



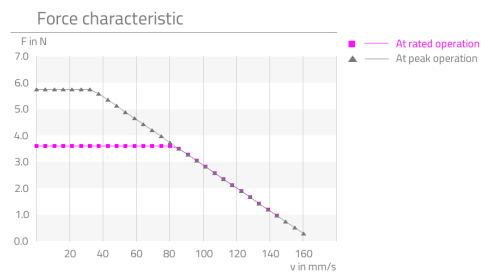
Attributes

Highlights	Description
<ul style="list-style-type: none"> ▪ High adjustment speed ▪ Easy controllability ▪ Compact build up ▪ Extreme power density ▪ Integrated limit switches 	<p>The RasuunDrive® HighAcc 16mm - type 1 micro linear actuator system has a travel range of 24 mm and is driven by a BLDC motor with rated voltage of 12V and integrated encoder with a resolution of 256 pulses per rotation. Connected to this is a spring-loaded spindle nut system with a pitch of 0.35 mm. The end positions are monitored by two mechanical limit switches; the mounting of the micro linear actuator system or application was implemented according to customer specifications.</p>

Technical parameter

The stated values are based on calculations and measurements by Micromotion GmbH, carried out according to the current state of the art. You can find our definitions at www.micromotion-drives.com.
 For further information please contact sales@micromotion.de.

P-019



Technical Supply Specifications: RasuunDrive® HighAcc 16mm - Type 1



Micromotion GmbH, Phone: +49 (0) 6431 – 569 18 – 25, E-mail: sales@micromotion.de

Nr.	Parameter	Symbol	Value	Hint
P-004	Self-locking		yes	
P-005	Travel range	s	24 mm	
P-008	Repeatability unidirectional		10 µm	
P-009	Repeatability bidirectional		20 µm	
P-010	Accuracy		23 µm	
P-012	Resolution		1.36719 µm	
P-014	Lost motion		5 µm	
P-015	Backlash		0 µm	
P-016	Rated force	F	3.59596 N	
P-016	Rated torque	T	4.135 mNm	
P-017	Peak force	F	5.75354 N	
P-018	Momentary peak force	F	7.19193 N	
P-023	Rated speed	v	145.833 ^{mm} / _s	
P-024	Maximum speed	v	291.667 ^{mm} / _s	
P-035	Radial backlash output shaft		0 µm	
P-036	Axial backlash output shaft		0 µm	
P-055	Moment of inertia	I	2113 * 10 ⁻⁶ gcm ²	
P-056	Weight	m	33 g	
P-057	Min. permissible ambient temperature (non-operating)	T	-40 °C	
P-058	Min. permissible ambient temperature (operating)	T	-20 °C	
P-059	Max. permissible ambient temperature (non-operating)	T	150 °C	
P-060	Max. permissible ambient temperature (operating)	T	100 °C	

Additional technical data:

- Glue: 2K-Epoxy Uhu Endfest 300, Loctite 222
- PCB with conformal coating (selective)

Motor data: EC-Motor EC 13 12V 6W

(Data are provided by the manufacturer or are based on the data sheets of the manufacturer)

Nr.	Parameter	Symbol	Value	Hint
P-100	Motortype		EC	
P-102	Maximum speed of motor	n	50000 rpm	
P-104	Speed constant of motor	K _n	2380 ^{rpm} / _V	

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Nr.	Parameter	Symbol	Value	Hint
P-106	Stall torque of motor	T	8.27 mNm	
P-107	Torque constant of motor	Km	4.01 $\frac{\text{mNm}}{\text{A}}$	
P-108	No-load current of motor	I	78.6 mA	
P-110	Max. continuous current of motor	I	646 mA	
P-111	Rated voltage of motor	U	12 V	
P-112	Phase resistance of motor	R	5.82 ohm	
P-113	Inductance of motor	L	0.091 mH	
P-114	Amplitude BEMF of motor	U	0.421 mV/rpm	
P-118	Max. coil temperature of motor	T	155 °C	
P-119	Thermal resistance of motor between coil and housing	R _{th1}	2.46 $\frac{\text{K}}{\text{W}}$	
P-120	Thermal resistance of motor between housing and air	R _{th2}	32 $\frac{\text{K}}{\text{W}}$	
P-121	Thermal time constant of the coil of the motor	τ_{w1}	720 ms	
P-122	Thermal time constant of the housing of the motor	τ_{w2}	188000 ms	

Encoder data

(Data are provided by the manufacturer or are based on the data sheets of the manufacturer)

Nr.	Parameter	Symbol	Value	Hint
P-201	Impulses per revolution of encoder		256	
P-202	Channels of encoder		A, A-, B, B-, I, I-	
P-203	Frequency range of encoder	f	160 kHz	
P-204	Operating voltage of encoder	U	5 ±0.25 V	
P-206	Output current of encoder	I	5 mA	1)
P-207	Signal/phase shifting of encoder		90±45 °	

Data limit switch

(Data are provided by the manufacturer or are based on the data sheets of the manufacturer)

Nr.	Parameter	Symbol	Value	Hint
P-300	Type of limit switch		2x OMRON D2MQ	
P-302	Configuration Limit switches		n.o.	

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Spindle data: Spindle unit MLP-16-SPM0033 – 24 mm travel range
(Data are provided by the manufacturer or are based on the data sheets of the manufacturer)

Nr.	Parameter	Symbol	Value	Hint
P-402	Pitch	R	0.35 mm	

Material information

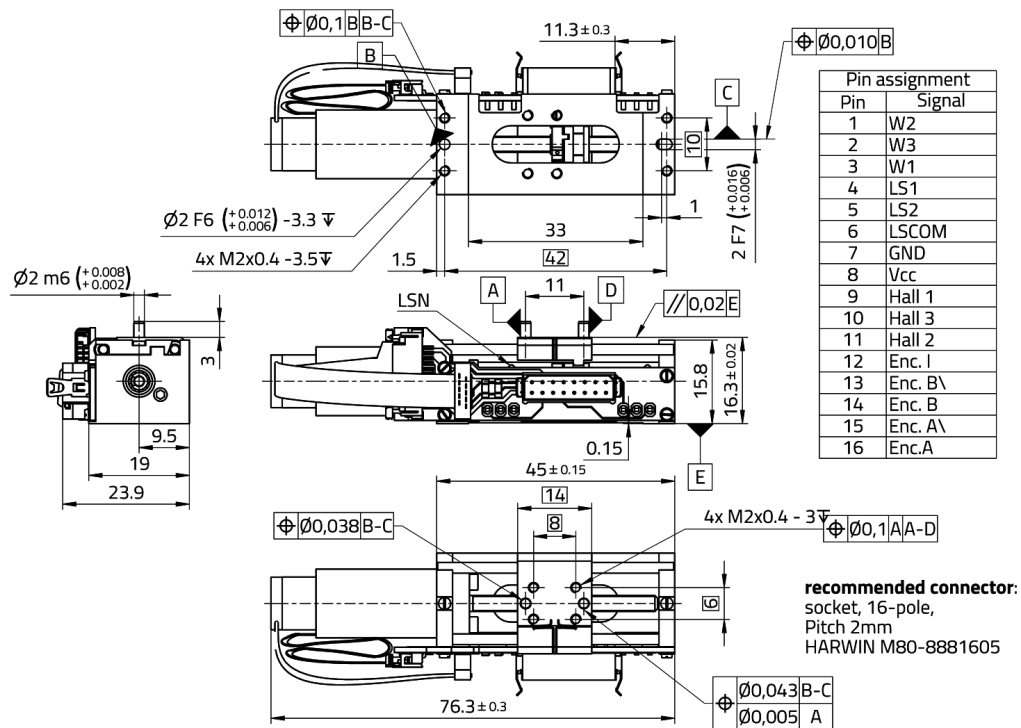
Nr.	Parameter	Symbol	Value	Hint
P-900	RoHS compliant		yes	
P-901	Lubrication of output bearing gearbox		Longtime PD2	
P-905	Lubrication of spindel-nut-system		Fomblin GRM60	
P-909	Material of output bearing gearbox		1.4108 DIN EN	
P-911	Material of bearing motor		Stainless steel	
P-912	Material of gearbox output side		1.4305 DIN EN	
P-914	Material of motor housing		Aluminium	
P-917	Material of spindle		1.2210	

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Technical drawing



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