

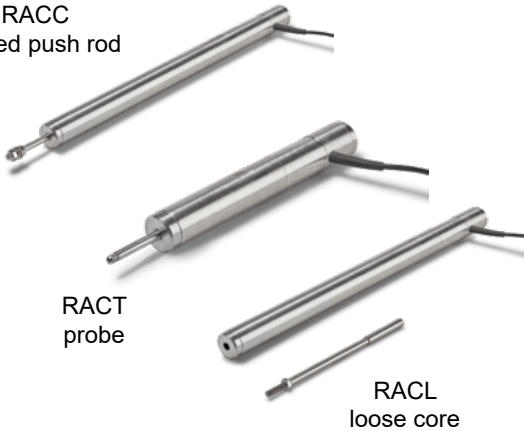
Data Sheet for Linear Sensors



Inductive (LVDT) linear transducer

Series RAC

RACC
guided push rod



RACT
probe

RACL
loose core

- Very long stroke up to 940 mm
- Wide temperature range -50°C to 125°C
- For harsh environmental conditions
- Stainless steel housing
- Housing diameter 20.6mm
- Ball joints as
- In 3 designs
 - C-version with guided push rod with PTFE bearing
 - T-version with spring return as probe
 - L-version with loose core

Electrical Data	RAC									
	T/L/C	T/L/C	T/L/C	T/L/C	L/C	L/C	L/C	C	C	C
	25	50	100	150	200	300	400	500	750	940
Effective electrical travel middle position 1.) in mm	±12.5	±25	±50	±75	±100	±150	±200	±250	±375	±470
Independent linearity (best straight line) 1.)	±0.5% (±0.25%, ±0.1%)				±0.5% (±0.25%)			±0.5%		
Output signal	0.7 V/V	0.9 V/V	1.5 V/V	1.5 V/V	3.2 V/V	2.4 V/V	1.5 V/V	2 V/V	3.2 V/V	3.6 V/V
Theoretical resolution 1.)	Nearly infinite									
Backlash (Hysteresis) 1.)	< 0,01 mm									
Supply voltage	nom. 5 V rms, 5 kHz (0.5..7 V rms, 2..10 kHz)									
Output load	100 kOhm									
Temperature coefficient	±0.01 % F.S./°C									
Ripple	5 kHz									

Mechanical Data, Environmental Conditions, Miscellaneous	RAC									
	T/L/C	T/L/C	T/L/C	T/L/C	L/C	L/C	L/C	C	C	C
	25	50	100	150	200	300	400	500	750	940
Mechanical stroke 1.)	see drawing									
Lifetime (90% effective electrical travel) 2.)	Nearly infinite									
Max. operational speed	< 2 m/s									
Operational force @RT 1.) 2.) RACT (spring return) @ X middle position	< 1.3 N	< 2 N	< 1.8 N	< 6 N						--
Spring rate RACT	0.2N/cm	0.3N/cm	0.2N/cm	0.4N/cm						--
Operational temperature	-50 °C up to +125 °C									
Storage temperature	-50 °C up to +125 °C									

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Series RAC

Mechanical Data, Environmental Conditions, Miscellaneous	RAC									
	T / L / C	T / L / C	T / L / C	T / L / C	L / C	L / C	L / C	C	C	C
	25	50	100	150	200	300	400	500	750	940
Housing length RACT in mm	133	161	276	387	--	--	--	--	--	--
Housing length RACL in mm	127	155	270	380	427	617	808	--	--	--
Housing length RACC in mm	152	180	295	406	452	643	833	1030	1435	1702
Mass RACT gram ca.	184	227	398	483	--	--	--	--	--	--
Mass RACL gram ca.	170	227	320	454	568	824	1200	--	--	--
Mass RACC gram ca.	284	340	511	653	710	1000	1400	1600	2100	2500
Mounting parts (included in delivery)	None									
Included in delivery	Probe or nut M5 x 0,8 or loose push rod									
Material housing	Stainless Steel									
Material push rod	Hardened steel (Mu-Metal)									
Electrical connection	Round cable 2 m									

1.) According IEC 60393

2.) Determined by climatic conditions according to IEC 68-1, para. 5.3.1 without load collectives

Order Code

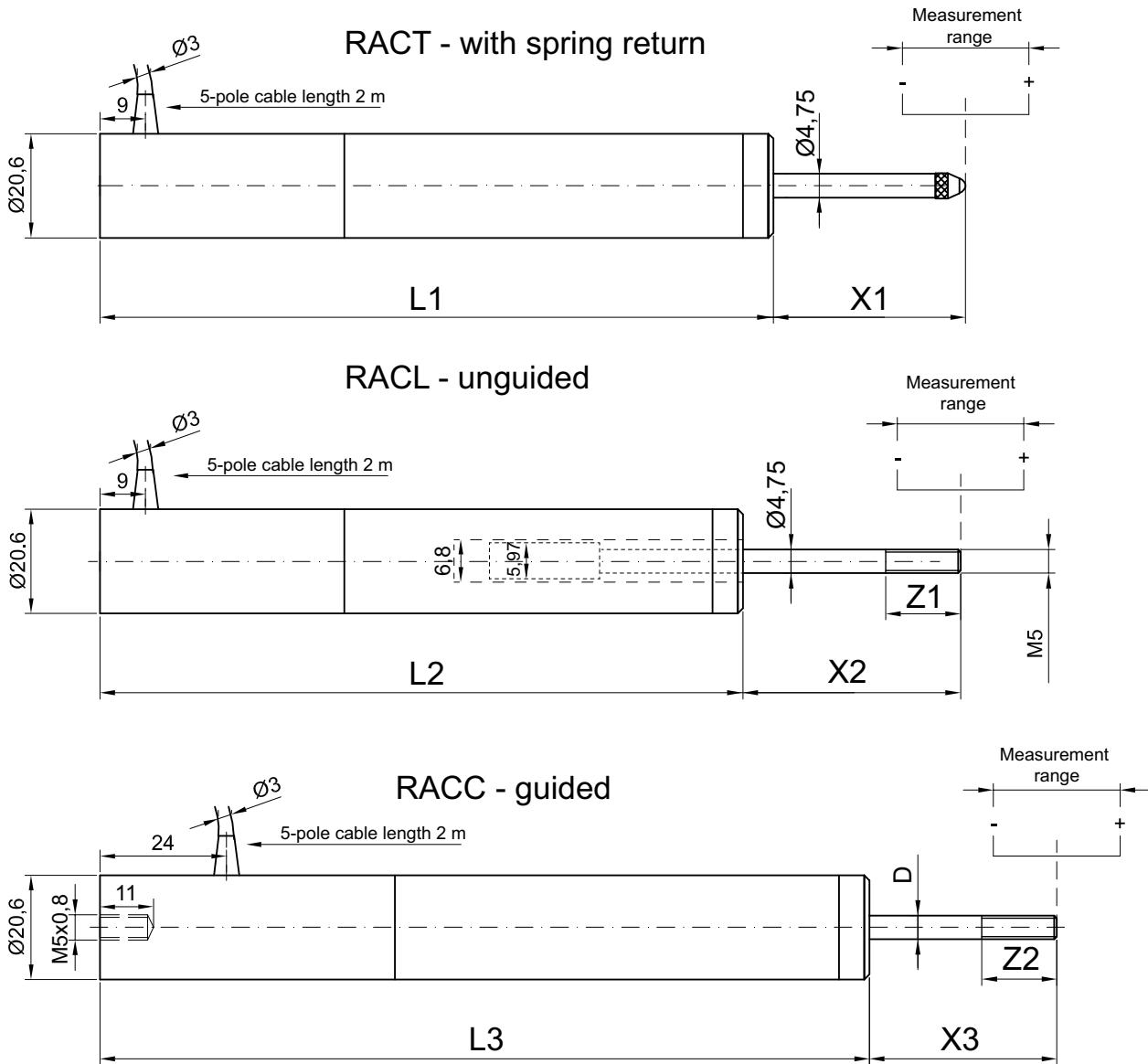
Description	Selection: standard=black/bold , possible <i>options=grey/italic</i>					
Series:	RAC					
With guided push rod		C				
As a probe with spring return		T				
With loose push rod		L				
Effective electrical travel:						
±12,5 mm				25		
±25 mm				50		
±50 mm				100		
±75 mm				150		
±100 mm (not version T)				200		
±150 mm (not version T)				300		
±200 mm (not version T)				400		
±250 mm (only version C)				500		
±375 mm (only version C)				750		
±470 mm (only version C)				940		
Electrical connection:						
Round cable 2 m						
<i>Option customer-specific cable length in m</i>					<i>Kxx</i>	
Protection Class IP40						
<i>Option Protection Class IP44</i>						<i>IP44</i>
Independent linearity:						
Standard ±0,5 %						
<i>Option ±0.25% (±12.5 up to ±250 mm el. travel)</i>						<i>L0,25</i>
<i>Option ±0.1% (±12.5 up to ±100 mm el. travel)</i>						<i>L0,1</i>

For higher quantities or on-going demand, additional options are available as described below on request

For example:

- Cable assemblies with and without connector
- Special probe, special axis length and much more

Drawing

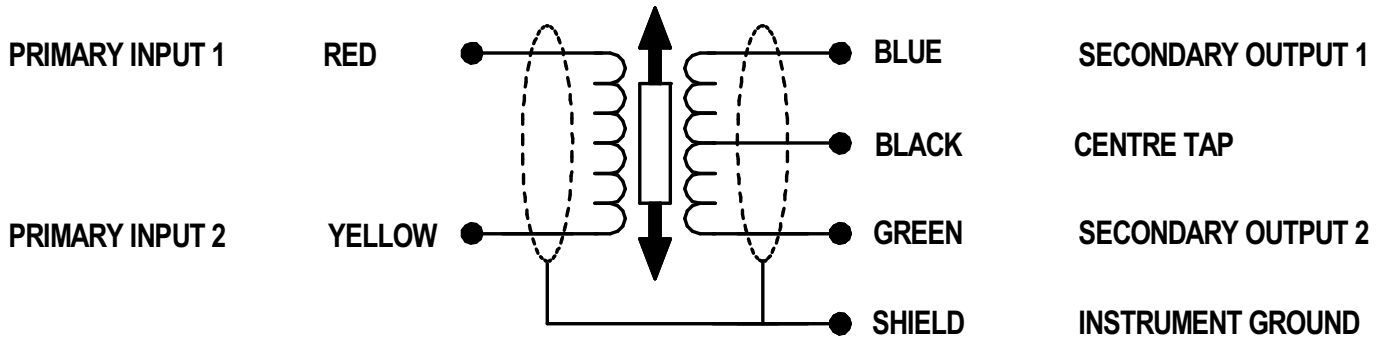


Dimensions in mm

Dimensions / Series RAC (T/L/C)	25	50	100	150	200	300	400	500	750	940
Effective electrical travel middle position RAC (T/L/C) [mm]	±12,5	±25	±50	±75	±100	±150	±200	±250	±375	±470
L1 Housing Length (RACT) [mm]	133	161	276	387	-	-	-	-	-	-
L2 Housing Length (RACL) [mm]	127	155	270	380	427	617	808	-	-	-
L3 Housing Length (RACC) [mm]	152	180	295	406	452	643	833	1030	1435	1702
X1 Middle Position (RACT) [±0,2 mm]	38	63	75	114	-	-	-	-	-	-
X2 Middle Position (RACL) [±0,2 mm]	46	68	81	120	132	183	259	-	-	-
X3 Middle Position (RACC) [±0,2 mm]	38	63	76	114	127	178	254	305	406	508
RACT inward over travel [mm]	1	3	8	15	-	-	-	-	-	-
RACL inward over travel [mm]	16	22	16	29	16	16	27	-	-	-
RACC inward over travel [mm]	10	13	10	24	8	12	22	34	13	5
RACT outward over travel [mm]	13	10	14	15	-	-	-	-	-	-
RACL outward over travel [mm]	-	-	-	-	-	-	-	-	-	-
RACC outward over travel [mm]	12	10	14	15	14	17	25	35	13	33
D Ø push rod [mm]	4,75	4,75	4,75	4,75	4,75	4,75	4,75	4,75	4,75	6
Z1 [mm]	15	15	15	15	15	15	29	-	-	-
Z2 [mm]	15	15	15	15	15	15	32	27	19	27

Electrical connection

CONNECTION DETAILS



NOTE : If not used the BLACK wire should be insulated from any other wires or connections including the cable shield.