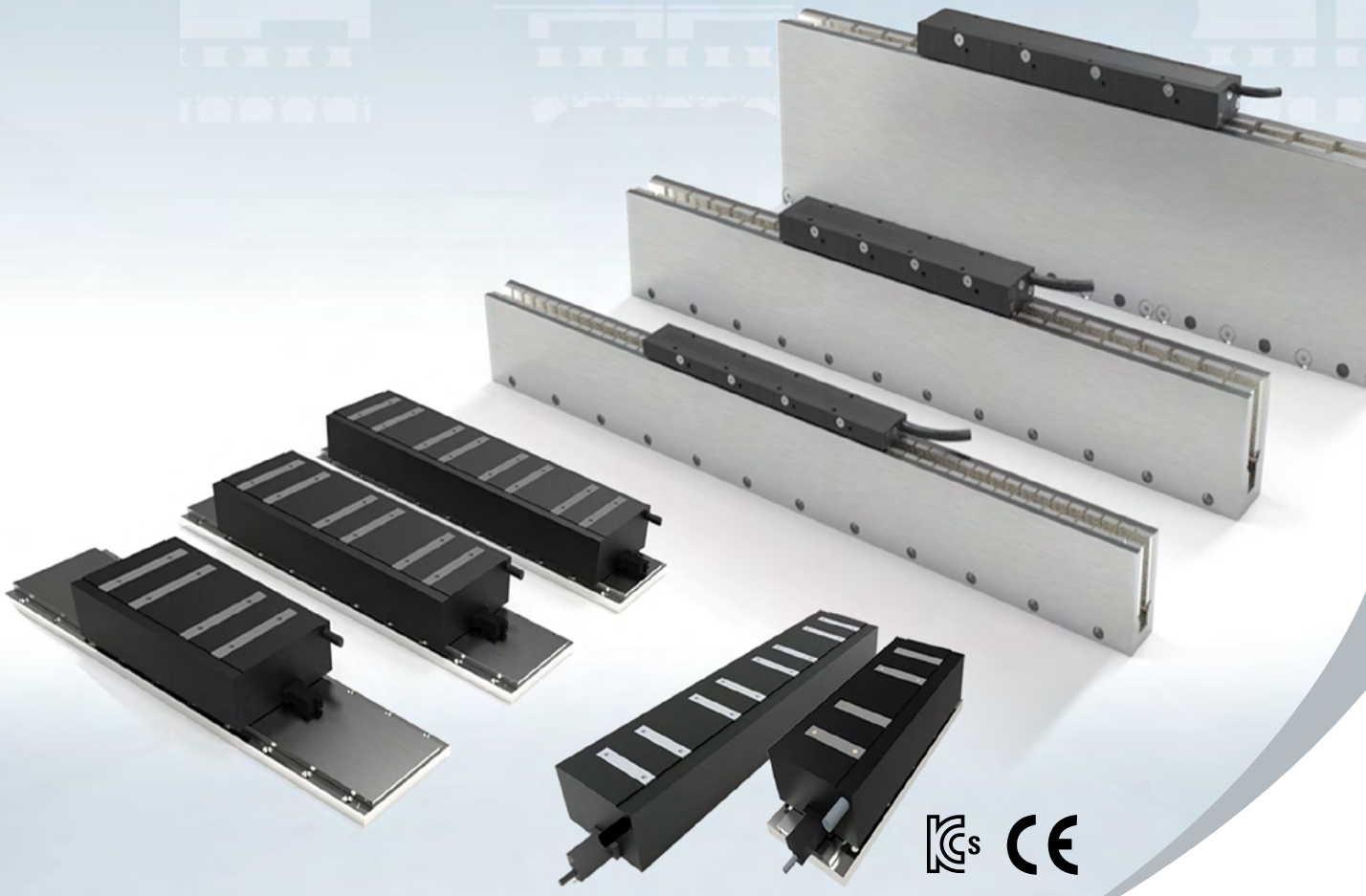
Derwent
Top 100
Global
Innovator
2020

Linear Motor

Core Type Linear Motor
Coreless Type Linear Motor



LS ELECTRIC

The right choice for fast and precise control!

Best fit your requirements: fast motor speed, precision control,
powerful performance, compact size, etc.

Features of linear motors

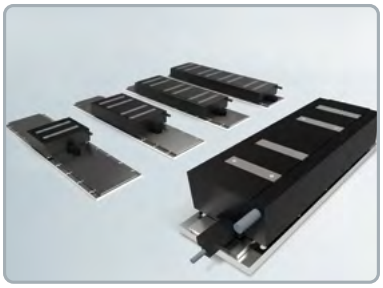
High Speed	Fast Acceleration / Deceleration	No Friction	No Length Restrictions	Easy Maintenance

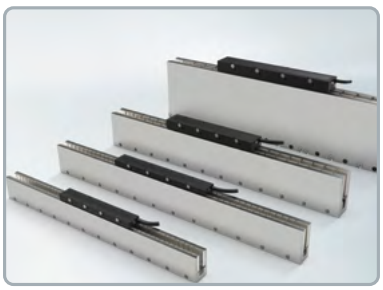
Application

Display manufacturing & inspection / Semiconductor manufacturing & inspection / Automation system / Pick & Place
Medical applications / 3D printing / Mobile phone manufacturing & inspection, etc.

Linear Motor

Core Type Linear Motor / Coreless Type Linear Motor





Why LS ?

Total Solution Provider

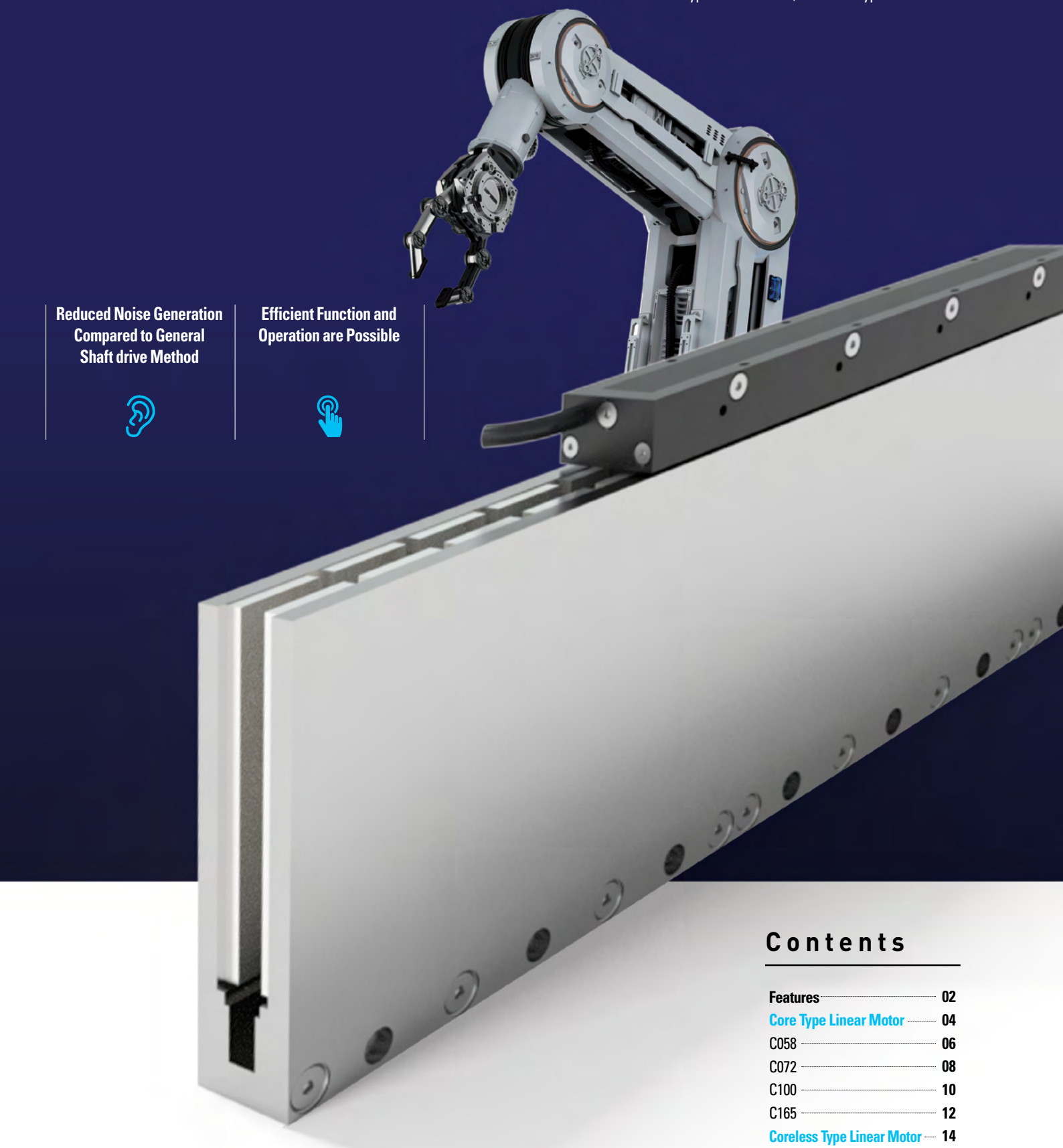
Different from most linear motor companies,
LS provides total solution for the automation process.

Customization Service

For each customer, detailed and friendly consultations are possible.

High Quality

With high quality products and services,
LS will evolve your factory to a fast and sophisticated one.



Reduced Noise Generation Compared to General Shaft drive Method

Efficient Function and Operation are Possible

Contents

Core Type Linear Motor

Provides optimal solutions for various linear motion applications.

Features

- High force per size
- Easy assembly and design
- Minimize cogging
- Good heat dissipation

Model & Type

Motor Coil

LSLM – C 072 – S 008 D

(1) (2) (3) (4) (5) (6)

①	LS
Series	LS Linear Motor

②	Type
C	Core
L	Coreless

③	Assembly Width (mm)
058	058
072	072
100	100
165	165

④	Winding
S	Series
P	Parallel
T	Triple

⑤	Core Rated Force (N)
008	80
015	150
024	240
030	300

⑥	Hall Sensor Type
D	Digital
N	No Hall Sensor

Magnet

LSMG – C 072 – 240

(1) (2) (3) (4)

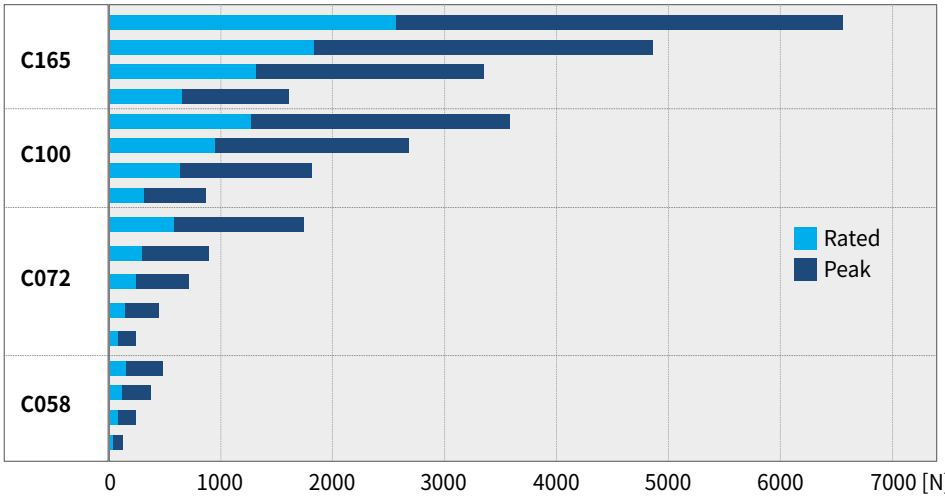
①	LS
Series	LS MaGnet

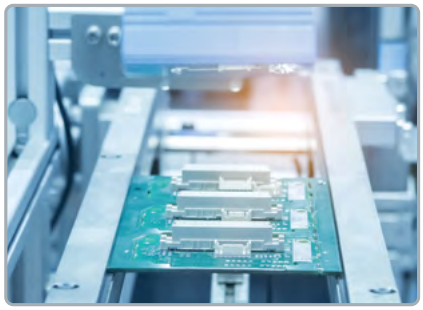
②	Type
C	Core
L	Coreless

③	Assembly Width (mm)
058	058
072	072
100	100
165	165

④	Length (mm)
180	180
192	192
240	240

Core Type Force



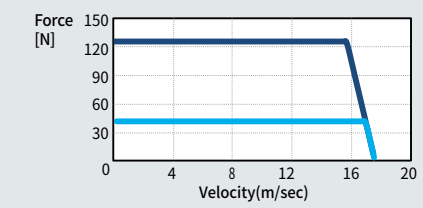


Specification

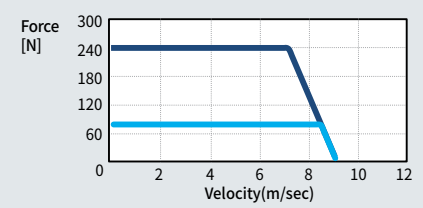
C058			S004	S008	S012	S016	P016
Force	Rated	[N]	42	80	125	160	160
	Peak	[N]	126	240	375	480	480
Current	Rated	[A]	2.0	2.0	2.0	2.0	4.0
	Peak	[A]	6.0	6.0	6.0	6.0	12.0
Back EMF constant (phase)		[Vrms/m/s]	7.1	13.7	21.1	27.2	13.7
Force constant		[N/Arms]	21.0	40.0	62.5	80.0	40.0
Resistance (line to line)		[Ω]	4.0	7.9	11.9	15.8	4.0
Inductance (line to line)		[mH]	6.1	11.2	16.3	22.3	5.6
Attraction force		[N]	200	380	580	780	780
Electrical cycle (N-N)		[mm]	24.0				
Length		[mm]	57.5	112.5	169.5	217	
Width		[mm]	53.0				
Height		[mm]	26.0				
Weight		[kg]	0.4	0.8	1.2	1.5	

Performance Curve

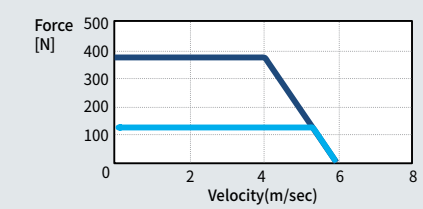
C058-S004



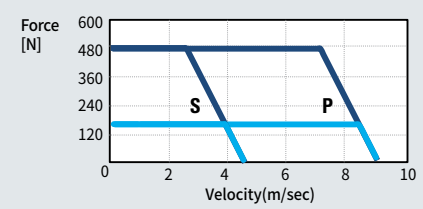
C058-S008



C058-S012

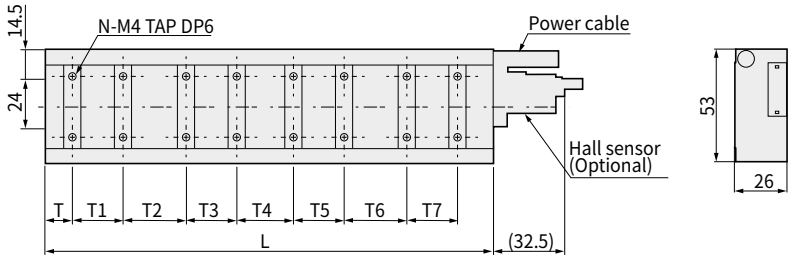


C058-□016



Motor Coil

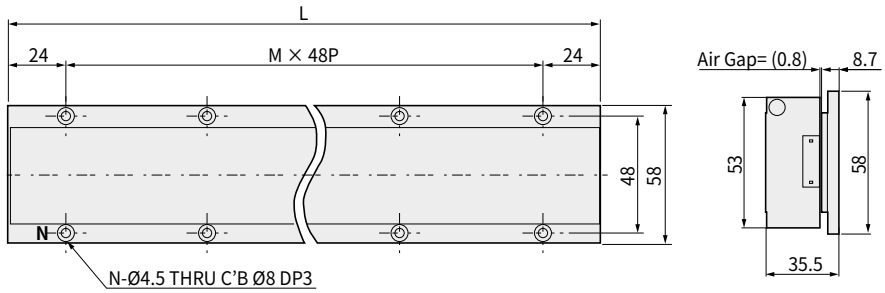
Unit : mm



Model	L	N	T	T1	T2	T3	T4	T5	T6	T7
C058-S004	57.5	4	13	24		-	-	-	-	-
C058-S008	112.5	8	13	24	30	24	-	-	-	-
C058-S012	169.5	12	13	24	32	24	32	24	-	-
C058-S016	217	16	13	24	30	24	27	24	30	24

Magnet

Unit : mm

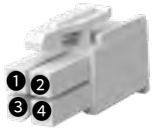


Model	L	M	N	Weight
C100-180	192	3	8	0.6
C100-240	240	4	10	0.75

Connector

Motor Power

- Model No. : AMP 172167-1
- Mating connector : AMP 172159-1
- Cable length : 500mm Typical



Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor

- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical

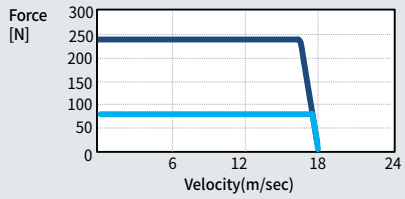
Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used

Specification

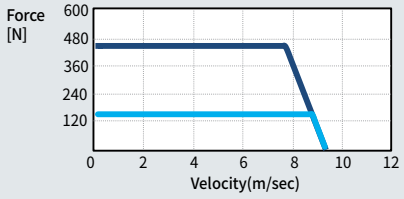
C072			S008	S015	S024	S030	S058
Force	Rated	[N]	80	150	240	300	580
	Peak	[N]	240	450	720	900	1740
Current	Rated	[A]	3.8	3.8	3.8	3.8	5.1
	Peak	[A]	11.4	11.4	11.4	11.4	15.3
Back EMF constant (phase)		[Vrms/m/s]	7.0	13.5	20.9	26.8	38.1
Force constant		[N/Arms]	21.1	39.5	63.2	78.9	113.7
Resistance (line to line)		[Ω]	1.6	3.3	5.0	6.5	6.3
Inductance (line to line)		[mH]	3.0	5.7	8.5	11.5	39.6
Attraction force		[N]	400	750	1100	1500	1500
Electrical cycle (N-N)		[mm]	30.0				
Length		[mm]	67.0	135.5	207.0	266.0	311.0
Width		[mm]	67.0				70
Height		[mm]	26.5				45.0
Weight		[kg]	0.65	1.2	1.9	2.4	5.6

Performance Curve

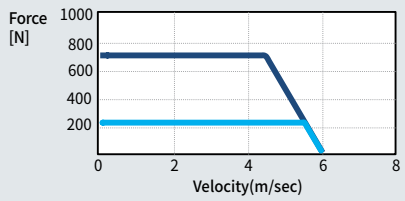
C072-S008



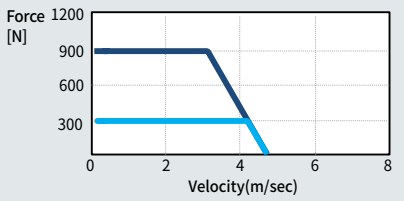
C072-S015



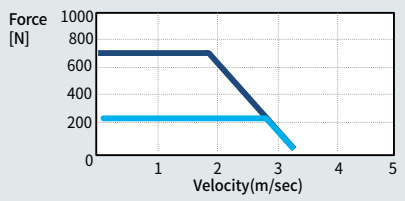
C072-S024



C072-S030

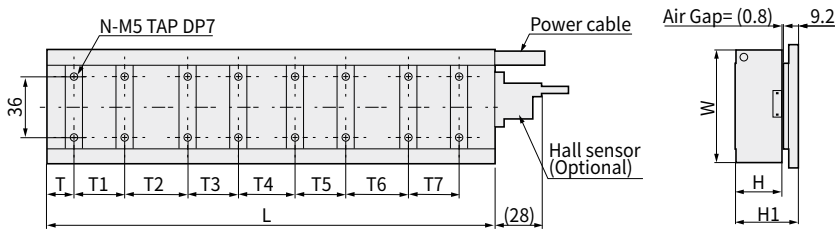


C072-S058



Motor Coil

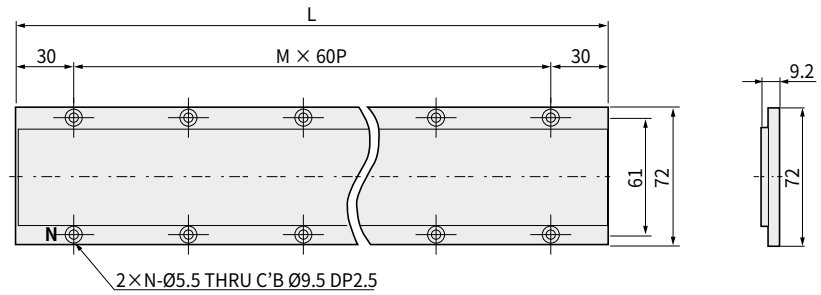
Unit : mm



Model	L	N	T	T1	T2	T3	T4	T5	T6	T7	W	H	H1
C072-S008	67	4	16	30	-	-	-	-	-	-	67	26.5	36.5
C072-S015	135.5	8	16	30	37.5	30	-	-	-	-	67	26.5	36.5
C072-S024	207	12	16	30	40	30	40	30	-	-	67	26.5	36.5
C072-S030	266	16	16	30	37.5	30	33.75	30	37.5	30	67	26.5	36.5
C072-S058	309.38	20	18.75	30							70	45	55

Magnet

Unit : mm

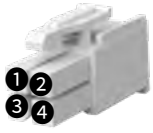


Model	L	M	N	Weight (kg)
C072-180	180	2	6	0.75
C072-240	240	3	8	1

Connector

Motor Power

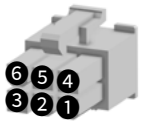
- Model No. : AMP 172167-1
- Mating connector : AMP 172159-1
- Cable length : 500mm Typical



Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor

- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical



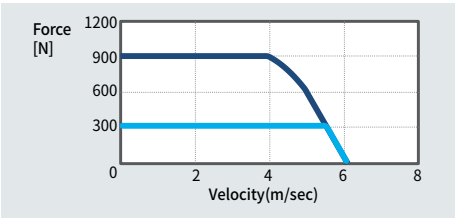
Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used

Specification

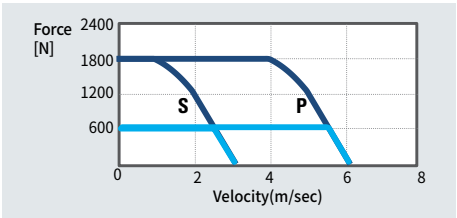
C100			S031	S062	P062	S092	T092	S123	P123	D123
Force	Rated	[N]	310	620	620	920	920	1230	1230	1230
	Peak	[N]	900	1790	1790	2680	2680	3570	3570	3570
Current	Rated	[A]	5.1	5.1	10.2	5.1	15.3	5.1	10.2	20.4
	Peak	[A]	19.2	19.2	38.4	19.2	57.6	19.2	38.4	76.8
Back EMF constant (phase)		[Vrms/m/s]	20.8	41.5	20.8	62.3	20.8	83.1	41.5	20.8
Force constant		[N/Arms]	60.8	121.6	60.8	180.4	60.1	241.2	120.6	60.3
Resistance (line to line)		[Ω]	4.0	8.0	2.0	12.0	1.3	16.0	4.0	1.0
Inductance (line to line)		[mH]	12.8	25.6	6.4	38.4	4.3	51.2	12.8	3.2
Attraction force		[N]	1120	2240	2240	3360	3360	4480	4480	4480
Electrical cycle (N-N)		[mm]	60.0							
Length		[mm]	126.3	263.8		406.3		525.1		
Width		[mm]	100.0							
Height		[mm]	48.0							
Weight		[kg]	3	6		9		12		

Performance Curve (AC 220V)

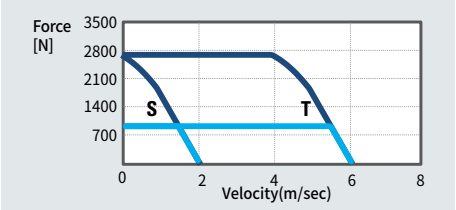
C100-S031



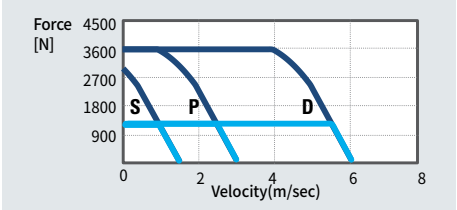
C100-□062



C100-□092

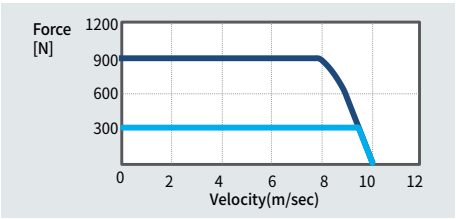


C10-□123

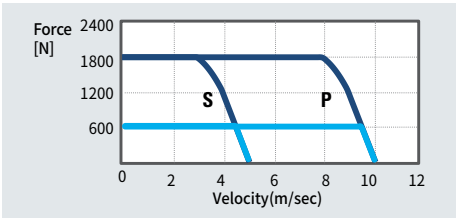


Performance Curve (AC 380V)

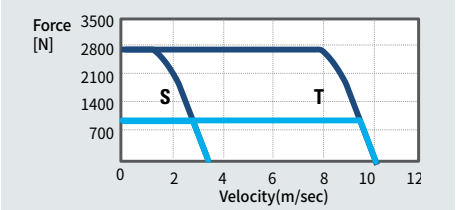
C100-S031



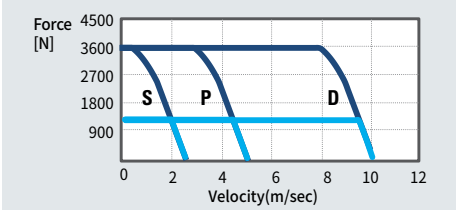
C100-□062



C100-□092

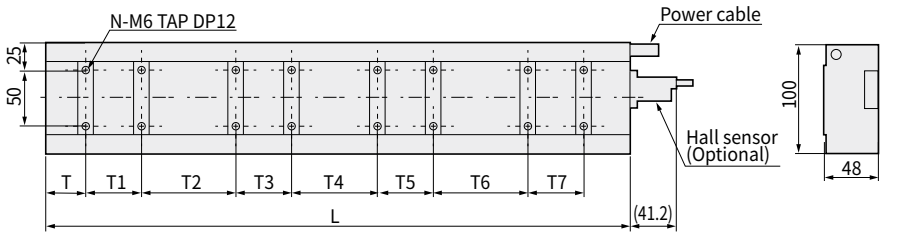


C100-□123



Motor Coil

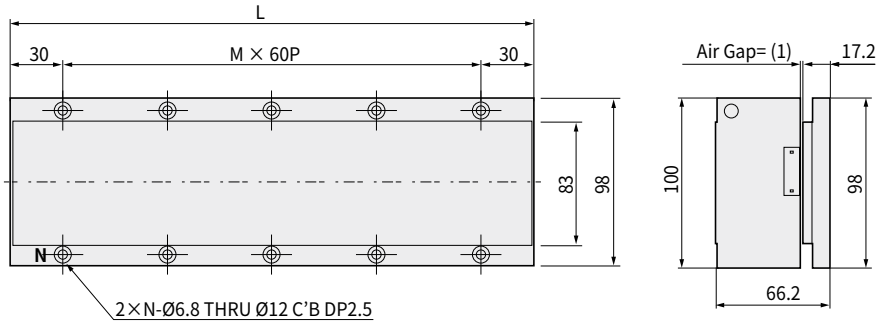
Unit : mm



Model	L	N	T	T1	T2	T3	T4	T5	T6	T7
C100-S031	126.3	4	16	30	-	-	-	-	-	-
C100-□061	263.8	8	16	30	37.5	30	-	-	-	-
C100-□091	406.3	12	16	30	40	30	40	30	-	-
C100-□121	525.1	16	16	30	37.5	30	33.75	30	37.5	30

Magnet

Unit : mm



Model	L	M	N	Weight (kg)
C100-180	180	2	6	1.95
C100-240	240	3	8	2.6

Connector

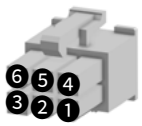
Motor Power

- Model No. : AMP 350779-1
- Mating connector : AMP 350780-1
- Cable length : 500mm Typical

Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor

- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical



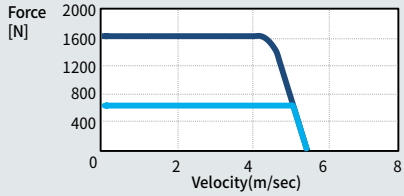
Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used

Specification

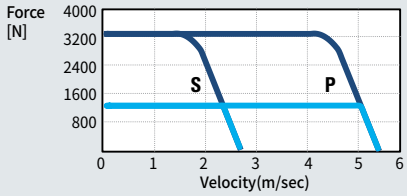
C165			S063	S126	P126	S188	P188	T188	S251	P251
Force	Rated	[N]	630	1260	1260	1880	1880	1880	2510	2510
	Peak	[N]	1630	3260	3260	4890	4890	4890	6520	6520
Current	Rated	[A]	9.0	9.0	18.0	9.0	18.0	27.0	9.0	18.0
	Peak	[A]	33.9	33.9	67.8	33.9	67.8	101.7	33.9	67.8
Back EMF constant (phase)		[Vrms/m/s]	23.3	46.7	23.3	69.6	36.6	23.2	93.0	46.5
Force constant		[N/Arms]	70.0	140.0	70.0	208.9	104.4	69.6	278.9	139.4
Resistance (line to line)		[Ω]	1.6	3.2	0.8	4.8	2.4	0.5	6.4	1.6
Inductance (line to line)		[mH]	6.5	13.0	3.3	19.5	9.8	2.2	26.0	6.5
Attraction force		[N]	2550	4850	4850	7100	7100	7100	9400	9400
Electrical cycle (N-N)		[mm]	60.0							
Length		[mm]	126.3	263.8		406.3			525.1	
Width		[mm]	165.0							
Height		[mm]	66.2							
Weight		[kg]	5.1	10.1		15.2			2 0.2	

Performance Curve (AC 220V)

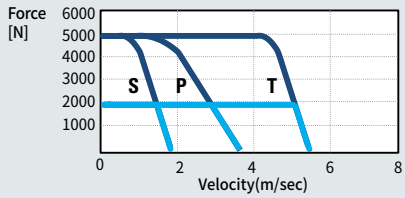
C165-S063



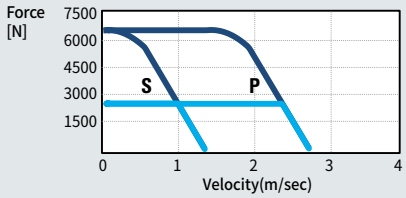
C165-□126



C165-□188

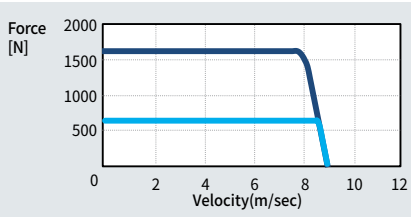


C165-□251

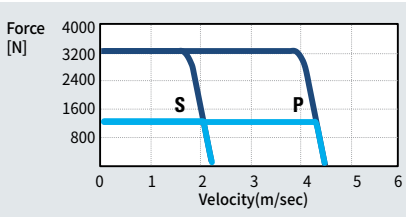


Performance Curve (AC 380V)

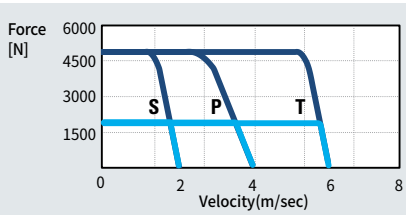
C165-S063



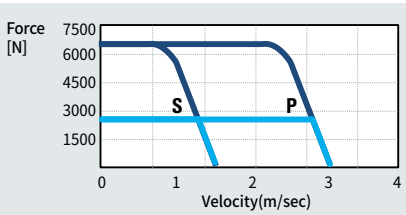
C165-□126



C165-□188

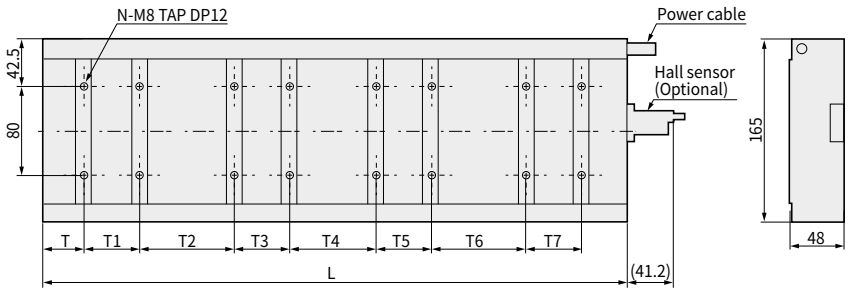


C165-□251



Motor Coil

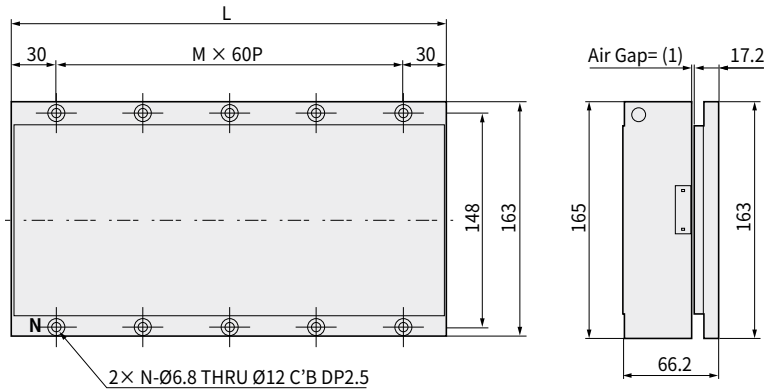
Unit : mm



Model	L	N	T	T1	T2	T3	T4	T5	T6	T7
C165-S063	126.3	4	36	50	-	-	-	-	-	-
C165-□126	263.8	8	36	50	85	50	-	-	-	-
C165-□188	406.3	12	36	50	90	50	90	50	-	-
C165-□251	525.05	16	36	50	85	50	77.5	50	85	50

Magnet

Unit : mm



Model	L	M	N	Weight (kg)
C100-180	180	2	6	3.4
C100-240	240	3	8	4.5

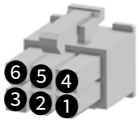
Connector

Motor Power

- Model No. : AMP 350779-1
- Mating connector : AMP 350780-1
- Cable length : 500mm Typical

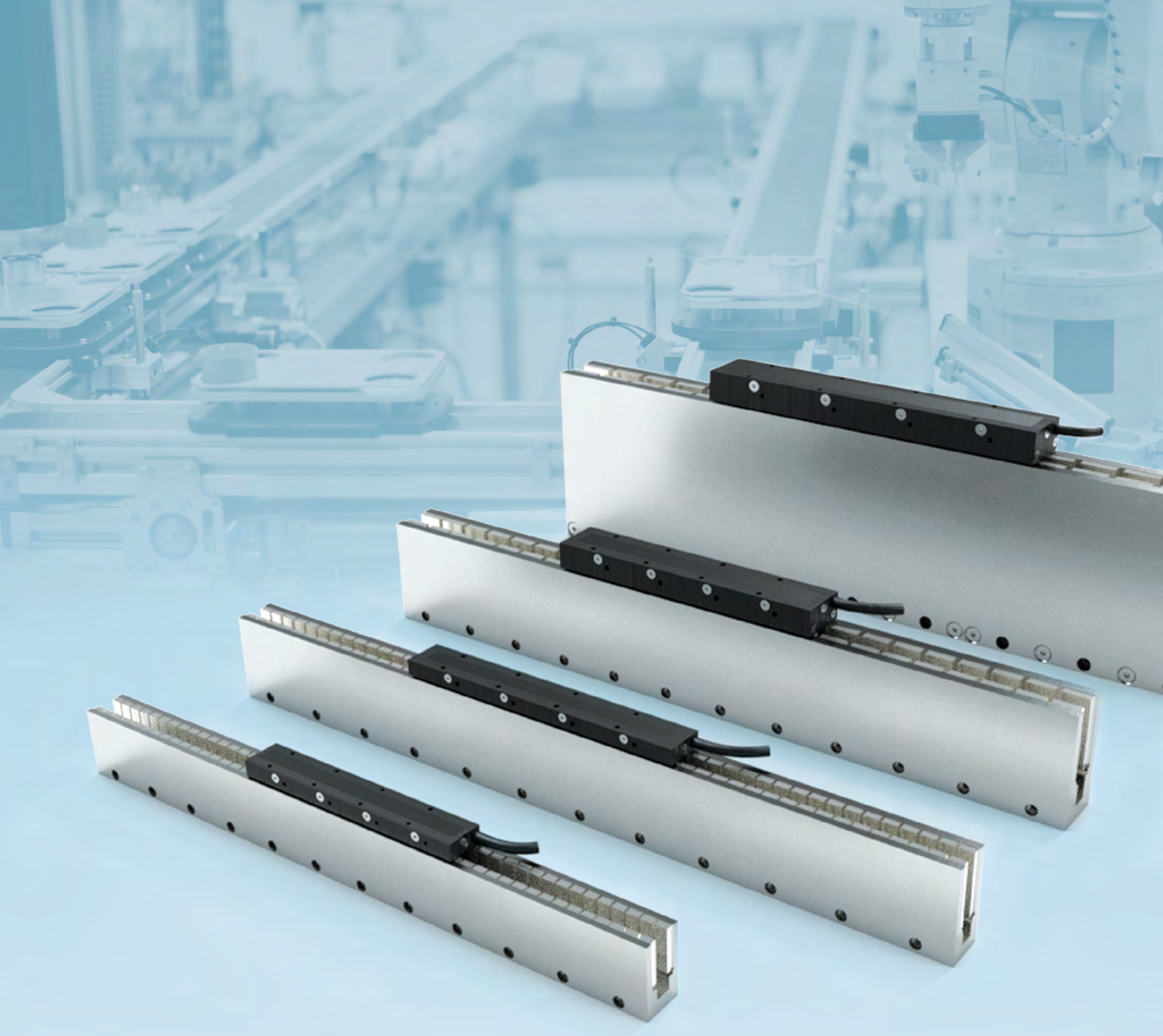
Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor



- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical

Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used



Coreless Type Linear Motor

Provides optimal solutions for precise manufacturing lines without cogging.

Features

- High force/high precision
- High speed
- Low speed ripple
- Rapid acceleration and deceleration
- Simple and safe assembly

Model & Type

Motor Coil

LSLM – L 098 – S 008 D

1 2 3 4 5 6

❶	LSLM
Series	LS Linear Motor

❷	Type
C	Core
L	Coreless

❸	Assembly Width (mm)
076	058
098	072
132	100
230	165

❹	Winding
S	Series
P	Parallel
T	Triple

❺	Core Rated Force (N)
004	42
008	80
012	125
016	165

❻	Hall Sensor Type
D	Digital
N	No Hall Sensor

Magnet

LSMG – L 098 – 240

1 2 3 4

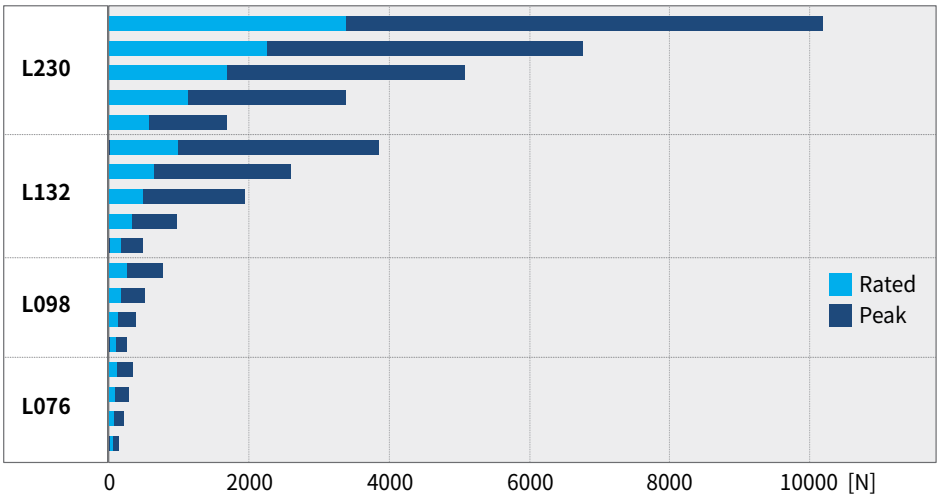
❶	LSMG
Series	LS MaGnet

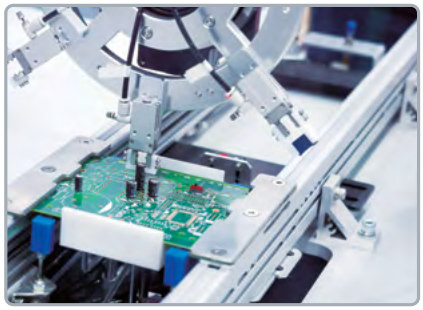
❷	Type
C	Core
L	Coreless

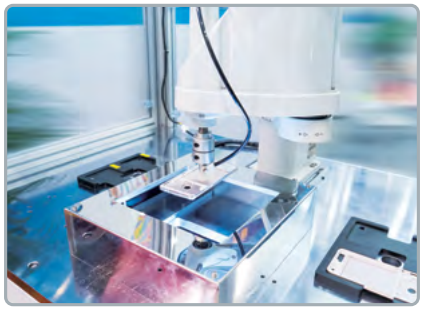
❸	Assembly Width (mm)
076	076
098	098
132	132
230	230

❹	Length (mm)
144	144
168	168
180	180
240	240
252	252

Core Type Force





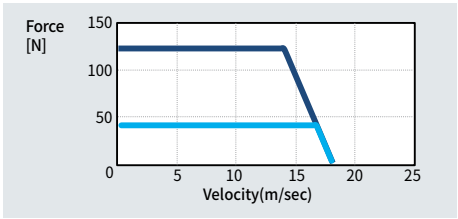


Specification

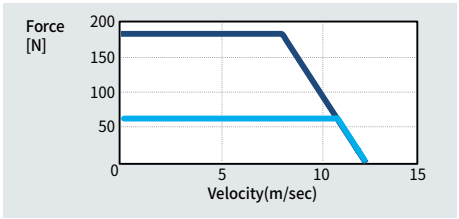
L076			S004	S006	S008	S010
Force	Rated	[N]	40	61	81	101
	Peak	[N]	122	183	245	306
Current	Rated	[A]	2.0	2.0	2.0	2.0
	Peak	[A]	5.9	5.9	5.9	5.9
Back EMF constant (phase)		[Vrms/m/s]	6.9	10.4	13.9	17.3
Force constant		[N/Arms]	20.8	31.2	41.6	52.0
Resistance (line to line)		[Ω]	8.4	12.7	16.9	21.1
Inductance (line to line)		[mH]	3.7	5.6	7.5	9.3
Attraction force		[N]	0			
Electrical cycle (N-N)		[mm]	24.0			
Length		[mm]	114.5	162.5	210.5	258.5
Width		[mm]	36.1			
Height		[mm]	76.0			
Weight		[kg]	0.45	0.65	0.84	1.05

Performance Curve

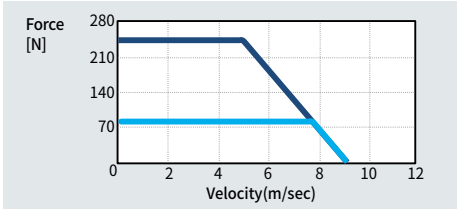
L076-S004



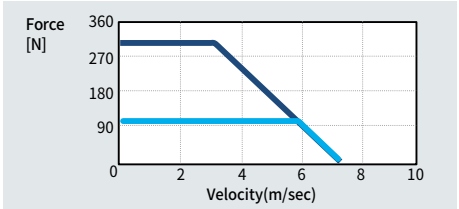
L076-S006



L076-S008

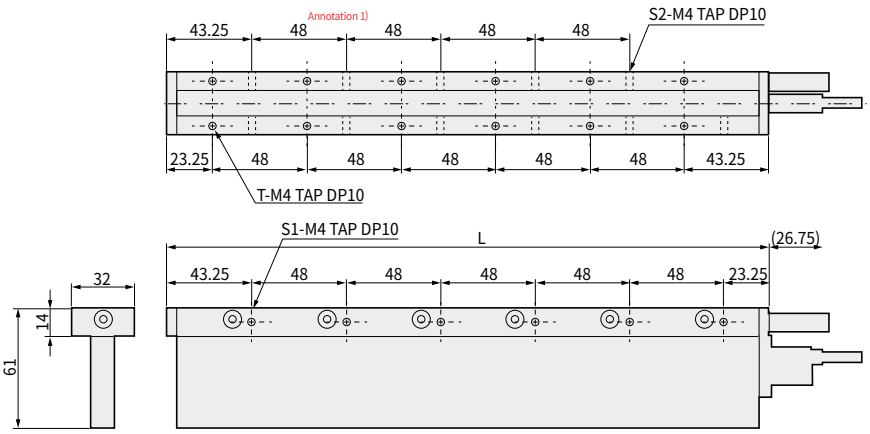


L076-S010



Motor Coil

Unit : mm

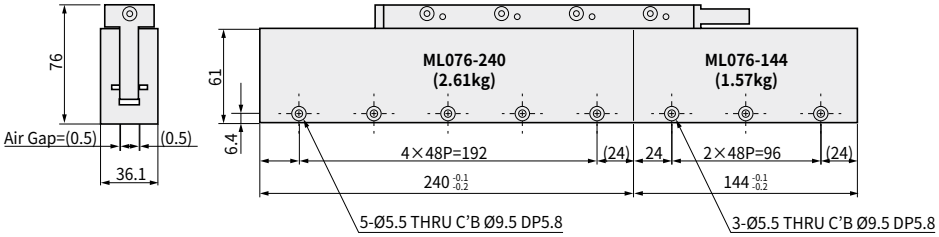


Model	L	T	S1	S2
L076-S004	114.5	4	2	2
L076-S006	162.5	6	3	2
L076-S009	210.5	8	4	3
L076-S011	258.5	10	5	4

Annotation 1) 38mm only for L076-S004

Magnet

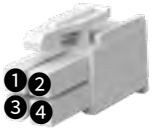
Unit : mm



Connector

Motor Power

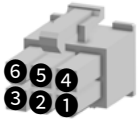
- Model No. : AMP 172167-1
- Mating connector : AMP 172159-1
- Cable length : 500mm Typical



Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor

- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical



Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used

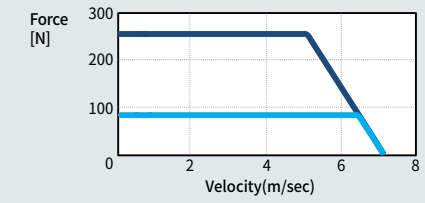
L098

Specification

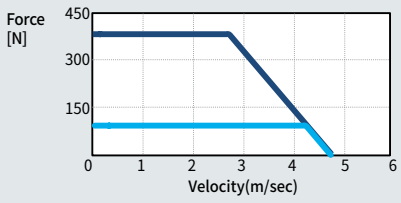
L098			S008	S012	S017	P017	S025	P025
Force	Rated	[N]	85	127	170	170	255	255
	Peak	[N]	255	383	510	510	766	766
Current	Rated	[A]	1.6	1.6	1.6	3.2	1.6	3.2
	Peak	[A]	4.8	4.8	4.8	9.6	4.8	9.6
Back EMF constant (phase)		[Vrms/m/s]	17.7	26.6	35.5	17.7	53.2	26.6
Force constant		[N/Arms]	53.2	79.9	106.5	53.3	159.6	79.8
Resistance (line to line)		[Ω]	13.0	19.5	26.0	6.5	38.9	9.8
Inductance (line to line)		[mH]	9.5	14.2	18.9	4.8	28.4	7.1
Attraction force		[N]	0					
Electrical cycle (N-N)		[mm]	30.0					
Length		[mm]	150	210	270		390	
Width		[mm]	37.6					
Height		[mm]	98.0					
Weight		[kg]	0.55	0.85	1.1		1.65	

Performance Curve

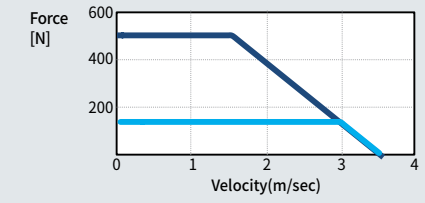
L098-S008



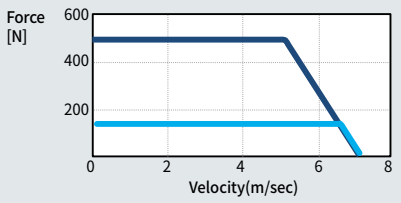
L098-S012



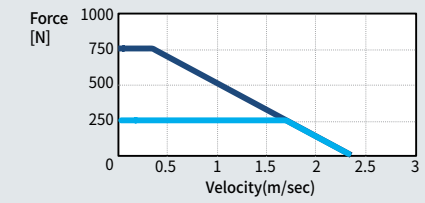
L098-S017



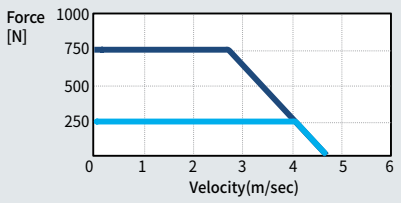
L098-P017



L098-S025

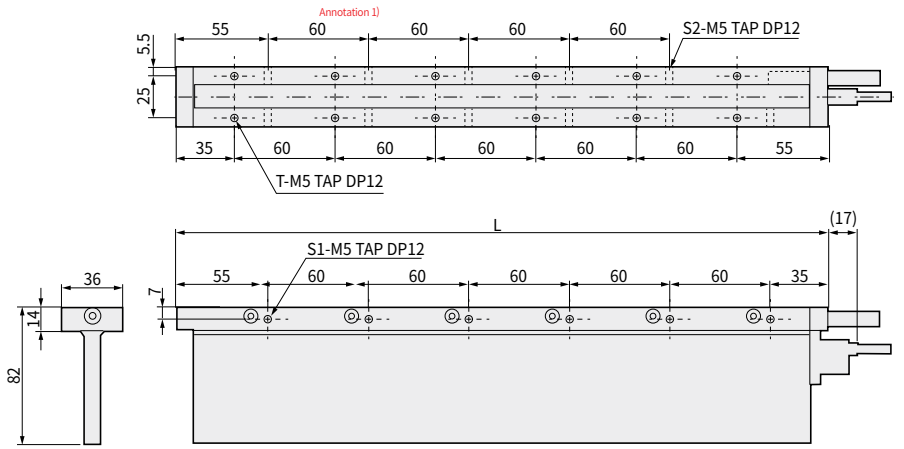


L098-P025



Motor Coil

Unit : mm

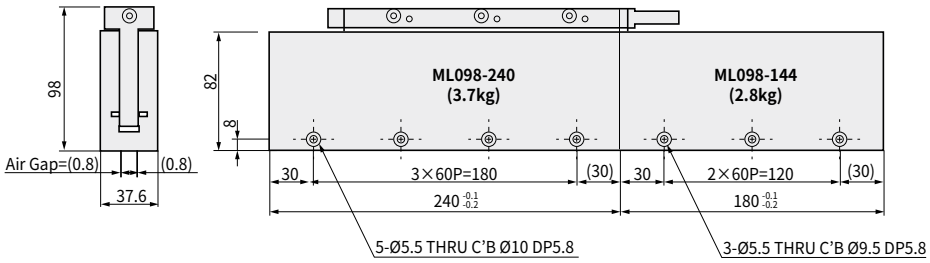


Model	L	T	S1	S2
L098-S008	150	4	2	2
L098-S012	210	6	3	2
L098-□017	270	8	4	3
L098-□025	390	12	6	5

Annotation 1) 50mm only for L098-S008

Magnet

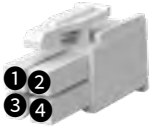
Unit : mm



Connector

Motor Power

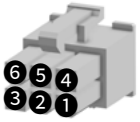
- Model No. : AMP 172167-1
- Mating connector : AMP 172159-1
- Cable length : 500mm Typical



Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor

- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical



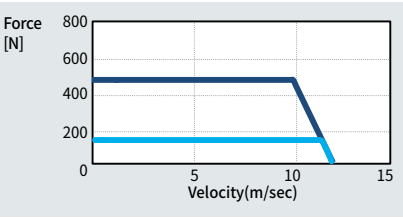
Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used

Specification

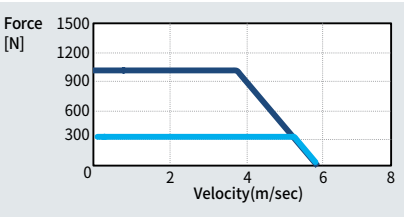
L132			S016	S032	S048	T048	S064	P064	P097	T097
Force	Rated	[N]	162	323	485	485	647	647	971	971
	Peak	[N]	485	971	1943	1943	2590	2590	3886	3886
Current	Rated	[A]	5.1	5.1	5.1	15.3	5.1	10.2	10.2	15.3
	Peak	[A]	15.3	15.3	15.3	45.9	15.3	30.6	30.6	45.9
Back EMF constant (phase)		[Vrms/m/s]	10.6	21.2	31.8	10.6	42.4	21.2	31.8	21.2
Force constant		[N/Arms]	31.8	63.5	95.3	31.8	127.0	63.5	95.3	63.5
Resistance (line to line)		[Ω]	2.5	5.0	7.4	0.8	9.9	2.5	3.7	1.7
Inductance (line to line)		[mH]	4.8	9.6	14.4	1.6	19.2	4.8	7.2	3.2
Attraction force		[N]	0							
Electrical cycle (N-N)		[mm]	60.0							
Length		[mm]	150	270	390		510		750	
Width		[mm]	50.8							
Height		[mm]	132.0							
Weight		[kg]	1.2	2.3	3.5		4.6		6.9	

Performance Curve (AC 220V)

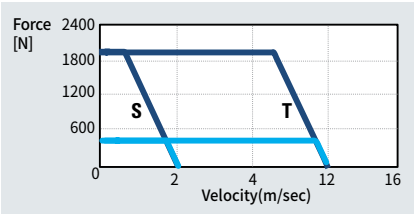
L132-S016



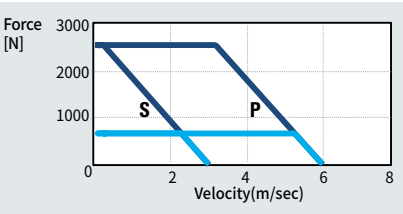
L132-S032



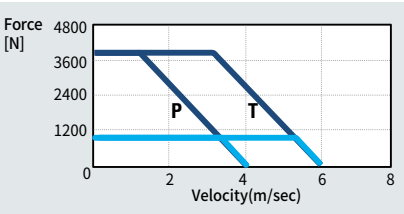
L132-□048



L132-□064

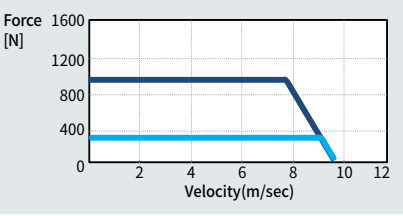


L132-□097

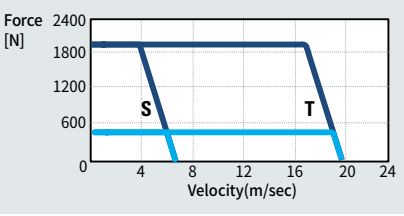


Performance Curve (AC 380V)

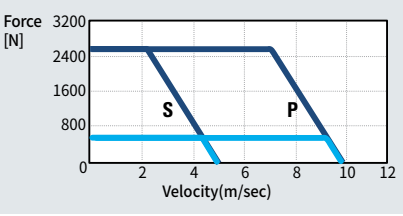
L132-S032



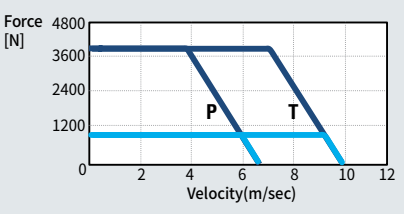
L132-□048



L132-□064

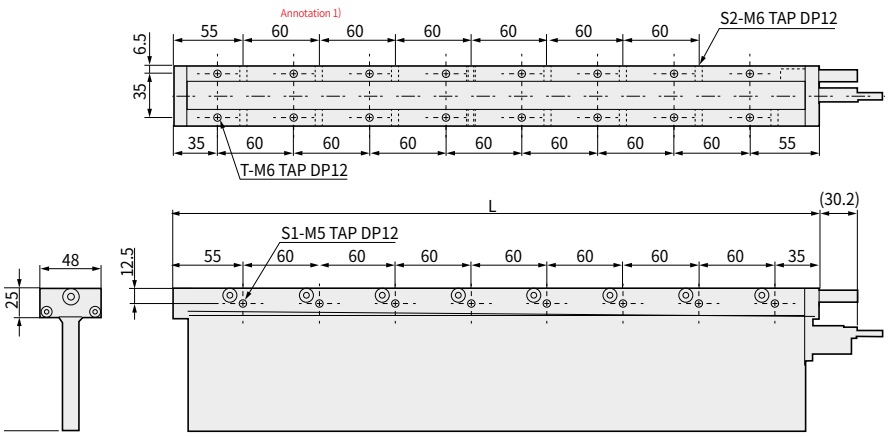


L132-□097



Motor Coil

Unit : mm

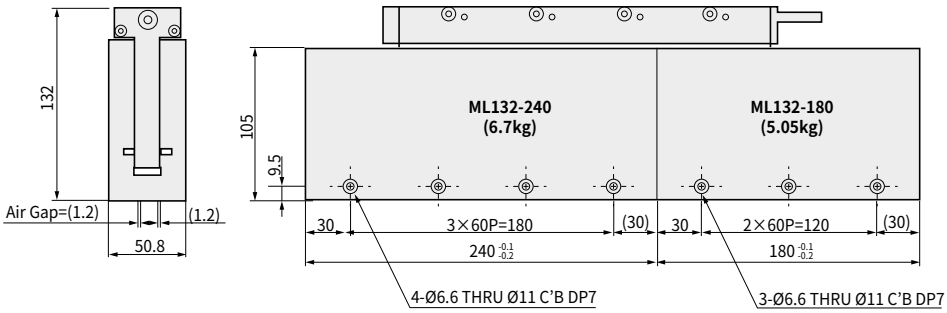


Model	L	T	S1	S2
L132-S016	150	4	2	2
L132-S032	270	8	4	3
L132-□048	390	12	6	5
L132-□064	510	16	8	7
L132-□097	750	24	12	11

Annotation 1) 50mm only for L132-S016

Magnet

Unit : mm



Connector

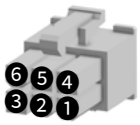
Motor Power

- Model No. : AMP 350779-1
- Mating connector : AMP 350780-1
- Cable length : 500mm Typical

Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor

- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical



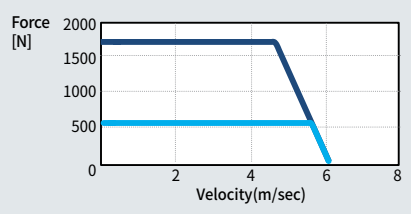
Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used

Specification

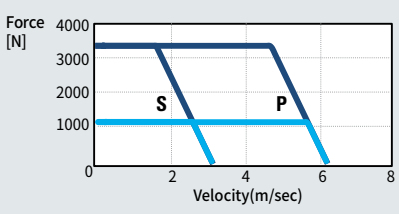
L230			S056	S112	P112	S169	T169	P225	D225	P338	T338
Force	Rated	[N]	563	1127	1127	1691	1691	2255	2255	3382	3382
	Peak	[N]	1691	3382	3382	5073	5073	6765	6765	10148	10148
Current	Rated	[A]	9.1	9.1	18.2	9.1	27.3	18.2	36.4	18.2	27.3
	Peak	[A]	27.3	27.3	54.6	27.3	81.9	54.6	109.2	54.6	81.9
Back EMF constant (phase)		[Vrms/m/s]	20.7	41.3	20.7	62.0	20.7	41.3	20.7	62.0	41.3
Force constant		[N/Arms]	62.0	123.9	62.0	185.9	62.0	123.9	62.0	185.9	123.9
Resistance (line to line)		[Ω]	1.9	3.8	1.0	5.7	0.6	1.9	0.5	2.9	1.3
Inductance (line to line)		[mH]	1.5	3.0	0.8	4.5	0.5	1.5	0.4	2.3	1.0
Attraction force		[N]	0								
Electrical cycle (N-N)		[mm]	84.0								
Length		[mm]	198	362		534		698		1034	
Width		[mm]	59.0								
Height		[mm]	229								
Weight		[kg]	2.7	5.3		8		10.6		16	

Performance Curve (AC 220V)

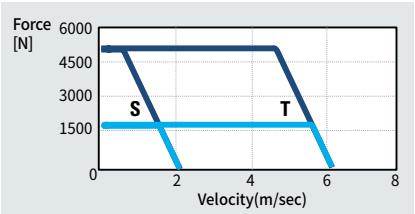
L230-S056



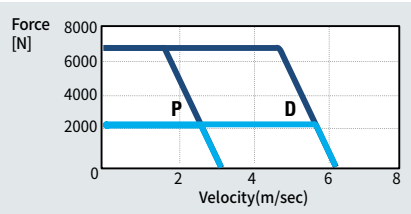
L230-□112



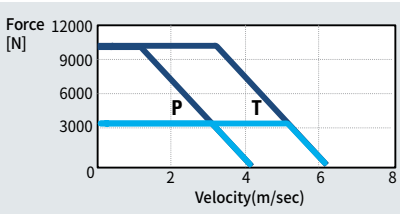
L230-□169



L230-□225

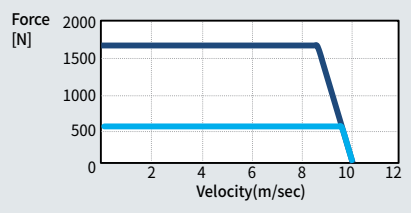


L230-□338

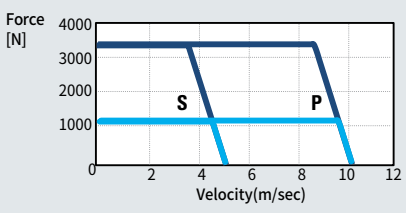


Performance Curve (AC 380V)

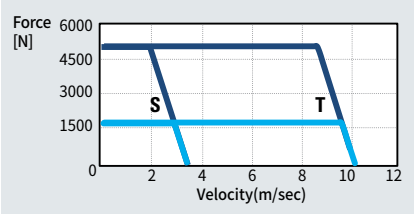
L230-056



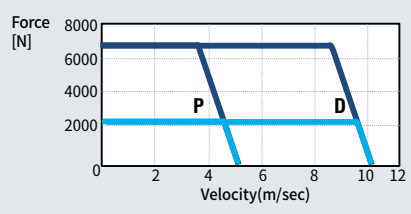
L230-□112



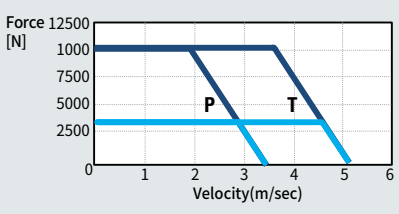
L230-□169



L230-□225

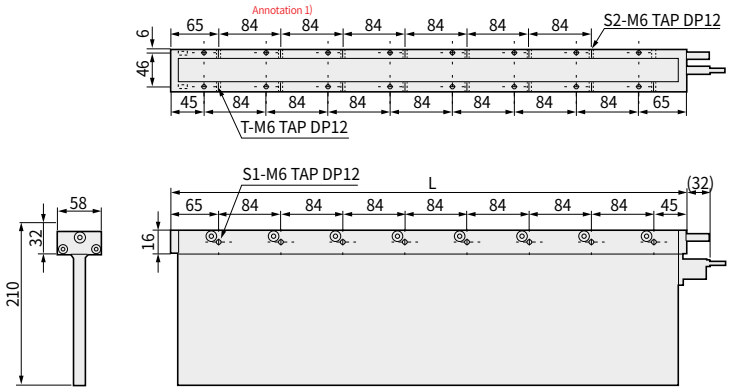


L230-□338



Motor Coil

Unit : mm

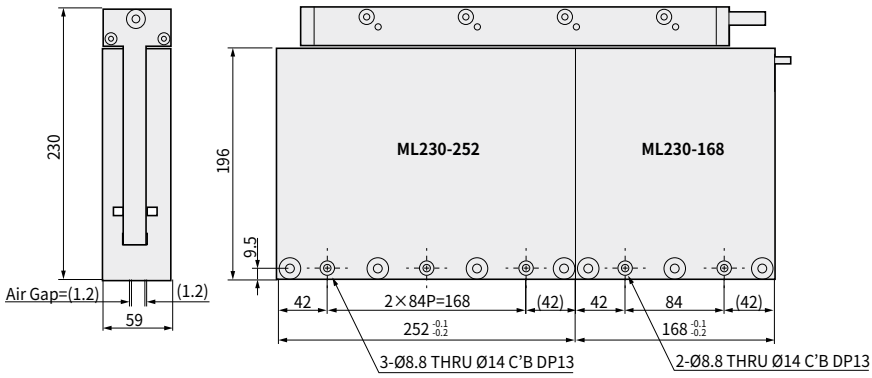


Model	L	T	S1	S2
L230-S065	198	4	2	2
L230-□112	362	8	4	3
L230-□169	530	12	6	5
L230-□225	698	16	8	7
L230-□338	1034	24	12	11

Annotation 1) 74mm only for L230-S056

Magnet

Unit : mm



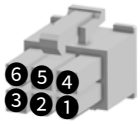
Connector

Motor Power

- Model No. : AMP 350779-1
- Mating connector : AMP 350780-1
- Cable length : 500mm Typical

Pin No.	Color
1	U (Red)
2	V (Yellow)
3	W (Blue)
4	FG (Green)

Hall Sensor



- Model No. : MOLEX 5557-06R
- Mating connector : MOLEX 5559-06P
- Cable length : 500mm Typical

Pin No.	Color
1	Hall U (Orange)
2	Hall V (White)
3	Hall W (Blue)
4	+5V (Red)
5	GND (Black)
6	Not used

L7NHA

There are L7NH(F), L7P, and L7C drives that can be matched with linear motors.
Since suitable drive products differ depending on the customer's operating environment,
please contact the specialized stores at the back of this catalog and you can get product information in detail.

L7NHA Drive

Item \ Type Name		L7NHA001U	L7NHA002U	L7NHA004U	L7NHA004U	L7NHA010U	L7NHA020U	L7NHA035U	L7NHA050U	L7NHA075U	L7NHA150U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]									
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]									
Rated Current[A]		1.4	1.7	3.0	5.2	6.75	13.5	16.7	32	39.4	76
Peak Current[A]		4.2	5.1	9.0	15.6	20.25	40.5	50.1	90.88	98.5	190
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2, Sinusoidal, Analog Hall									
Control Performance	Speed Control Range	Maximum 1: 5000									
	Frequency Response	Maximum 1[kHz] or above(When the 19-bit Serial Encoder is applied)									
	Speed Variation Ratio	±0.01[%] or lower(When the load changes between 0 and 100%) ±0.1[%] or less(Temperature of 25°C[±10]									
	Torque Control Repetition Accuracy	Within ±1%									
Communication Specifications Environment Communication	Communication Standard	FoE (Firmware download), EoE (Parameter setting by UDP, Tuning, Secondary function, Parameter copy) CoE (IEC 61158 Type12, IEC 61800-7 CIA 402 Drive profile)									
	Physical Layer	100BASE-TX(IEEE802.3)									
	Connector	RJ45 x 2									
	Communication Distance	Within connection between nodes 100[m]									
	DC(Distributed Clock)	By DC mode synchronism. minimum DC cycle: 250[us]									
	LED Display	LinkAct IN, LinkAct OUT, RUN, ERR									
	Cia402 Drive Profile	Profile Position Mode, Profile Velocity Mode, Profile Torque Mode, Cyclic Synchronous Position Mode, Cyclic Synchronous Velocity Mode, Cyclic Synchronous Torque Mode, Homing Mode									
Digital Input / Output	Digital Input	Input Voltage range : DC 12[V] ~ DC 24[V] Total 8 input channels (allocable) Above 12 functions can be used selectively for assignment. (*POT, *NOT, *HOME, *STOP, *PCON, *GAIN2, *P_CL, *N_CL, PROBE1, PROBE2, EMG, A_RST)									
	Digital Output	Service rating: DC 24[V] ±10%, 120[mA] Total 4 input channels (allocable) Above 11 functions can be used selectively for assignment. (*BRAKE±, *ALARM±, *READY±, *ZSPD±, INPOS±, TLMT±, VLMT±, INSPD±, WARN±, TGON±, INPOS±)									
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM±)									
USB Communication	Function	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy									
	Communication Standard	USB 2.0 Full Speed (applies standard)									
	Connect	PC or USB storing medium									
Internal Function	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).									
	Regenerative Braking	Default built-in(excluding 15kW), external installation possible									
	Display Function	7 segments(5DIGIT)									
	Self-setting Function	The [MODE] key changes the content displayed in 7 segments									
	Additional Function	Auto gain tuning function									
	Protection Function	Overcurrent, overload, overvoltage, insufficient voltage, main power input problem, control power input problem, overspeed, motor cable, overheat(power module overheat, abnormal drive operation's temp), encoder problem, over-regenerative, sensor problem, communication problem									
Operation Environment	Operating Temperature / Storage Temperature	0 ~ 50[°C] / -20 ~ 70[°C]									
	Operating Humidity / Storage Humidity	Below 80[%]RH / Below 90[%]RH(avoid dew-condensation)									
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.									

L7NHB Drive

Item \ Type Name		L7NHB010U	L7NHB020U	L7NHB035U	L7NHB050U	L7NHB075U	L7NHB150U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]					
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]					
Rated Current[A]		3.7	8	10.1	17.5	22.8	39
Peak Current[A]		11.1	24	30.3	47.25	57	97.5
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2, Sinusoidal, Analog Hall					
Control Performance	Speed Control Range	Maximum 1: 5000					
	Frequency Response	Maximum 1[kHz] or above(When the 19-bit Serial Encoder is applied)					
	Speed Variation Ratio	±0.01[%] or lower(When the load changes between 0 and 100%) ±0.1[%] or less(Temperature of 25°C[±10]					
	Torque Control Repetition Accuracy	Within ±1%					
Communication Specifications Environment Communication	Communication Standard	FoE (Firmware download) EoE (Parameter setting by UDP, Tuning, Secondary function, Parameter copy) CoE (IEC 61158 Type12, IEC 61800-7 CIA 402 Drive profile)					
	Physical Layer	100BASE-TX(IEEE802.3)					
	Connector	RJ45x2					
	Communication Distance	Within connection between nodes 100[m]					
	DC(Distributed Clock)	By DC mode synchronism. minimum DC cycle: 250[us]					
	LED Display	LinkAct IN, LinkAct OUT, RUN, ERR					
	Cia402 Drive Profile	Profile Position Mode, Profile Velocity Mode, Profile Torque Mode, Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode, Cyclic Synchronous Torque Mode, Homing Mode					
Digital Input / Output	Digital Input	Input Voltage range : DC 12[V] ~ DC 24[V] Total 8 input channels (allocable) Above 12 functions can be used selectively for assignment. (*POT, *NOT, *HOME, *STOP, *PCON, *GAIN2, *P_CL, *N_CL, PROBE1, PROBE2, EMG, A_RST)					
	Digital Output	Service rating: DC 24[V] ±10%, 120[mA] Total 4 input channels (allocable) Above 11 functions can be used selectively for assignment. (*BRAKE±, *ALARM±, *READY±, *ZSPD±, INPOS±, TLMT±, VLMT±, INSPD±, WARN±, TGON±, INPOS±)					
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM±)					
USB Communication	Function	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy					
	Communication Standard	USB 2.0 Full Speed (applies standard)					
	Connect	PC or USB storing medium					
Internal Function	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).					
	Regenerative Braking	Default built-in(excluding 15kW), external installation possible					
	Display Function	7 segments(5DIGIT)					
	Self-setting Function	The [MODE] key changes the content displayed in 7 segments					
	Additional Function	Auto gain tuning function					
	Protection Function	Overcurrent, overload, overvoltage, insufficient voltage, main power input problem, control power input problem, overspeed, motor cable, overheat(power module overheat, abnormal drive operation's temp), encoder problem, over-regenerative, sensor problem, communication problem					
Operation Environment	Operating Temperature / Storage Temperature	0 ~ 50[°C] / -20 ~ 70[°C]					
	Operating Humidity / Storage Humidity	Below 80[%]RH / Below 90[%]RH(avoid dew-condensation)					
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.					

L7PA Drive

Item \ Type Name		L7PA001U	L7PA002U	L7PA004U	L7PA008U	L7PA010U	L7PA020U	L7PA035U	L7PA050U	L7PA075U	L7PA150U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]									
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]									
Rated Current[A]		1.4	1.7	3.0	5.2	6.75	13.5	16.7	32	39.4	76
Peak Current[A]		4.2	5.1	9.0	15.6	20.25	40.5	50.1	90.88	98.5	190
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2 Sinusoidal Analog Hall									
Control Performance	Speed Control Range	Maximum 1: 5000									
	Frequency Response	Maximum 1 [kHz] or above (When using 19bit Serial Encoder)									
	Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%] ±0.1[%]orlower[temperature25 ±10°C]									
	Accel/Decel Time	Straight or S-curve acceleration/deceleration (0~10,000[ms], 0~1,000[ms] Unit configurable)									
	Input Frequency	1[Mpps], line drive / 200[kpps], Open Collector									
	Input Pulse Type	Symbol + Pulse Series, CW+CCW, A/B Phase									
RS422 Communication Specifications	Communication Specifications	ANSI/TIA/EIA-422 Standard Specifications									
	Communication Protocol	MODBUS-RTU									
	Connector	RJ45x2									
	Synchro Method	Asynchronous									
	Transmission Speed	9600 /19200/38400/57600 [bps], Can be configured at [0x3002]									
	Transmission Distance	Maximum 200 [m]									
	Power Consumption	100[mA]									
	Terminating Resistance	Dip S/W(On/Off), Built-In 120Ω									
Input / Output Signal	Digital Input	Input voltage range: DC 12[V] ~ DC 24[V] Total 16 input channel (allocatable) 32 function inputs can be selectively allocated (*SV_ON, *POT, *NOT, *A-RST, *START, *STOP, *REGT, *EMG, *HOME, *HSTART, *ISEL0, *ISEL1, *ISEL2, *ISEL3, *ISEL4, *ISEL5, PCON, GAIN2, P_CL, N_CL, MODE, PAUSE, ABSRQ, JSTART, JDIR, PCLR, AOVR, SPD1/LVSF1, SPD2/LVSF2, SPD3, PROBE1, PROBE2)									
	Digital Output	Use rating: DC 24[V] ±10%, 120[mA] Total 8 input channel (allocatable) 19 function inputs can be selectively allocated (*ALARM±, *READY±, *BRAKE±, *INPOS1±, *ORG±, *EOS±, *TGON±, *TLMT±, VLMT±, INSPD±,ZSPD±, WARN±, INPOS2±, IOUT0±, IOUT1±, IOUT2±, IOUT3±, IOUT4±, IOUT5±)									
Analog Input / output	Analog input	Total 2 channels, analog speed override input(-10[V] ~ +10[V]), analog torque command input(-10[V] ~ +10[V])									
	Analog output	Total 2 channels, 15 function inputs can be selectively allocated									
USB Communication	Protection	Firmware download, parameter setting, tuning, auxiliary function,parameter copy									
	Communication Specifications	Complies with USB 2.0 Full Speed Specifications									
	Connection Device	PC or USB storage media									
Built-in functions	Dynamic Braking	Standard built-in(activated by servo alarm or servo OFF)									
	Regenerative Braking	Default built-in(excluding 15kW), external installation possible									
	Display	7 Segment(5 DIGIT)									
	Setting Function	Drive node address can be set using rotary switch									
	Additional Function	Gain tuning, alarm history, JOG operation, origin search									
	Protective Function	Excessive current, overload, excessive current limit, overheating, excessive voltage, low voltage, excessive speed, encoder fail, position following fail, current sensing fail									
Operation Environment	Operating Temperature / Storage Temperature	0 ~ 50[°C] / -20 ~ 70[°C]									
	Operating Humidity / Storage Humidity	Below80[%]RH / Below 90[%]RH(avoid dew-condensation)									
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.									

L7PB Drive

Item \ Type Name		L7PB010U	L7PB020U	L7PB035U	L7PB050U	L7PB075U	L7PB150U
Input Power	Main Power Supply	3 Phase AC380 ~480[V](-15 ~ +10[%]), 50 ~ 60[Hz]					
	Control Power Supply	Single Phase AC380 ~ 480[V](-15 ~ +10[%]), 50 ~ 60[Hz]					
Rated Current[A]		3.7	8	10.1	17.5	22.8	39
Peak Current[A]		11.1	24	30.3	47.25	57	97.5
Encoder Type		Universal Encoder Feedback Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2 Sinusoidal Analog Hall					
Control Performance	Speed Control Range	Maximum 1: 5000					
	Frequency Response	Maximum 1 [kHz] or above (When using 19bit Serial Encoder)					
	Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%] ±0.1[%]orlower[temperature25 ±10°C]					
	Accel/Decel Time	Straight or S-curve acceleration/deceleration (0~10,000[ms], 0~1,000[ms] Unit configurable)					
	Input Frequency	1[Mpps], line drive / 200[kpps], Open Collector					
	Input Pulse Type	Symbol + Pulse Series, CW+CCW, A/B Phase					
RS422 Communication Specifications	Communication Specifications	ANSI/TIA/EIA-422 Standard Specifications					
	Communication Protocol	MODBUS-RTU					
	Connector	RJ45x2					
	Synchro Method	Asynchronous					
	Transmission Speed	9600 /19200/38400/57600 [bps], Can be configured at [0x3002]					
	Transmission Distance	Maximum 200 [m]					
	Power Consumption	100[mA]					
	Terminating Resistance	Dip S/W(On/Off), Built-In 120Ω					
Input / Output Signal	Digital Input	Input voltage range: DC 12[V] ~ DC 24[V] Total 16 input channel (allocatable) 30 function inputs can be selectively allocated (*SV_ON, *POT, *NOT, *A-RST, *START, *STOP, *REGT, *EMG, *HOME ,*HSTART, *ISEL0, *ISEL1, *ISEL2, *ISEL3, *ISEL4, *ISEL5, PCON, GAIN2, P_CL, N_CL, PAUSE ,ABSRQ, JSTART, JDIR, PCLR, SPD1/LVSF1, SPD2/LVSF2, SPD3, AOVR, MODE,)					
	Digital Output	Use rating: DC 24[V] ±10%, 120[mA] Total 8 input channel (allocatable) 19 function inputs can be selectively allocated (*ALARM±, *READY±, *BRAKE±, *INPOS1±, *ORG±, *EOS±, *TGON±, *TLMT±, VLMT±, INSPD±, ZSPD±, WARN±, INPOS2±, IOUT0±, IOUT1±, IOUT2± IOUT3±, IOUT4±, IOUT5±)					
Analog Input / output	Analog input	Total 2 channels, analog speed override input(-10[V) ~ +10[V)), analog torque command input(-10[V) ~ +10[V))					
	Analog output	Total 2 channels, 15 function inputs can be selectively allocated					
USB Communication	Protection	Firmware download, parameter setting, tuning, auxiliary function,parameter copy					
	Communication Standard	Complies with USB 2.0 Full Speed Specifications					
	Connection Device	PC or USB storage media					
Built-in functions	Dynamic Braking	Standard built-in(activated by servo alarm or servo OFF)					
	Regenerative Braking	Default built-in(excluding 15kW), external installation possible					
	Display	7 Segment(5 DIGIT)					
	Setting Function	Drive node address can be set using rotary switch					
	Additional Function	Gain tuning, alarm history, JOG operation, origin search					
	Protective Function	Excessive current, overload, excessive current limit, overheating, excessive voltage, low voltage, excessive speed, encoder fail, position following fail, current sensing fail					
Operation Environment	Operating Temperature / Storage Temperature	0 ~ 50[°C] / -20 ~ 70[°C]					
	Operating Humidity / Storage Humidity	Below80[%]RH / Below 90[%]RH(avoid dew-condensation)					
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.					

L7NHFA

There are L7NH(F), L7P, and L7C drives that can be matched with linear motors.
Since suitable drive products differ depending on the customer's operating environment,
please contact the specialized stores at the back of this catalog and you can get product information in detail.

L7NHFA Drive

Item \ Type Name		L7NHFA010U	L7NHA035U	L7NHA050U	L7NHA075U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]			
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]			
Rated Current[A]		6.75	16.7	32	39.4
Peak Current[A]		20.25	50.1	90.88	98.5
1st Encoder Encoder A		Quadrature (Incremental) BiSS-B, BiSS-C (Absolute, Incremental) Tamagawa Serial (Absolute, Incremental) EnDat 2.2, Sinusoidal, Analog Hall			
2nd Encoder Encoder B		Quadrature (Incremental), SSI Sinusoidal, Analog Hall (Analog to BiSS converter)			
Control Performance	Speed Control Range	Maximum 1: 5000			
	Frequency Response	Maximum 1[kHz] or above(When the 19-bit Serial Encoder is applied)			
	Speed Variation Ratio	±0.01[%] or lower(When the load changes between 0 and 100%) ±0.1[%] or less(Temperature of 25°C[±10]			
	Torque Control Repetition Accuracy	Within ±1%			
	Input Frequency	4[Mpps], Lind Drive			
	Input Pulse Method	Symbol+Pulse series,CW+CCW,PhaseA/B			
EtherCAT Communication Specifications	Communication Standard	FoE (Firmware download) EoE (Parameter setting by UDP, Tuning, Secondary function, Parameter copy) CoE (IEC 61158 Type12, IEC 61800-7 CIA 402 Drive profile)			
	Physical Layer	100BASE-TX(IEEE802.3)			
	Connector	RJ45x2			
	Communication Distance	Within connection between nodes 100[m]			
	DC(Distributed Clock)	By DC mode synchronism. minimum DC cycle: 250[us]			
	LED Display	LinkAct IN, LinkAct OUT, RUN, ERR			
	Cia402 Drive Profile	Profile Position Mode, Profile Velocity Mode. Profile Torque Mode, Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode, Cyclic Synchronous Torque Mode, Homing Mode			
Digital Input / Output	Digital Input	Input Voltage range : DC12[V] ~ DC 24[V] Total 6 input channels(allocable) Above 15 functions can be used selectively for assignment. (*POT, *NOT, *HOME, *STOP, *PCON, *GAIN2, *P_CL, *N_CL, PROBE1, PROBE2, EMG, A_RST, SV_ON, LVSF, LVSF2) * Default signal			
	Digital Output	Total 3 input channels (allocable) Total 11 output can be used selectively for assignment. (*BRAKE±, *ALARM±, *READY±, *ZSPD±, INPOS±, TLMT±, VLMT±, INSPD±, WARN±, TGON±, INPOS2±) * Default signal			
	Analog Output	Total 2 channels (allocable), Total 25 output can be used selectively for assignment.			
Safety Function		2 Input Channels (STO1, STO2)			
USB Communication	Function	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy			
	Communication Standard	USB 2.0 Full Speed (applies standard)			
	Connect	PC or USB storing medium			
Internal Function	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).			
	Regenerative Braking	Default built-in(excluding 15kW), external installation possible			
	Display Function	7 segments(5DIGIT)			
	Self-setting Function	The [MODE] key changes the content displayed in 7 segments			
	Additional Function	Auto gain tuning function			
	Protection Function	Overcurrent, overload, overvoltage, insufficient voltage, overspeed, overheat(power module overheat, abnormal drive operation's temp), encoder problem, position tracking problem, current sensing problem			
Operation Environment	Operating Temperature / Storage Temperature	0 ~ 50[°C] / -20 ~ 70[°C]			
	Operating Humidity / Storage Humidity	Below 80[%]RH / Below 90[%]RH(avoid dew-condensation)			
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.			

L7C Drive

Item \ Type Name		L7CA001U	L7CA002U	L7CA004U	L7CA008U	L7CA010U
Input Power		Single phase AC200 ~ 230[V] (-15~+10%), 50~60[Hz]				
Rated Current[A]		1.4	1.7	3.0	5.2	6.75
Peak Current[A]		4.2	5.1	9.0	15.6	20.25
Encoder Type		Quadrature (Incremental), Biss-B, Biss-C (Absolute, Incremental)				
Control Performance	Speed Control Range	Maximum 1:5000				
	Frequency Response	Maximum 1[KHz] or above (When using 19Bit Serial Encoder)				
	Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%] ±0.1[%] or lower [temperature 25 ±10°C]				
	Accel/Decel Time	Straight or S-curve acceleration/deceleration (0-10,000[ms], possible to be set by one[ms] unit)				
	Input Frequency	1[Mpps], line driver / 200[kpps], open collector				
	Input Pulse Type	Symbol + Pulse series, CW+CCW, A/B Phase				
RS-422	Specification	ANSI/TIA/EIA-422 standard specifications				
	Protocol	MODBUS-RTU				
	Synchro Method	Asynchronous				
	Power Consumption	100[mA]				
	Transmission Speed	9,600/19,200/38,400/57,600bps				
	Distance	Maximum 200[m]				
	Terminating Resistance	Connecting the outside connector (CN1 7Pin, 28Pin connection), Built-in 120Ω				
Digital Input / Output	Digital Input	Input voltage range : DC12V ~ DC24V Total 10 input channels (allocable) Total 34 function's input can be used selectively for assignment. (*SV_ON, *SPD/LVSF1, *SPD2/LVSF2, *SPD3, *A-RST, *JDIR, *POT, *NOT, *EMG, *STOP, START, REGT, HOME, HSTART, ISEL0, ISEL1, ISEL2, ISEL3, ISEL4, ISEL5, PCON, GAIN2, P_CL, N_CL, MODE, PAUSE, ABSRQ, JSTART, PCLR, AOVR, INHIBIT, EGEAR1, EGEAR2, ABS_RESET) * Basic allocation signal				
	Digital Output	Service rating : DC24V ±10%, 120mA 5 of 8 input channels are allocable, 3 channels are fixed with AL00, AL01, AL02 Total 19 function's input can be used selectively for assignment. (*ALARM, *READY, *ZSPD, *BREAK, *INPOS1, ORG, EOS, TGON, TLMT, VLMT, INSPD, WARN, INPOS2, IOUT0, IOUT1, IOUT2, IOUT3, IOUT4, IOUT5) * Basic allocation signal				
Analog Output		2 Channel Analog speed input (Command/Overide) ±10V Analog torque input (Command/Limit) ±10V				
USB Communication	Connect	PC				
	Communication Standard	USB 2.0 full speed (Applies standard)				
	Specification	PC, USB 2.0 Full Speed (Applies standard)				
Internal Function	Dynamic Braking	Standard built-in brake (Activated when the servo alarm goes off or when the servo is off),				
	Regenerative Braking	Both default built-in and external installation possible				
	Display Function	7 segments (5DIGIT)				
	Additional Function	Gain tuning, alarm history, JOG operation, origin search				
	Protection Function	Excessive current/voltage/overload/overheating/speed, excessive current limit, low voltage, encoder/position following/current sensing fail				
Operation Environment	Operating Temperature / Storage Temperature	0~50°C / -20 ~ 65°C				
	Operating Humidity / Storage Humidity	Below80[%]RH / Below 90[%]RH(Avoid dew-condensation)				
	Environment	Indoor, avoid corrosive, inflammable gas or liquid, and electrically conductive dust.				

Memo

FUTURING SMART ENERGY

We open up a brighter future through
efficient and convenient energy solutions.

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

- According to The WEEE Directive, please do not discard the device with your household waste.

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