2,0 \cdot 10^{-6}$	$2,8 \cdot 10^{-7}$	15; 20
103820	104184	0,2	10000	15000	1,0	$2,0 \cdot 10^{-6}$	$2,8 \cdot 10^{-7}$	15; 20
102921	104185	0,5	10000	15000	9,9	$2,0 \cdot 10^{-6}$	$2,8 \cdot 10^{-7}$	30
102866	104186	1	10000	15000	9,9	$2,0 \cdot 10^{-6}$	$2,8 \cdot 10^{-7}$	40
102437	104187	2	8000	12000	$4,4 \cdot 10^2$	$1,0 \cdot 10^{-5}$	$8,1 \cdot 10^{-6}$	50
102922	104188	5	8000	12000	$4,4 \cdot 10^2$	$1,0 \cdot 10^{-5}$	$8,1 \cdot 10^{-6}$	50
102794	104189	10	8000	12000	$1,4 \cdot 10^3$	$1,0 \cdot 10^{-5}$	$8,2 \cdot 10^{-6}$	50
102776	104190	15	8000	12000	$1,4 \cdot 10^3$	$1,0 \cdot 10^{-5}$	$8,2 \cdot 10^{-6}$	100
102909	104191	20	8000	12000	$4,5 \cdot 10^3$	$1,2 \cdot 10^{-5}$	$9,9 \cdot 10^{-6}$	300
104212	104213	30	8000	12000	$4,8 \cdot 10^3$	$1,3 \cdot 10^{-5}$	$9,9 \cdot 10^{-6}$	1000
102457	104192	50	6000	12000	$6,1 \cdot 10^3$	$1,3 \cdot 10^{-5}$	$1,1 \cdot 10^{-5}$	1600
102836	104193	100	6000	12000	$9,7 \cdot 10^3$	$1,4 \cdot 10^{-5}$	$1,2 \cdot 10^{-5}$	2600
103337	104194	200	4000	7000	$9,2 \cdot 10^4$	$1,3 \cdot 10^{-3}$	$8,0 \cdot 10^{-4}$	3200
103602	104195	500	4000	7000	$9,2 \cdot 10^4$	$1,3 \cdot 10^{-3}$	$8,0 \cdot 10^{-4}$	7500
103822	104196	1000	4000	7000	$2,8 \cdot 10^5$	$1,7 \cdot 10^{-3}$	$1,2 \cdot 10^{-3}$	10000
103821	104197	2000	3500	5500	$7,2 \cdot 10^5$	$5,3 \cdot 10^{-3}$	$4,3 \cdot 10^{-3}$	18000
103709	104198	5000	3500	5500	$8,0 \cdot 10^5$	$5,4 \cdot 10^{-3}$	$4,3 \cdot 10^{-3}$	32000
105485		10000	3000	3500	$3,1 \cdot 10^6$	$4,1 \cdot 10^{-2}$	$3,6 \cdot 10^{-2}$	125000
105486		20000	3000	3500	$3,7 \cdot 10^6$	$4,1 \cdot 10^{-2}$	$3,7 \cdot 10^{-2}$	200000



Artikel Nr. DR-2212-R	Artikel-Nr. DR-2512-R	nominal torque [Nm]	max. speed [min ⁻¹]		springrate [Nm/rad]	moment of inertia J in [kg m ²]		Axial thrust load [N]
			Standard standard	Sonder special		Antriebseite drive side	Messeite test side	
108693	108723	0,1	10000	15000	1,0	2,0·10 ⁻⁶	2,8·10 ⁻⁷	15; 20
108694	108724	0,2	10000	15000	1,0	2,0·10 ⁻⁶	2,8·10 ⁻⁷	15; 20
108695	108725	0,5	10000	15000	9,9	2,0·10 ⁻⁶	2,8·10 ⁻⁷	30
108696	108726	1	10000	15000	9,9	2,0·10 ⁻⁶	2,8·10 ⁻⁷	40
108697	108727	2	8000	12000	4,4·10 ²	1,0·10 ⁻⁵	8,1·10 ⁻⁶	50
108698	108728	5	8000	12000	4,4·10 ²	1,0·10 ⁻⁵	8,1·10 ⁻⁶	50
108699	108729	10	8000	12000	1,4·10 ³	1,0·10 ⁻⁵	8,2·10 ⁻⁶	50
108700	108730	15	8000	12000	1,4·10 ³	1,0·10 ⁻⁵	8,2·10 ⁻⁶	100
108701	108731	20	8000	12000	4,5·10 ³	1,2·10 ⁻⁵	9,9·10 ⁻⁶	300
108819	108820	30	8000	12000	4,5·10 ³	1,2·10 ⁻⁵	9,9·10 ⁻⁶	1000
108702	108732	50	6000	12000	6,1·10 ³	1,3·10 ⁻⁵	1,1·10 ⁻⁵	1600
108703	108733	100	6000	12000	9,7·10 ³	1,4·10 ⁻⁵	1,2·10 ⁻⁵	2600
108704	108734	200	4000	7000	9,2·10 ⁴	1,3·10 ⁻³	8,0·10 ⁻⁴	3200
108705	108735	500	4000	7000	9,2·10 ⁴	1,3·10 ⁻³	8,0·10 ⁻⁴	7500
108706	108736	1000	4000	7000	2,8·10 ⁵	1,7·10 ⁻³	1,2·10 ⁻³	10000

Specifications

Analogausgang RS485-Interface

Type		DR-2212 (DR-2212-R)	DR-2512 (DR-2512-R)
accuracy class	% v.E	0,1 (0,2)	
DIN 1319 - nonrepeatability	%	±0,02 (±0,04)	
supply voltage	VDC	12 ... 28	
supply current	mA	<60	
output signal	V	±0 ... 5	±15 Bit (±11 Bit)
output current max.	mA	short circuit resist.	
calibration control	V	L <2,0; H >3,5	per Software
sample rate	kSample	10	
Mode 1 - sample rate mode 1 (115KBd)	kSample		4
Mode 2 - sample rate mode 2 (115KBd)	kSample		2
Mode 3 - sample rate mode 3 (115KBd)	kSample		1
Mode 4 - sample rate mode 4 (115KBd)	kSample		0,5
nominal temp. range	°C	+5 ... +45	
service temp. range	°C	0 ... +60	
temp. coeff. of sensitivity	% v.E./K	±0,01 (±0,015)	
temp. coeff. of zero	% v.E./K	±0,02 (±0,03)	
(statisch) - service torque	% v.E.	150	
(statisch) - limit torque	% v.E.	200	
(statisch) - ultimate torque	% v.E.	>300	
bandwidth (DIN 50100)	%	70 (Spitze - Spitze) – (top - top)	
level of protection (DIN EN 60529)		IP 50	
connector		12-polig- 12-pin	

Artikel Nr. Options

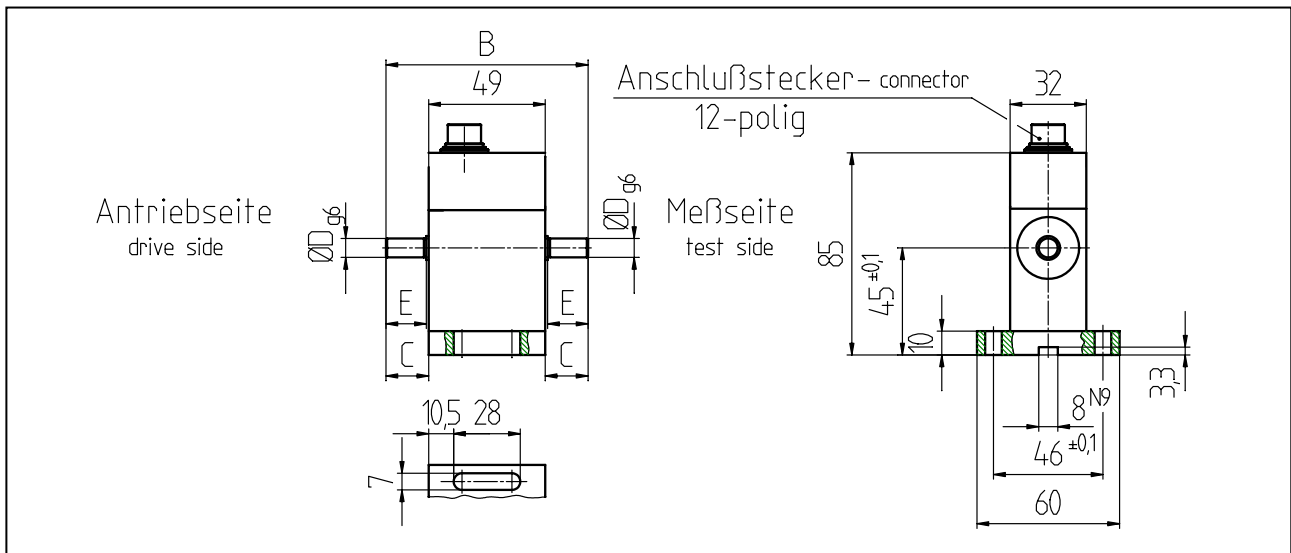
101560	anglecontrol 360 imp.,2 tracks, 90°-shifted		CW - turn
104097	≥ 2000 Nm : 60 Impulse 1xTTL – 60 imp, 1 track		CH A  CH B 
103562	output signal	V	± 0 ... 10

Connection

12-polig 12-pin	DR-2212, DR-2212-R	DR-2512, DR-2512-R
Pin A	NC	NC
Pin B	angle B TTL	Option angle B TTL
Pin C	signal (+) ±5 V	NC
Pin D	signal (GND) 0 V	NC
Pin E	excitation (GND) 0 V	excitation (GND) 0 V
Pin F	excitation (+) 12 ... 28 V	excitation (+) 12 ... 28 V
Pin G	Option angle A TTL	Option angle A TTL
Pin H	NC	NC
Pin J	NC	RS 485
Pin K	cal. control L < 2,0V; H > 3,5V	NC
Pin L	NC	RS 485
Pin M	housing	housing

Dimensions

DR-2212, DR-2212-R ; DR-2512, DR-2512-R

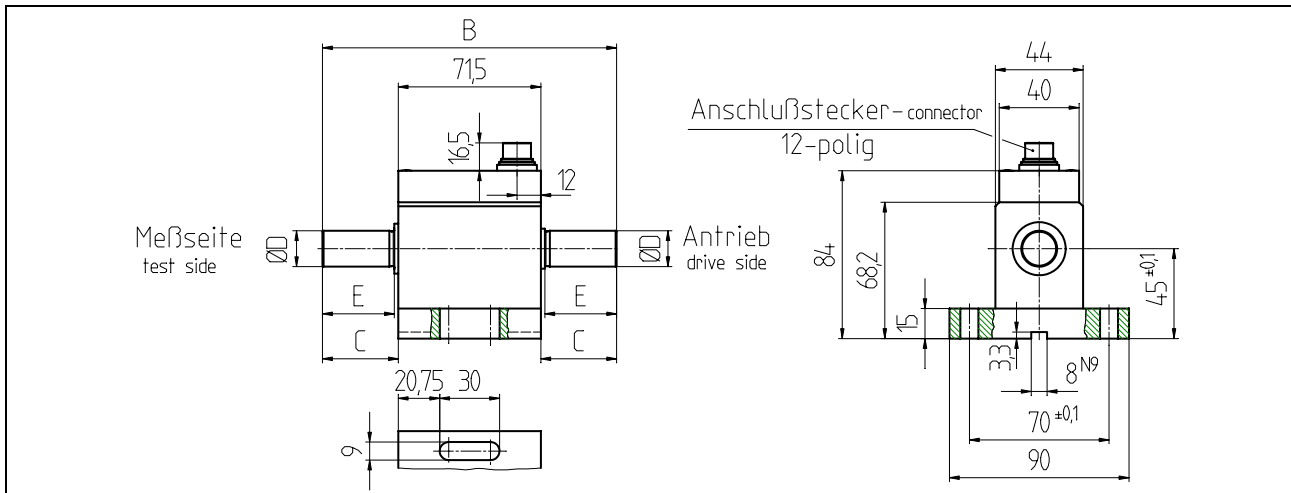


nominal torque [Nm]	dimensions [mm]			
	B	C	D	E
0,03* 0,05*	65	8	6 g6	7
0,1 0,2	85	18	8 g6	17
0,5 1	85	18	8 g6	17

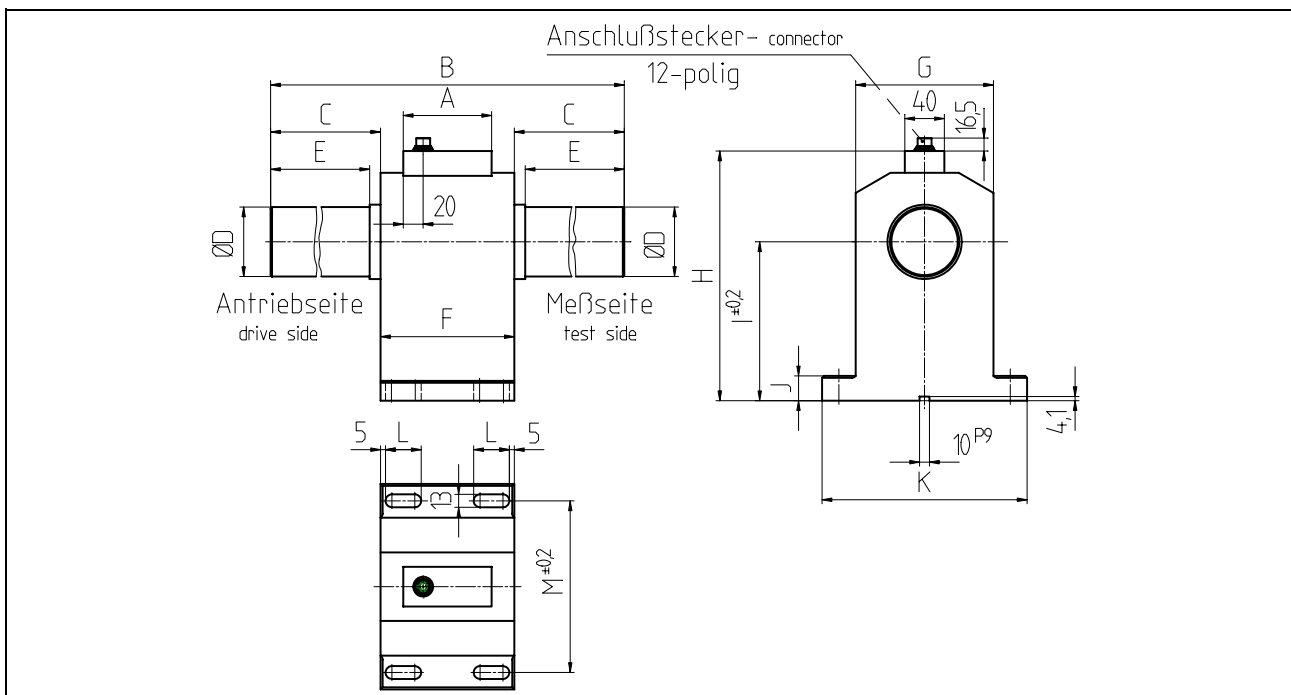
*only for DR-2212 and DR-2512 available

Dimensions

DR-2212, DR-2212-R ; DR-2512, DR-2512-R



nominal torque [Nm]	dimensions [mm]			
	B	C	D	E
2	107,5	18	8 g6	17
5	107,5	18	8 g6	17
10	107,5	18	10 g6	17
15	107,5	18	10 g6	17
20	111,5	20	18 h6	18
30	111,5	20	18 h6	18
50	147,5	38	18 h6	36
100	147,5	38	18 h6	36



nominal torque [Nm]	dimensions [mm]												
	A	B	C	D	E	F	G	H	I	J	K	L	M
200	89	217	43,5	32 h6	38	130	115	190,4	112	20	175	30	145
500	89	217	43,5	32 h6	38	130	115	190,4	112	20	175	30	145
1000	89	262	66	50 h7	58	130	115	190,4	112	20	175	30	145
2000*	89	377	121	70 h7	110	135	139	251,5	160	25	207	36	173
5000*	89	377	121	70 h7	110	135	139	251,5	160	25	207	36	173
10000*	89	470	140	110 h7	120	190	210	318	215	40	300	45	260
20000*	89	470	140	110 h7	120	190	210	318	215	40	300	45	260

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