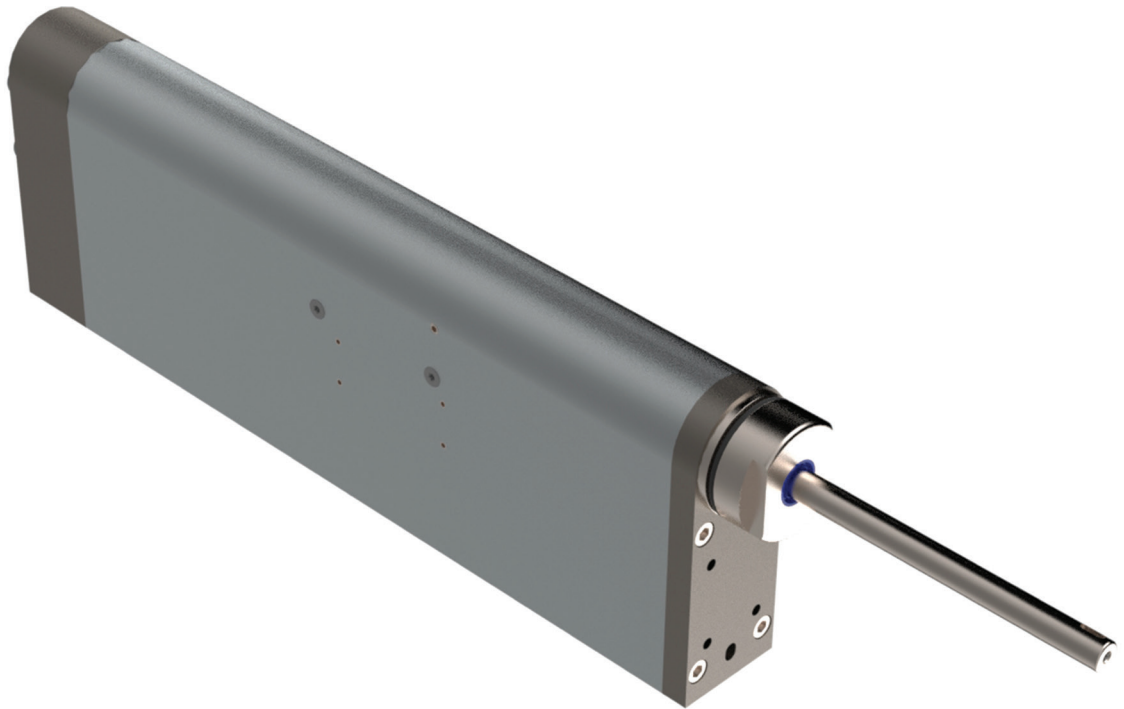
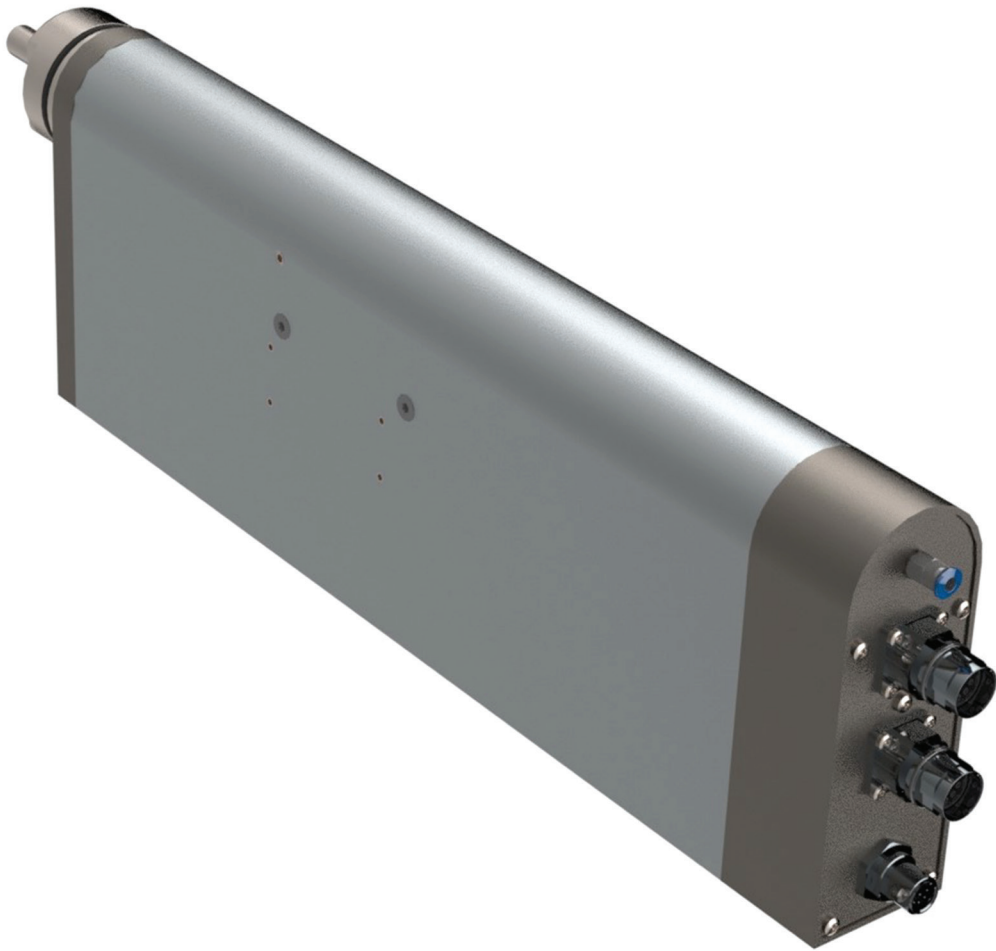


DATA SHEET

Linear Rotary Motors PR02-52



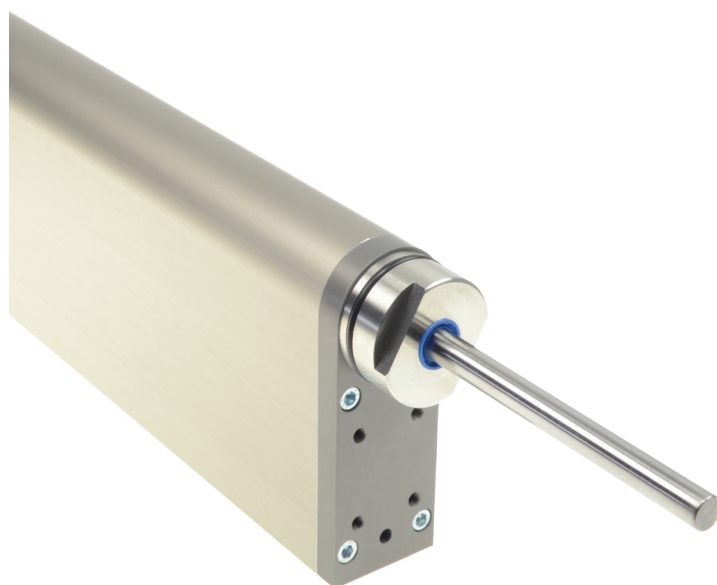
- ✓ New design principle with shorter installation length
- ✓ Option integrated MagSpring for load compensation
- ✓ Torque measuring shaft option for high-precision torque control and process data logging
- ✓ Independent linear and rotary motions
- ✓ Extensive range of strokes



Product description

LinMot expands the product range of linear motors by another type.

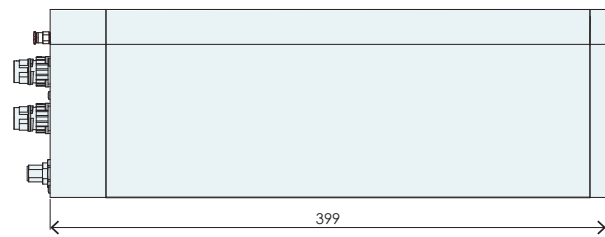
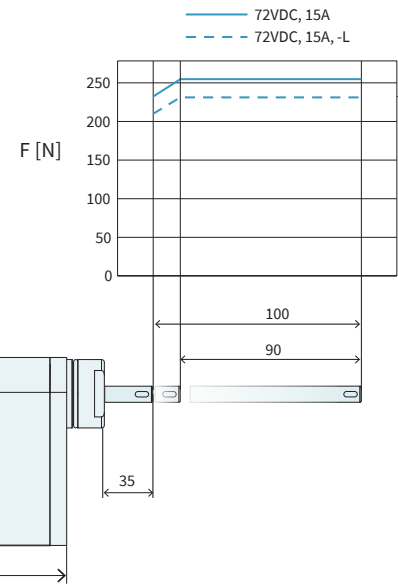
The PR02 model features a new design principle with an additional component integrated in the motor. In addition to the linear motor and the rotary motor, a magnetic spring "MagSpring" is installed in a common housing. The user benefits on the one hand from the shortened installation length of the entire unit and on the other hand from the advantage of being able to perform vertical applications better. The MagSpring ensures that the weight force of the moved load is passively compensated. In the de-energized state, this effectively prevents the axle from lowering.



The performance data of the PR02-52 correspond to the long-proven PR01-52x60-R/37x120F-HP-C-100, which guarantees a maximum stroke of 100 mm. In addition, the linear and rotary motors generate a maximum force of 255 N and a maximum torque of 2.2 Nm.

PR02-52x60-R/37x120F-HP-R-100 (-L)

Max. Stroke:	100 mm
Peak Force:	255 N
Peak Torque:	2.2 Nm



Dimensions in mm

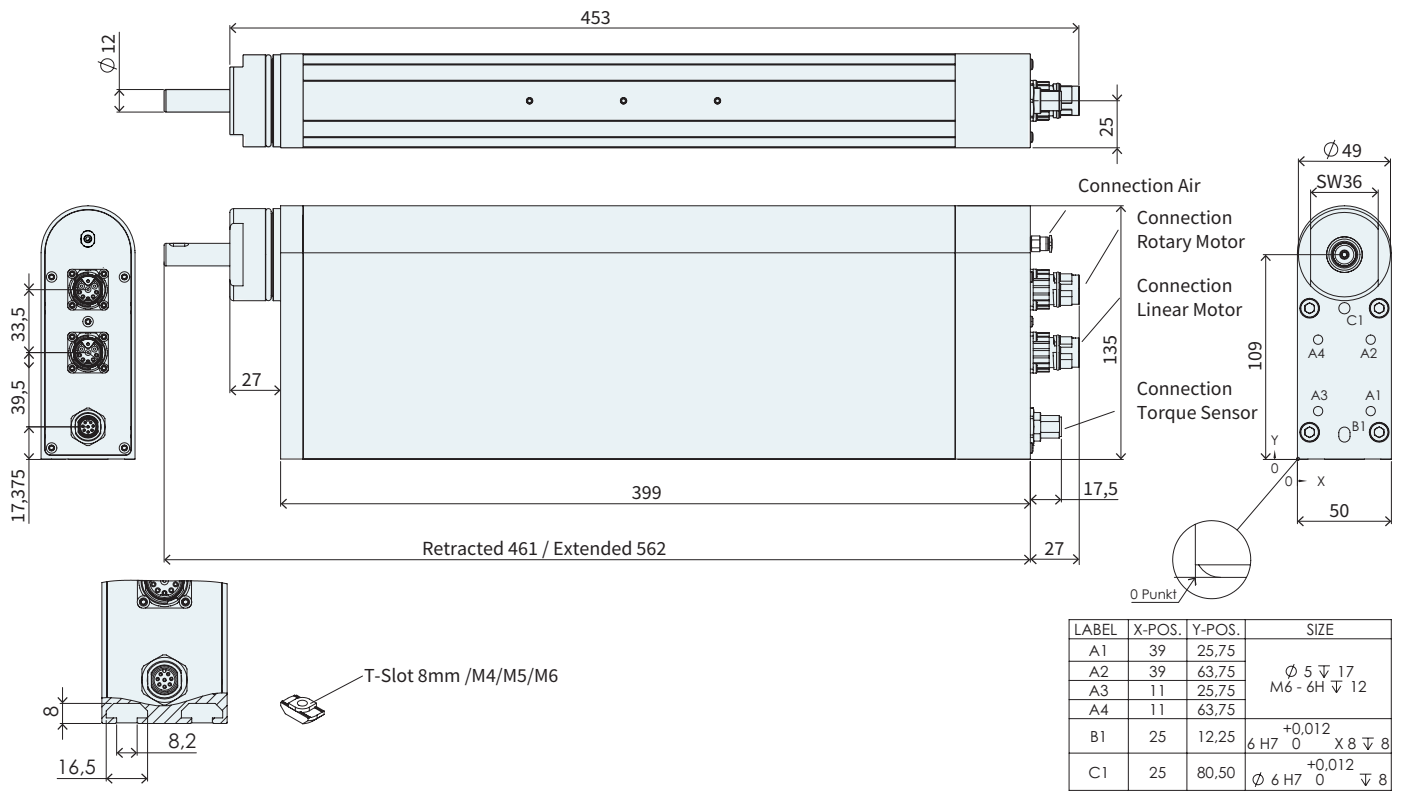
Motor Specifications

PR02-52x60-R/37x120F-HP-R-100 (-L)

Linear Motion				
Extended Stroke ES	mm (in)	100	(3.94)	
Standard Stroke SS	mm (in)	90	(3.54)	
Peak Forc E12x0 - UC	N (lbf)	255 (-L 229)	(57.3 (-L 51.5))	(-L: Hollow shaft version reduced forces)
Constant Force	N (lbf)	51 (-L 45)	(11.5 (-L 10.1))	
Constant Force Fan cooling	N (lbf)	92 (-L 82)	(20.7(-L 18.4))	
Force Constant	N/A _{pk} (lbf/A _{pk})	17	(3.8)	
Max. Current @ 72VDC	A _{pk}	15		
Max. Velocity @ 72VDC	m/s (in/s)	3.9	(154)	
Position Repeatability	mm (in)	±0.05	(±0.0020)	
Linearity	%	±0.10		
Rotary Motion				
Peak Torque	Nm (lbf·in)	2.2	(19.5)	
Constant Torque (Halt)	Nm (lbf·in)	0.47	(4.2)	
Max. Number of revolutions	rpm	1500		
Torque Constant 1	Nm/A _{rpik} (lbf·in/A _{rpik})	0.16	(1.42)	
Torque Constant 2	Nm/A _{rms} (lbf·in/A _{rms})	0.23	(2.04)	
Torque Sensor		2.5 Nm / ±10 V	(22.32 lbf·in / ±10 V)	
Max. Current @ 72VDC	A _{pk} / A _{rms}	13.5 / 9.55		
Position Repeatability	°	±0.1		
Mechanical Data				
Width	mm (in)	50	(1.97)	
Height	mm (in)	135	(5.31)	
Length	mm (in)	453	(17.83)	
Mass [without MagSpring / with MagSpring]	g (lb)	5680 / 6570	(12.52 / 14.48)	
Linear moving mass [without MagSpring / with MagSpring]	g (lb)	1075 / 1220	(2.37 / 2.69)	
Rotary Torque of Inertia	kgcm ² (lbf ²)	0.26	(0.00062)	
Weight Compensation [Option MS01 / Option MS04]	N (lbf)	30 / 60	(6.74 / 13.5))	
Axle Diameter	mm (in)	12h9	(0.47)	
Through bore-hole		Option-L	Hole diameter 2.5 mm Connection (front) M5; (back) Connector M5	
Protection Class			IP64	

Note: Hollow Shaft variants have 10% reduced forces.

DIMENSIONS

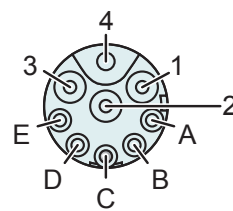


Dimensions in mm

CONNECTORS

Motor Connector Wiring	Linear Unit: R-Connector	Rotary Unit: R-Connector	Wire Color Motor Cable
Ph 1+	1	1	red
Ph 1-	2	2	pink
Ph 2+	3	3	blue
Ph 2-	4	4	grey
+5VDC	A	A	white
GND	B	B	inner shield
Sin	C	C	yellow
Cos	D	D	green
Temp.	E	E	black
Shield	Housing	Housing	outer shield

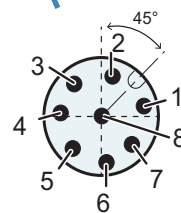
R-Connector



View: Motor connector, plug on

Connector Wiring	Torque Sensor M12 Connector	Wire Color Motor Cable
Supply GND	1	white
Ssupply 12 - 24V (approx. 80 mA @ 24VDC)	2	brown
NC	3	green
Torque Mass	4	yellow
Torque +	5	grey
Alignment signal	6	pink
Alignment signal	7	blue
Alignment signal	8	red

M12-Connector



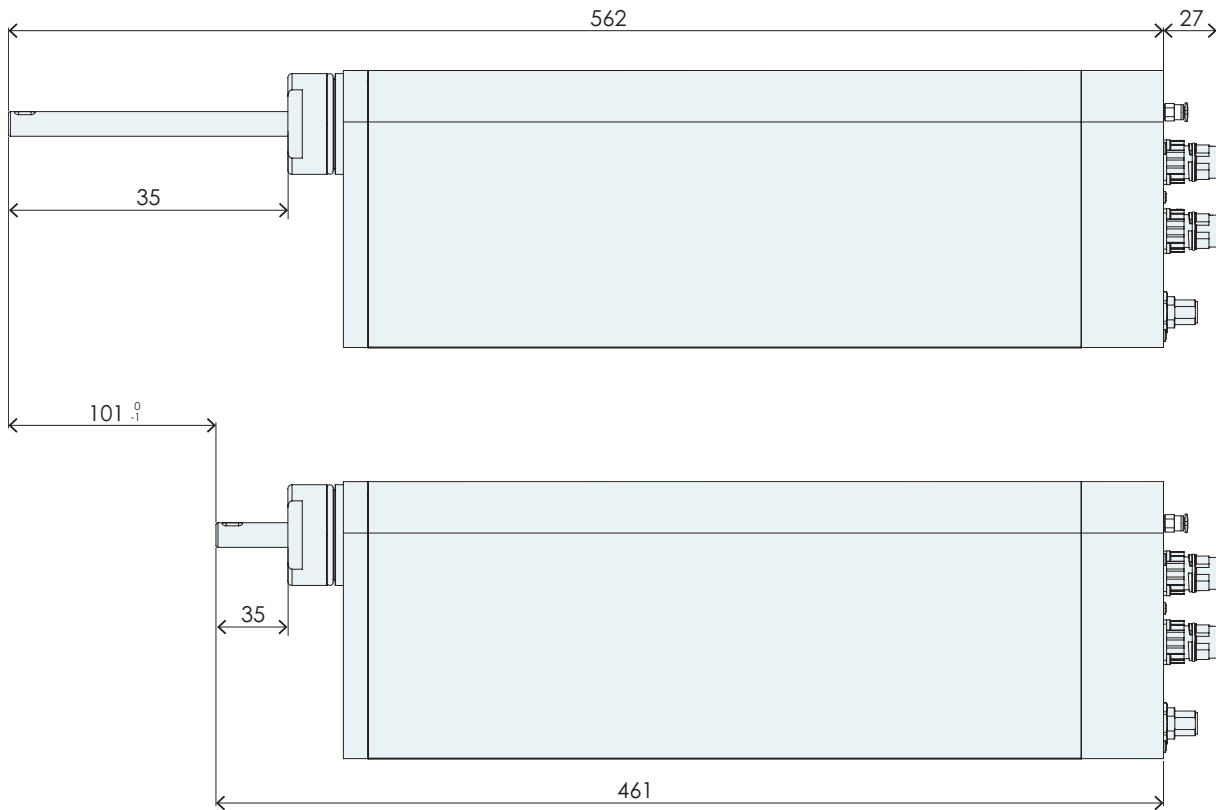
View: Motor connector, plug on

PIN 4 (torque mass) and PIN 1 (ground supply) are internally galvanically isolated, bridging at the power source (not at the transducer) if required.

External EMC circuitry

A ceramic capacitor 100nF / 50V can be soldered between pins 4 - 5 on the evaluation to avoid wire-bound interference.

MAX. STROKE



ORDERING INFORMATION

LINEAR ROTARY MOTORS PR02

Item	Description	Item-No.
PR02-52x60-R_37x120F-HP-R-100_MS00_TS00	Linear Rotary Motor	0150-2997
PR02-52x60-R_37x120F-HP-R-100_MS01_TS00	Linear Rotary Motor, MS 30N	0150-3741
PR02-52x60-R_37x120F-HP-R-100_MS04_TS00	Linear Rotary Motor, MS 60N	0150-2781
PR02-52x60-R_37x120F-HP-R-100-L_MS00_TS00	Linear Rotary Motor with hollow Shaft	0150-3725
PR02-52x60-R_37x120F-HP-R-100-L_MS01_TS00	Linear Rotary Motor with hollow Shaft, MS 30N	0150-3742
PR02-52x60-R_37x120F-HP-R-100-L_MS04_TS00	Linear Rotary Motor with hollow Shaft, MS 60N	0150-3758

LINEAR ROTARY MOTORS PR02 - WITH TORQUE MEASURING SHAFT

Item	Description	Item-No.
PR02-52x60-R_37x120F-HP-R-100_MS00_TS01	Linear Rotary Motor, TS 2.5Nm	0150-3726
PR02-52x60-R_37x120F-HP-R-100_MS01_TS01	Linear Rotary Motor, TS 2.5Nm, MS 30N	0150-3743
PR02-52x60-R_37x120F-HP-R-100_MS04_TS01	Linear Rotary Motor, TS 2.5Nm, MS 60N	0150-2884
PR02-52x60-R_37x120F-HP-R-100-L_MS00_TS01	Linear Rotary Motor with hollow Shaft, TS 2.5Nm	0150-3727
PR02-52x60-R_37x120F-HP-R-100-L_MS01_TS01	Linear Rotary Motor with hollow Shaft, TS 2.5Nm, MS 30N	0150-3744
PR02-52x60-R_37x120F-HP-R-100-L_MS04_TS01	Linear Rotary Motor with hollow Shaft, TS 2.5Nm, MS 60N	0150-2707

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ALL LINEAR MOTION FROM A SINGLE SOURCE

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