

LINEAR MODULES DM03



- ✓ 3 sizes in stroke range up to 695 mm and forces up to 572 N
- ✓ Slim design for optimum row arrangement
- ✓ With innovative, reinforced MagSpring® for vertical load compensation
- ✓ Direct mounting of the load with absorption of transverse forces
- ✓ Corrosion-resistant, hard chrome-plated guide rods
- ✓ Linear ball bearings with food grade lubricant (NSF H1)
- ✓ Optionally with force sensor and high-precision absolute position sensor
- ✓ Simple load simulation by LinMot Designer Software
- ✓ Can be combined to form two-axis systems

LINEAR MODULES DM03

Description	3
DM03-23x80	5
DM03-23x160	10
DM03-37x120	14
DM03-48x150	20
DM03-48x240	28
DM03-48x360	36



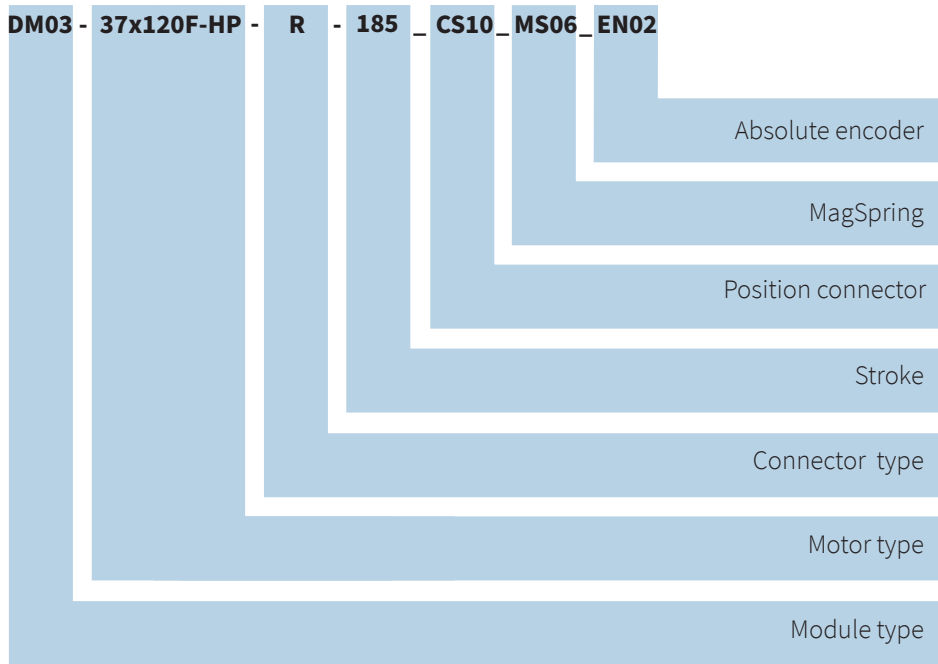
1. Front plate with counterbore holes for precise load mounting
2. Hardened, chrome-plated shafts with high corrosion resistance
3. Linear ball bearings with food grade lubricant (NSF H1)
4. Guide block with counterbores holes for uncomplicated and precise mounting of the linear module
5. Linear motor stator with integrated temperature and position sensors and electronic type plate
6. Aluminium casing protects the MagSpring® slider from contact. (Only for DM03-37/48)
7. Magnetic slider of the linear motor (Magnets are protected in a chrome steel tube)
8. Magnetic spring MagSpring® for vertical load compensation
9. Magnetic tape for built-in position sensor, which has high repeat accuracy and absolute resolution.

Linear Modules DM03

The DM03 linear modules are complete drive solutions consisting of a linear guide, a permanently integrated LinMot linear motor and the MagSpring® "magnetic spring". All components are arranged in a line and thus guarantee maximum compactness of the entire module. Precision shafts, which are guided in linear ball bearings, ensure exact linear movement. The rounded surfaces of the housing also facilitate maintenance and cleaning of the modules. Thanks to the choice of material and the selected design principle, the drive unit achieves greater flexural rigidity with a comparatively small moving mass. The core technology of the drive consists of LinMot linear motors of types PS01-23, PS01-37 and PS01-48, depending on the choice, allowing the

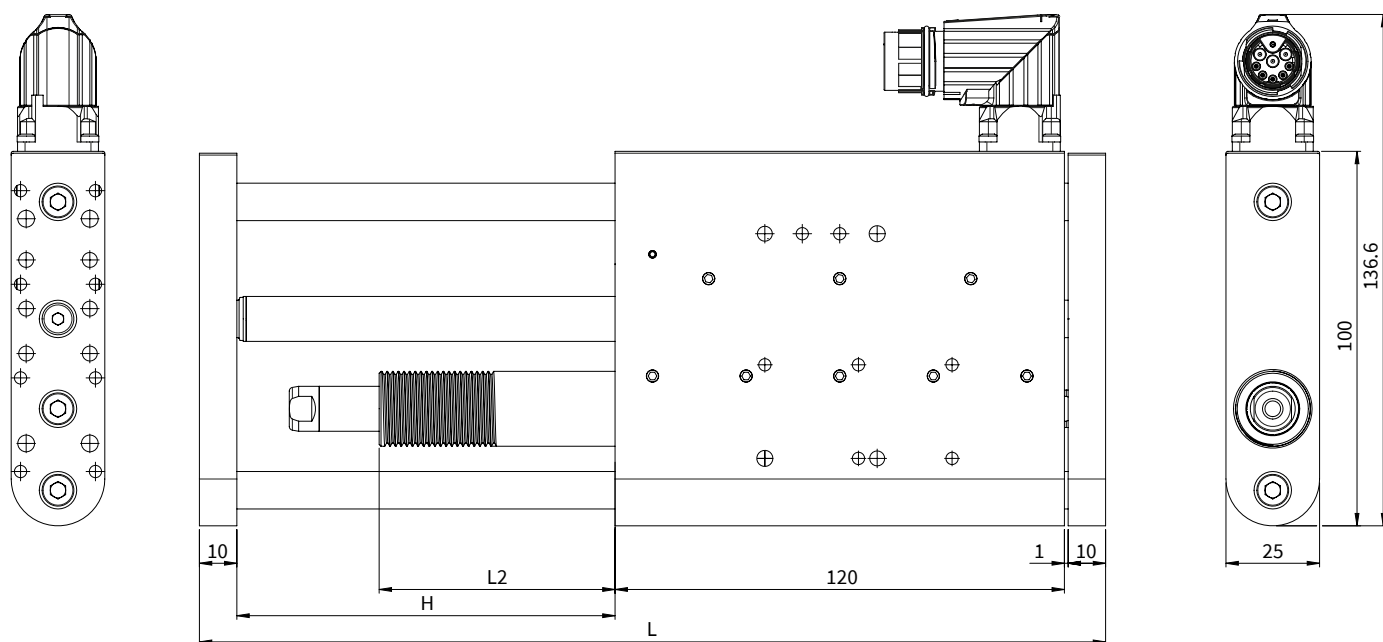
user to realise a force range of up to 572 N and strokes of up to 695 mm. The motor data with accelerations of up to 50 m/s² and a maximum speed of 5 m/s leave nothing to be desired in terms of dynamics. Each DM03 linear module is supplied to the customer pre-assembled and does not have to be put together from individual parts. Only one article number is required for ordering. The "LinMot Designer" simulation software, which is available online at any time, ensures that the right linear modules are selected in advance. Commissioning the drives is extremely simple, as all DM01 linear guides are equipped with "plug and play" technology. The required type parameters do not have to be selected manually, but are read in automatically by the servo drive.

Designation Code



The DM03 linear module product family currently offers more than 200 product variants. Each variant has its own article number and is supplied pre-assembled. The wide variety of sizes, strokes, forces and equipment features opens up a very comprehensive range of applications for the user.

LINEAR MODULES DM03-23x80_MSxx



Dimensions mm

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-23x80F-XP-R-60_MSxx ²⁾	60 (2.36)	0 (0)	202 (7.95)	580 (1.28)	1400 (3.09)
DM03-23x80F-XP-R-100_MSxx ²⁾	100 (3.93)	58 (2.28)	242 (9.53)	730 (1.61)	1620 (3.57)
DM03-23x80F-XP-R-160_MSxx ²⁾	160 (6.30)	138 (5.43)	302 (11.89)	920 (2.03)	1910 (4.21)
DM03-23x80F-XP-R-220_MSxx ²⁾	220 (8.66)	201 (7.91)	362 (14.25)	1040 (2.29)	2140 (4.72)
DM03-23x80F-XP-R-290_MSxx ²⁾	290 (11.42)	217 (8.54)	432 (17.0)	1250 (2.76)	2350 (5.18)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider²⁾ MagSpring variants with different constant forces

MS11: Constant force 11N (Effective load compensation depending on moving mass)

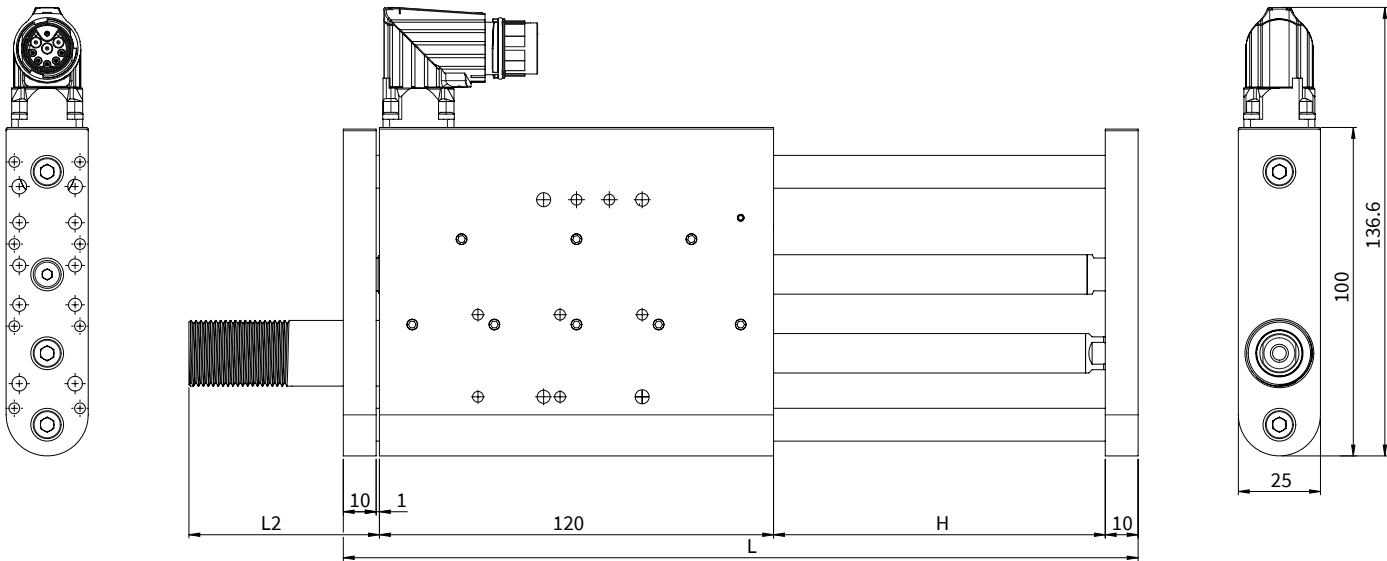
MS12: Constant force 17N (Effective load compensation depending on moving mass)

MS13: Constant force 22N (Effective load compensation depending on moving mass)

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, ø 10 mm	Linear ball bearing	H-ECOPUR

LINEARMODULE DM03-23x80_CS10_MSxx



Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-23x80F-XP-R-60_CS10_MSxx ²⁾	60 (2.36)	0 (0)	202 (7.95)	580 (1.28)	1400 (3.09)
DM03-23x80F-XP-R-100_CS10_MSxx ²⁾	100 (3.93)	58 (2.28)	242 (9.53)	730 (1.61)	1620 (3.57)
DM03-23x80F-XP-R-160_CS10_MSxx ²⁾	160 (6.30)	138 (5.43)	302 (11.89)	920 (2.03)	1910 (4.21)
DM03-23x80F-XP-R-220_CS10_MSxx ²⁾	220 (8.66)	201 (7.91)	362 (14.25)	1040 (2.29)	2140 (4.72)
DM03-23x80F-XP-R-290_CS10_MSxx ²⁾	290 (11.42)	217 (8.54)	432 (17.0)	1250 (2.76)	2350 (5.18)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider
²⁾ MagSpring variants with different constant forces
MS11: Constant force 11N (Effective load compensation depending on moving mass)
MS12: Constant force 17N (Effective load compensation depending on moving mass)
MS13: Constant force 22N (Effective load compensation depending on moving mass)

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, ø 10 mm	Linear ball bearing	H-ECOPUR

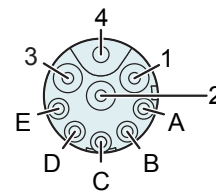
PERFORMANCE DATA DM03-23x80

Performance Data Linear Module DM03-23x80				
Stroke				
Max. Stroke	mm (in)		290 (11.42)	
Force				
Max. Force @ 48VDC	N (lbf)		73.1 (16.5)	
Max. Force @ 72VDC	N (lbf)		73.1 (16.5)	
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)		20.2 / 27.3 / - (4.5 / 6.1 / -)	
Force Constant	N/A _{pk} (lbf/A _{pk})		9.8 (2.21)	
Position Detection				
Position Resolution	mm (in)		0.002 (0.0001)	
Repeatability	mm (in)		±0.05 (±0.002)	
Position Resolution with ES	mm (in)		- (-)	
Repeatability with ES	mm (in)		- (-)	
Electrical Data				
Max. Current @ 48VDC	A _{pk}		7.4	
Max. Current @ 72VDC	A _{pk}		7.4	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}		2.0 / 2.8 / -	
Terminal Resistance 25 °C / 150 °C	Ohm		4.2 / 6.2	
Terminal Inductivity	mH		0.6	
Magnetic Period	mm (in)		20 (0.78)	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	K/W		3.17 / 1.69 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		300 / 200 / -	
Mechanical Data				
Stator Diameter	mm (in)		23 (0.91)	
Slider Diameter	mm (in)		12 (0.47)	
IP Code			IP 64 S	

CONNECTOR

Motor Connector Wiring	R-Connector	Wire Color Motor Cable
Ph 1+	1	red
Ph 1-	2	pink
Ph 2+	3	blue
Ph 2-	4	grey
+5VDC	A	white
GND	B	inner Shield
Sinus	C	yellow
Cosinus	D	green
Temp.	E	black
Schirm	Geh.	outer Shield

R-Connector



View: Motor connector, plug side
Material: nickel plated
IP Code: IP 67

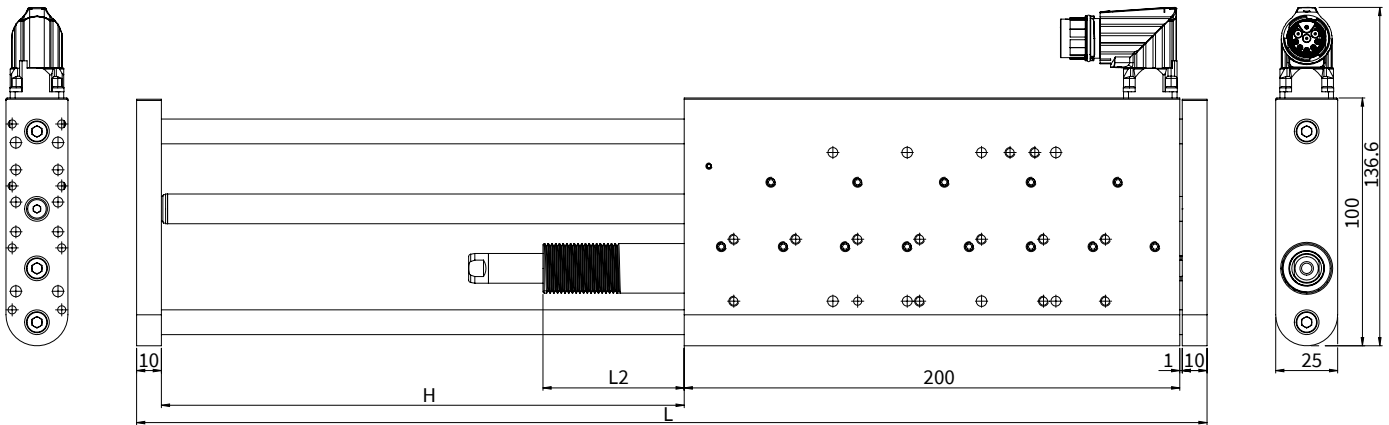
ORDERING INFORMATION

Item	Description	Item-No.
DM03-23x80F-XP-R-60_MS11	Linear Module with MagSpring 11N, Stroke max. 60mm	0150-6286
DM03-23x80F-XP-R-60_MS12	Linear Module with MagSpring 17N, Stroke max. 60mm	0150-6287
DM03-23x80F-XP-R-60_MS13	Linear Module with MagSpring 22N, Stroke max. 60mm	0150-6288
DM03-23x80F-XP-R-100_MS11	Linear Module with MagSpring 11N, Stroke max. 100mm	0150-6289
DM03-23x80F-XP-R-100_MS12	Linear Module with MagSpring 17N, Stroke max. 100mm	0150-6290
DM03-23x80F-XP-R-100_MS13	Linear Module with MagSpring 22N, Stroke max. 100mm	0150-6291
DM03-23x80F-XP-R-160_MS11	Linear Module with MagSpring 11N, Stroke max. 160mm	0150-6292
DM03-23x80F-XP-R-160_MS12	Linear Module with MagSpring 17N, Stroke max. 160mm	0150-6293
DM03-23x80F-XP-R-160_MS13	Linear Module with MagSpring 22N, Stroke max. 160mm	0150-6294
DM03-23x80F-XP-R-220_MS11	Linear Module with MagSpring 11N, Stroke max. 220mm	0150-6295
DM03-23x80F-XP-R-220_MS12	Linear Module with MagSpring 17N, Stroke max. 220mm	0150-6296
DM03-23x80F-XP-R-220_MS13	Linear Module with MagSpring 22N, Stroke max. 220mm	0150-6297
DM03-23x80F-XP-R-290_MS11	Linear Module with MagSpring 11N, Stroke max. 290mm	0150-6298
DM03-23x80F-XP-R-290_MS12	Linear Module with MagSpring 17N, Stroke max. 290mm	0150-6299
DM03-23x80F-XP-R-290_MS13	Linear Module with MagSpring 22N, Stroke max. 290mm	0150-6300

Item	Description	Item-No.
DM03-23x80F-XP-R-60_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 60mm	0150-6019
DM03-23x80F-XP-R-60_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 60mm	0150-6021
DM03-23x80F-XP-R-60_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 60mm	0150-6023
DM03-23x80F-XP-R-100_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 100mm	0150-6024
DM03-23x80F-XP-R-100_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 100mm	0150-6025
DM03-23x80F-XP-R-100_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 100mm	0150-6026
DM03-23x80F-XP-R-160_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 160mm	0150-6027
DM03-23x80F-XP-R-160_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 160mm	0150-6028
DM03-23x80F-XP-R-160_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 160mm	0150-6029
DM03-23x80F-XP-R-220_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 220mm	0150-6030
DM03-23x80F-XP-R-220_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 220mm	0150-6031
DM03-23x80F-XP-R-220_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 220mm	0150-6032
DM03-23x80F-XP-R-290_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 290mm	0150-6033
DM03-23x80F-XP-R-290_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 290mm	0150-6034
DM03-23x80F-XP-R-290_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 290mm	0150-6035

Handwriting practice area with 20 horizontal dotted lines.

LINEAR MODULES DM03-23x160_MSxx



Dimensions mm

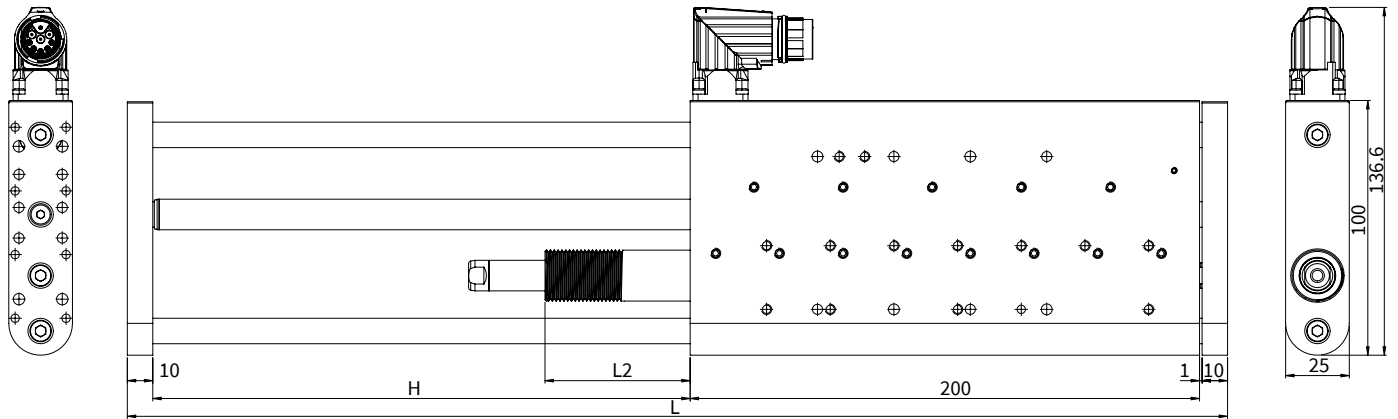
Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-23x160F-XP-R-80_MSxx ²⁾	80 (3.15)	0 (0)	302 (11.89)	800 (1.76)	2140 (4.72)
DM03-23x160F-XP-R-140_MSxx ²⁾	140 (5.51)	0 (0)	362 (14.25)	980 (2.16)	2350 (5.18)
DM03-23x160F-XP-R-210_MSxx ²⁾	210 (8.27)	57 (2.24)	432 (17.0)	1180 (2.60)	2620 (5.78)
DM03-23x160F-XP-R-270_MSxx ²⁾	270 (10.63)	143 (5.63)	492 (19.37)	1370 (3.02)	2920 (6.44)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider
²⁾ MagSpring variants with different constant forces
MS11: Constant force 11N (Effective load compensation depending on moving mass)
MS12: Constant force 17N (Effective load compensation depending on moving mass)
MS13: Constant force 22N (Effective load compensation depending on moving mass)

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, ø 10 mm	Linear ball bearing	H-ECOPUR

LINEAR MODULES DM03-23x160_CS10_MSxx



Dimensions mm

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-23x160F-XP-R-80_CS10_MSxx ²⁾	80 (3.15)	0 (0)	302 (11.89)	800 (1.76)	2140 (4.72)
DM03-23x160F-XP-R-140_CS10_MSxx ²⁾	140 (5.51)	0 (0)	362 (14.25)	980 (2.16)	2350 (5.18)
DM03-23x160F-XP-R-210_CS10_MSxx ²⁾	210 (8.27)	49 (1.93)	432 (17.0)	1180 (2.60)	2620 (5.78)
DM03-23x160F-XP-R-270_CS10_MSxx ²⁾	270 (10.63)	143 (5.63)	492 (19.37)	1370 (3.02)	2920 (6.44)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider

²⁾ MagSpring variants with different constant forces

MS11: Constant force 11N (Effective load compensation depending on moving mass)

MS12: Constant force 17N (Effective load compensation depending on moving mass)

MS13: Constant force 22N (Effective load compensation depending on moving mass)

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, Ø 10 mm	Linear ball bearing	H-ECOPUR

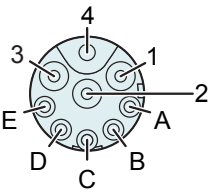
PERFORMANCE DATA DM03-23x160

Performance Data Linear Module DM03-23x160				
Stroke				
Max. Stroke	mm (in)		270 (10.63)	
Force				
Max. Force @ 48VDC	N (lbf)		137.3 (30.9)	
Max. Force @ 72VDC	N (lbf)		137.3 (30.9)	
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)		32.7 / 50.1 / - (7.4 / 11.3 / -)	
Force Constant	N/A _{pk} (lbf/A _{pk})		13.6 (3.06)	
Position Detection				
Position Resolution	mm (in)		0.002 (0.0001)	
Repeatability	mm (in)		±0.05 (±0.002)	
Position Resolution with ES	mm (in)		- (-)	
Repeatability with ES	mm (in)		- (-)	
Electrical Data				
Max. Current @ 48VDC	A _{pk}		10	
Max. Current @ 72VDC	A _{pk}		10.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}		2.4 / 3.6 / -	
Terminal Resistance 25 °C / 150 °C	Ohm		3.9 / 5.7	
Terminal Inductivity	mH		0.54	
Magnetic Period	mm (in)		20 (0.78)	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	K/W		2.6 / 1.1 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		510 / 220 / -	
Mechanical Data				
Stator Diameter	mm (in)		23 (0.91)	
Slider Diameter	mm (in)		12 (0.47)	
IP Code			IP 64 S	

CONNECTOR

Motor Connector Wiring	R-Connector	Wire Color Motor Cable
Ph 1+	1	red
Ph 1-	2	pink
Ph 2+	3	blue
Ph 2-	4	grey
+5VDC	A	white
GND	B	inner Shield
Sinus	C	yellow
Cosinus	D	green
Temp.	E	black
Schirm	Geh.	outer Shield

R-Connector



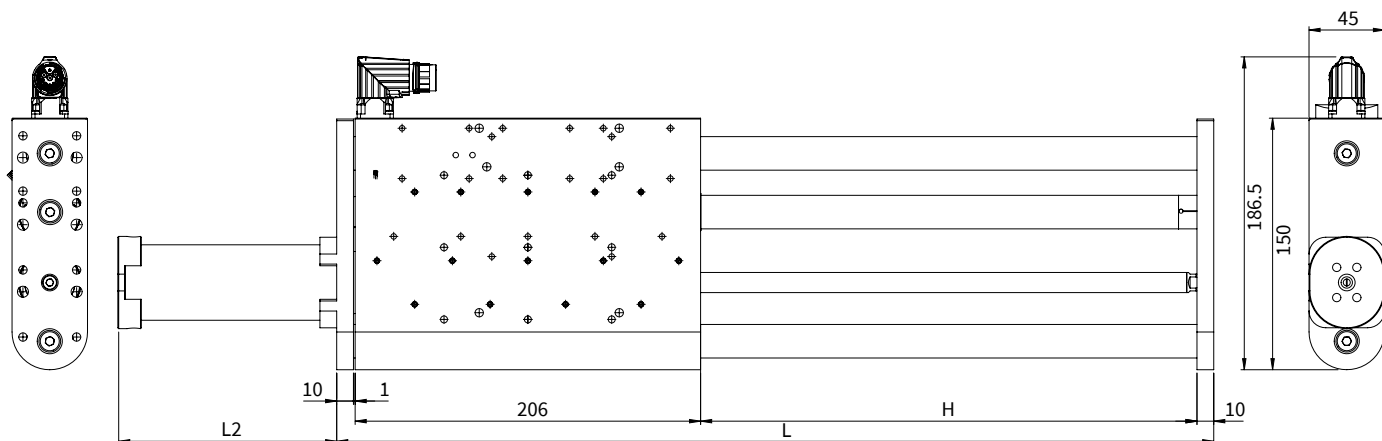
View: Motor connector, plug side
Material: nickel plated
IP Code: IP 67

ORDERING INFORMATION

Item	Description	Item-No.
DM03-23x160H-XP-R-80_MS11	Linear Module with MagSpring 11N, Stroke max. 80mm	0150-6274
DM03-23x160H-XP-R-80_MS12	Linear Module with MagSpring 17N, Stroke max. 80mm	0150-6275
DM03-23x160H-XP-R-80_MS13	Linear Module with MagSpring 22N, Stroke max. 80mm	0150-6276
DM03-23x160H-XP-R-140_MS11	Linear Module with MagSpring 11N, Stroke max. 140mm	0150-6259
DM03-23x160H-XP-R-140_MS12	Linear Module with MagSpring 17N, Stroke max. 140mm	0150-6249
DM03-23x160H-XP-R-140_MS13	Linear Module with MagSpring 22N, Stroke max. 140mm	0150-6257
DM03-23x160H-XP-R-210_MS11	Linear Module with MagSpring 11N, Stroke max. 210mm	0150-6280
DM03-23x160H-XP-R-210_MS12	Linear Module with MagSpring 17N, Stroke max. 210mm	0150-6281
DM03-23x160H-XP-R-210_MS13	Linear Module with MagSpring 22N, Stroke max. 210mm	0150-6282
DM03-23x160H-XP-R-270_MS11	Linear Module with MagSpring 11N, Stroke max. 270mm	0150-6283
DM03-23x160H-XP-R-270_MS12	Linear Module with MagSpring 17N, Stroke max. 270mm	0150-6284
DM03-23x160H-XP-R-270_MS13	Linear Module with MagSpring 22N, Stroke max. 270mm	0150-6285

Item	Description	Item-No.
DM03-23x160H-XP-R-80_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 80mm	0150-6109
DM03-23x160H-XP-R-80_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 80mm	0150-6193
DM03-23x160H-XP-R-80_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 80mm	0150-6194
DM03-23x160H-XP-R-140_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 140mm	0150-6166
DM03-23x160H-XP-R-140_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 140mm	0150-6195
DM03-23x160H-XP-R-140_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 140mm	0150-6196
DM03-23x160H-XP-R-210_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 210mm	0150-6167
DM03-23x160H-XP-R-210_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 210mm	0150-6190
DM03-23x160H-XP-R-210_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 210mm	0150-6192
DM03-23x160H-XP-R-270_CS10_MS11	Linear Module with MagSpring 11N, Stroke max. 270mm	0150-6219
DM03-23x160H-XP-R-270_CS10_MS12	Linear Module with MagSpring 17N, Stroke max. 270mm	0150-6221
DM03-23x160H-XP-R-270_CS10_MS13	Linear Module with MagSpring 22N, Stroke max. 270mm	0150-6222

LINEAR MODULES DM03-37x120_MSxx



Dimensions mm

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-37x120F-HP-R-95_MS02 / 03 / 04 ²⁾	95 (3.74)	0 (0)	323 (12.72)	1970 (4.34)	5440 (12.0)
DM03-37x120F-HP-R-95_MS06 / 07 / 09 ²⁾	95 (3.74)	0 (0)	323 (12.72)	1970 (4.34)	5440 (12.0)
DM03-37x120F-HP-R-95_MS31 / 34 / 37 ²⁾	95 (3.74)	66.5 (2.62)	323 (12.72)	2080 (4.59)	5550 (12.24)
DM03-37x120F-HP-R-185_MS06 / 07 / 09 ²⁾	185 (7.28)	10 (0.39)	423 (16.65)	2670 (5.89)	6710 (14.79)
DM03-37x120F-HP-R-185_MS31 / 34 / 37 ²⁾	185 (7.28)	234.5 (9.23)	423 (16.65)	2670 (5.89)	6710 (14.79)
DM03-37x120F-HP-R-195_MS02 / 03 / 04 ²⁾	195 (7.68)	66.5 (2.62)	423 (16.65)	2630 (5.80)	6670 (14.70)
DM03-37x120F-HP-R-275_MS06 / 07 / 09 ²⁾	275 (10.83)	130.5 (5.14)	523 (20.59)	3500 (7.72)	8040 (17.73)
DM03-37x120F-HP-R-295_MS02 / 03 / 04 ²⁾	295 (11.61)	130.5 (5.14)	523 (20.59)	3170 (6.99)	7710 (17.0)
DM03-37x120F-HP-R-395_MS03 ²⁾	395 (15.55)	84.5 (3.33)	623 (24.53)	3750 (8.27)	7750 (17.09)
DM03-37x120F-HP-R-495_MS03 ²⁾	495 (19.49)	130.5 (5.14)	723 (28.46)	4360 (9.61)	8500 (18.74)
DM03-37x120F-HP-R-595_MS03 ²⁾	595 (23.43)	154.5 (6.08)	823 (32.40)	4910 (10.82)	9450 (20.83)
DM03-37x120F-HP-R-695_MS03 ²⁾	695 (27.36)	234.5 (9.23)	923 (36.34)	5570 (12.28)	10400 (22.93)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider²⁾ MagSpring variants with different constant forces

MS02: Constant force 40N (Effective load compensation depending on moving mass)

MS03: Constant force 50N (Effective load compensation depending on moving mass)

MS04: Constant force 60N (Effective load compensation depending on moving mass)

MS06: Constant force 100N (Effective load compensation depending on moving mass)

MS07: Constant force 70N (Effective load compensation depending on moving mass)

MS09: Constant force 90N (Effective load compensation depending on moving mass)

MS31: Constant force 110N (Effective load compensation depending on moving mass)

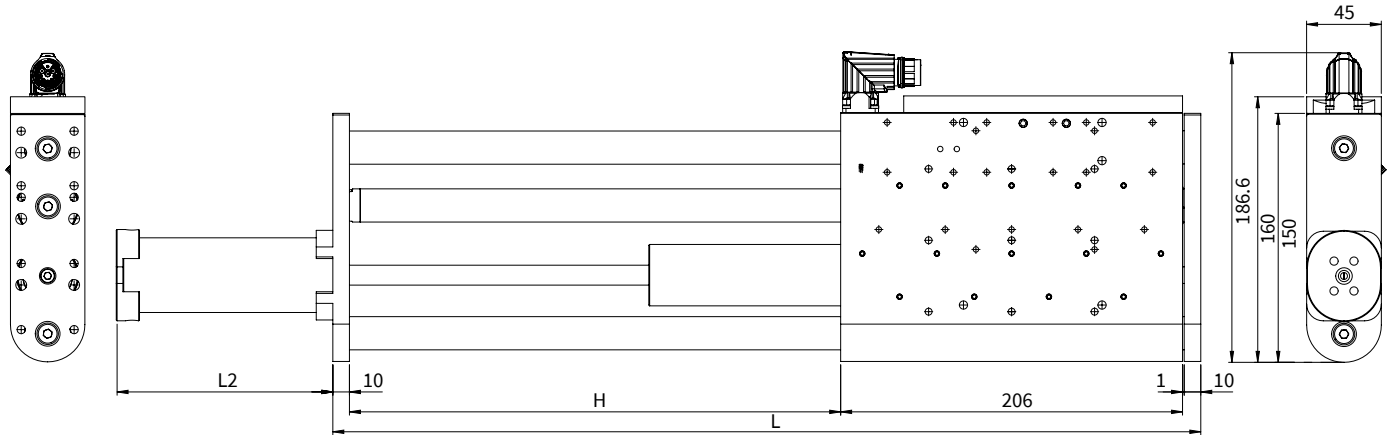
MS34: Constant force 140N (Effective load compensation depending on moving mass)

MS37: Constant force 170N (Effective load compensation depending on moving mass)

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, ø 20 mm	Linear ball bearing	H-ECOPUR

LINEAR MODULES DM03-37x120_MSxx_EN02



Dimensions mm

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-37x120F-HP-R-95_MS02 / 03 / 04_EN02 ²⁾	95 (3.74)	0 (0)	323 (12.72)	1970 (4.34)	5730 (12.63)
DM03-37x120F-HP-R-95_MS06 / 07 / 09_EN02 ²⁾	95 (3.74)	0 (0)	323 (12.72)	1970 (4.34)	5730 (12.63)
DM03-37x120F-HP-R-95_MS31 / 34 / 37_EN02 ²⁾	95 (3.74)	66.5 (2.62)	323 (12.72)	2080 (4.59)	6540 (14.42)
DM03-37x120F-HP-R-185_MS06 / 07 / 09_EN02 ²⁾	185 (7.28)	10 (0.39)	423 (16.65)	2670 (5.89)	7000 (15.43)
DM03-37x120F-HP-R-185_MS31 / 34 / 37_EN02 ²⁾	185 (7.28)	234.5 (9.23)	423 (16.65)	2670 (5.89)	8070 (17.79)
DM03-37x120F-HP-R-195_MS02 / 03 / 04_EN02 ²⁾	195 (7.68)	66.5 (2.62)	423 (16.65)	2630 (5.80)	6960 (15.34)
DM03-37x120F-HP-R-275_MS06 / 07 / 09_EN02 ²⁾	275 (10.83)	130.5 (5.14)	523 (20.59)	3500 (7.72)	8330 (18.36)
DM03-37x120F-HP-R-295_MS02 / 03 / 04_EN02 ²⁾	295 (11.61)	130.5 (5.14)	523 (20.59)	3170 (6.99)	8000 (17.64)
DM03-37x120F-HP-R-395_MS03_EN02 ²⁾	395 (15.55)	84.5 (3.33)	623 (24.53)	3750 (8.27)	7990 (17.61)
DM03-37x120F-HP-R-495_MS03_EN02 ²⁾	495 (19.49)	130.5 (5.14)	723 (28.46)	4360 (9.61)	8750 (19.29)
DM03-37x120F-HP-R-595_MS03_EN02 ²⁾	595 (23.43)	154.5 (6.08)	823 (32.40)	4910 (10.82)	9700 (21.38)
DM03-37x120F-HP-R-695_MS03_EN02 ²⁾	695 (27.36)	234.5 (9.23)	923 (36.34)	5570 (12.28)	10640 (23.46)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider²⁾ MagSpring variants with different constant forces

MS02: Constant force 40N (Effective load compensation depending on moving mass)

MS03: Constant force 50N (Effective load compensation depending on moving mass)

MS04: Constant force 60N (Effective load compensation depending on moving mass)

MS06: Constant force 100N (Effective load compensation depending on moving mass)

MS07: Constant force 70N (Effective load compensation depending on moving mass)

MS09: Constant force 90N (Effective load compensation depending on moving mass)

MS31: Constant force 110N (Effective load compensation depending on moving mass)

MS34: Constant force 140N (Effective load compensation depending on moving mass)

MS37: Constant force 170N (Effective load compensation depending on moving mass)

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, ø 20 mm	Linear ball bearing	H-ECOPUR

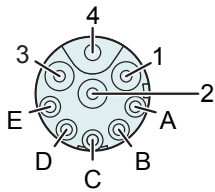
PERFORMANCE DATA DM03-37x120

Performance Data Linear Module DM03-37x120				
Stroke				
Max. Stroke	mm	(in)	495	(19.49)
Force				
Max. Force @ 48VDC	N	(lbf)	255	(57.3)
Max. Force @ 72VDC	N	(lbf)	255	(57.3)
Max. Cont. Force [Passive cooling / Fan / Fluid]	N	(lbf)	62 / 87 / -	(14.2 / 20 / -)
Force Constant	N/A _{pk}	(lbf/A _{pk})	17	(3.82)
Position Detection				
Position Resolution	mm	(in)	0.005	(0.0002)
Repeatability	mm	(in)	±0.05	(±0.002)
Position Resolution with ES	mm	(in)	-	(-)
Repeatability with ES	mm	(in)	-	(-)
Elektrische Daten				
Max. Current @ 48VDC	A _{pk}		14.9	
Max. Current @ 72VDC	A _{pk}		14.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}		3.6 / 5.1 / -	
Terminal Resistance 25 °C / 150 °C	Ohm		2.4 / 3.5	
Terminal Inductivity	mH		1.6	
Magnetic Period	mm	(in)	40	(1.57)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	K/W		1.7 / 0.87 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		600 / 200 / -	
Mechanical Data				
Stator Diameter	mm	(in)	37	(1.5)
Slider Diameter	mm	(in)	20	(0.79)
IP Code			IP 64 S	

CONNECTOR

Motor Connector Wiring	R-Connector	Wire Color Motor Cable
Ph 1+	1	red
Ph 1-	2	pink
Ph 2+	3	blue
Ph 2-	4	grey
+5VDC	A	white
GND	B	inner Shield
Sinus	C	yellow
Cosinus	D	green
Temp.	E	black
Schirm	Geh.	outer Shield

R-Connector



View: Motor connector, plug side
Material: nickel plated
IP Code: IP 67

ORDERING INFORMATION

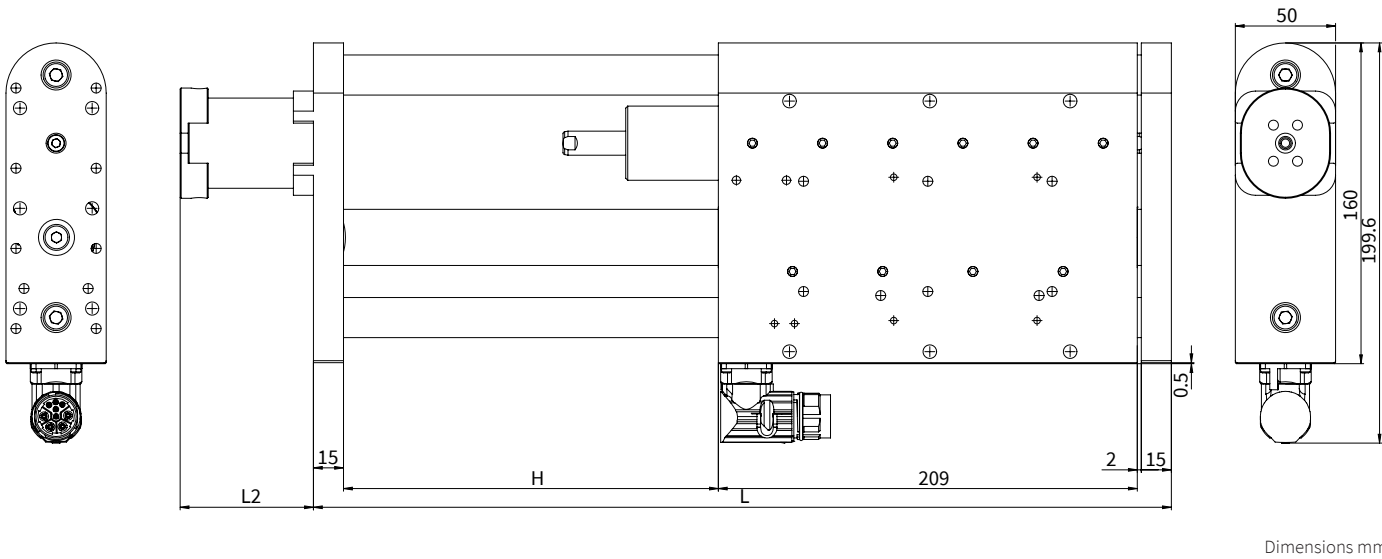
Item	Description	Item-No.
DM03-37x120F-HP-R-95_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 95mm	0150-5795
DM03-37x120F-HP-R-95_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 95mm	0150-5974
DM03-37x120F-HP-R-95_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 95mm	0150-5753
DM03-37x120F-HP-R-95_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 95mm	0150-5782
DM03-37x120F-HP-R-95_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 95mm	0150-5979
DM03-37x120F-HP-R-95_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 95mm	0150-5984
DM03-37x120F-HP-R-95_CS10_MS31	Linear Module with MagSpring 110N, Stroke max. 95mm	0150-5989
DM03-37x120F-HP-R-95_CS10_MS34	Linear Module with MagSpring 140N, Stroke max. 95mm	0150-5994
DM03-37x120F-HP-R-95_CS10_MS37	Linear Module with MagSpring 170N, Stroke max. 95mm	0150-5783
DM03-37x120F-HP-R-185_CS10_MS06	Linear Module with MagSpring 100N, Stroke max.185mm	0150-5784
DM03-37x120F-HP-R-185_CS10_MS07	Linear Module with MagSpring 70N, Stroke max.185mm	0150-6002
DM03-37x120F-HP-R-185_CS10_MS09	Linear Module with MagSpring 90N, Stroke max.185mm	0150-6004
DM03-37x120F-HP-R-185_CS10_MS31	Linear Module with MagSpring 110N, Stroke max.185mm	0150-6009
DM03-37x120F-HP-R-185_CS10_MS34	Linear Module with MagSpring 140N, Stroke max.185mm	0150-6010
DM03-37x120F-HP-R-185_CS10_MS37	Linear Module with MagSpring 170N, Stroke max.185mm	0150-5785
DM03-37x120F-HP-R-195_CS10_MS02	Linear Module with MagSpring 40N, Stroke max.195mm	0150-5999
DM03-37x120F-HP-R-195_CS10_MS03	Linear Module with MagSpring 50N, Stroke max.195mm	0150-6000
DM03-37x120F-HP-R-195_CS10_MS04	Linear Module with MagSpring 60N, Stroke max.195mm	0150-5754
DM03-37x120F-HP-R-275_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 275mm	0150-6011
DM03-37x120F-HP-R-275_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 275mm	0150-6012
DM03-37x120F-HP-R-275_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 275mm	0150-6013
DM03-37x120F-HP-R-295_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 295mm	0150-6014
DM03-37x120F-HP-R-295_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 295mm	0150-6015
DM03-37x120F-HP-R-295_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 295mm	0150-5755
DM03-37x120F-HP-R-395_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 395mm	0150-5719
DM03-37x120F-HP-R-495_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 495mm	0150-5720
DM03-37x120F-HP-R-595_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 595mm	0150-5721
DM03-37x120F-HP-R-695_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 695mm	0150-5722

ORDERING INFORMATION

Item	Description	Item-No.
DM03-37x120F-HP-R-95_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 95mm	0150-6072
DM03-37x120F-HP-R-95_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 95mm	0150-6073
DM03-37x120F-HP-R-95_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 95mm	0150-6074
DM03-37x120F-HP-R-95_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 95mm	0150-6075
DM03-37x120F-HP-R-95_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 95mm	0150-6076
DM03-37x120F-HP-R-95_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 95mm	0150-6077
DM03-37x120F-HP-R-95_CS10_MS31_EN02	Linear Module with MagSpring 110N, Absolute Encoder, Stroke max. 95mm	0150-6078
DM03-37x120F-HP-R-95_CS10_MS34_EN02	Linear Module with MagSpring 140N, Absolute Encoder, Stroke max. 95mm	0150-6079
DM03-37x120F-HP-R-95_CS10_MS37_EN02	Linear Module with MagSpring 170N, Absolute Encoder, Stroke max. 95mm	0150-xxxx
DM03-37x120F-HP-R-185_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max.185mm	0150-6082
DM03-37x120F-HP-R-185_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max.185mm	0150-6080
DM03-37x120F-HP-R-185_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max.185mm	0150-6081
DM03-37x120F-HP-R-185_CS10_MS31_EN02	Linear Module with MagSpring 110N, Absolute Encoder, Stroke max.185mm	0150-6083
DM03-37x120F-HP-R-185_CS10_MS34_EN02	Linear Module with MagSpring 140N, Absolute Encoder, Stroke max.185mm	0150-6084
DM03-37x120F-HP-R-185_CS10_MS37_EN02	Linear Module with MagSpring 170N, Absolute Encoder, Stroke max.185mm	0150-6085
DM03-37x120F-HP-R-195_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max.195mm	0150-6086
DM03-37x120F-HP-R-195_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max.195mm	0150-6087
DM03-37x120F-HP-R-195_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max.195mm	0150-6088
DM03-37x120F-HP-R-275_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 275mm	0150-6091
DM03-37x120F-HP-R-275_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 275mm	0150-6089
DM03-37x120F-HP-R-275_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 275mm	0150-6090
DM03-37x120F-HP-R-295_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 295mm	0150-6092
DM03-37x120F-HP-R-295_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 295mm	0150-6093
DM03-37x120F-HP-R-295_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 295mm	0150-6094
DM03-37x120F-HP-R-395_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 395mm	0150-6095
DM03-37x120F-HP-R-495_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 495mm	0150-6096
DM03-37x120F-HP-R-595_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 595mm	0150-6097
DM03-37x120F-HP-R-695_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 695mm	0150-6098

Handwriting practice area with 20 horizontal dotted lines.

LINEAR MODULES DM03-48x150_MSxx



MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, $\varnothing$ 25 mm	Linear ball bearing	H-ECOPUR

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-48x150G-HP-C-65_MS02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2690 (5.80)	6850 (15.10)
DM03-48x150G-HP-C-65_MS03 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2690 (5.80)	6850 (15.10)
DM03-48x150G-HP-C-65_MS04 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2690 (5.80)	6850 (15.10)
DM03-48x150G-HP-C-65_MS06 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2740 (6.04)	6900 (15.21)
DM03-48x150G-HP-C-65_MS07 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2740 (6.04)	6900 (15.21)
DM03-48x150G-HP-C-65_MS09 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2740 (6.04)	6900 (15.21)
DM03-48x150G-HP-C-65_MS31 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2740 (6.04)	7450 (16.42)
DM03-48x150G-HP-C-65_MS34 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2740 (6.04)	7450 (16.42)
DM03-48x150G-HP-C-65_MS36 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2740 (6.04)	7450 (16.42)
DM03-48x150G-HP-C-125_MS02 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3180 (7.01)	7750 (17.09)
DM03-48x150G-HP-C-125_MS03 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3180 (7.01)	7750 (17.09)
DM03-48x150G-HP-C-125_MS04 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3180 (7.01)	7750 (17.09)
DM03-48x150G-HP-C-125_MS06 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3300 (7.28)	7870 (17.35)
DM03-48x150G-HP-C-125_MS07 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3300 (7.28)	7870 (17.35)
DM03-48x150G-HP-C-125_MS09 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3300 (7.28)	7870 (17.35)
DM03-48x150G-HP-C-125_MS31 ²⁾	125 (4.92)	130.5 (5.14)	368 (14.49)	3420 (7.54)	8950 (19.73)
DM03-48x150G-HP-C-125_MS34 ²⁾	125 (4.92)	130.5 (5.14)	368 (14.49)	3420 (7.54)	8950 (19.73)
DM03-48x150G-HP-C-125_MS36 ²⁾	125 (4.92)	130.5 (5.14)	368 (14.49)	3420 (7.54)	8950 (19.73)
DM03-48x150G-HP-C-185_MS02 ²⁾	185 (7.28)	66.5 (2.62)	428 (16.85)	3750 (8.27)	8780 (19.36)
DM03-48x150G-HP-C-185_MS03 ²⁾	185 (7.28)	66.5 (2.62)	428 (16.85)	3750 (8.27)	8780 (19.36)
DM03-48x150G-HP-C-185_MS04 ²⁾	185 (7.28)	66.5 (2.62)	428 (16.85)	3750 (8.27)	8780 (19.36)
DM03-48x150G-HP-C-185_MS06 ²⁾	185 (7.28)	10 (0.39)	428 (16.85)	3790 (8.36)	8820 (19.44)
DM03-48x150G-HP-C-185_MS07 ²⁾	185 (7.28)	10 (0.39)	428 (16.85)	3790 (8.36)	8820 (19.44)
DM03-48x150G-HP-C-185_MS09 ²⁾	185 (7.28)	10 (0.39)	428 (16.85)	3790 (8.36)	8820 (19.44)
DM03-48x150G-HP-C-185_MS31 ²⁾	185 (7.28)	222.5 (8.76)	428 (16.85)	3950 (8.71)	10050 (22.16)
DM03-48x150G-HP-C-185_MS34 ²⁾	185 (7.28)	222.5 (8.76)	428 (16.85)	3950 (8.71)	10050 (22.16)
DM03-48x150G-HP-C-185_MS36 ²⁾	185 (7.28)	222.5 (8.76)	428 (16.85)	3950 (8.71)	10050 (22.16)
DM03-48x150G-HP-C-275_MS02 ²⁾	275 (10.83)	66.5 (2.62)	518 (20.39)	4450 (9.81)	9980 (22.00)
DM03-48x150G-HP-C-275_MS03 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	4450 (9.81)	9980 (22.00)
DM03-48x150G-HP-C-275_MS04 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	4450 (9.81)	9980 (22.00)
DM03-48x150G-HP-C-275_MS06 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	4720 (10.41)	10250 (22.60)
DM03-48x150G-HP-C-275_MS07 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	4720 (10.41)	10250 (22.60)
DM03-48x150G-HP-C-275_MS09 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	4720 (10.41)	10250 (22.60)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider

²⁾ MagSpring variants with different constant forces

MS02: Constant force 40N (Effective load compensation depending on moving mass)

MS03: Constant force 50N (Effective load compensation depending on moving mass)

MS04: Constant force 60N (Effective load compensation depending on moving mass)

MS06: Constant force 100N (Effective load compensation depending on moving mass)

MS07: Constant force 70N (Effective load compensation depending on moving mass)

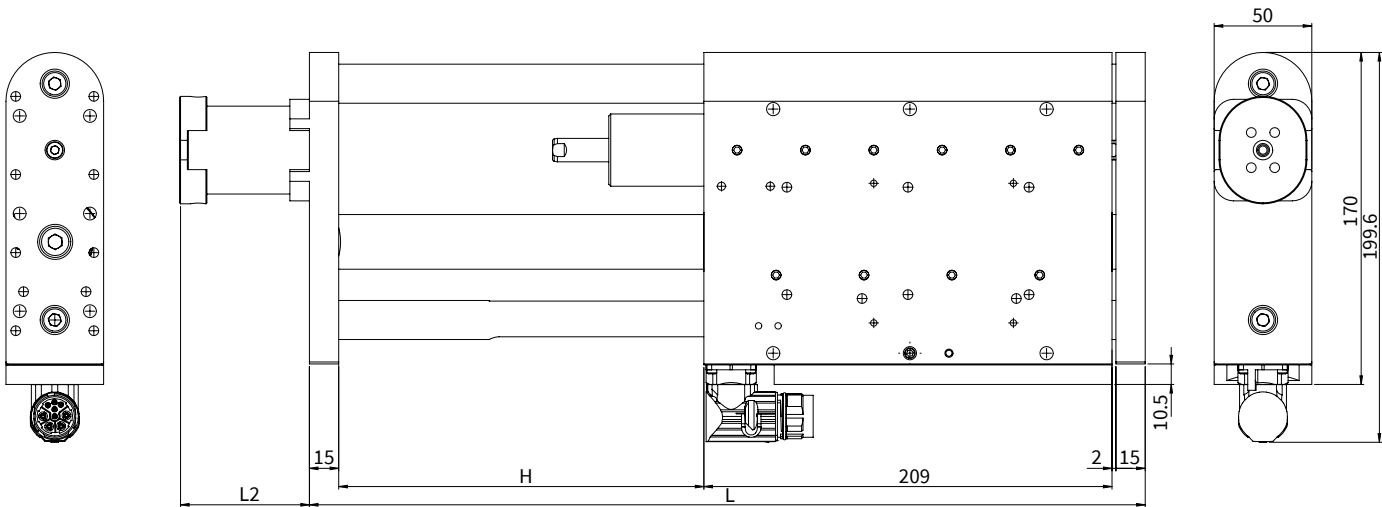
MS09: Constant force 90N (Effective load compensation depending on moving mass)

MS31: Constant force 110N (Effective load compensation depending on moving mass)

MS34: Constant force 140N (Effective load compensation depending on moving mass)

MS36: Constant force 160N (Effective load compensation depending on moving mass)

LINEAR MODULES DM03-48x150_MSxx_EN02



Dimensions mm

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, $\varnothing$ 25 mm	Linear ball bearing	H-ECOPUR

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-48x150G-HP-C-65_MS02_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2990 (6.59)	7430 (16.38)
DM03-48x150G-HP-C-65_MS03_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2990 (6.59)	7430 (16.38)
DM03-48x150G-HP-C-65_MS04_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	2990 (6.59)	7430 (16.38)
DM03-48x150G-HP-C-65_MS06_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	3040 (6.70)	7510 (16.56)
DM03-48x150G-HP-C-65_MS07_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	3040 (6.70)	7510 (16.56)
DM03-48x150G-HP-C-65_MS09_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	3040 (6.70)	7510 (16.56)
DM03-48x150G-HP-C-65_MS31_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	3040 (6.70)	8070 (17.79)
DM03-48x150G-HP-C-65_MS34_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	3040 (6.70)	8070 (17.79)
DM03-48x150G-HP-C-65_MS36_EN02 ²⁾	65 (2.56)	0 (0)	308 (12.13)	3040 (6.70)	8070 (17.79)
DM03-48x150G-HP-C-125_MS02_EN02 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3550 (7.83)	8390 (18.50)
DM03-48x150G-HP-C-125_MS03_EN02 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3550 (7.83)	8390 (18.50)
DM03-48x150G-HP-C-125_MS04_EN02 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3550 (7.83)	8390 (18.50)
DM03-48x150G-HP-C-125_MS06_EN02 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3660 (8.07)	8550 (18.85)
DM03-48x150G-HP-C-125_MS07_EN02 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3660 (8.07)	8550 (18.85)
DM03-48x150G-HP-C-125_MS09_EN02 ²⁾	125 (4.92)	0 (0)	368 (14.49)	3660 (8.07)	8550 (18.85)
DM03-48x150G-HP-C-125_MS31_EN02 ²⁾	125 (4.92)	130.5 (5.14)	368 (14.49)	3790 (8.36)	9650 (21.27)
DM03-48x150G-HP-C-125_MS34_EN02 ²⁾	125 (4.92)	130.5 (5.14)	368 (14.49)	3790 (8.36)	9650 (21.27)
DM03-48x150G-HP-C-125_MS36_EN02 ²⁾	125 (4.92)	130.5 (5.14)	368 (14.49)	3790 (8.36)	9650 (21.27)
DM03-48x150G-HP-C-185_MS02_EN02 ²⁾	185 (7.28)	66.5 (2.62)	428 (16.85)	4180 (9.22)	9540 (21.03)
DM03-48x150G-HP-C-185_MS03_EN02 ²⁾	185 (7.28)	66.5 (2.62)	428 (16.85)	4180 (9.22)	9540 (21.03)
DM03-48x150G-HP-C-185_MS04_EN02 ²⁾	185 (7.28)	66.5 (2.62)	428 (16.85)	4180 (9.22)	9540 (21.03)
DM03-48x150G-HP-C-185_MS06_EN02 ²⁾	185 (7.28)	10 (0.39)	428 (16.85)	4220 (9.30)	9570 (21.10)
DM03-48x150G-HP-C-185_MS07_EN02 ²⁾	185 (7.28)	10 (0.39)	428 (16.85)	4220 (9.30)	9570 (21.10)
DM03-48x150G-HP-C-185_MS09_EN02 ²⁾	185 (7.28)	10 (0.39)	428 (16.85)	4220 (9.30)	9570 (21.10)
DM03-48x150G-HP-C-185_MS31_EN02 ²⁾	185 (7.28)	222.5 (8.76)	428 (16.85)	4410 (9.72)	10840 (23.90)
DM03-48x150G-HP-C-185_MS34_EN02 ²⁾	185 (7.28)	222.5 (8.76)	428 (16.85)	4410 (9.72)	10840 (23.90)
DM03-48x150G-HP-C-185_MS36_EN02 ²⁾	185 (7.28)	222.5 (8.76)	428 (16.85)	4410 (9.72)	10840 (23.90)
DM03-48x150G-HP-C-275_MS02_EN02 ²⁾	275 (10.83)	66.5 (2.62)	518 (20.39)	4990 (11.0)	10850 (23.92)
DM03-48x150G-HP-C-275_MS03_EN02 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	4990 (11.0)	10850 (23.92)
DM03-48x150G-HP-C-275_MS04_EN02 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	4990 (11.0)	10850 (23.92)
DM03-48x150G-HP-C-275_MS06_EN02 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	5200 (11.46)	11060 (24.38)
DM03-48x150G-HP-C-275_MS07_EN02 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	5200 (11.46)	11060 (24.38)
DM03-48x150G-HP-C-275_MS09_EN02 ²⁾	275 (10.83)	130.5 (5.14)	518 (20.39)	5200 (11.46)	11060 (24.38)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider

²⁾ MagSpring variants with different constant forces

MS02: Constant force 40N (Effective load compensation depending on moving mass)

MS03: Constant force 50N (Effective load compensation depending on moving mass)

MS04: Constant force 60N (Effective load compensation depending on moving mass)

MS06: Constant force 100N (Effective load compensation depending on moving mass)

MS07: Constant force 70N (Effective load compensation depending on moving mass)

MS09: Constant force 90N (Effective load compensation depending on moving mass)

MS31: Constant force 110N (Effective load compensation depending on moving mass)

MS34: Constant force 140N (Effective load compensation depending on moving mass)

MS36: Constant force 160N (Effective load compensation depending on moving mass)

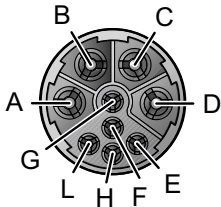
PERFORMANCE DATA DM03-48x150

Performance Data Linear Module DM03-48x150				
Stroke				
Max. Stroke	mm	(in)	575	(22.64)
Force				
Max. Force @ 48VDC	N	(lbf)	360	(80.9)
Max. Force @ 72VDC	N	(lbf)	360	(80.9)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	112 / 150 / -	(25.6 / 34.3 / -)
Force Constant	N/A _{pk}	(lbf/A _{pk})	15.65	(3.51)
Position Detection				
Position Resolution	mm	(in)	0.007	(0.0003)
Repeatability	mm	(in)	±0.05	(±0.002)
Position Resolution with ES	mm	(in)	-	(-)
Repeatability with ES	mm	(in)	-	(-)
Electrical Data				
Max. Current @ 48VDC	A _{pk}		23.0	
Max. Current @ 72VDC	A _{pk}		23.0	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}		7.2 / 9.6 / -	
Terminal Resistance 25 °C / 150 °C	Ohm		0.81 / 1.2	
Terminal Inductivity	mH		0.7	
Magnetic Period	mm	(in)	60	(2.35)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	K/W		1.3 / 0.73 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		850 / 300 / -	
Mechanical Data				
Stator Diameter	mm	(in)	48	(1.9)
Slider Diameter	mm	(in)	28	(1.1)
IP Code			IP 64 S	

CONNECTOR

Motor Connector Wiring	C-Connector	Wire Color Motor Cable
Ph 1+	A	red
Ph 1-	B	pink
Ph 2+	C	blue
Ph 2-	D	grey
+5VDC	E	white
GND	F	inner Shield
Sinus	G	yellow
Cosinus	H	green
Temp.	L	black
Shield	Case	outer Shield

C-Connector



View: Motor connector, plug side
Material: nickel plated
IP Code: IP 67

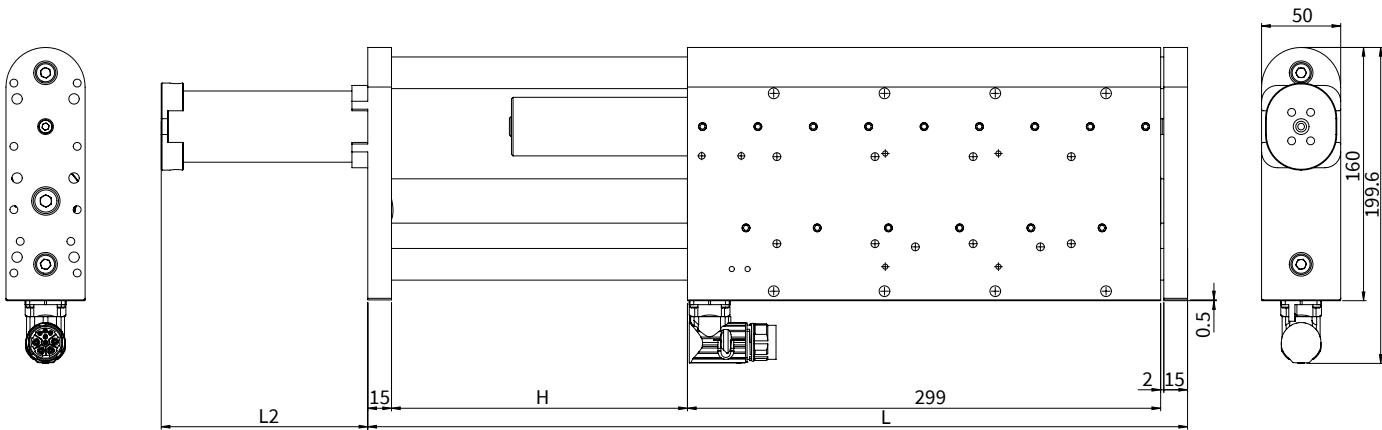
ORDERING INFORMATION

Item	Description	Item-No.
DM03-48x150G-HP-C-65_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 65mm	0150-5827
DM03-48x150G-HP-C-65_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 65mm	0150-5790
DM03-48x150G-HP-C-65_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 65mm	0150-5791
DM03-48x150G-HP-C-65_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 65mm	0150-5766
DM03-48x150G-HP-C-65_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 65mm	0150-5788
DM03-48x150G-HP-C-65_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 65mm	0150-5869
DM03-48x150G-HP-C-65_CS10_MS31	Linear Module with MagSpring 110N, Stroke max. 65mm	0150-5828
DM03-48x150G-HP-C-65_CS10_MS34	Linear Module with MagSpring 140N, Stroke max. 65mm	0150-5870
DM03-48x150G-HP-C-65_CS10_MS36	Linear Module with MagSpring 160N, Stroke max. 65mm	0150-5786
DM03-48x150G-HP-C-125_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 125mm	0150-5830
DM03-48x150G-HP-C-125_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 125mm	0150-5793
DM03-48x150G-HP-C-125_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 125mm	0150-5794
DM03-48x150G-HP-C-125_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 125mm	0150-5767
DM03-48x150G-HP-C-125_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 125mm	0150-5792
DM03-48x150G-HP-C-125_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 125mm	0150-5871
DM03-48x150G-HP-C-125_CS10_MS31	Linear Module with MagSpring 110N, Stroke max. 125mm	0150-5831
DM03-48x150G-HP-C-125_CS10_MS34	Linear Module with MagSpring 140N, Stroke max. 125mm	0150-5787
DM03-48x150G-HP-C-125_CS10_MS36	Linear Module with MagSpring 160N, Stroke max. 125mm	0150-5872
DM03-48x150G-HP-C-185_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 185mm	0150-5832
DM03-48x150G-HP-C-185_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 185mm	0150-5796
DM03-48x150G-HP-C-185_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 185mm	0150-5797
DM03-48x150G-HP-C-185_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 185mm	0150-5768
DM03-48x150G-HP-C-185_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 185mm	0150-5873
DM03-48x150G-HP-C-185_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 185mm	0150-5874
DM03-48x150G-HP-C-185_CS10_MS31	Linear Module with MagSpring 110N, Stroke max. 185mm	0150-5833
DM03-48x150G-HP-C-185_CS10_MS34	Linear Module with MagSpring 140N, Stroke max. 185mm	0150-5875
DM03-48x150G-HP-C-185_CS10_MS36	Linear Module with MagSpring 160N, Stroke max. 185mm	0150-5876
DM03-48x150G-HP-C-275_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 275mm	0150-5843
DM03-48x150G-HP-C-275_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 275mm	0150-5931
DM03-48x150G-HP-C-275_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 275mm	0150-5877
DM03-48x150G-HP-C-275_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 275mm	0150-5834
DM03-48x150G-HP-C-275_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 275mm	0150-5878
DM03-48x150G-HP-C-275_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 275mm	0150-5879

ORDERING INFORMATION

Item	Description	Item-No.
DM03-48x150G-HP-C-65_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 65mm	0150-5932
DM03-48x150G-HP-C-65_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 65mm	0150-5934
DM03-48x150G-HP-C-65_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 65mm	0150-5935
DM03-48x150G-HP-C-65_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 65mm	0150-5938
DM03-48x150G-HP-C-65_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 65mm	0150-5936
DM03-48x150G-HP-C-65_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 65mm	0150-5937
DM03-48x150G-HP-C-65_CS10_MS31_EN02	Linear Module with MagSpring 110N, Absolute Encoder, Stroke max. 65mm	0150-5939
DM03-48x150G-HP-C-65_CS10_MS34_EN02	Linear Module with MagSpring 140N, Absolute Encoder, Stroke max. 65mm	0150-5940
DM03-48x150G-HP-C-65_CS10_MS36_EN02	Linear Module with MagSpring 160N, Absolute Encoder, Stroke max. 65mm	0150-5941
DM03-48x150G-HP-C-125_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 125mm	0150-5942
DM03-48x150G-HP-C-125_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 125mm	0150-5943
DM03-48x150G-HP-C-125_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 125mm	0150-5944
DM03-48x150G-HP-C-125_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 125mm	0150-5947
DM03-48x150G-HP-C-125_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 125mm	0150-5945
DM03-48x150G-HP-C-125_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 125mm	0150-5946
DM03-48x150G-HP-C-125_CS10_MS31_EN02	Linear Module with MagSpring 110N, Absolute Encoder, Stroke max. 125mm	0150-5948
DM03-48x150G-HP-C-125_CS10_MS34_EN02	Linear Module with MagSpring 140N, Absolute Encoder, Stroke max. 125mm	0150-5949
DM03-48x150G-HP-C-125_CS10_MS36_EN02	Linear Module with MagSpring 160N, Absolute Encoder, Stroke max. 125mm	0150-5950
DM03-48x150G-HP-C-185_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 185mm	0150-5951
DM03-48x150G-HP-C-185_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 185mm	0150-5952
DM03-48x150G-HP-C-185_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 185mm	0150-5953
DM03-48x150G-HP-C-185_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 185mm	0150-5956
DM03-48x150G-HP-C-185_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 185mm	0150-5954
DM03-48x150G-HP-C-185_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 185mm	0150-5955
DM03-48x150G-HP-C-185_CS10_MS31_EN02	Linear Module with MagSpring 110N, Absolute Encoder, Stroke max. 185mm	0150-5957
DM03-48x150G-HP-C-185_CS10_MS34_EN02	Linear Module with MagSpring 140N, Absolute Encoder, Stroke max. 185mm	0150-5958
DM03-48x150G-HP-C-185_CS10_MS36_EN02	Linear Module with MagSpring 160N, Absolute Encoder, Stroke max. 185mm	0150-5959
DM03-48x150G-HP-C-275_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 275mm	0150-5964
DM03-48x150G-HP-C-275_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 275mm	0150-5965
DM03-48x150G-HP-C-275_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 275mm	0150-5966
DM03-48x150G-HP-C-275_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 275mm	0150-5969
DM03-48x150G-HP-C-275_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 275mm	0150-5967
DM03-48x150G-HP-C-275_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 275mm	0150-5968

LINEAR MODULES DM03-48x240_MSxx



Dimensions mm

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, $\varnothing$ 25 mm	Linear ball bearing	H-ECOPUR

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-48x240F-HP-C-95_MS02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	9700 (21.38)
DM03-48x240F-HP-C-95_MS03 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	9700 (21.38)
DM03-48x240F-HP-C-95_MS04 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	9700 (21.38)
DM03-48x240F-HP-C-95_MS06 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	9700 (21.38)
DM03-48x240F-HP-C-95_MS07 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	9700 (21.38)
DM03-48x240F-HP-C-95_MS09 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	9700 (21.38)
DM03-48x240F-HP-C-95_MS31 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	10400 (22.93)
DM03-48x240F-HP-C-95_MS34 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	10400 (22.93)
DM03-48x240F-HP-C-95_MS36 ²⁾	95 (3.74)	0 (0)	428 (16.85)	3610 (7.96)	10400 (22.93)
DM03-48x240F-HP-C-185_MS02 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4320 (9.52)	10980 (24.21)
DM03-48x240F-HP-C-185_MS03 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4320 (9.52)	10980 (24.21)
DM03-48x240F-HP-C-185_MS04 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4320 (9.52)	10980 (24.21)
DM03-48x240F-HP-C-185_MS06 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4430 (9.77)	11090 (24.45)
DM03-48x240F-HP-C-185_MS07 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4430 (9.77)	11090 (24.45)
DM03-48x240F-HP-C-185_MS09 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4430 (9.77)	11090 (24.45)
DM03-48x240F-HP-C-185_MS31 ²⁾	185 (7.28)	130.5 (5.14)	518 (20.39)	4560 (10.05)	12290 (27.09)
DM03-48x240F-HP-C-185_MS34 ²⁾	185 (7.28)	130.5 (5.14)	518 (20.39)	4560 (10.05)	12290 (27.09)
DM03-48x240F-HP-C-185_MS36 ²⁾	185 (7.28)	130.5 (5.14)	518 (20.39)	4560 (10.05)	12290 (27.09)
DM03-48x240F-HP-C-285_MS02 ²⁾	285 (11.22)	66.5 (2.62)	638 (25.12)	5300 (11.68)	12460 (27.47)
DM03-48x240F-HP-C-285_MS03 ²⁾	285 (11.22)	66.5 (2.62)	638 (25.12)	5300 (11.68)	12460 (27.47)
DM03-48x240F-HP-C-285_MS04 ²⁾	285 (11.22)	66.5 (2.62)	638 (25.12)	5300 (11.68)	12460 (27.47)
DM03-48x240F-HP-C-285_MS06 ²⁾	285 (11.22)	10 (0.39)	638 (25.12)	5510 (12.15)	12670 (27.93)
DM03-48x240F-HP-C-285_MS07 ²⁾	285 (11.22)	10 (0.39)	638 (25.12)	5510 (12.15)	12670 (27.93)
DM03-48x240F-HP-C-285_MS09 ²⁾	285 (11.22)	10 (0.39)	638 (25.12)	5510 (12.15)	12670 (27.93)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider

²⁾ MagSpring variants with different constant forces

MS02: Constant force 40N (Effective load compensation depending on moving mass)

MS03: Constant force 50N (Effective load compensation depending on moving mass)

MS04: Constant force 60N (Effective load compensation depending on moving mass)

MS06: Constant force 100N (Effective load compensation depending on moving mass)

MS07: Constant force 70N (Effective load compensation depending on moving mass)

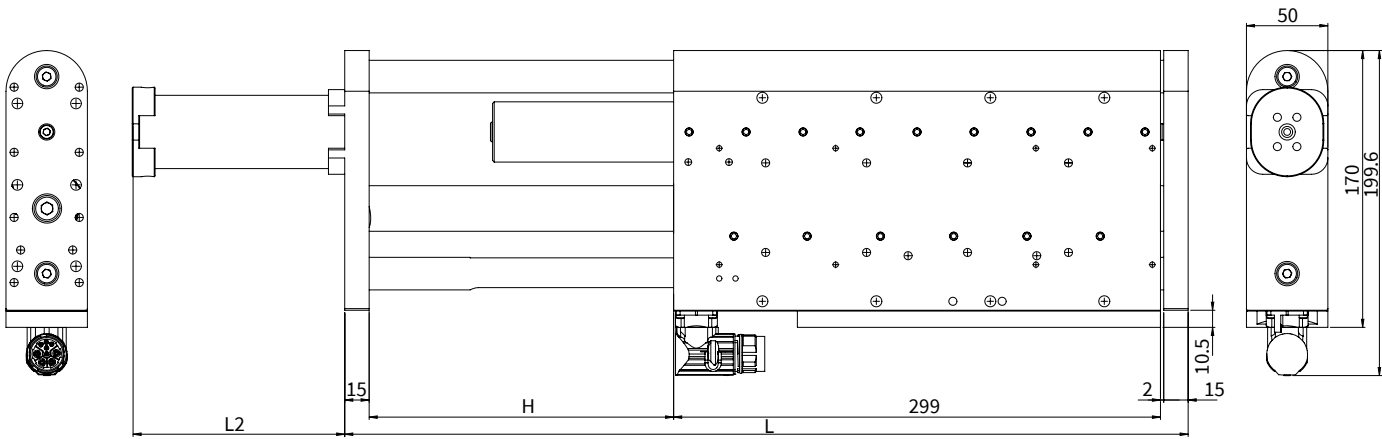
MS09: Constant force 90N (Effective load compensation depending on moving mass)

MS31: Constant force 110N (Effective load compensation depending on moving mass)

MS34: Constant force 140N (Effective load compensation depending on moving mass)

MS36: Constant force 160N (Effective load compensation depending on moving mass)

LINEAR MODULES DM03-48x240_MSxx_EN02



Dimensions mm

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, $\varnothing$ 25 mm	Linear ball bearing	H-ECOPUR

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-48x240F-HP-C-95_MS02_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4030 (8.88)	10260 (22.62)
DM03-48x240F-HP-C-95_MS03_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4030 (8.88)	10260 (22.62)
DM03-48x240F-HP-C-95_MS04_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4030 (8.88)	10260 (22.62)
DM03-48x240F-HP-C-95_MS06_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4030 (8.88)	10260 (22.62)
DM03-48x240F-HP-C-95_MS07_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4030 (8.88)	10260 (22.62)
DM03-48x240F-HP-C-95_MS09_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4030 (8.88)	10260 (22.62)
DM03-48x240F-HP-C-95_MS31_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4040 (8.90)	10970 (24.18)
DM03-48x240F-HP-C-95_MS34_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4040 (8.90)	10970 (24.18)
DM03-48x240F-HP-C-95_MS36_EN02 ²⁾	95 (3.74)	0 (0)	428 (16.85)	4040 (8.90)	10970 (24.18)
DM03-48x240F-HP-C-185_MS02_EN02 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4830 (10.65)	11630 (25.64)
DM03-48x240F-HP-C-185_MS03_EN02 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4830 (10.65)	11630 (25.64)
DM03-48x240F-HP-C-185_MS04_EN02 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4830 (10.65)	11630 (25.64)
DM03-48x240F-HP-C-185_MS06_EN02 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4950 (10.91)	11750 (25.90)
DM03-48x240F-HP-C-185_MS07_EN02 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4950 (10.91)	11750 (25.90)
DM03-48x240F-HP-C-185_MS09_EN02 ²⁾	185 (7.28)	0 (0)	518 (20.39)	4950 (10.91)	11750 (25.90)
DM03-48x240F-HP-C-185_MS31_EN02 ²⁾	185 (7.28)	130.5 (5.14)	518 (20.39)	5030 (11.09)	12900 (28.44)
DM03-48x240F-HP-C-185_MS34_EN02 ²⁾	185 (7.28)	130.5 (5.14)	518 (20.39)	5030 (11.09)	12900 (28.44)
DM03-48x240F-HP-C-185_MS36_EN02 ²⁾	185 (7.28)	130.5 (5.14)	518 (20.39)	5030 (11.09)	12900 (28.44)
DM03-48x240F-HP-C-285_MS02_EN02 ²⁾	285 (11.22)	66.5 (2.62)	638 (25.12)	5940 (13.09)	13120 (28.92)
DM03-48x240F-HP-C-285_MS03_EN02 ²⁾	285 (11.22)	66.5 (2.62)	638 (25.12)	5940 (13.09)	13120 (28.92)
DM03-48x240F-HP-C-285_MS04_EN02 ²⁾	285 (11.22)	66.5 (2.62)	638 (25.12)	5940 (13.09)	13120 (28.92)
DM03-48x240F-HP-C-285_MS06_EN02 ²⁾	285 (11.22)	10 (0.39)	638 (25.12)	6160 (13.58)	13340 (29.41)
DM03-48x240F-HP-C-285_MS07_EN02 ²⁾	285 (11.22)	10 (0.39)	638 (25.12)	6160 (13.58)	13340 (29.41)
DM03-48x240F-HP-C-285_MS09_EN02 ²⁾	285 (11.22)	10 (0.39)	638 (25.12)	6160 (13.58)	13340 (29.41)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider

²⁾ MagSpring variants with different constant forces

MS02: Constant force 40N (Effective load compensation depending on moving mass)

MS03: Constant force 50N (Effective load compensation depending on moving mass)

MS04: Constant force 60N (Effective load compensation depending on moving mass)

MS06: Constant force 100N (Effective load compensation depending on moving mass)

MS07: Constant force 70N (Effective load compensation depending on moving mass)

MS09: Constant force 90N (Effective load compensation depending on moving mass)

MS31: Constant force 110N (Effective load compensation depending on moving mass)

MS34: Constant force 140N (Effective load compensation depending on moving mass)

MS36: Constant force 160N (Effective load compensation depending on moving mass)

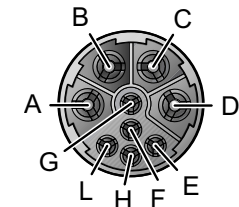
PERFORMANCE DATA DM03-48x240

Performance Data Linear Module DM03-48x240				
Stroke				
Max. Stroke	mm	(in)	485	(19.09)
Force				
Max. Force @ 48VDC	N	(lbf)	572	(129)
Max. Force @ 72VDC	N	(lbf)	572	(129)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	170 / 233 / -	(38 / 53.3 / -)
Force Constant	N/A _{pk}	(lbf/A _{pk})	22	(4.95)
Position Detection				
Position Resolution	mm	(in)	0.007	(0.0003)
Repeatability	mm	(in)	±0.05	(±0.002)
Position Resolution with ES	mm	(in)	-	(-)
Repeatability with ES	mm	(in)	-	(-)
Electrical Data				
Max. Current @ 48VDC	A _{pk}		25.9	
Max. Current @ 72VDC	A _{pk}		25.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}		7.7 / 10.6 / -	
Terminal Resistance 25 °C / 150 °C	Ohm		0.97 / 1.4	
Terminal Inductivity	mH		1.1	
Magnetic Period	mm	(in)	60	(2.35)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	K/W		0.94 / 0.5 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		800 / 270 / -	
Mechanical Data				
Stator Diameter	mm	(in)	48	(1.9)
Slider Diameter	mm	(in)	28	(1.1)
IP Code			IP 64 S	
Zertifizierung				
cURus	File-No.		E354430	

CONNECTOR

Motor Connector Wiring	C-Stecker	Wire Color Motor Cable
Ph 1+	A	red
Ph 1-	B	pink
Ph 2+	C	blue
Ph 2-	D	grey
+5VDC	E	white
GND	F	inner Shield
Sinus	G	yellow
Cosinus	H	green
Temp.	L	black
Shield	Case	outer Shield

C-Connector



View: Motor connector, plug side
Material: nickel plated
IP Code: IP 67

ORDERING INFORMATION

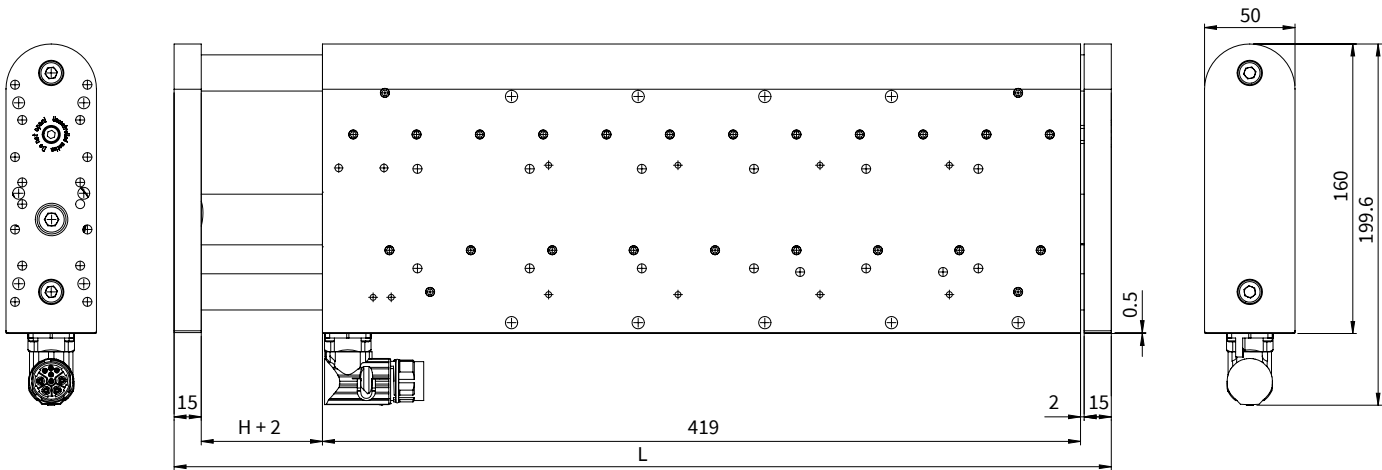
Item	Description	Item-No.
DM03-48x240F-HP-C-95_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 95mm	0150-5798
DM03-48x240F-HP-C-95_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 95mm	0150-5799
DM03-48x240F-HP-C-95_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 95mm	0150-5800
DM03-48x240F-HP-C-95_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 95mm	0150-5774
DM03-48x240F-HP-C-95_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 95mm	0150-5835
DM03-48x240F-HP-C-95_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 95mm	0150-5880
DM03-48x240F-HP-C-95_CS10_MS31	Linear Module with MagSpring 110N, Stroke max. 95mm	0150-5836
DM03-48x240F-HP-C-95_CS10_MS34	Linear Module with MagSpring 140N, Stroke max. 95mm	0150-5882
DM03-48x240F-HP-C-95_CS10_MS36	Linear Module with MagSpring 160N, Stroke max. 95mm	0150-5881
DM03-48x240F-HP-C-185_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 185mm	0150-5837
DM03-48x240F-HP-C-185_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 185mm	0150-5802
DM03-48x240F-HP-C-185_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 185mm	0150-5803
DM03-48x240F-HP-C-185_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 185mm	0150-5775
DM03-48x240F-HP-C-185_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 185mm	0150-5883
DM03-48x240F-HP-C-185_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 185mm	0150-5884
DM03-48x240F-HP-C-185_CS10_MS31	Linear Module with MagSpring 110N, Stroke max. 185mm	0150-5838
DM03-48x240F-HP-C-185_CS10_MS34	Linear Module with MagSpring 140N, Stroke max. 185mm	0150-5801
DM03-48x240F-HP-C-185_CS10_MS36	Linear Module with MagSpring 160N, Stroke max. 185mm	0150-5804
DM03-48x240F-HP-C-285_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 285mm	0150-5840
DM03-48x240F-HP-C-285_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 285mm	0150-5885
DM03-48x240F-HP-C-285_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 285mm	0150-5805
DM03-48x240F-HP-C-285_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 285mm	0150-5776
DM03-48x240F-HP-C-285_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 285mm	0150-5886
DM03-48x240F-HP-C-285_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 285mm	0150-5887
DM03-48x240F-HP-C-285_CS10_MS37	Linear Module with MagSpring 170N, Stroke max. 285mm	0150-5806

ORDERING INFORMATION

Item	Description	Item-No.
DM03-48x240F-HP-C-95_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 95mm	0150-5900
DM03-48x240F-HP-C-95_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 95mm	0150-5907
DM03-48x240F-HP-C-95_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 95mm	0150-5908
DM03-48x240F-HP-C-95_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 95mm	0150-5909
DM03-48x240F-HP-C-95_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 95mm	0150-5910
DM03-48x240F-HP-C-95_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 95mm	0150-5911
DM03-48x240F-HP-C-95_CS10_MS31_EN02	Linear Module with MagSpring 110N, Absolute Encoder, Stroke max. 95mm	0150-5912
DM03-48x240F-HP-C-95_CS10_MS34_EN02	Linear Module with MagSpring 140N, Absolute Encoder, Stroke max. 95mm	0150-5913
DM03-48x240F-HP-C-95_CS10_MS36_EN02	Linear Module with MagSpring 160N, Absolute Encoder, Stroke max. 95mm	0150-5914
DM03-48x240F-HP-C-185_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 185mm	0150-5902
DM03-48x240F-HP-C-185_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 185mm	0150-5915
DM03-48x240F-HP-C-185_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 185mm	0150-5916
DM03-48x240F-HP-C-185_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 185mm	0150-5917
DM03-48x240F-HP-C-185_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 185mm	0150-5918
DM03-48x240F-HP-C-185_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 185mm	0150-5919
DM03-48x240F-HP-C-185_CS10_MS31_EN02	Linear Module with MagSpring 110N, Absolute Encoder, Stroke max. 185mm	0150-5920
DM03-48x240F-HP-C-185_CS10_MS34_EN02	Linear Module with MagSpring 140N, Absolute Encoder, Stroke max. 185mm	0150-5921
DM03-48x240F-HP-C-185_CS10_MS36_EN02	Linear Module with MagSpring 160N, Absolute Encoder, Stroke max. 185mm	0150-5922
DM03-48x240F-HP-C-285_CS10_MS02_EN02	Linear Module with MagSpring 40N, Absolute Encoder, Stroke max. 285mm	0150-5901
DM03-48x240F-HP-C-285_CS10_MS03_EN02	Linear Module with MagSpring 50N, Absolute Encoder, Stroke max. 285mm	0150-5923
DM03-48x240F-HP-C-285_CS10_MS04_EN02	Linear Module with MagSpring 60N, Absolute Encoder, Stroke max. 285mm	0150-5924
DM03-48x240F-HP-C-285_CS10_MS06_EN02	Linear Module with MagSpring 100N, Absolute Encoder, Stroke max. 285mm	0150-5925
DM03-48x240F-HP-C-285_CS10_MS07_EN02	Linear Module with MagSpring 70N, Absolute Encoder, Stroke max. 285mm	0150-5926
DM03-48x240F-HP-C-285_CS10_MS09_EN02	Linear Module with MagSpring 90N, Absolute Encoder, Stroke max. 285mm	0150-5927

Handwriting practice area with 20 horizontal dotted lines.

LINEAR MODULES DM03-48x360_MSxx



Dimensions mm

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Anodized Aluminum	Hardened steel, hard chrome-plated, ø 25 mm	Linear ball bearing	H-ECOPUR

Linear module with MagSpring	Stroke H [mm (inch)]	MS Stator length L2 [mm (inch)]	Carriage length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
DM03-48x360-HP-C-65_CS10_MS02 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6000 (13.23)	13100 (28.88)
DM03-48x360-HP-C-65_CS10_MS03 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6000 (13.23)	13100 (28.88)
DM03-48x360-HP-C-65_CS10_MS04 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6000 (13.23)	13100 (28.88)
DM03-48x360-HP-C-65_CS10_MS06 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6110 (13.47)	13210 (29.12)
DM03-48x360-HP-C-65_CS10_MS07 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6110 (13.47)	13210 (29.12)
DM03-48x360-HP-C-65_CS10_MS09 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6110 (13.47)	13210 (29.12)
DM03-48x360-HP-C-65_CS10_MS31 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6110 (13.47)	13210 (29.12)
DM03-48x360-HP-C-65_CS10_MS34 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6110 (13.47)	13210 (29.12)
DM03-48x360-HP-C-65_CS10_MS36 ²⁾	65 (2.56)	0 (0)	518 (20.39)	6110 (13.47)	13210 (29.12)
DM03-48x360-HP-C-165_CS10_MS02 ²⁾	165 (6.50)	0 (0)	618 (24.33)	7380 (16.27)	14480 (31.92)
DM03-48x360-HP-C-165_CS10_MS03 ²⁾	165 (6.50)	0 (0)	618 (24.33)	7380 (16.27)	14480 (31.92)
DM03-48x360-HP-C-165_CS10_MS04 ²⁾	165 (6.50)	0 (0)	618 (24.33)	7380 (16.27)	14480 (31.92)
DM03-48x360-HP-C-165_CS10_MS06 ²⁾	165 (6.50)	0 (0)	618 (24.33)	7580 (16.71)	14680 (32.36)
DM03-48x360-HP-C-165_CS10_MS07 ²⁾	165 (6.50)	0 (0)	618 (24.33)	7580 (16.71)	14680 (32.36)
DM03-48x360-HP-C-165_CS10_MS09 ²⁾	165 (6.50)	0 (0)	618 (24.33)	7580 (16.71)	14680 (32.36)
DM03-48x360-HP-C-275_CS10_MS02 ²⁾	275 (10.83)	0 (0)	728 (28.66)	8777 (19.35)	15877 (35.0)
DM03-48x360-HP-C-275_CS10_MS03 ²⁾	275 (10.83)	0 (0)	728 (28.66)	8777 (19.35)	15877 (35.0)
DM03-48x360-HP-C-275_CS10_MS04 ²⁾	275 (10.83)	0 (0)	728 (28.66)	8777 (19.35)	15877 (35.0)
DM03-48x360-HP-C-275_CS10_MS06 ²⁾	275 (10.83)	0 (0)	728 (28.66)	8977 (19.79)	16077 (35.44)
DM03-48x360-HP-C-275_CS10_MS07 ²⁾	275 (10.83)	0 (0)	728 (28.66)	8977 (19.79)	16077 (35.44)
DM03-48x360-HP-C-275_CS10_MS09 ²⁾	275 (10.83)	0 (0)	728 (28.66)	8977 (19.79)	16077 (35.44)
DM03-48x360-HP-C-365_CS10_MS02 ²⁾	365 (14.37)	0 (0)	818 (32.20)	9920 (21.87)	17020 (37.52)
DM03-48x360-HP-C-365_CS10_MS03 ²⁾	365 (14.37)	0 (0)	818 (32.20)	9920 (21.87)	17020 (37.52)
DM03-48x360-HP-C-365_CS10_MS04 ²⁾	365 (14.37)	0 (0)	818 (32.20)	9920 (21.87)	17020 (37.52)
DM03-48x360-HP-C-365_CS10_MS06 ²⁾	365 (14.37)	0 (0)	818 (32.20)	10120 (22.31)	17220 (37.96)
DM03-48x360-HP-C-365_CS10_MS07 ²⁾	365 (14.37)	0 (0)	818 (32.20)	10120 (22.31)	17220 (37.96)
DM03-48x360-HP-C-365_CS10_MS09 ²⁾	365 (14.37)	0 (0)	818 (32.20)	10120 (22.31)	17220 (37.96)

¹⁾ Mass: Slider, Shafts, Front plate, Front plate back, MagSpring slider

²⁾ MagSpring variants with different constant forces

MS02: Constant force 40N (Effective load compensation depending on moving mass)

MS03: Constant force 50N (Effective load compensation depending on moving mass)

MS04: Constant force 60N (Effective load compensation depending on moving mass)

MS06: Constant force 100N (Effective load compensation depending on moving mass)

MS07: Constant force 70N (Effective load compensation depending on moving mass)

MS09: Constant force 90N (Effective load compensation depending on moving mass)

MS31: Constant force 110N (Effective load compensation depending on moving mass)

MS34: Constant force 140N (Effective load compensation depending on moving mass)

MS36: Constant force 160N (Effective load compensation depending on moving mass)

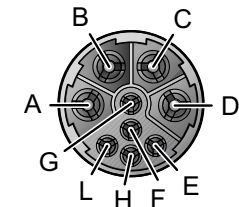
PERFORMANCE DATA DM03-48x360

Performance Data Linear Module DM03-48x240				
Stroke				
Max. Stroke	mm	(in)	365	(14.37)
Force				
Max. Force @ 48VDC	N	(lbf)	905	(204)
Max. Force @ 72VDC	N	(lbf)	1020	(230)
Max. Cont. Force	N	(lbf)	240	(54)
Force Constant	N/A _{pk}	(lbf/A _{pk})	32	(7.19)
Position Detection				
Position Resolution	mm	(in)	0.007	(0.0003)
Repeatability	mm	(in)	±0.05	(±0.002)
Position Resolution with ES	mm	(in)	0.001	(0.00004)
Repeatability with ES	mm	(in)	±0.01	(±0.0004)
Electrical Data				
Max. Current @ 48VDC	A _{pk}		28.2	
Max. Current @ 72VDC	A _{pk}		31.9	
Max. Cont. Current	A _{pk}		7.5	
Terminal Resistance 25 °C / 150 °C	Ohm		1.4 / 2.1	
Terminal Inductivity	mH		1.6	
Magnetic Period	mm	(in)	60	(2.35)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance	K/W		0.72	
Thermal Time Constant	s		1000	
Mechanical Data				
Stator Diameter	mm	(in)	48	(1.9)
Slider Diameter	mm	(in)	28	(1.1)
IP Code			IP 64	
Zertifizierung				
cURus	File-No.		E354430	

CONNECTOR

Motor Connector Wiring	C-Stecker	Wire Color Motor Cable
Ph 1+	A	red
Ph 1-	B	pink
Ph 2+	C	blue
Ph 2-	D	grey
+5VDC	E	white
GND	F	inner Shield
Sinus	G	yellow
Cosinus	H	green
Temp.	L	black
Shield	Case	outer Shield

C-Connector



View: Motor connector, plug side
Material: nickel plated
IP Code: IP 67

ORDERING INFORMATION

Item	Description	Item-No.
DM03-48x360-HP-C-65_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 65mm	0150-7049
DM03-48x360-HP-C-65_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 65mm	0150-7051
DM03-48x360-HP-C-65_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 65mm	0150-7053
DM03-48x360-HP-C-65_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 65mm	0150-7055
DM03-48x360-HP-C-65_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 65mm	0150-7057
DM03-48x360-HP-C-65_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 65mm	0150-7059
DM03-48x360-HP-C-65_CS10_MS31	Linear Module with MagSpring 110N, Stroke max. 65mm	0150-7061
DM03-48x360-HP-C-65_CS10_MS34	Linear Module with MagSpring 140N, Stroke max. 65mm	0150-7063
DM03-48x360-HP-C-65_CS10_MS36	Linear Module with MagSpring 160N, Stroke max. 65mm	0150-7065
DM03-48x360-HP-C-165_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 165mm	0150-7050
DM03-48x360-HP-C-165_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 165mm	0150-7052
DM03-48x360-HP-C-165_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 165mm	0150-7054
DM03-48x360-HP-C-165_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 165mm	0150-7056
DM03-48x360-HP-C-165_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 165mm	0150-7058
DM03-48x360-HP-C-165_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 165mm	0150-7060
DM03-48x360-HP-C-275_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 275mm	0150-7081
DM03-48x360-HP-C-275_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 275mm	0150-7083
DM03-48x360-HP-C-275_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 275mm	0150-7085
DM03-48x360-HP-C-275_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 275mm	0150-7088
DM03-48x360-HP-C-275_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 275mm	0150-7090
DM03-48x360-HP-C-275_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 275mm	0150-7092
DM03-48x360-HP-C-365_CS10_MS02	Linear Module with MagSpring 40N, Stroke max. 365mm	0150-xxxx
DM03-48x360-HP-C-365_CS10_MS03	Linear Module with MagSpring 50N, Stroke max. 365mm	0150-7082
DM03-48x360-HP-C-365_CS10_MS04	Linear Module with MagSpring 60N, Stroke max. 365mm	0150-7084
DM03-48x360-HP-C-365_CS10_MS06	Linear Module with MagSpring 100N, Stroke max. 365mm	0150-7086
DM03-48x360-HP-C-365_CS10_MS07	Linear Module with MagSpring 70N, Stroke max. 365mm	0150-7089
DM03-48x360-HP-C-365_CS10_MS09	Linear Module with MagSpring 90N, Stroke max. 365mm	0150-7091

ALL LINEAR MOTION FROM A SINGLE SOURCE

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