

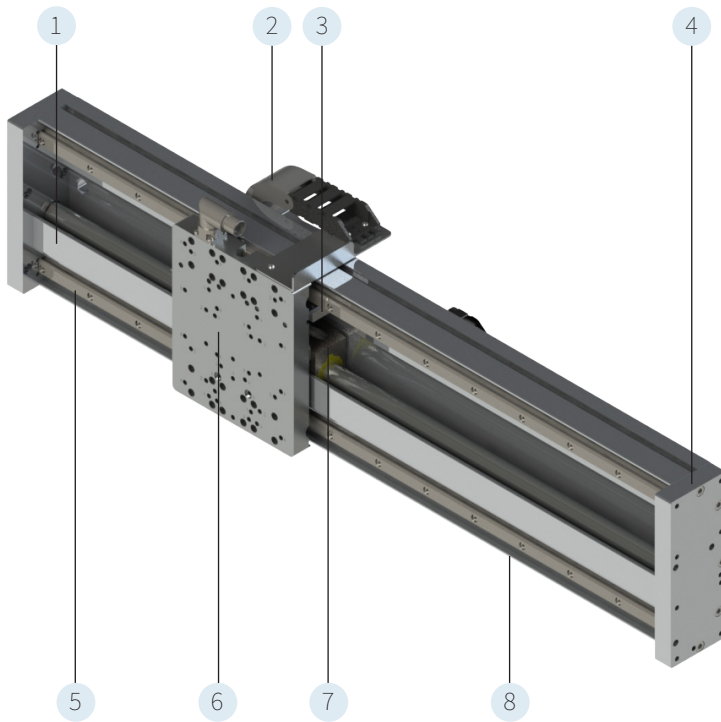
LINEAR MODULES EM01



- ✓ Integrated direct drive for high dynamics
- ✓ Double profile rail guide for high load capacity
- ✓ With a peak force of 572 N
- ✓ Can be combined as required with LinMot® linear modules or linear rotary motors
- ✓ Available with up to 8 independent carriages on the same guide
- ✓ Equipped with "Plug and Play" technology
- ✓ Simple load simulation through LinMot Designer software

LINEARMODULE EM01

Description	3
EM01-37Sx60	6
EM01-37Sx120	10
EM01-48x150	14
EM01-48x240	18
Accessories	22



1. Torsion-resistant anodised aluminium profile
2. Optional trailing chain guide for the motor cable and other cables or hoses
3. Optional external sensor (incremental or absolute) for increased positioning accuracy
4. End plates with a wide range of fastening options
5. Double profiled rail guides with large rail spacing for absorbing high moments (optionally with two or four bearings)
6. Mounting plate for direct mounting of the load
7. LinMot linear motor with integrated position sensors, temperature monitoring and electronic nameplate
8. T-slots in the profile for fastening and mounting accessories

Linear Modules EM01

The EM01 linear modules are complete drive solutions consisting of a linear guide and an integrated "LinMot" linear motor. The modules of the EM01-37S and EM01-48 series differ in the linear motors used. While motors of the PS01-37Sx60 and PS01-37Sx120 series with a maximum force of 128 N and 255 N are used in the EM01-37S, linear motors of the PS01-48x150G and PS01-48x240F types with peak forces of 360 N and 572 N respectively are used in the EM01-48 modules. The external dimensions of the EM01-37 and EM01-48 linear modules are largely identical. The linear modules are based on an anodised aluminium profile on which two profile rail guides are mounted. Due to the large distance between the two profile rails, high torques in particular can be absorbed, so that cantilever loads

are also possible. The modules of the EM01-37S series are supplied with two carriages as standard, although a 'heavy duty' version with four carriages is also available. The EM01-48 modules are always supplied with four carriages. Each EM01 linear module is delivered assembled and tested and does not need to be assembled from individual parts. Only one article number is required for ordering. Assembly and commissioning of the drives is extremely simple, as all EM01 linear modules are equipped with "Plug and Play" technology. The required type parameters are automatically read in by the servo drive, thus simplifying the commissioning of the linear modules.



Linear module with 2 bearings



Linear module with 4 bearings

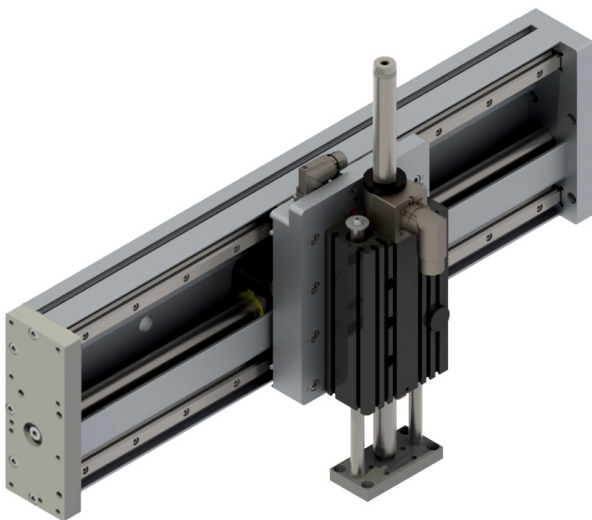
Einsatzweise und Kombinationen der EM01-Linearmodule

The EM01 linear modules up to a length of 1200 mm can be used both flat and upright. Longer modules should only be installed upright. As standard, all modules have linear motors with integrated incremental position measurement, temperature monitoring and electronic nameplate. If the application requires increased positioning accuracy, module variants with an absolute value sensor are available. Due to the direct linear motor technology used, it is possible to place several drive units on one guide and to control their movements independently of each other. This results in

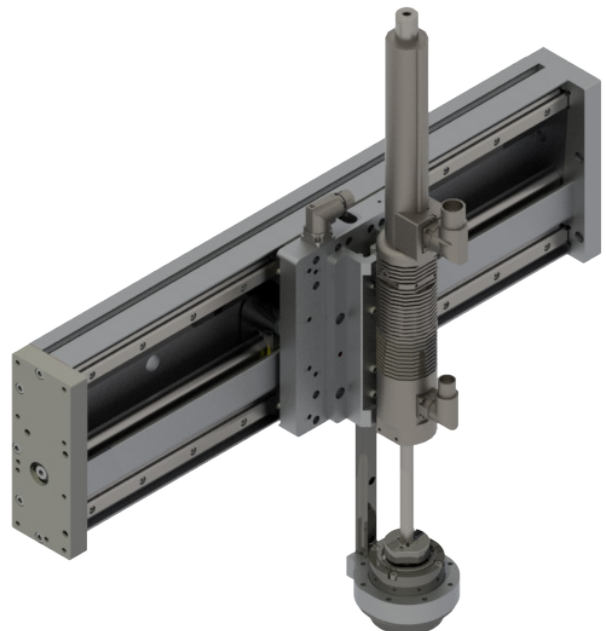
a particularly compact and economical multi-motor solution with a wide range of application perspectives, such as for merging or separating products on a conveyor belt. EM01 linear modules can be screwed directly to intelligent LinMot adapter plates so that any YZ combinations can be realised. The motor cable and any additional cables and hoses for the load can be fed via a drag chain, the attachment points of which are already provided. Appropriate holes and threads with centring possibilities on the moving mounting plate are provided for mounting the load.



EM01-37Sx120 Linear module with two independent carriages



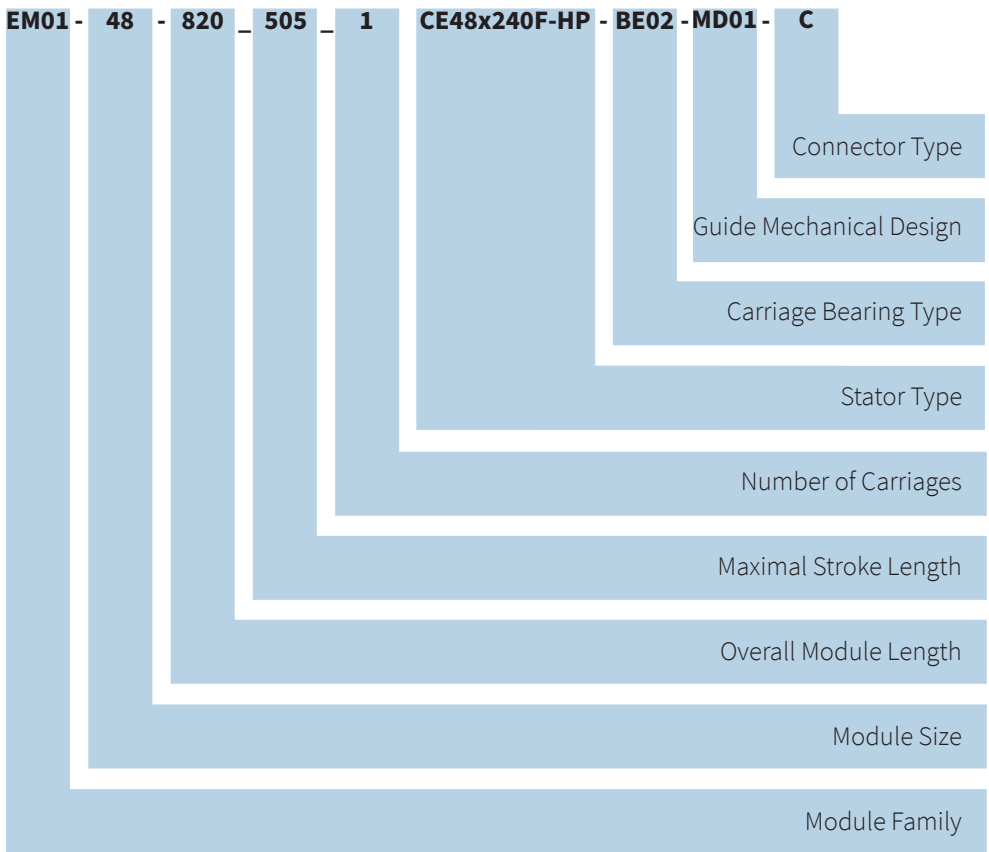
**Pick & Place
EM01-37Sx120 with H01 linear module**



**Pick, Rotate & Place
EM01-37Sx120 with PR01-52 gearbox**

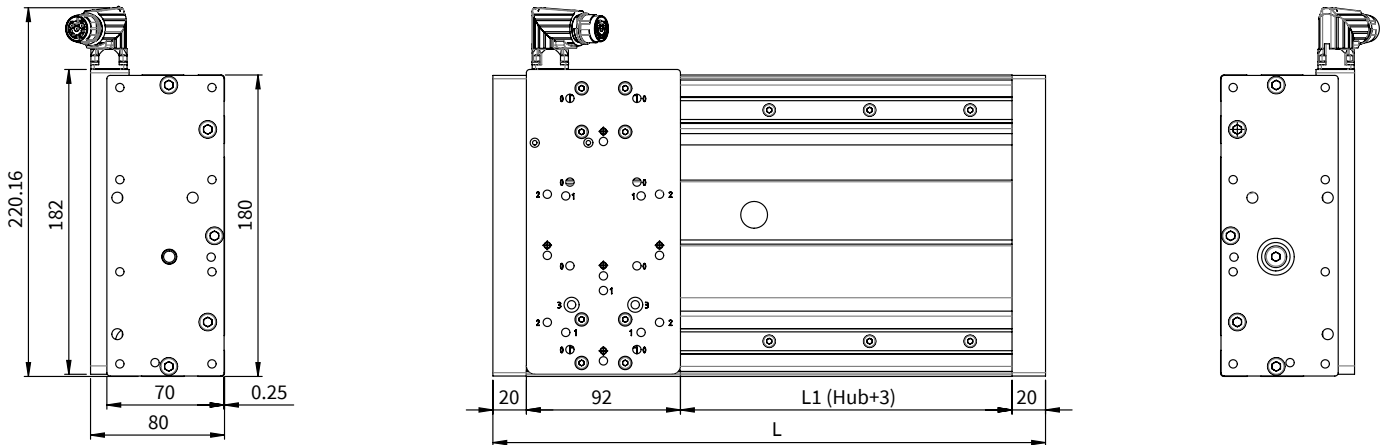
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Designation Code Linear Modules EM01



The EM01 linear module product family currently offers more than 50 product variants. Each variant has its own article number and is supplied fully assembled. The wide variety of sizes, strokes, forces and equipment features opens up a very comprehensive range of applications for the user.

EM01-37SX60



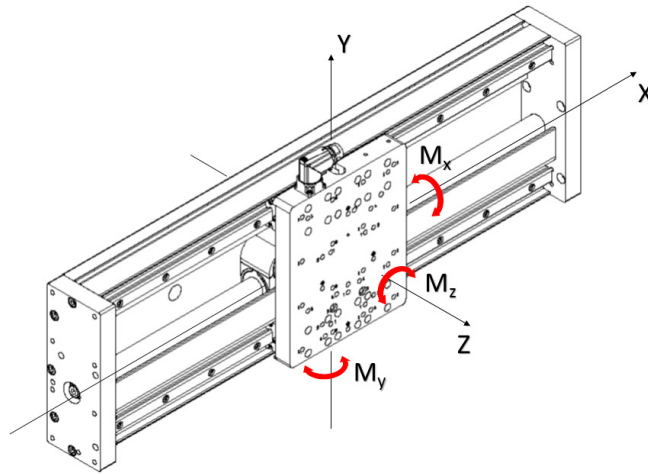
Dimensions mm

Linear Module	Stroke H [mm (inch)]	Module length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
EM01-37-330_195_1CE37Sx60-HP-BE01-MD01-R	195 (7.68)	330 (13.0)	1140 (2.51)	8127 (17.92)
EM01-37-430_295_1CE37Sx60-HP-BE01-MD01-R	295 (11.61)	430 (16.93)	1140 (2.51)	9712 (21.41)
EM01-37-530_395_1CE37Sx60-HP-BE01-MD01-R	395 (15.55)	530 (20.87)	1140 (2.51)	11451 (25.25)
EM01-37-630_495_1CE37Sx60-HP-BE01-MD01-R	495 (19.49)	630 (24.80)	1140 (2.51)	13061 (28.79)
EM01-37-830_695_1CE37Sx60-HP-BE01-MD01-R	695 (27.36)	830 (32.68)	1140 (2.51)	16308 (35.95)
EM01-37-1030_895_1CE37Sx60-HP-BE01-MD01-R	895 (35.24)	1030 (40.55)	1140 (2.51)	19520 (43.03)
EM01-37-1230_1095_1CE37Sx60-HP-BE01-MD02-R	1095 (43.11)	1230 (48.43)	1040 (2.29)	22785 (50.23)
EM01-37-1430_1295_1CE37Sx60-HP-BE01-MD02-R	1295 (50.98)	1430 (56.30)	1040 (2.29)	26027 (57.38)
EM01-37-1630_1495_1CE37Sx60-HP-BE01-MD02-R	1495 (58.86)	1630 (64.17)	1040 (2.29)	29341 (64.69)
EM01-37-2030_1895_1CE37Sx60-HP-BE01-MD02-R	1895 (74.61)	2030 (79.92)	1040 (2.29)	35955 (79.27)

¹⁾ Mass: Mounting plate, Stator, Bearings

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PERFORMANCE DATA EM01-37SX60



Performance Data Linear Module EM01-37Sx60				
Mechanical Data				
Static Load Rating (per Carriage)	N (lbf)		15400	(3462.1)
Dynamic Load Rating (per Carriage)	N (lbf)		8400	(1888.4)
Static Moment Load M_{x0}	Nm (lbfin)		180	(1592.9)
Static Moment Load $M_{y/z0}$	Nm (lbfin)		196	(1734.5)
Dynamic Moment Loads M_x	Nm (lbfin)		cannot occur	
Dynamic Moment Loads $M_{y/z}$	Nm (lbfin)		98	(867.3)
Friction (estimated)	N (lbf)		10	(2.25)
Number of Bearings (Linear Ball Bearings)			2	
Distance between Bearings (Linear Ball Bearings)	mm (in)		(-)	
Distance between Rails	mm (in)		138	(5.43)
Max. Force @ 72VDC	N (lbf)		128	(28.7)
Max. Cont. Force	N (lbf)		16	(7.3)
Force Constant	N/A _{pk} (lbf/A _{pk})		13.4	(3.02)
Velocity				
Max. Velocity @ 72VDC	m/s (in/s)		4.9	(189.9)
Position Detection				
Position Resolution	mm (in)		0.005	(0.0002)
Repeatability	mm (in)		±0.05	(±0.002)
Position Resolution with external Sensor	mm (in)		0.001	(0.00004)
Repeatability with external Sensor	mm (in)		±0.01	(±0.0004)
Electrical Data				
Max. Current @ 72VDC	A _{pk}		9.4	
Max. Cont. Current	A _{pk}		1.2	
Terminal Resistance 25 °C / 150 °C	Ohm		3.2 / 4.7	
Terminal Inductivity	mH		1.6	
Magnetic Period	mm (in)		40	(1.57)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance	K/W		12	
Thermal Time Constant	s		2400	

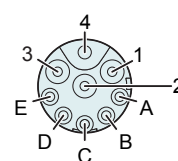
MATERIALS

Guide profile	Anodised aluminium
Mounting plate	Anodised aluminium
End plate	Anodised aluminium
Bearing	Linear ball bearing
Rail guide	Hardened steel
Slider	Chrome steel

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
Shield	Case	outer Shield

R-Connector



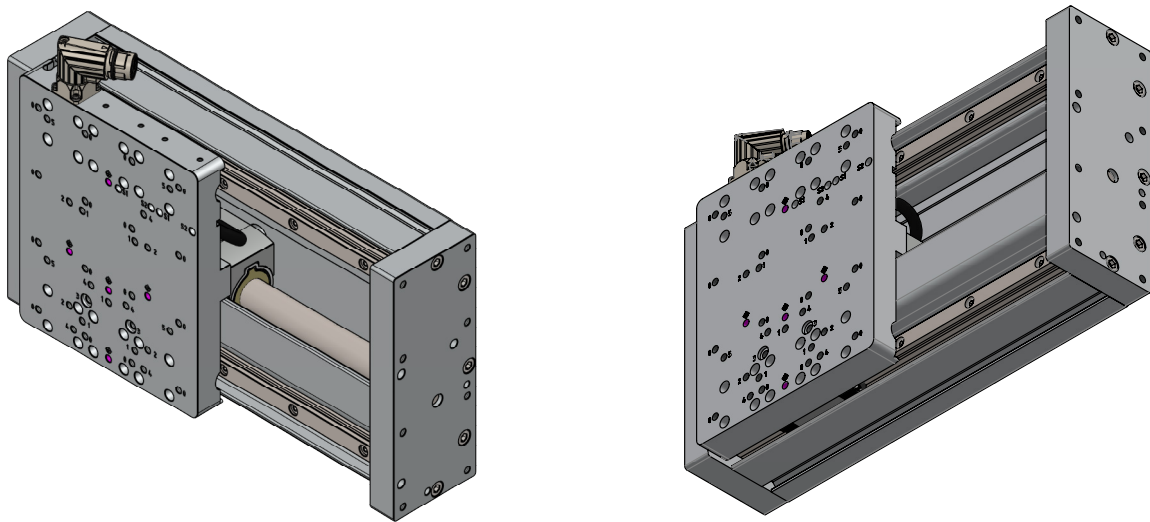
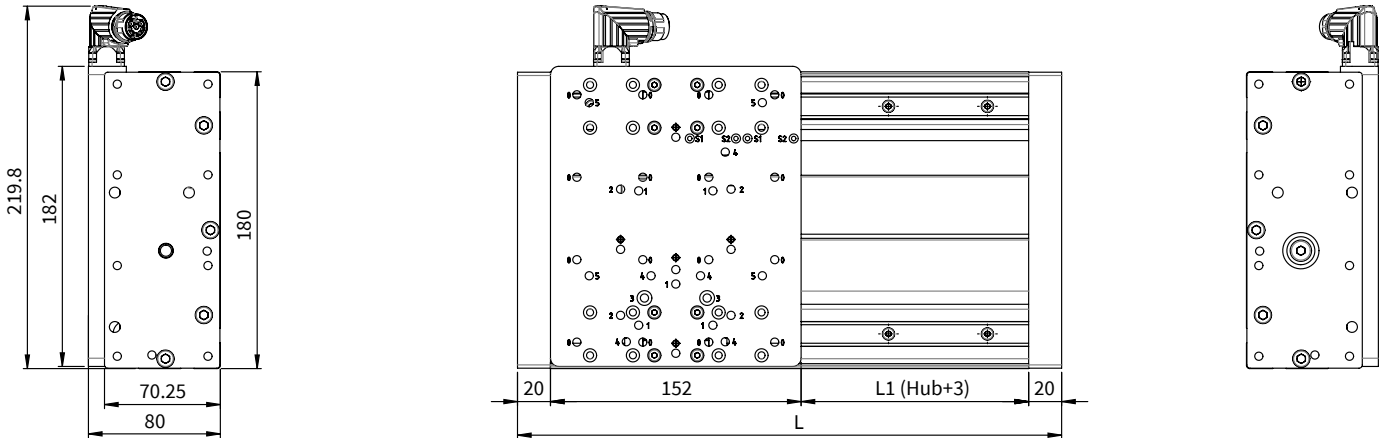
View: Motor connector, plug side

ORDERING INFORMATION

Item	Description	Item-No.
EM01-37-330_195_1CE37Sx60-HP-BE01-MD01-R	Linear module, stroke max. 195 mm, single bearing	0150-4856
EM01-37-430_295_1CE37Sx60-HP-BE01-MD01-R	Linear module, stroke max. 295 mm, single bearing	0150-4857
EM01-37-530_395_1CE37Sx60-HP-BE01-MD01-R	Linear module, stroke max. 395 mm, single bearing	0150-4858
EM01-37-630_495_1CE37Sx60-HP-BE01-MD01-R	Linear module, stroke max. 495 mm, single bearing	0150-4859
EM01-37-830_695_1CE37Sx60-HP-BE01-MD01-R	Linear module, stroke max. 695 mm, single bearing	0150-4860
EM01-37-1030_895_1CE37Sx60-HP-BE01-MD01-R	Linear module, stroke max. 895 mm, single bearing	0150-4861
EM01-37-1230_1095_1CE37Sx60-HP-BE01-MD02-R	Linear module, stroke max. 1095 mm, single bearing	0150-4862
EM01-37-1430_1295_1CE37Sx60-HP-BE01-MD02-R	Linear module, stroke max. 1295 mm, single bearing	0150-4863
EM01-37-1630_1495_1CE37Sx60-HP-BE01-MD02-R	Linear module, stroke max. 1495 mm, single bearing	0150-4864
EM01-37-2030_1895_1CE37Sx60-HP-BE01-MD02-R	Linear module, stroke max. 1895 mm, single bearing	0150-4865

Area with horizontal dotted lines for notes.

EM01-37SX120

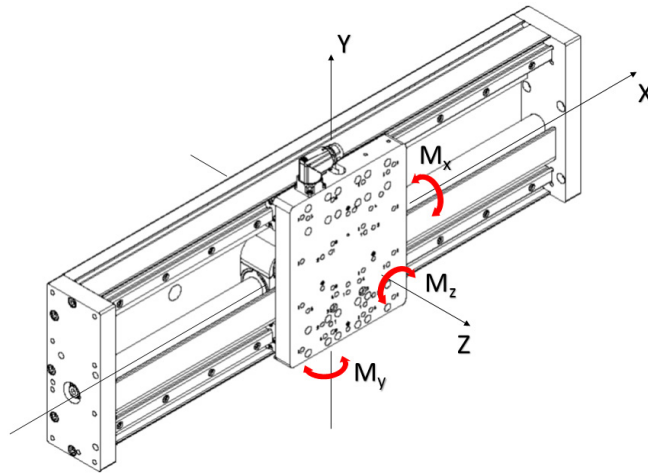


Dimensions mm

Linear Module	Stroke H [mm (inch)]	Module length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
EM01-37-330_135_1CE37Sx120F-HP-BE01-MD01-R	135 (5.31)	330 (13.0)	1812 (3.99)	7834 (17.27)
EM01-37-430_235_1CE37Sx120F-HP-BE01-MD01-R	235 (9.25)	430 (16.93)	1812 (3.99)	9419 (20.77)
EM01-37-530_335_1CE37Sx120F-HP-BE01-MD01-R	335 (13.19)	530 (20.87)	1812 (3.99)	11158 (24.6)
EM01-37-630_435_1CE37Sx120F-HP-BE01-MD01-R	435 (17.13)	630 (24.80)	1812 (3.99)	12768 (28.15)
EM01-37-830_635_1CE37Sx120F-HP-BE01-MD01-R	635 (25.0)	830 (32.68)	1812 (3.99)	16015 (35.31)
EM01-37-1030_835_1CE37Sx120F-HP-BE01-MD01-R	835 (32.87)	1030 (40.55)	1812 (3.99)	19227 (42.39)
EM01-37-1230_1035_1CE37Sx120F-HP-BE01-MD02-R	1035 (40.75)	1230 (48.43)	1680 (3.70)	22492 (49.59)
EM01-37-1430_1235_1CE37Sx120F-HP-BE01-MD02-R	1235 (48.62)	1430 (56.30)	1680 (3.70)	25734 (56.73)
EM01-37-1630_1435_1CE37Sx120F-HP-BE01-MD02-R	1435 (56.50)	1630 (64.17)	1680 (3.70)	29048 (64.04)
EM01-37-2030_1835_1CE37Sx120F-HP-BE01-MD02-R	1835 (72.24)	2030 (79.92)	1680 (3.70)	35662 (78.62)
EM01-37-330_135_1CE37Sx120F-HP-BE02-MD01-R	135 (5.31)	330 (13.0)	1830 (4.03)	8140 (17.95)
EM01-37-430_235_1CE37Sx120F-HP-BE02-MD01-R	235 (9.25)	430 (16.93)	1830 (4.03)	9725 (21.44)
EM01-37-530_335_1CE37Sx120F-HP-BE02-MD01-R	335 (13.19)	530 (20.87)	1830 (4.03)	11464 (25.27)
EM01-37-630_435_1CE37Sx120F-HP-BE02-MD01-R	435 (17.13)	630 (24.80)	1830 (4.03)	13074 (28.82)
EM01-37-830_635_1CE37Sx120F-HP-BE02-MD01-R	635 (25.0)	830 (32.68)	1830 (4.03)	16321 (35.98)
EM01-37-1030_835_1CE37Sx120F-HP-BE02-MD01-R	835 (32.87)	1030 (40.55)	1830 (4.03)	19533 (43.06)
EM01-37-1230_1035_1CE37Sx120F-HP-BE02-MD02-R	1035 (40.75)	1230 (48.43)	1700 (3.75)	22798 (50.26)
EM01-37-1430_1235_1CE37Sx120F-HP-BE02-MD02-R	1235 (48.62)	1430 (56.30)	1700 (3.75)	26040 (57.41)
EM01-37-1630_1435_1CE37Sx120F-HP-BE02-MD02-R	1435 (56.50)	1630 (64.17)	1700 (3.75)	29354 (64.71)
EM01-37-2030_1835_1CE37Sx120F-HP-BE02-MD02-R	1835 (72.24)	2030 (79.92)	1700 (3.75)	35968 (79.29)

¹⁾ Mass: Mounting plate, Stator, Bearings

PERFORMANCE DATA EM01-37SX120



Performance Data Linear Module EM01-37Sx120					
Mechanical Data		Standard Version		Heavy Duty Version (BE02)	
Static Load Rating (per Carriage)	N (lbf)	15400	(3462.1)	15400	(3462.1)
Dynamic Load Rating (per Carriage)	N (lbf)	8400	(1888.4)	8400	(1888.4)
Static Moment Load M_{x0}	Nm (lbfin)	cannot occur		cannot occur	
Static Moment Load $M_{y/z0}$	Nm (lbfin)	180	(1593.13)	cannot occur	
Dynamic Moment Loads M_x	Nm (lbfin)	cannot occur		cannot occur	
Dynamic Moment Loads $M_{y/z}$	Nm (lbfin)	cannot occur		cannot occur	
Friction (estimated)	N (lbf)	10	(2.25)	19	(4.27)
Number of Bearings (Linear Ball Bearings)		2		4	
Distance between Bearings (Linear Ball Bearings)	mm (in)	(-)		78	
Distance between Rails	mm (in)			138	(5.43)
Max. Force @ 72VDC	N (lbf)			255	(57.3)
Max. Cont. Force	N (lbf)			35	(7.8)
Force Constant	N/A _{pk} (lbf/A _{pk})			17	(3.82)
Velocity					
Max. Velocity @ 72VDC	m/s (in/s)			3.5	(149.9)
Position Detection					
Position Resolution	mm (in)			0.005	(0.0002)
Repeatability	mm (in)			±0.05	(±0.002)
Position Resolution with external Sensor	mm (in)			0.001	(0.00004)
Repeatability with external Sensor	mm (in)			±0.01	(±0.0004)
Linearity with external Sensor	mm (in)			±0.01	(±0.0004)
Electrical Data					
Max. Current @ 72VDC	A _{pk}			14.9	
Max. Cont. Current	A _{pk}			2.1	
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	K/W			5.5	
Thermal Time Constant	s			2200	

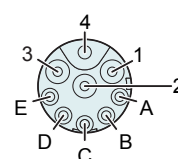
MATERIALS

Guide profile	Anodised aluminium
Mounting plate	Anodised aluminium
End plate	Anodised aluminium
Bearing	Linear ball bearing
Rail guide	Hardened steel
Slider	Chrome steel

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
Shield	Case	outer Shield

R-Connector



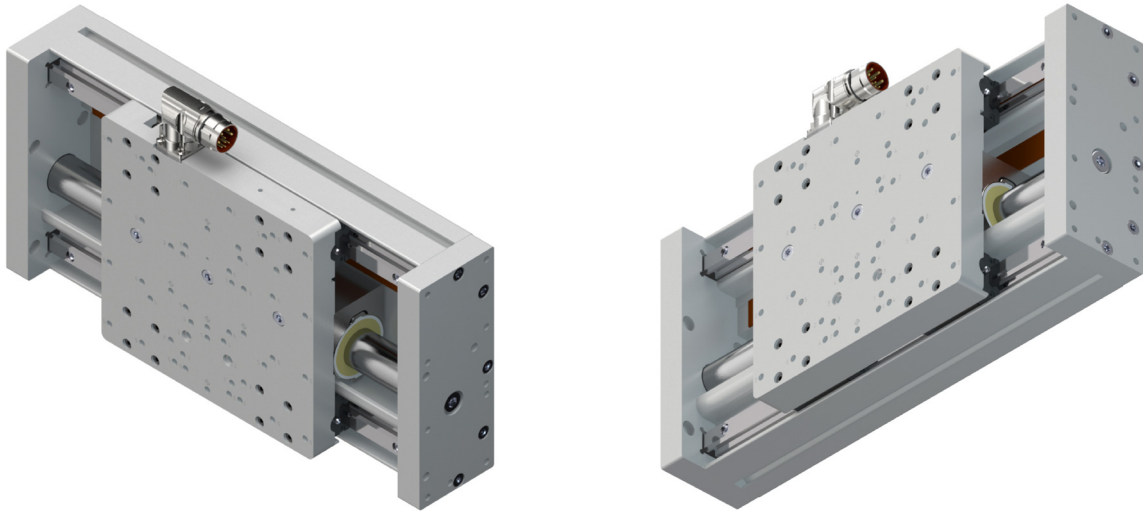
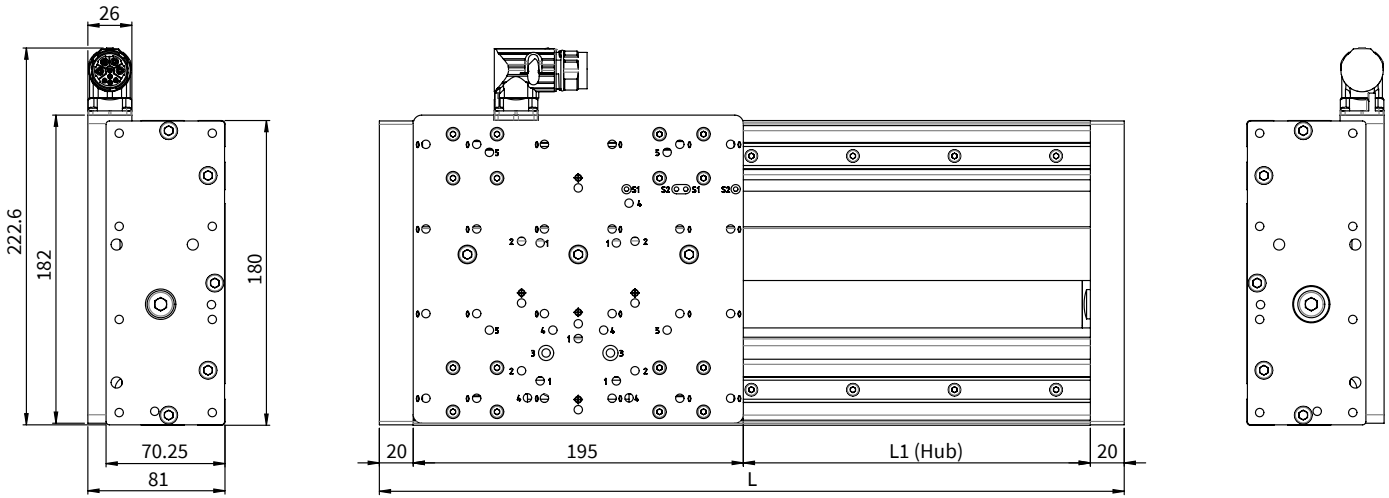
View: Motor connector, plug side

ORDERING INFORMATION

Item	Description	Item-No.
EM01-37-330_135_1CE37Sx120F-HP-BE01-MD01-R	Linear module, stroke max. 135 mm, single bearing	0150-4725
EM01-37-430_235_1CE37Sx120F-HP-BE01-MD01-R	Linear module, stroke max. 235 mm, single bearing	0150-4726
EM01-37-530_335_1CE37Sx120F-HP-BE01-MD01-R	Linear module, stroke max. 335 mm, single bearing	0150-4727
EM01-37-630_435_1CE37Sx120F-HP-BE01-MD01-R	Linear module, stroke max. 435 mm, single bearing	0150-4728
EM01-37-830_635_1CE37Sx120F-HP-BE01-MD01-R	Linear module, stroke max. 635 mm, single bearing	0150-4729
EM01-37-1030_835_1CE37Sx120F-HP-BE01-MD01-R	Linear module, stroke max. 835 mm, single bearing	0150-4731
EM01-37-1230_1035_1CE37Sx120F-HP-BE01-MD02-R	Linear module, stroke max. 1035 mm, single bearing	0150-4732
EM01-37-1430_1235_1CE37Sx120F-HP-BE01-MD02-R	Linear module, stroke max. 1235 mm, single bearing	0150-4733
EM01-37-1630_1435_1CE37Sx120F-HP-BE01-MD02-R	Linear module, stroke max. 1435 mm, single bearing	0150-4734
EM01-37-2030_1835_1CE37Sx120F-HP-BE01-MD02-R	Linear module, stroke max. 1835 mm, single bearing	0150-4735
EM01-37-330_135_1CE37Sx120F-HP-BE02-MD01-R	Linear module, stroke max. 135 mm, double bearing	0150-4736
EM01-37-430_235_1CE37Sx120F-HP-BE02-MD01-R	Linear module, stroke max. 235 mm, double bearing	0150-4737
EM01-37-530_335_1CE37Sx120F-HP-BE02-MD01-R	Linear module, stroke max. 335 mm, double bearing	0150-4738
EM01-37-630_435_1CE37Sx120F-HP-BE02-MD01-R	Linear module, stroke max. 435 mm, double bearing	0150-4739
EM01-37-830_635_1CE37Sx120F-HP-BE02-MD01-R	Linear module, stroke max. 635 mm, double bearing	0150-4740
EM01-37-1030_835_1CE37Sx120F-HP-BE02-MD01-R	Linear module, stroke max. 835 mm, double bearing	0150-4741
EM01-37-1230_1035_1CE37Sx120F-HP-BE02-MD02-R	Linear module, stroke max. 1035 mm, double bearing	0150-4742
EM01-37-1430_1235_1CE37Sx120F-HP-BE02-MD02-R	Linear module, stroke max. 1235 mm, double bearing	0150-4743
EM01-37-1630_1435_1CE37Sx120F-HP-BE02-MD02-R	Linear module, stroke max. 1435 mm, double bearing	0150-4744
EM01-37-2030_1835_1CE37Sx120F-HP-BE02-MD02-R	Linear module, stroke max. 1835 mm, double bearing	0150-4745

Area with horizontal dotted lines for notes.

EM01-48X150

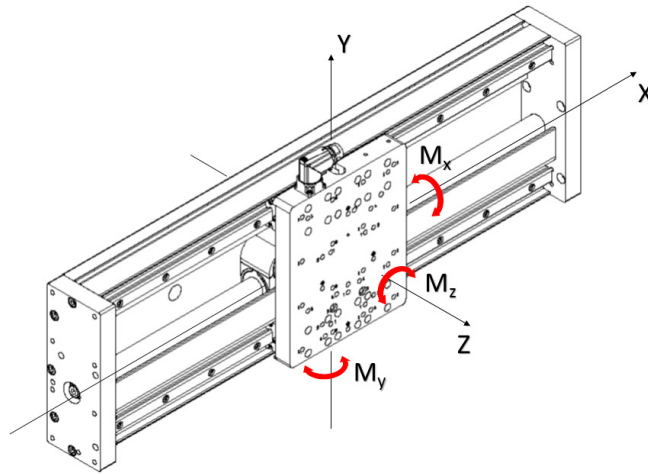


Dimensions mm

Linear Module	Stroke H [mm (inch)]	Module length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
EM01-48-380_145_1CE48x150G-HP-BE02-MD01-C	145 (5.71)	380 (14.96)	3837 (8.46)	11178 (24.64)
EM01-48-440_205_1CE48x150G-HP-BE02-MD01-C	205 (8.07)	440 (17.32)	3837 (8.46)	11980 (26.41)
EM01-48-530_295_1CE48x150G-HP-BE02-MD01-C	295 (11.61)	530 (20.87)	3837 (8.46)	13215 (29.13)
EM01-48-650_415_1CE48x150G-HP-BE02-MD01-C	415 (16.34)	650 (25.59)	3837 (8.46)	14819 (32.67)
EM01-48-740_505_1CE48x150G-HP-BE02-MD01-C	505 (19.88)	740 (29.13)	3837 (8.46)	16018 (35.31)
EM01-48-830_595_1CE48x150G-HP-BE02-MD01-C	595 (23.43)	830 (32.68)	3837 (8.46)	17225 (37.97)
EM01-48-950_715_1CE48x150G-HP-BE02-MD01-C	715 (28.15)	950 (37.40)	3837 (8.46)	18829 (41.51)
EM01-48-1040_805_1CE48x150G-HP-BE02-MD01-C	805 (31.69)	1040 (40.94)	3837 (8.46)	20028 (44.15)
EM01-48-1250_1015_1CE48x150G-HP-BE02-MD01-C	1015 (39.96)	1250 (49.21)	3837 (8.46)	22839 (50.35)
EM01-48-1430_1195_1CE48x150G-HP-BE02-MD01-C	1195 (47.05)	1430 (56.30)	3837 (8.46)	25245 (55.66)
EM01-48-1640_1405_1CE48x150G-HP-BE02-MD01-C	1405 (55.31)	1640 (64.57)	3837 (8.46)	28048 (61.84)

¹⁾ Mass: Mounting plate, Stator, Bearings

LEISTUNGSDATEN EM01-48X150



Performance Data Linear Module EM01-48x150				
Mechanical Data				
Static Load Rating (per Carriage)	N (lbf)		15400	(3462.1)
Dynamic Load Rating (per Carriage)	N (lbf)		8400	(1888.4)
Static Moment Load M_{x0}	Nm (lbfin)		cannot occur	
Static Moment Load $M_{y0/z0}$	Nm (lbfin)		cannot occur	
Dynamic Moment Loads M_x	Nm (lbfin)		cannot occur	
Dynamic Moment Loads $M_{y/z}$	Nm (lbfin)		cannot occur	
Friction (estimated)	N (lbf)		18	(4.05)
Number of Bearings (Linear Ball Bearings)			4	
Distance between Bearings (Linear Ball Bearings)	mm (in)		122	(4.80)
Distance between Rails	mm (in)		153	(6.02)
Max. Force @ 72VDC	N (lbf)		360	(80.9)
Max. Cont. Force	N (lbf)		100	(23)
Force Constant	N/A _{pk} (lbf/A _{pk})		15.65	(3.51)
Velocity				
Max. Velocity @ 72VDC	m/s (in/s)		4.1	(169.9)
Position Detection				
Position Resolution	mm (in)		0.007	(0.0003)
Repeatability	mm (in)		±0.05	(±0.002)
Position Resolution with external Sensor	mm (in)		0.001	(0.00004)
Repeatability with external Sensor	mm (in)		±0.01	(±0.0004)
Linearity with external Sensor	mm (in)		±0.01	(±0.0004)
Electrical Data				
Max. Current @ 72VDC	A _{pk}		23	
Max. Cont. Current	A _{pk}		6.7	
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	K/W		1.5	
Thermal Time Constant	s		970	

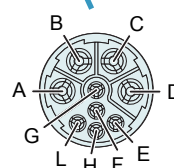
MATERIALS

Guide profile	Anodised aluminium
Mounting plate	Anodised aluminium
End plate	Anodised aluminium
Bearing	Linear ball bearing
Rail guide	Hardened steel
Slider	Chrome steel

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



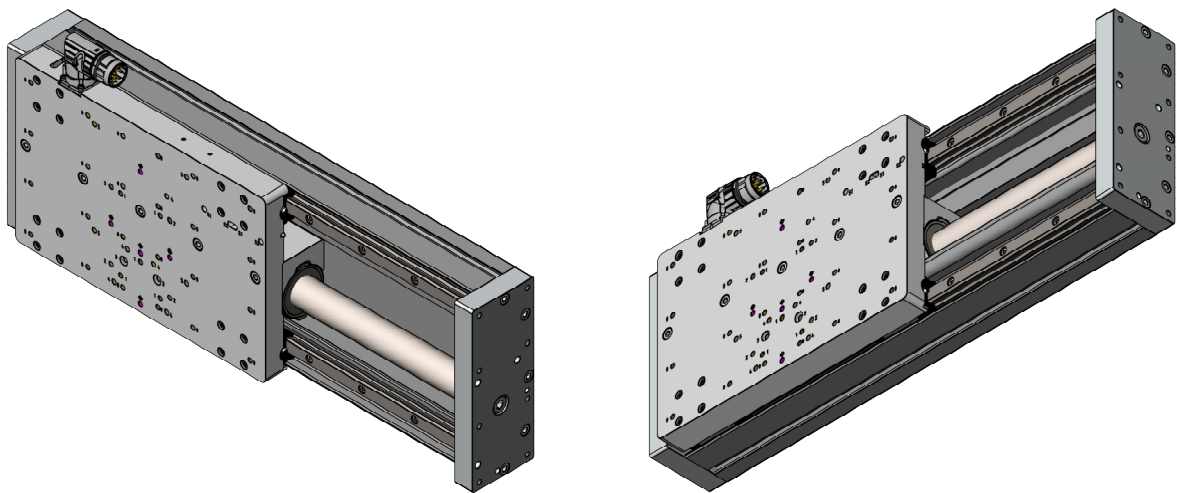
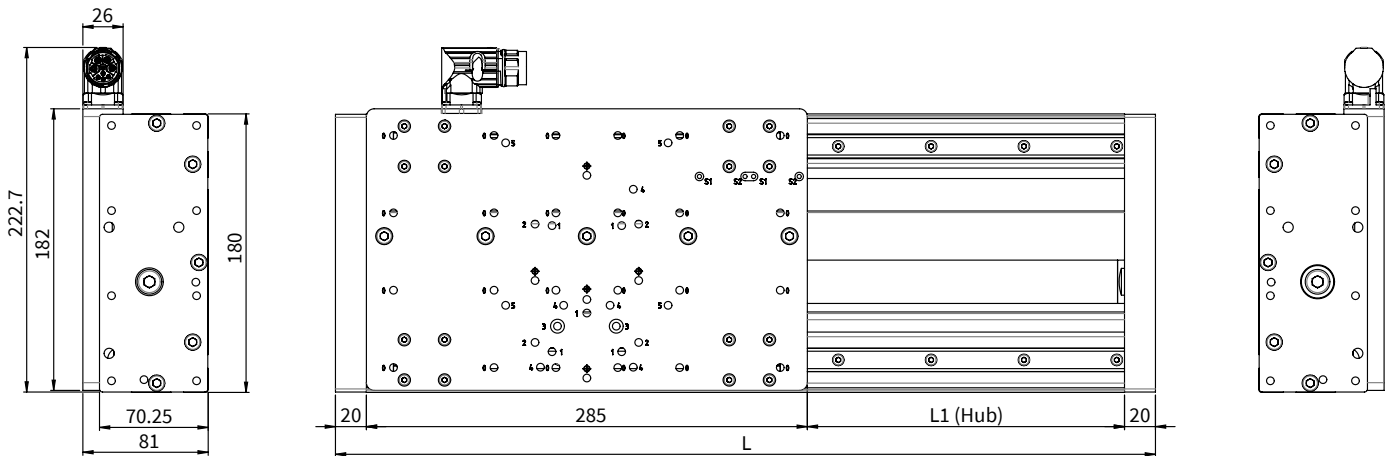
View: Motor connector, plug side

ORDERING INFORMATION

Item	Description	Item-No.
EM01-48-380_145_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 145 mm, double bearing	0150-4693
EM01-48-440_205_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 205 mm, double bearing	0150-4523
EM01-48-530_295_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 295 mm, double bearing	0150-4695
EM01-48-650_415_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 415 mm, double bearing	0150-4696
EM01-48-740_505_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 505 mm, double bearing	0150-4697
EM01-48-830_595_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 595 mm, double bearing	0150-4698
EM01-48-950_715_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 715 mm, double bearing	0150-4699
EM01-48-1040_805_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 805 mm, double bearing	0150-4700
EM01-48-1250_1015_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 1015 mm, double bearing	0150-4701
EM01-48-1430_1195_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 1195 mm, double bearing	0150-5609
EM01-48-1640_1405_1CE48x150G-HP-BE02-MD01-C	Linear module, stroke max. 1405 mm, double bearing	0150-5611

Area with horizontal dotted lines for notes.

EM01-48X240

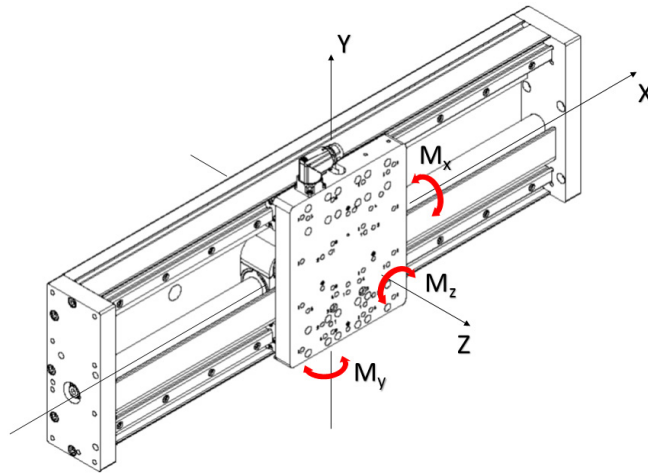


Dimensions mm

Linear Module	Stroke H [mm (inch)]	Module length L [mm (inch)]	Moving mass ¹⁾ [g (lb)]	Total weight [g (lb)]
EM01-48-440_115_1CE48x240F-HP-BE02-MD01-C	115 (4.53)	440 (17.32)	5610 (12.37)	14331 (31.59)
EM01-48-530_205_1CE48x240F-HP-BE02-MD01-C	205 (8.07)	530 (20.87)	5610 (12.37)	15666 (34.53)
EM01-48-650_325_1CE48x240F-HP-BE02-MD01-C	325 (12.79)	650 (25.59)	5610 (12.37)	17270 (38.07)
EM01-48-740_415_1CE48x240F-HP-BE02-MD01-C	415 (16.34)	740 (29.13)	5610 (12.37)	18469 (40.71)
EM01-48-830_505_1CE48x240F-HP-BE02-MD01-C	505 (19.88)	830 (32.68)	5610 (12.37)	19675 (43.37)
EM01-48-950_625_1CE48x240F-HP-BE02-MD01-C	625 (24.61)	950 (37.40)	5610 (12.37)	21280 (46.91)
EM01-48-1040_715_1CE48x240F-HP-BE02-MD01-C	715 (28.15)	1040 (40.94)	5610 (12.37)	22479 (49.56)
EM01-48-1250_925_1CE48x240F-HP-BE02-MD01-C	925 (36.42)	1250 (49.21)	5610 (12.37)	25290 (55.75)
EM01-48-1430_1105_1CE48x240F-HP-BE02-MD01-C	1105 (43.50)	1430 (56.30)	5610 (12.37)	27696 (61.06)
EM01-48-1640_1315_1CE48x240F-HP-BE02-MD01-C	1315 (51.77)	1640 (64.57)	5610 (12.37)	30499 (67.24)

¹⁾ Mass: Mounting plate, Stator, Bearings

LEISTUNGSDATEN EM01-48X240



Performance Data Linear Module EM01-48x240

Mechanical Data				
Static Load Rating (per Carriage)	N (lbf)		15400	(3462.1)
Dynamic Load Rating (per Carriage)	N (lbf)		8400	(1888.4)
Static Moment Load M_{x0}	Nm (lbfin)		kann nicht auftreten	
Static Moment Load $M_{y0/z0}$	Nm (lbfin)		kann nicht auftreten	
Dynamic Moment Loads M_x	Nm (lbfin)		kann nicht auftreten	
Dynamic Moment Loads $M_{y/z}$	Nm (lbfin)		kann nicht auftreten	
Friction (estimated)	N (lbf)		25	(5.63)
Number of Bearings (Linear Ball Bearings)			4	
Distance between Bearings (Linear Ball Bearings)	mm (in)		210	(8.27)
Distance between Rails	mm (in)		153	(6.02)
Max. Force @ 72VDC	N (lbf)		572	(129)
Max. Cont. Force	N (lbf)		170	(38)
Force Constant	N/A _{pk} (lbf/A _{pk})		22	(4.95)
Velocity				
Max. Velocity @ 72VDC	m/s (in/s)		2.9	(119.9)
Position Detection				
Position Resolution	mm (in)		0.007	(0.0003)
Repeatability	mm (in)		±0.05	(±0.002)
Position Resolution with external Sensor	mm (in)		0.001	(0.00004)
Repeatability with external Sensor	mm (in)		±0.01	(±0.0004)
Linearity with external Sensor	mm (in)		±0.01	(±0.0004)
Electrical Data				
Max. Current @ 72VDC	A _{pk}		25.9	
Max. Cont. Current	A _{pk}		7.7	
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	K/W		0.95	
Thermal Time Constant	s		970	

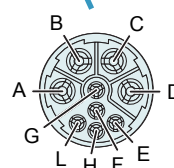
MATERIALS

Guide profile	Anodised aluminium
Mounting plate	Anodised aluminium
End plate	Anodised aluminium
Bearing	Linear ball bearing
Rail guide	Hardened steel
Slider	Chrome steel

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



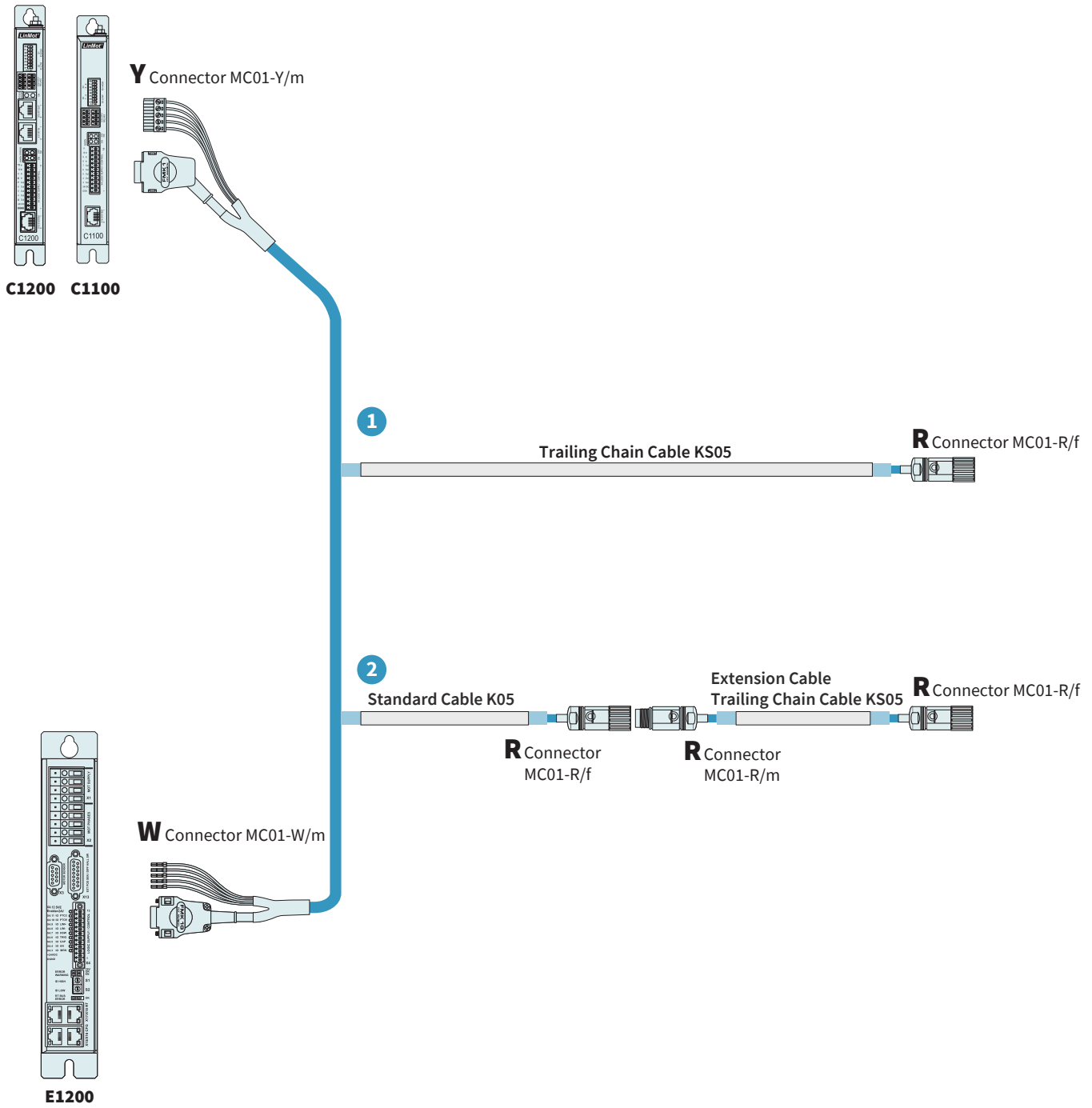
View: Motor connector, plug side

ORDERING INFORMATION

Item	Description	Item-No.
EM01-48-440_115_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 115 mm, double bearing	0150-4702
EM01-48-530_205_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 205 mm, double bearing	0150-4703
EM01-48-650_325_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 325 mm, double bearing	0150-4704
EM01-48-740_415_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 415 mm, double bearing	0150-4705
EM01-48-830_505_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 505 mm, double bearing	0150-4706
EM01-48-950_625_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 625 mm, double bearing	0150-4707
EM01-48-1040_715_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 715 mm, double bearing	0150-4708
EM01-48-1250_925_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 925 mm, double bearing	0150-4709
EM01-48-1430_1105_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 1105 mm, double bearing	0150-5610
EM01-48-1640_1315_1CE48x240F-HP-BE02-MD01-C	Linear module, stroke max. 1315 mm, double bearing	0150-5612

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MOTOR CABLES FOR EM01-37



13

OPTION 1: DIRECT WIRING

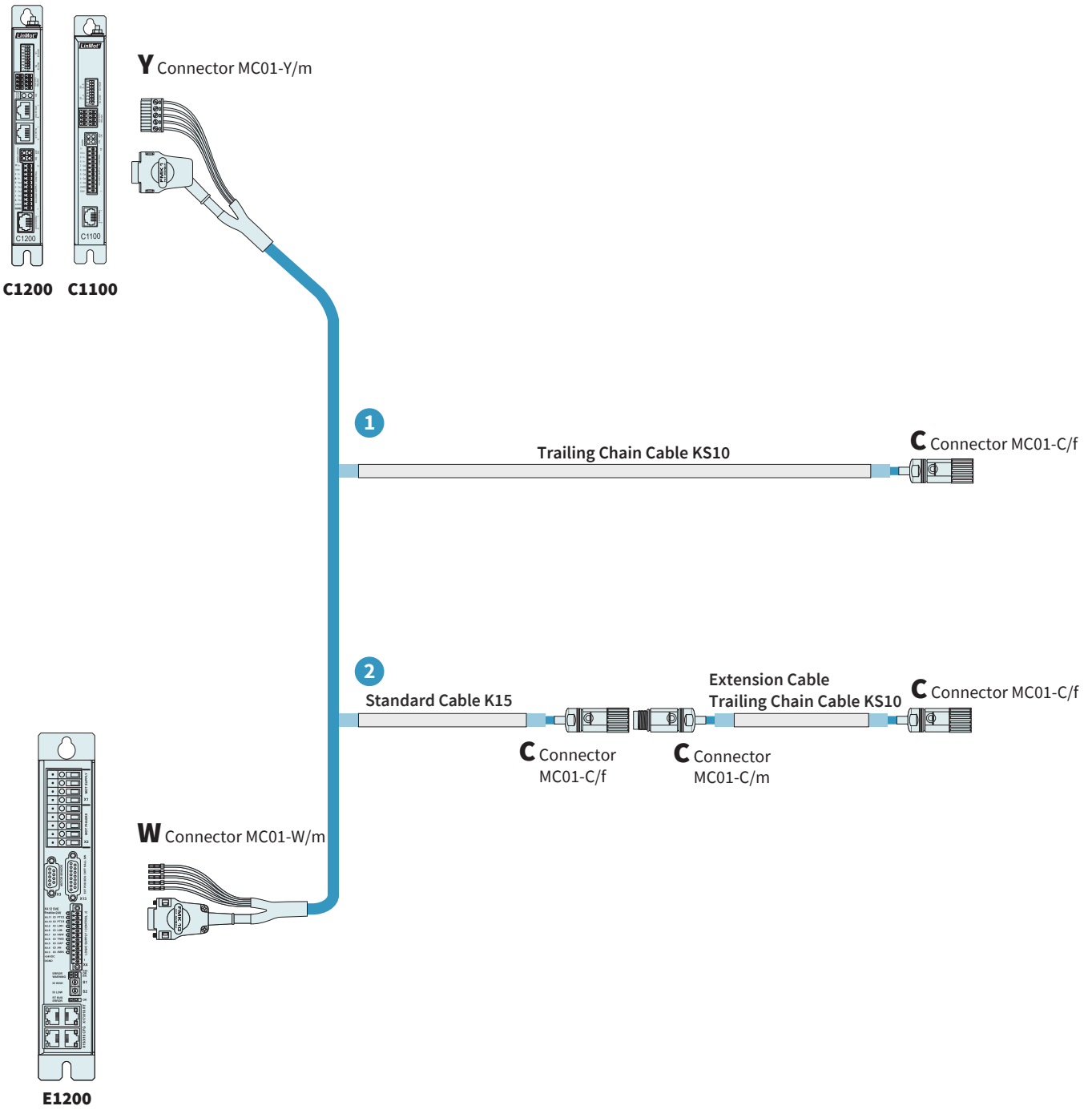
TRAILING CHAIN CABLES		
Item	Description	Item-No.
KS05-W/R-4	Trailing Chain Cable W/R, 4 m	0150-2106
KS05-W/R-6	Trailing Chain Cable W/R, 6 m	0150-2131
KS05-W/R-8	Trailing Chain Cable W/R, 8 m	0150-2107
KS05-W/R-	Trailing Chain Cable W/R, Custom length	0150-3256
KS05-Y/R-4	Trailing Chain Cable Y/R, 4 m	0150-2433
KS05-Y/R-6	Trailing Chain Cable Y/R, 6 m	0150-2434
KS05-Y/R-8	Trailing Chain Cable Y/R, 8 m	0150-2435
KS05-Y/R-	Trailing Chain Cable Y/R, Custom length	0150-3507

OPTION 2: INDIRECT WIRING WITH EXTENSION CABLES

EXTENSION CABLES		
Item	Description	Item-No.
KS05-09-R/R-1.5	Trailing Chain Cable R/R 1.5 m	0150-3883
KS05-09-R/R-2	Trailing Chain Cable R/R 2 m	0150-3884
KS05-09-R/R-3	Trailing Chain Cable R/R 3 m	0150-3885
KS05-R/R-	Trailing Chain Cable R/R, Custom length	0150-3217

STANDARD CABLES		
Item	Description	Item-No.
K05-W/R-2	Motor Cable W/R, 2 m	0150-2119
K05-W/R-4	Motor Cable W/R, 4 m	0150-2120
K05-W/R-6	Motor Cable W/R, 6 m	0150-2121
K05-W/R-8	Motor Cable W/R, 8 m	0150-2122
K05-W/R-	Motor Cable W/R, Custom length	0150-3262
K05-Y/R-2	Motor Cable Y/R, 2 m	0150-2421
K05-Y/R-4	Motor Cable Y/R, 4 m	0150-2422
K05-Y/R-6	Motor Cable Y/R, 6 m	0150-2423
K05-Y/R-8	Motor Cable Y/R, 8 m	0150-2424
K05-Y-Fe/R-	Motor Cable Y/R, Custom length	0150-3501

MOTOR CABLES FOR EM01-48



13

OPTION 1: DIRECT WIRING

TRAILING CHAIN CABLES		
Item	Description	Item-No.
KS10-W/C-4	Trailing Chain Cable W/C, 4 m	0150-1807
KS10-W/C-6	Trailing Chain Cable W/C, 6 m	0150-1858
KS10-W/C-8	Trailing Chain Cable W/C, 8 m	0150-1808
KS10-W/C-	Trailing Chain Cable W/C, Custom length	0150-3139
KS10-Y/C-4	Trailing Chain Cable Y/C, 4 m	0150-2439
KS10-Y/C-6	Trailing Chain Cable Y/C, 6 m	0150-2440
KS10-Y/C-8	Trailing Chain Cable Y/C, 8 m	0150-2441
KS10-Y/C-	Trailing Chain Cable Y-Fe/C, Custom length	0150-3511

OPTION 2: INDIRECT WIRING WITH EXTENSION CABLES

EXTENSION CABLES		
Item	Description	Item-No.
KS10-C/C-2	Trailing Chain Cable C/C, 2 m	0150-1816
KS10-C/C-4	Trailing Chain Cable C/C, 4 m	0150-1817
KS10-C/C-	Trailing Chain Cable C/C, Custom length	0150-3206

STANDARD CABLES		
Item	Description	Item-No.
K15-W/C-2	Motor Cable W/C, 2 m	0150-1811
K15-W/C-4	Motor Cable W/C, 4 m	0150-1801
K15-W/C-6	Motor Cable W/C, 6 m	0150-1802
K15-W/C-8	Motor Cable W/C, 8 m	0150-1803
K15-W/C-	Motor Cable W/C, Custom length	0150-3131
K15-Y/C-2	Motor Cable Y/C, 2 m	0150-2429
K15-Y/C-4	Motor Cable Y/C, 4 m	0150-2430
K15-Y/C-6	Motor Cable Y/C, 6 m	0150-2431
K15-Y/C-8	Motor Cable Y/C, 8 m	0150-2432
K15-Y-Fe/C-	Motor Cable Y-Fe/C, Custom length	0150-3506

TRAILING CHAIN KITS

With the help of the trailing chain kits offered by LinMot, the motor cable and other cables or hoses can be optimally guided, protected and the minimum bending radius can be maintained. The trailing chains are made of plastic and allow the cables to run very smoothly and are available in various lengths. The kit consists of the trailing chain, the angle plate and the corresponding fixing material. The cables or hoses can be inserted simply by opening a divider.



Item	Description	Item-No.
EM01-TC300-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4725, 0150-4736, 0150-4856), Length 300 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4693), Length 300 mm	0150-4812
EM01-TC400-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4726, 0150-4737, 0150-4857), Length 400 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4623, 0150-4702), Length 400 mm	0150-4813
EM01-TC500-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4727, 0150-4738, 0150-4858), Length 500 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4695, 0150-4703), Length 500 mm	0150-4814
EM01-TC600-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4728, 0150-4739, 0150-4859), Length 600 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4696, 0150-4704), Length 600 mm	0150-4815
EM01-TC700-48x18	Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4697, 0150-4705), Length 700 mm	0150-5310
EM01-TC800-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4729, 0150-4740, 0150-4860), Length 800 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4698, 0150-4706), Length 800 mm	0150-4816
EM01-TC900-48x18	Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4699, 0150-4707), Length 900 mm	0150-5311
EM01-TC1000-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4731, 0150-4741, 0150-4861), Length 1000 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4700, 0150-4708), Length 1000 mm	0150-4817
EM01-TC1200-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4732, 0150-4742, 0150-4862), Length 1200 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-4701, 0150-4709), Length 1200 mm	0150-4818
EM01-TC1400-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4733, 0150-4743, 0150-4863), Length 1400 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-5609, 0150-5610), Length 1400 mm	0150-4819
EM01-TC1600-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4734, 0150-4744, 0150-4864), Length 1600 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-5611, 0150-5612), Length 1600 mm	0150-4820
EM01-TC2000-48x18	Trailing Chain Kit for EM01-37 (Art-Nr. 0150-4735, 0150-4745, 0150-4865), Length 2000 mm Trailing Chain Kit for EM01-48 (Art-Nr. 0150-5611, 0150-5612), Length 2000 mm	0150-4821

13

EXTERNAL POSITION SENSORS

LinMot offers the user various external position sensors for the EM01 linear modules. These are contactless measuring position sensors based on magnets with integrated evaluation electronics for the servo drives of the C and E series.

In combination with the appropriate magnetic tape, the position sensors form a high-resolution, robust linear measuring system. Depending on the choice, an incremental or an absolute interface is available in different resolutions.



Item	Description	Item-No.
E01-37S-SK/D	External Sensor kit for EM01 Linear Module, incremental	0150-2942

The external sensor kit consists of an external sensor, mounting brackets and screws. The magnetic strips and additional cables must be ordered separately.



Item	Description	Item-No.
F01-MB300	Magnetic strip for E/F-Guide (incremental), Strip length 280 mm	0150-5454
F01-MB400	Magnetic strip for E/F-Guide (incremental), Strip length 380 mm	0150-5451
F01-MB500	Magnetic strip for E/F-Guide (incremental), Strip length 480 mm	0150-5452
F01-MB600	Magnetic strip for E/F-Guide (incremental), Strip length 580 mm	0150-5431
F01-MB800	Magnetic strip for E/F-Guide (incremental), Strip length 780 mm	0150-5432
F01-MB1000	Magnetic strip for E/F-Guide (incremental), Strip length 980 mm	0150-5433
F01-MB1010	Magnetic strip for E/F-Guide (incremental), Strip length 990 mm	0150-5462
F01-MB1200	Magnetic strip for E/F-Guide (incremental), Strip length 1180 mm	0150-5434
F01-MB1220	Magnetic strip for E/F-Guide (incremental), Strip length 1200 mm	0150-5463
F01-MB1400	Magnetic strip for E/F-Guide (incremental), Strip length 1380 mm	0150-5435
F01-MB1600	Magnetic strip for E/F-Guide (incremental), Strip length 1580 mm	0150-5436
F01-MB1610	Magnetic strip for E/F-Guide (incremental), Strip length 1590 mm	0150-5464
F01-MB1820	Magnetic strip for E/F-Guide (incremental), Strip length 1800 mm	0150-5465
F01-MB2000	Magnetic strip for E/F-Guide (incremental), Strip length 1980 mm	0150-5437
F01-MB2210	Magnetic strip for E/F-Guide (incremental), Strip length 2190 mm	0150-5467
F01-MB2450	Magnetic strip for E/F-Guide (incremental), Strip length 2430 mm	0150-5468



Item	Description	Item-No.
KS025-D15/D-Encoder-	KS025-D15/D-Encoder- for MS01-1/D, Custom length	0150-3168



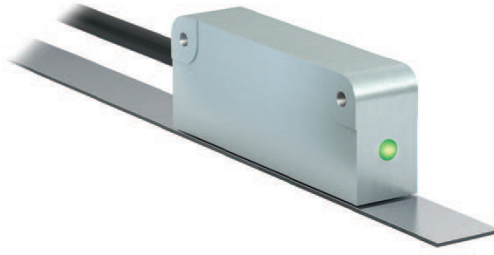
Item	Description	Item-No.
E01-375-SK/D-SSI	External Sensor kit for EM01 (absolute)	0150-2943

The external sensor kit consists of an external sensor, mounting brackets and screws. The magnetic strips and additional cables must be ordered separately.



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Item	Description	Item-No.
EM01-MB300/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 220 mm	0150-2960
EM01-MB400/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 320 mm	0150-2961
EM01-MB500/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 420 mm	0150-2962
EM01-MB600/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 520 mm	0150-2963
EM01-MB800/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 720 mm	0150-2964
EM01-MB1000/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 920 mm	0150-2965
EM01-MB1200/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 1120 mm	0150-2966
EM01-MB1400/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 1320 mm	0150-2967
EM01-MB1600/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 1520 mm	0150-2968
EM01-MB2000/D-SSI	Magnetic strip for E-Guides (absolute), Strip length 1920 mm	0150-2969



Item	Description	Item-No.
E01-SK02/D-BiSS	External Sensor kit for EM01 (absolute)	0150-4721

The external sensor kit consists of an external sensor, mounting brackets and screws. The magnetic strips and additional cables must be ordered separately.



Item	Description	Item-No.
MB01-ABS/BiSS-28	Magnetic strip for MS01-1/D-BiSS, Length 28 cm	0150-4910
MB01-ABS/BiSS-38	Magnetic strip for MS01-1/D-BiSS, Length 38 cm	0150-4911
MB01-ABS/BiSS-48	Magnetic strip for MS01-1/D-BiSS, Length 48 cm	0150-4912
MB01-ABS/BiSS-58	Magnetic strip for MS01-1/D-BiSS, Length 58 cm	0150-4913
MB01-ABS/BiSS-78	Magnetic strip for MS01-1/D-BiSS, Length 78 cm	0150-4914
MB01-ABS/BiSS-98	Magnetic strip for MS01-1/D-BiSS, Length 98 cm	0150-4915
MB01-ABS/BiSS-99	Magnetic strip for MS01-1/D-BiSS, Length 99 cm	0150-4916
MB01-ABS/BiSS-118	Magnetic strip for MS01-1/D-BiSS, Length 118 cm	0150-4917
MB01-ABS/BiSS-120	Magnetic strip for MS01-1/D-BiSS, Length 120 cm	0150-4918
MB01-ABS/BiSS-138	Magnetic strip for MS01-1/D-BiSS, Length 138 cm	0150-4919
MB01-ABS/BiSS-158	Magnetic strip for MS01-1/D-BiSS, Length 158 cm	0150-4920
MB01-ABS/BiSS-159	Magnetic strip for MS01-1/D-BiSS, Length 159 cm	0150-4921
MB01-ABS/BiSS-180	Magnetic strip for MS01-1/D-BiSS, Length 180 cm	0150-4922
MB01-ABS/BiSS-198	Magnetic strip for MS01-1/D-BiSS, Length 198 cm	0150-4923
MB01-ABS/BiSS-219	Magnetic strip for MS01-1/D-BiSS, Length 219 cm	0150-4924
MB01-ABS/BiSS-243	Magnetic strip for MS01-1/D-BiSS, Length 243 cm	0150-4925



Item	Description	Item-No.
KSS01-12.../ABS-ENC-10	Cable for MS01-1/D-SSI/BiSS,10m, flying leads	0160-3387
KSS01-12-D15/ABS-ENC-	Cable for MS01-1/D-SSI, Custom length	0150-3652

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