

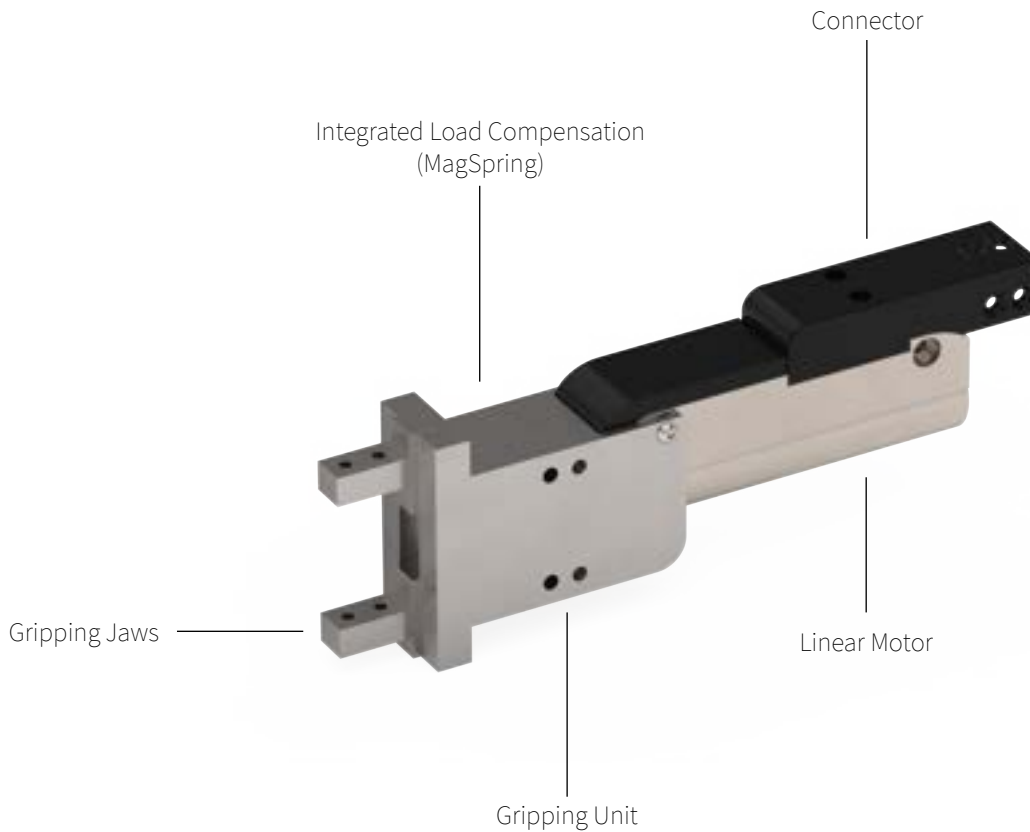
# GRIPPER MODULES GM50



- ✓ Electric servo gripper with additional magnetic holding force
- ✓ Highly dynamic gripping, closing and opening times of less than 20 ms
- ✓ Smooth gripping thanks to freely programmable motion profiles
- ✓ Free finger positioning and force control via servo motor
- ✓ Maintains MagSpring force in case of power failure, easy manual opening
- ✓ Clever design for neat cable routing directly with trailing chain connection
- ✓ Low power consumption in open and closed position
- ✓ Compatible with all common fieldbuses

## GRIPPER MODULES GM50

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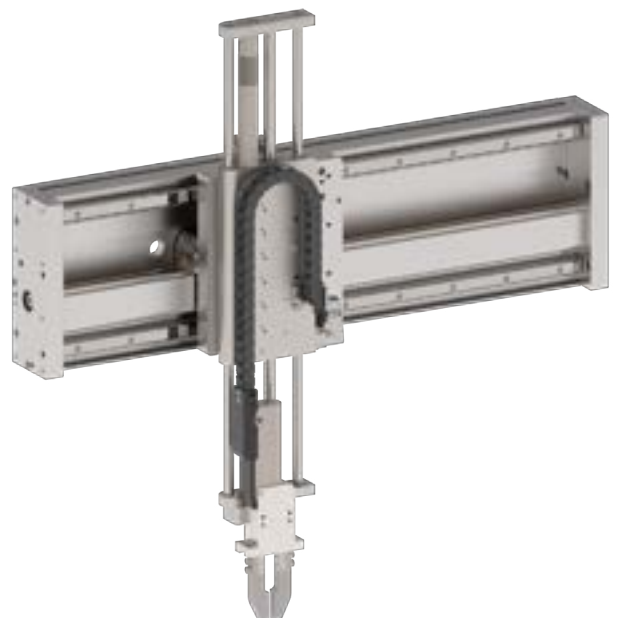
### Grippers GM50

The LinMot GM50 gripper is a highly dynamic solution for demanding applications. With extremely fast closing and opening times of less than 20 milliseconds, it enables efficient and reliable gripping. Freely programmable motion profiles can be used to make the gripping process particularly gentle, making it easier to handle sensitive objects. The gripper's servomotor enables precise finger positioning and force control, so gripping can be customised.

A special safety feature is the ability to maintain the MagSpring gripping force even in the event of a power failure, while the gripper can be easily opened by hand. The clever design ensures tidy cable routing with direct connection to trailing chains, making installation easy. The GM50 also consumes minimal power in both open and closed positions and is compatible with all common fieldbus systems, ensuring seamless integration into existing automation solutions.

### Combination with guides and modules

The combination of the GM50 parallel gripper with the FM01 and EM01 guides and the DM01 and DM03 modules enables complete pick-and-place applications thanks to the simple coupling and modular design of the LinMot components. The GM50 is also available with passive load compensation (MagSpring). A combination that offers maximum precision, speed and safety even under the most demanding conditions.



## PERFORMANCE DATA GM50-23SX80F-XP-K\_35-18(\_MS03)



Performance Data Gripper Module GM50-23SX80F-XP-K\_35-18(\_MS03)

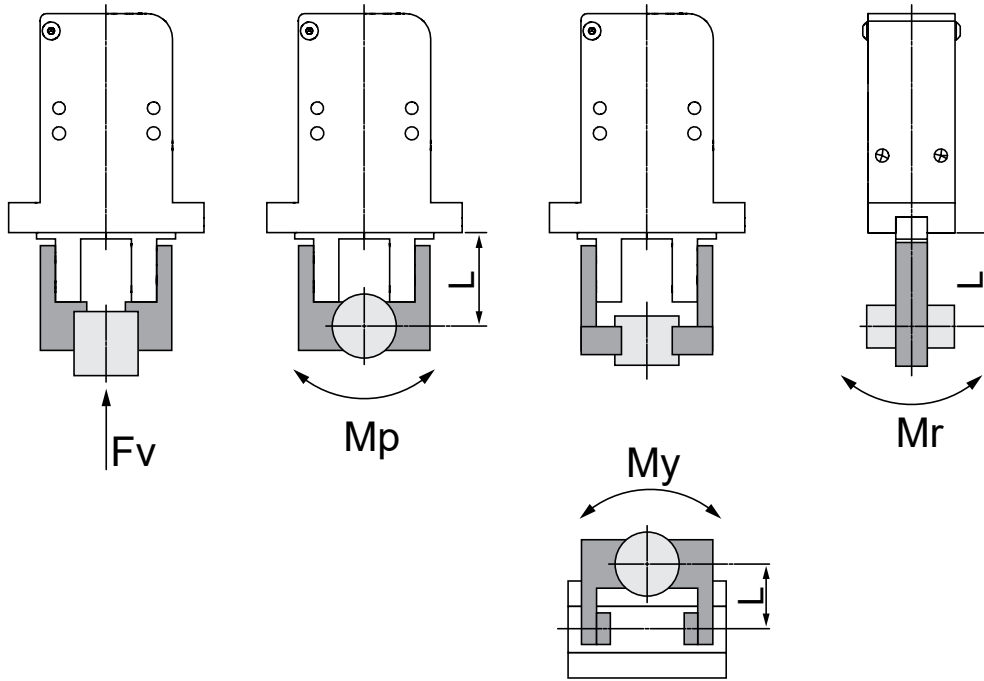
Performance Data Gripper Module GM50-23SX80F-XP-K_35-18(_MS03)			
<b>Stroke</b>			
Max. Opening/Closing Stroke Range	mm (in)	18	(0.71)
<b>Force</b>			
Max. Clamping Force (<0.75 s) with MagSpring / without MagSpring	N (lbf)	56 / 45	(12.59 / 10.12)
Max. Continuous Clamping Force Closing Direction with MagSpring / without MagSpring	N (lbf)	19 / 9	(4.27 / 2.02)
Max. Continuous Clamping Force Opening Direction with MagSpring / without MagSpring	N (lbf)	7 / 7	(1.57 / 1.57)
Max. Continuous Clamping Force Through the MagSpring (no power)	N (lbf)	11	(2.47)
<b>Velocity</b>			
Minimum Opening/Closing Time	s	0.02	
<b>Position Detection</b>			
Position Resolution	mm (in)	0.002	(0.00008)
Repeatability	mm (in)	±0.05	(±0.002)
<b>Electrical Data</b>			
Max. Current @ 48VDC	A <sub>pk</sub>	7.4	
Max. Current @ 72VDC	A <sub>pk</sub>	7.4	
<b>Mechanical Data</b>			
Gripper Width	mm (in)	66.2	(2.61)
Gripper Length	mm (in)	30.9	(1.22)
Gripper Height	mm (in)	193.7	(7.63)
Gripper Mass	g (lb)	610	(1.34)
Ambient Temperature	°C	-10 to 60	
IP Protection Class		IP 30	
<b>Drive</b>			
Power Supply Drive	VDC	24-72	
Number of Required Drives	Pcs	1	
Communication Protocols		PROFINET, PROFIdrive, EtherNet/IP, EtherCAT, CANopen, sercos, Ethernet Powerlink	

**PERFORMANCE DATA GM50-37SX60-XP-N\_48-22(\_MS03)**



Performance Data Gripper Module GM50-37SX60-XP-N_48-22(_MS03)				
<b>Stroke</b>				
Max. Opening/Closing Stroke Range	mm	(in)	22	(0.87)
<b>Force</b>				
Max. Clamping Force (<0.75 s) with MagSpring / without MagSpring	N	(lbf)	128 / 97	(28.78 / 21.81)
Max. Continuous Clamping Force Closing Direction with MagSpring / without MagSpring	N	(lbf)	42 / 12	(9.44 / 2.70)
Max. Continuous Clamping Force Opening Direction with MagSpring / without MagSpring	N	(lbf)	10 / 10	(2.25 / 2.25)
Max. Continuous Clamping Force Through the MagSpring (no power)	N	(lbf)	31	(6.97)
<b>Velocity</b>				
Minimum Opening/Closing Time	s		0.03	
<b>Position Detection</b>				
Position Resolution	mm	(in)	0.005	(0.0002)
Repeatability	mm	(in)	±0.05	(±0.002)
<b>Electrical Data</b>				
Max. Current @ 48VDC		$A_{pk}$	9.4	
Max. Current @ 72VDC		$A_{pk}$	9.4	
<b>Mechanical Data</b>				
Gripper Width	mm	(in)	97	(2.45)
Gripper Length	mm	(in)	45	(1.77)
Gripper Height	mm	(in)	181	(7.13)
Gripper Mass	g	(lb)	1580	(3.48)
Ambient Temperature		°C	-10 to 60	
IP Protection Class			IP 30	
<b>Drive</b>				
Power Supply Drive		VDC	24-72	
Number of Required Drives		Pcs	1	
Communication Protocols			PROFINET, PROFIdrive, EtherNet/IP, EtherCAT, CANopen, sercos, Ethernet Powerlink	

**CALCULATION OF THE LOAD MOMENTS**



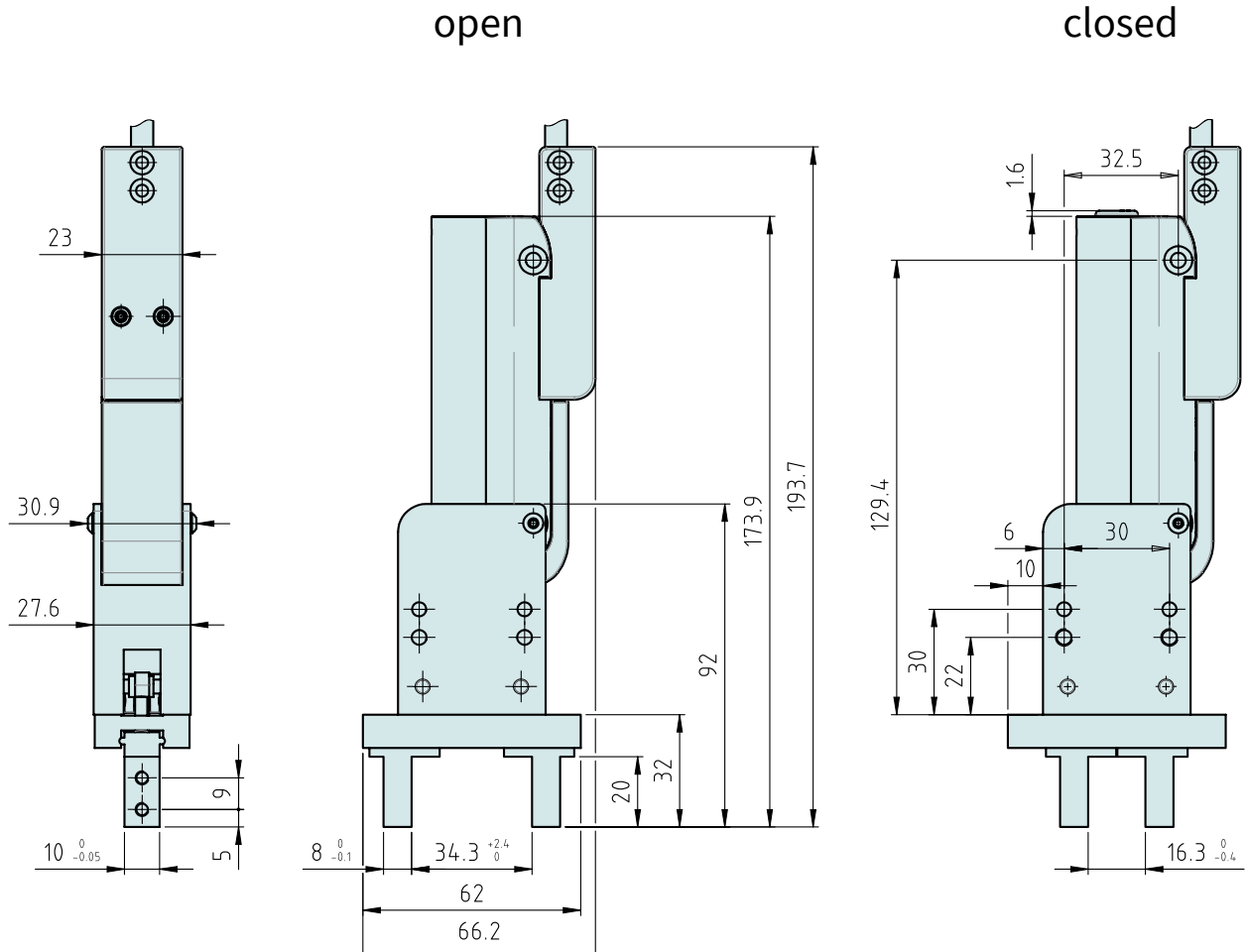
L: Distance to the point at which the load is applied (mm).

Model	Allowable vertical load Fv (N)	Maximum allowable moment		
		Pitch moment Mp (Nm)	Yaw moment My (Nm)	Roll moment Mr (Nm)
<b>GM50-23Sx80F-XP-K_35-18(_MS03)</b>	147	1.32	1.32	2.65
<b>GM50-37Sx60-XP-N_48-22(_MS03)</b>	343	3.0	3.0	6.0

Values for load and moment in the table indicate static values.

Calculation of allowable external force (when moment load is applied)	Calculation example
$\text{Allowable load } F \text{ (N)} = \frac{M \text{ (maximum allowable moment) (N} \cdot \text{m)}}{L \times \frac{10^{-3}}{*}}$ <p>(*Unit conversion constant)</p>	<p>When a static load of = 10N is operating, which applies pitch moment to point L = 30mm from the GM50-23 guide.</p> $\text{Allowable load } F \text{ (N)} = \frac{1.32}{30 \times 10^{-3}} = 44.0 \text{ (N)}$ <p><b>Load f = 10 (N) &lt; 44.0 (N)</b></p> <p>Therefore, it can be used.</p>

**GRIPPER GM50-23SX80F-XP-K\_35-18(\_MS03)**



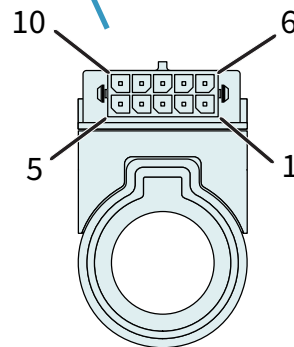
Dimensions in mm

Item	Description	Item-No.
<b>GM50-23Sx80F-XP-K_35-18</b>	Gripper Module, max. stroke 18 mm, max. Force 45 N	<a href="#">0150-6418</a>
<b>GM50-23Sx80F-XP-K_35-18_MS03</b>	Gripper Module with MagSpring, max. stroke 18 mm, max. force 56 N	<a href="#">0150-6251</a>

**CONNECTOR**

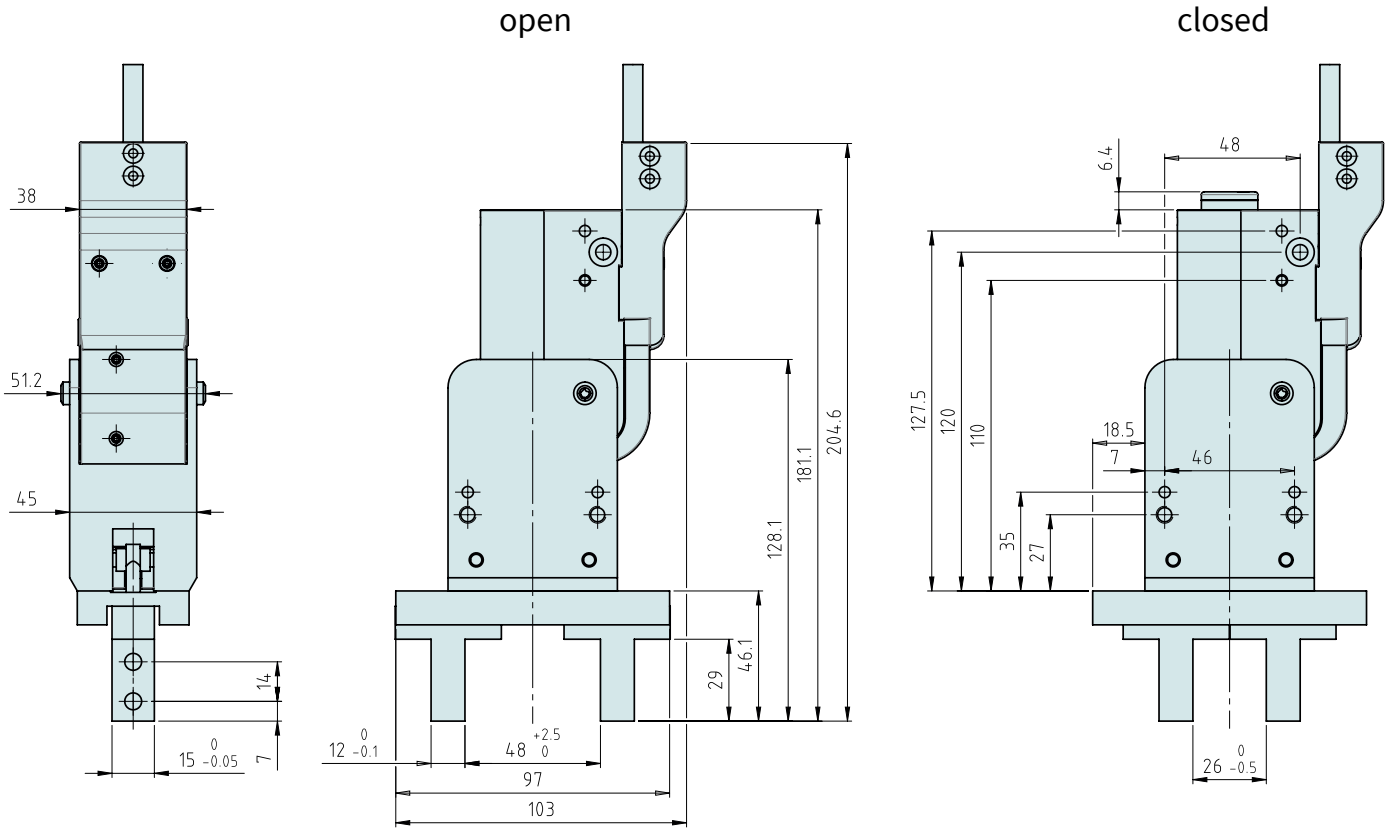
Motor connector wiring		Wire color motor cable
Pin 1	Phase 1+	red
Pin 2	Phase 2+	blue
Pin 3	n.c.	n.c.
Pin 4	Phase 1-	pink
Pin 5	Phase 2-	grey
Pin 6	Sensor Sin	yellow
Pin 7	Sensor Cos	green
Pin 8	GND	brown
Pin 9	+5V	white
Pin 10	Temp sensor	black
	Housing	Shield

**K-Connector**



View: motor connector, plug side

**GRIPPER GM50-37SX60-XP-N\_48-22(\_MS03)**



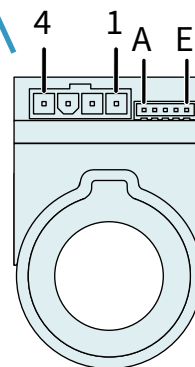
Dimensions in mm

Item	Description	Item-No.
<b>GM50-37Sx60-XP-N_48-22</b>	Gripper Module, max. stroke 22 mm, max. Force 97 N	<a href="#">0150-6596</a>
<b>GM50-37Sx60-XP-N_48-22_MS03</b>	Gripper Module with MagSpring, max. stroke 22 mm, max. force 128 N	<a href="#">0150-6255</a>

**CONNECTOR**

Motor connector wiring	N-Connector	Wire color motor cable
Phase 1+	Pin 4	red
Phase 1-	Pin 3	pink
Phase 2+	Pin 2	blue
Phase 2-	Pin 1	grey
+5V	Pin A	white
GND	Pin B	Inner Shield
Sensor Sin	Pin C	yellow
Sensor Cos	Pin D	green
Temp Sensor	Pin E	black
Housing		Outer Shield

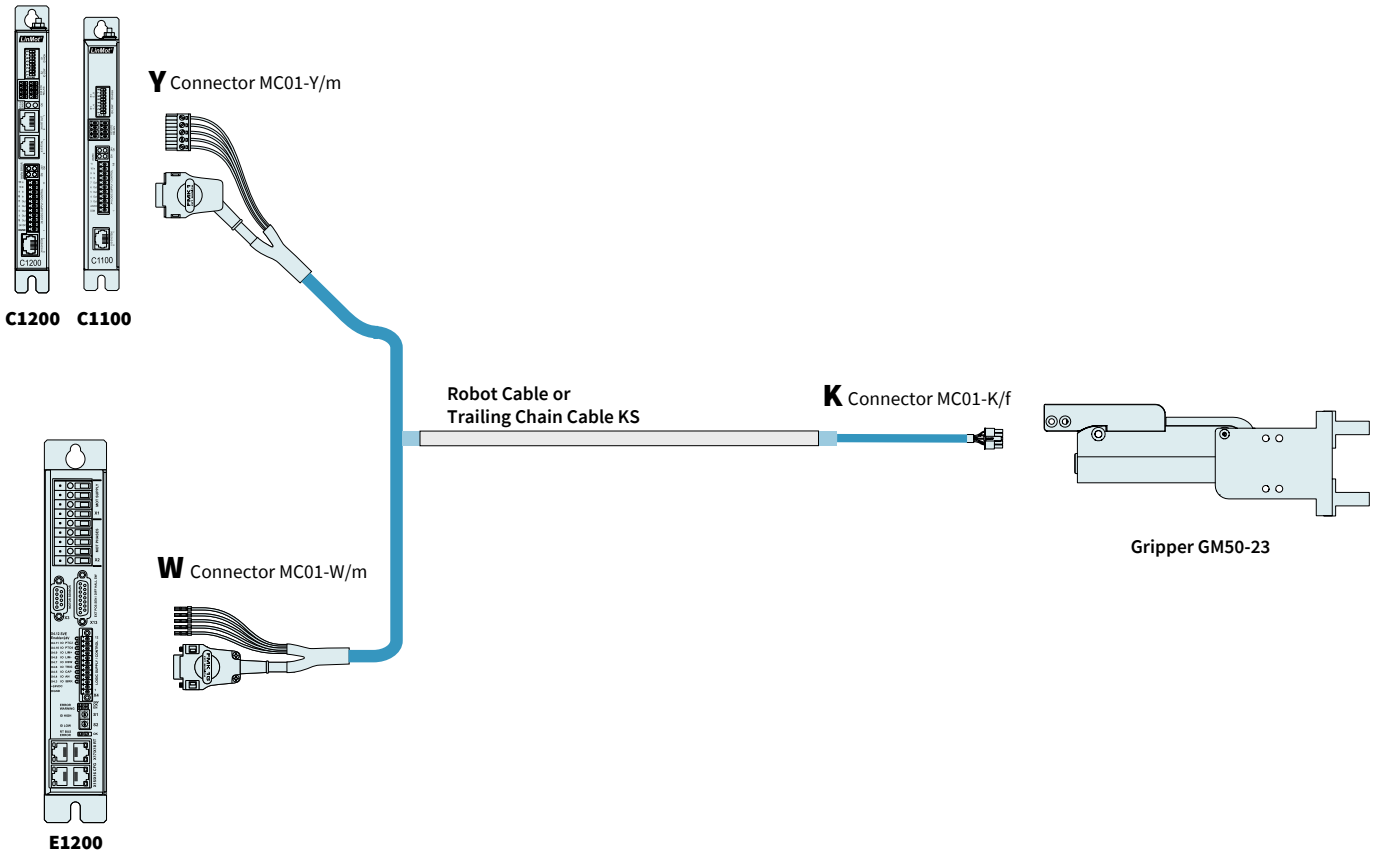
**N-Connector**



View: motor connector, plug side



**MOTOR CABLES FOR GM50-23**



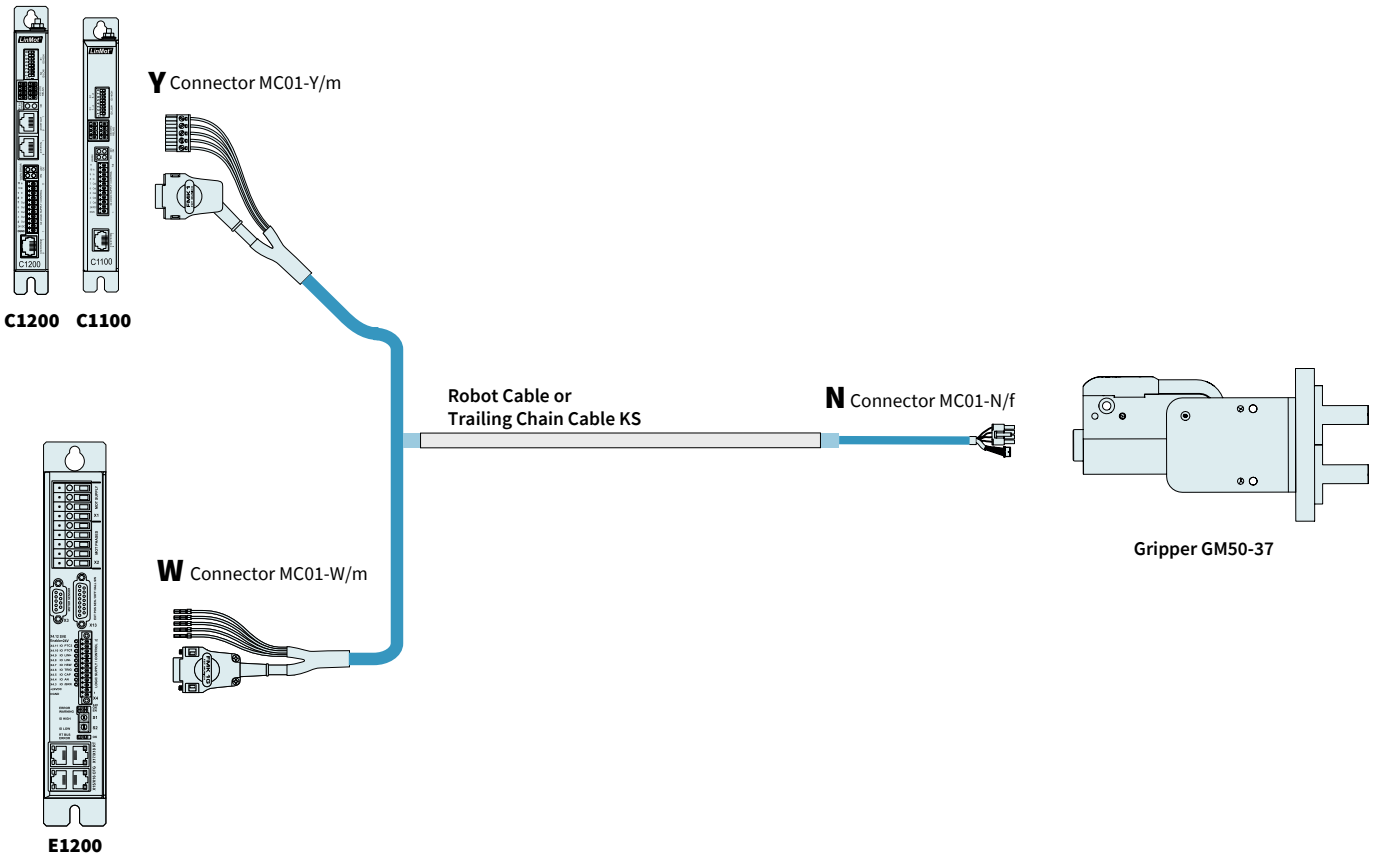
**TRAILING CHAIN CABLES**

Item	Description	Item-No.
<b>KS03-W/K-2</b>	Trailing Chain Cable W/K, 2 m	<a href="#">0150-2187</a>
<b>KS03-W/K-4</b>	Trailing Chain Cable W/K, 4 m	<a href="#">0150-2369</a>
<b>KS03-W/K-6</b>	Trailing Chain Cable W/K, 6 m	<a href="#">0150-2370</a>
<b>KS03-W/K-</b>	Special Cable W/K, Custom length	<a href="#">0150-3357</a>
<b>KS03-Y/K-2</b>	Trailing Chain Cable Y/K, 2 m	<a href="#">0150-2446</a>
<b>KS03-Y/K-4</b>	Trailing Chain Cable Y/K, 4 m	<a href="#">0150-2447</a>
<b>KS03-Y/K-6</b>	Trailing Chain Cable Y/K, 6 m	<a href="#">0150-2448</a>
<b>KS03-Y/K-</b>	Special Cable Y/K, Custom length	<a href="#">0150-3516</a>
<b>KS03-R/K-1</b>	Trailing Chain Cable R/K, 1 m	<a href="#">0150-2185</a>
<b>KS03-R/K-2</b>	Trailing Chain Cable R/K, 2 m	<a href="#">0150-2186</a>
<b>KS03-R/K-</b>	Special Cable R/K, Custom length	<a href="#">0150-3530</a>
<b>KS03-A/K-</b>	Special Cable A/K, Custom length	<a href="#">0150-3542</a>
<b>KS03-C/K-</b>	Special Cable C/K, Custom length	<a href="#">0150-3577</a>
<b>KS03-OE/K-</b>	Special Cable OE/K, Open end, Custom length	<a href="#">0150-4764</a>

**ROBOT CABLES**

Item	Description	Item-No.
<b>KR03-R/K-</b>	Special Cable R/K, Custom length	<a href="#">0150-3754</a>
<b>KR03-Y/K-</b>	Special Cable Y/K, Custom length	<a href="#">0150-3718</a>
<b>KS03-W/K-</b>	Special Cable W/K, Custom length	<a href="#">0150-3755</a>

**MOTOR CABLES FOR GM50-37**



**TRAILING CHAIN CABLES**

Item	Description	Item-No.
<b>KS05-W/N-2</b>	Trailing Chain Cable W/N, 2 m	<a href="#">0150-2296</a>
<b>KS05-W/N-4</b>	Trailing Chain Cable W/N, 4 m	<a href="#">0150-2297</a>
<b>KS05-W/N-6</b>	Trailing Chain Cable W/N, 6 m	<a href="#">0150-2298</a>
<b>KS05-W/N-8</b>	Trailing Chain Cable W/N, 8 m	<a href="#">0150-2299</a>
<b>KS05-W/N-</b>	Special Cable W/N, Custom length	<a href="#">0150-3412</a>
<b>KS05-Y/N-2</b>	Trailing Chain Cable Y/N, 2 m	<a href="#">0150-2442</a>
<b>KS05-Y/N-4</b>	Trailing Chain Cable Y/N, 4 m	<a href="#">0150-2443</a>
<b>KS05-Y/N-6</b>	Trailing Chain Cable Y/N, 6 m	<a href="#">0150-2444</a>
<b>KS05-Y/N-8</b>	Trailing Chain Cable Y/N, 8 m	<a href="#">0150-2445</a>
<b>KS05-Y/N-</b>	Special Cable Y/N, Custom length	<a href="#">0150-3509</a>
<b>KS05-A/N-</b>	Special Cable A/N, Custom length	<a href="#">0150-3551</a>
<b>KS05-C/N-</b>	Special Cable C/N, Custom length	<a href="#">0150-3517</a>
<b>KS05-R/N-</b>	Special Cable R/N, Custom length	<a href="#">0150-3486</a>
<b>KS03-OE/N-</b>	Special Cable OE/N, Open end, Custom length	<a href="#">0150-6071</a>
<b>KS05-OE/N-</b>	Special Cable OE/N, Open end, Custom length	<a href="#">0150-3716</a>

**MOTOR CABLES FOR GM50-37**

ROBOT CABLES		
Item	Description	Item-No.
<b>KR05-R/N-</b>	Special Cable R/N, Custom length	<a href="#">0150-3757</a>
<b>KR05-Y/N-</b>	Special Cable Y/N, Custom length	<a href="#">0150-3514</a>
<b>KS05-W/N-</b>	Special Cable W/N, Custom length	<a href="#">0150-3406</a>

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