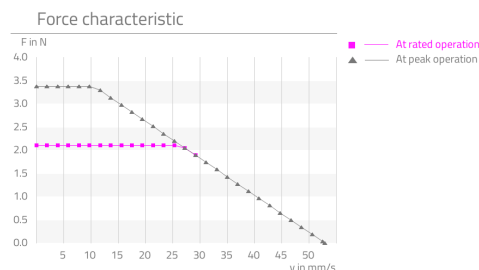


Attributes

Highlights	Description
<ul style="list-style-type: none"> ▪ Integrated lens holder ▪ Custom designed tool holder ▪ Extreme dynamic ▪ High repeatability ▪ Compact build up 	<p>The RasuunDrive® HighAcc 10mm - type 1 micro linear actuator system is a customised version and has a travel range of 3 mm. The system is driven by a DC motor with rated voltage of 12V. An optical linear encoder with a resolution of 0.5 µm is used for position determination. The spring-loaded spindle nut system has a pitch of 0.25 mm. The mounting of the micro linear actuator system or application likewise has a customised configuration.</p>

Technical parameter

P-019



Nr.	Parameter	Symbol	Value	Hint
P-004	Self-locking		yes	
P-005	Travel range	s	3 mm	

Technical Supply Specifications: RasunDrive® HighAcc 10mm - Type 1



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Nr.	Parameter	Symbol	Value	Hint
P-008	Repeatability unidirectional		1 µm	
P-009	Repeatability bidirectional		5 µm	
P-010	Accuracy		8 µm	
P-012	Resolution		0.5 µm	
P-014	Lost motion		5 µm	
P-015	Backlash		0 µm	
P-016	Rated force	F	2.10966 N	
P-017	Peak force	F	3.37546 N	
P-018	Momentary peak force	F	4.21933 N	
P-023	Rated speed	v	29.1667 ^{mm} / _s	
P-024	Maximum speed	v	58.3333 ^{mm} / _s	
P-055	Moment of inertia	I	1171 * 10 ⁻⁶ gcm ²	
P-056	Weight	m	40 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-20 °C	
P-058	Min. permissible ambient temperature (operating)	T	-20 °C	
P-059	Max. permissible ambient temperature (non-operating)	T	85 °C	
P-060	Max. permissible ambient temperature (operating)	T	65 °C	

Motor data: DC-Motor RE 10 12V 1.5W

Nr.	Parameter	Symbol	Value	Hint
P-100	Motortype		DC	
P-102	Maximum speed of motor	n	14000 rpm	
P-104	Speed constant of motor	Kn	1060 ^{rpm} / _V	
P-106	Stall torque of motor	T	3.24 mNm	
P-107	Torque constant of motor	Km	9 ^{mNm} / _A	
P-108	No-load current of motor	I	5.5 mA	
P-110	Max. continuous current of motor	I	176 mA	
P-111	Rated voltage of motor	U	12 V	
P-112	Phase resistance of motor	R	33.3 ohm	
P-113	Inductance of motor	L	0.299 mH	
P-114	Amplitude BEMF of motor	U	0.943 mV/rpm	

Technical Supply Specifications: RasunDrive® HighAcc 10mm - Type 1



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Nr.	Parameter	Symbol	Value	Hint
P-118	Max. coil temperature of motor	T	85 °C	
P-119	Thermal resistance of motor between coil and housing	R _{th1}	9 ^{°C} /W	
P-120	Thermal resistance of motor between housing and air	R _{th2}	37.5 ^{°C} /W	
P-121	Thermal time constant of the coil of the motor	τ _{w1}	2220 ms	
P-122	Thermal time constant of the housing of the motor	τ _{w2}	135000 ms	

Encoder data

Nr.	Parameter	Symbol	Value	Hint
P-201	Impulses per millimeter of encoder		500	
P-202	Channels of encoder		A, A _I , B, B _I , I, I _I	
P-203	Frequency range of encoder	f	20000 kHz	
P-204	Operating voltage of encoder	U	5 ±0.5 V	
P-205	Rated current consumption of encoder	I	150 mA	

Data limit switch

Nr.	Parameter	Symbol	Value	Hint
P-302	Configuration Limit switches		n.c.	

Spindle data: Spindle unit MLP-10-SPM0014 – 1.5 mm travel range

Nr.	Parameter	Symbol	Value	Hint
P-402	Pitch	R	0.25 mm	

Material information

Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-905	Lubrication of spindel-nut-system		Fomblin GRM60	
P-911	Material of bearing motor		Sintered bronze	
P-914	Material of motor housing		steel, coating layer removed and covered with protective foil	

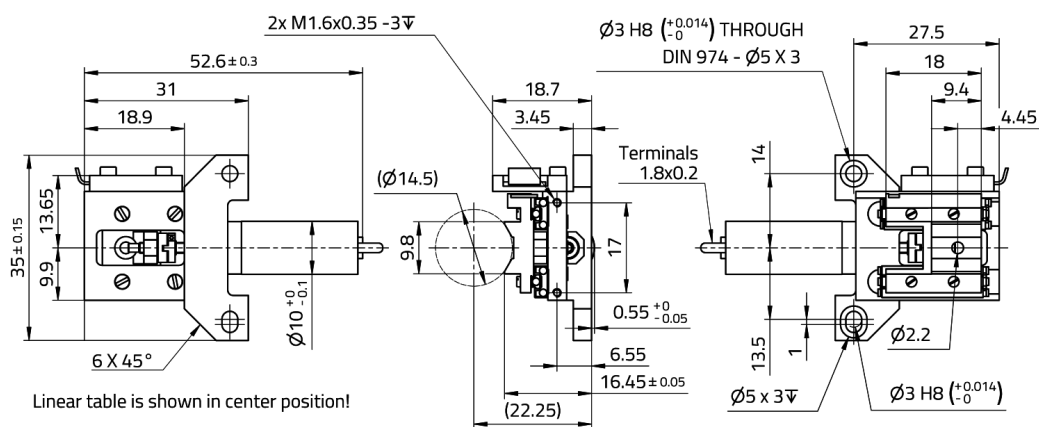
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Nr.	Parameter	Symbol	Value	Hint
P-917	Material of spindle		1.4034 DIN EN	

Technical drawing



Pin assignment	
Pin	Signal
1	Enc. B-
2	0V
3	NAS
4	Enc. B+
5	Enc. I-
6	AS
7	Enc. A-
8	Enc. I+
9	Enc. A+
10	5V

Flex PCB (encoder):
 Thickness: 0,1mm
 Bending radius 1mm min.
 Thickness of pads area (stiffener)
 0,3mm (±0,05), not flexible
 Length=25mm

recommended connector (encoder):
 socket , 10-pole, JST SHR-10V-5



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