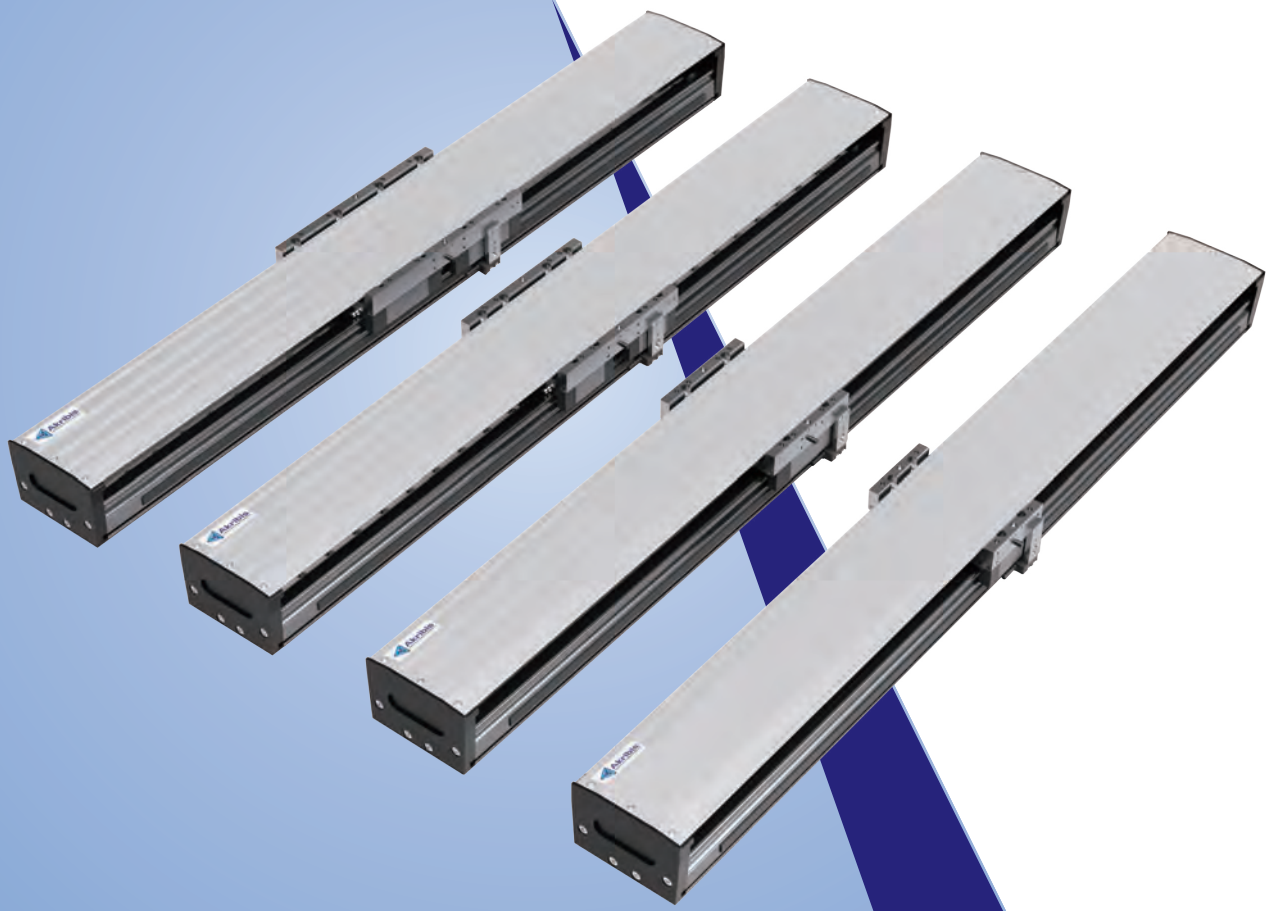
Akribis
where precision matters

BUILT-IN GUIDE MODULE

DGX SERIES



where precision matters

EN-25.12.1

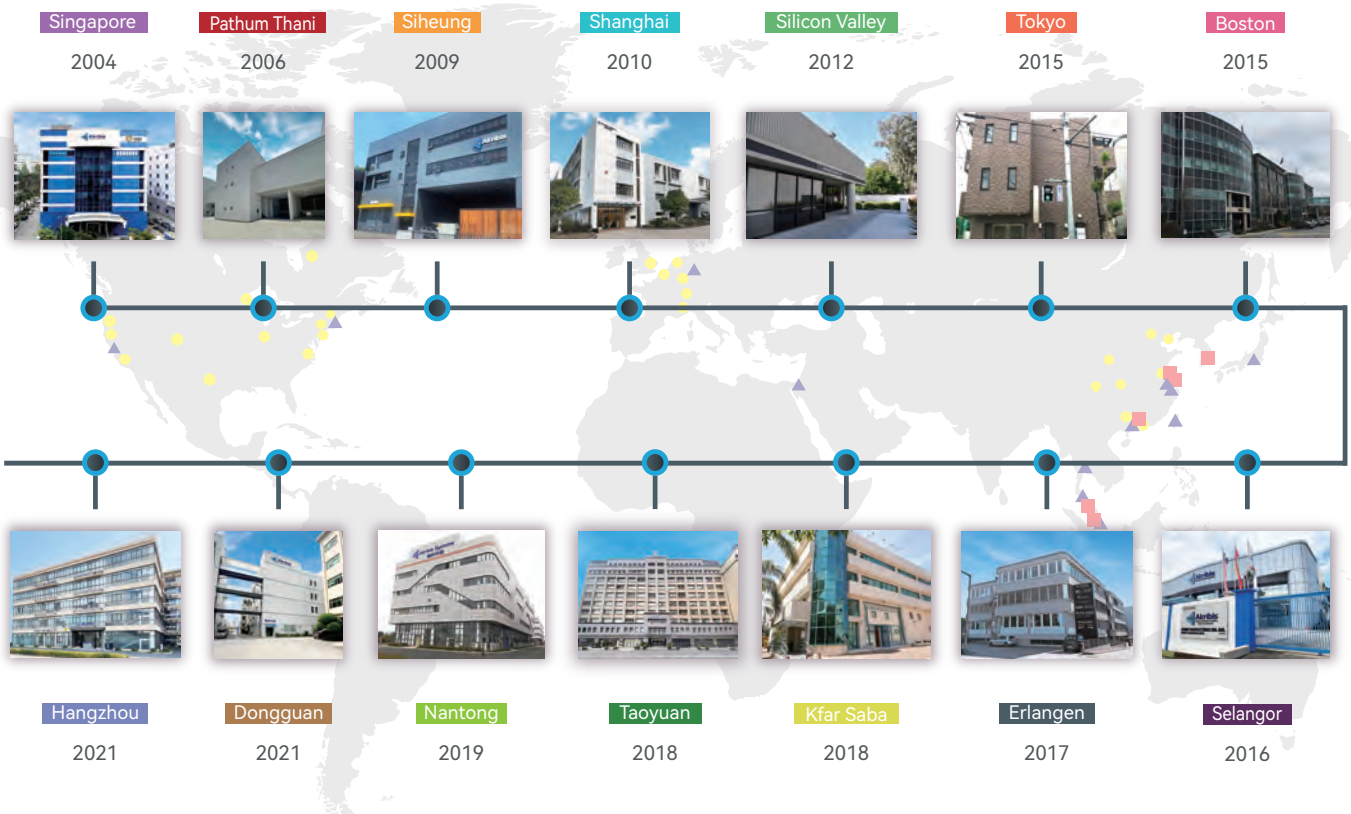
Akribis is a Latinized Greek word that means “Precision”. On the Akribis logo, the letter “a” is formed by a line and a circle, representing linear and rotary motions. These are supported by a tetrahedron structure, the same structure as the diamond crystal which has many exceptional physical properties.

The logo signifies that Akribis Systems’sound engineering expertise is the basis of the company’s foundation, and this enables us to provide customers with precise, direct drive motion control solutions.

Akribis Systems Pte Ltd was founded in 2004. We design and manufacture direct drive motors, stages and precision systems that are used in equipment for manufacturing, inspection and testing. Akribis Systems supports a wide range of industries including semiconductor, solar, flat panel, hard disk, LED, printed circuit board, printing, photonics and biomedical manufacturing.

From the beginning, the company has been focusing on innovation and development of new technologies and solutions in motion control, with more than 150 patents applied. Backed by a very strong and committed engineering team, the company continues to develop custom motors and systems for demanding applications.

We have manufacturing facilities in Singapore and in Shanghai, Nantong and Dongguan, China and in Selangor, Malaysia and in Siheung, Korea. Our sales network includes our sales offices in USA, Germany, South Korea, Japan, Thailand, Israel and Malaysia, and is reinforced by our comprehensive distribution channels in Asia, Europe and North America.



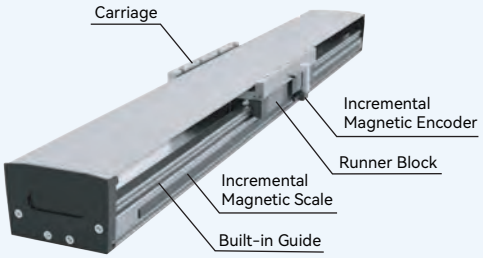
CONTENTS

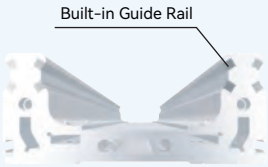
DGX Series

Introduction

- Rapid point-to-point positioning applications, micron-level position repeatability
- 8-row built-in guide rails, machined as a single unit with the base
- Equipped with an incremental magnetic encoder, which is economical and reliable
- Powered by iron-cored linear motors, high thrust and economical

Continuous Force F_{cn} = 94N~459N
Peak Force F_{pk} = 249N~1213N





Features

- Linear modules with iron core motor
- Aluminium profile base, built-in guide
- Individual runner block design, good interchangeability
- Multiple carriages optional, high efficiency
- Cost effective and fast delivery

Applications

Suitable for point to point micron level fast positioning, capable of meeting a movement speed of 3m/s.

For example: electronic semiconductors, photovoltaic and lithium batteries, glass and LCD panels, medical equipments, industrial printing machines, laser processing, precision assembly and other equipment and production lines, where high speed and high precision positioning is required for handling situations.

Dual Guide Modules Series	Linear Motor Series	Continuous Force (F_{cn}) / Peak Force (F_{pk}) Unit: N (100 / 200 / 400 / 600 / 800 / 1000 / 1250)	Stroke[1] (mm)	Repeatability (μm)	Page
DGX115	X3S	94 / 249	40-3700	±4	05
	X3M	141 / 373	60-3720		05
	X3L	188 / 497	60-3720		05
	X3G	282 / 746	60-3720		05
DGX135	X5L	306 / 808	60-3720		10
	X5G	459 / 1213	60-3720		10

Note:
[1] For more stroke options, please consult a sales engineer

DGX115 Series

Motor Specifications	Unit	Value			
Motor	-	X3S	X3M	X3L	X3G
Continuous Force (NC) @100℃ [1]	N	94	141	188	282
Peak Force	N	249	373	497	746
Force Constant ±10%	N/Arms	35	53	35	53
Back EMF Constant ±10%	Vpeak/(m/s)	28.9	43.4	28.9	43.4
Resistance (L-L) @25℃ ±10% [2]	Ω	4.5	6.7	2.2	3.4
Inductance (L-L) ±30% [3]	mH	23.1	34.6	11.5	17.3
Continuous Current (NC) @100℃	Arms	2.7	2.7	5.3	5.3
Peak Current	Arms	9.0	9.0	18.0	18.0
Max. Bus Voltage [1]	Vdc	600	600	600	600
Magnetic Period	mm	20	20	20	20
Mechanical Specifications	**Unit**	**Value**			
Linear Guide Nominal Size	-	Built-in Guide Rail			
Resolution	μm	Incremental Magnetic Encoder: 1.0			
Repeatability	μm	Typical Value: ±2 / Guaranteed Value: ±4			
Straightness	μm/mm	±7 / 300			
Maximum Velocity	m/s	2	2	3	3
Rated Payload (Horizontal Orientation) [4]	kg	15	30	40	50
No-load Moving Mass	kg	1.8	2.7	3.6	5.2
Mounting Orientation [5]	-	Horizontal / Side / Inverted [6]			

[1] Measurement is taken at ambient temperature 25ºC. Value depends on the thermal environment.
[2] Resistance is measured by DC current with standard 0.3m lead wire.
[3] Inductance is measured by current frequency of 1 kHz.
[4] Rated payload based on 1m/s velocity and 1G acceleration.
[5] Please ensure that the flatness of the installation surface is within 0.02mm per 300mm. Otherwise, it may affect the accuracy and usability of the module.
[6] It is recommended to remove the top cover when installing the module with inverted orientation.
The contents of datasheet are subject to change without prior notice.

Ordering Part Number (OPN)

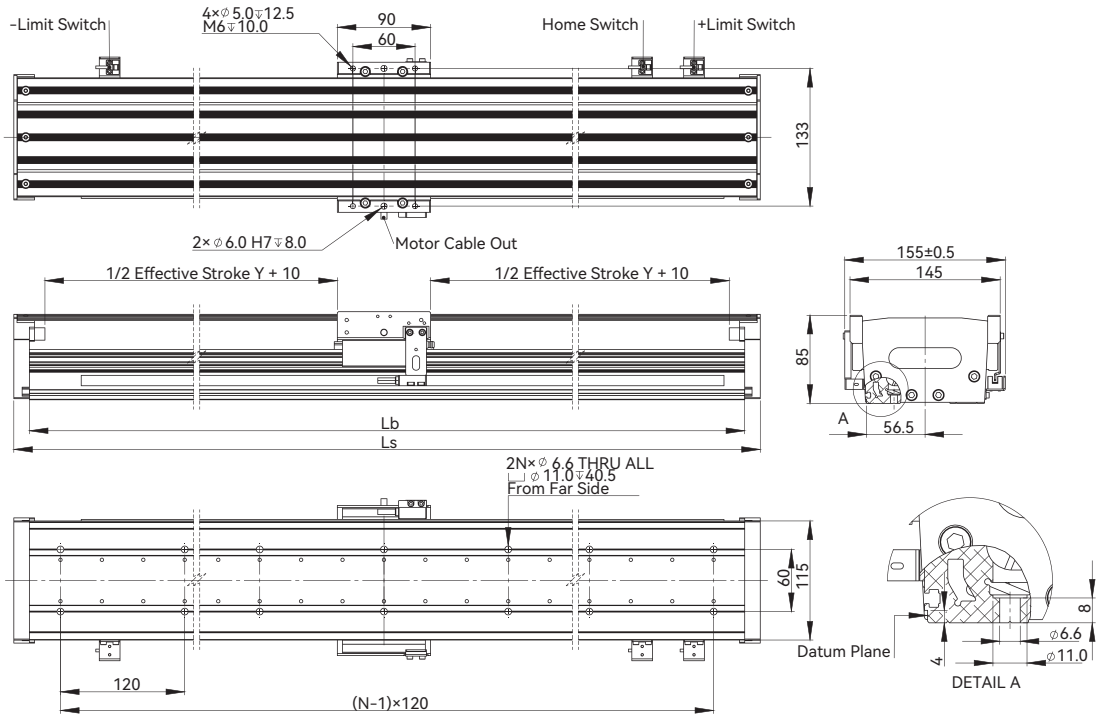
DGX115-S40-X3SLT27-F6

- Model: DGX115: Built-in Guide Rail Module
- Cover Type: [1] S: Standard (Clear Anodized)
- Effective Stroke: [2] 40: 40mm (Effective Stroke Optional Range: 40mm~3700mm)
- Motor Type: X3S / X3M / X3L / X3G
- Termination: Motor: MLX 4 / Encoder: DB9
- Cable Length: F: 0.3m
- Scale Type: 7: Incremental Magnetic Tape, 17ppm/K
- Encoder Type: LT2: Incremental Magnet (1.0μm)

Note:
[1] Cover: Aluminum alloy (module total length ≤ 1230mm), stainless steel (Teflon black tape edging, module total length > 1230mm)
[2] The selection of effective module stroke is shown in the table below. For more options, please consult a sales engineer.

DGX115 Series

DGX115-X3S Dimensional Drawing



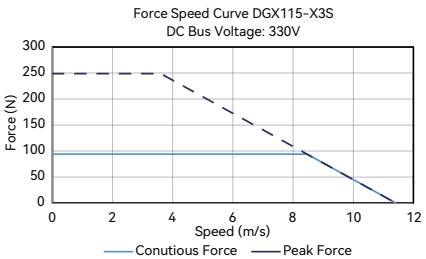
Module Stroke Table

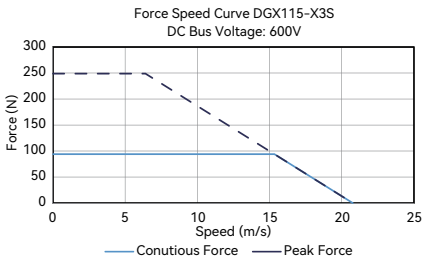
Module Model DGX115-X3S	Effective Stroke Y (mm)																															
	40	100	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1000	1060	1120	1180	1240	1300	1360	1420	1480	1540	1600	1660	1720	1780	1840
Base Length Lb (mm)	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980
Module Length Ls (mm)	210	270	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290	1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010
N	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17
Mass of Module (kg)	4.6	5.3	6.0	6.7	7.4	8.1	8.8	9.5	10.2	10.9	11.6	12.3	13.0	13.7	14.4	15.1	15.8	16.5	16.6	17.3	17.9	18.6	19.2	19.9	20.5	21.2	21.8	22.5	23.1	23.8	24.4
Module Model DGX115-X3S	Effective Stroke Y (mm)																															
	1900	1960	2020	2080	2140	2200	2260	2320	2380	2440	2500	2560	2620	2680	2740	2800	2860	2920	2980	3040	3100	3160	3220	3280	3340	3400	3460	3520	3580	3640	3700
Base Length Lb (mm)	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840
Module Length Ls (mm)	2070	2130	2190	2250	2310	2370	2430	2490	2550	2610	2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570	3630	3690	3750	3810	3870
N	17	18	18	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32
Mass of Module (kg)	25.1	25.7	26.4	27.1	27.7	28.4	29.0	29.7	30.3	31.0	31.6	32.3	32.9	33.6	34.2	34.9	35.6	36.2	36.9	37.5	38.2	38.8	39.5	40.1	40.8	41.4	42.1	42.7	43.4	44.0	44.7

Note:

❶ The stroke of DGX115-X3S starts at 40mm and increases by 60mm at each interval.
❷ OPN Example: DGX115-S40-X3SLT27-F6

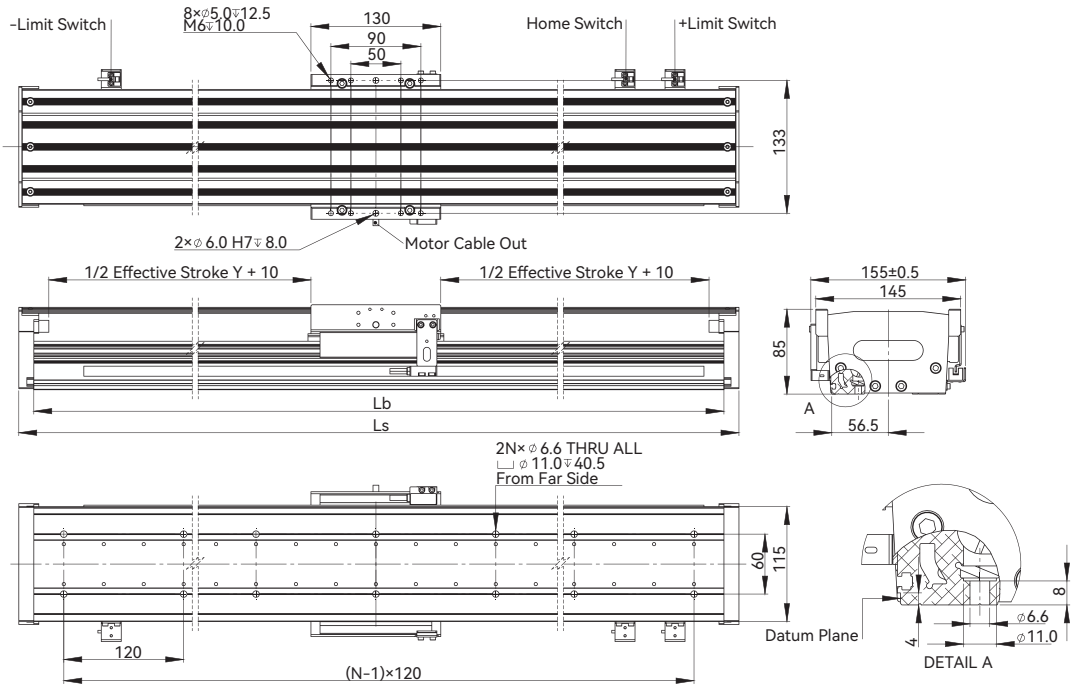
Force-Speed Curve





DGX115 Series

DGX115-X3M Dimensional Drawing



Module Stroke Table

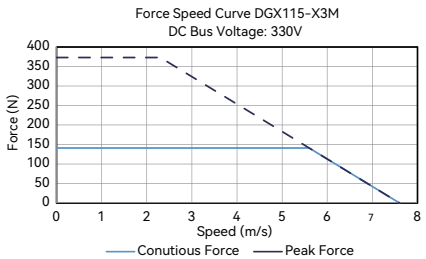
Module Model DGX115-X3M	Effective Stroke Y (mm)																														
	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860
Base Length Lb (mm)	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040
Module Length Ls (mm)	270	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290	1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070
N	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17
Mass of Module (kg)	6.1	6.8	7.5	8.2	8.9	9.7	10.4	11.1	11.8	12.5	13.2	13.9	14.6	15.3	16.0	16.7	17.4	17.5	18.2	18.8	19.5	20.1	20.8	21.4	22.1	22.7	23.4	24.0	24.7	25.3	26.0

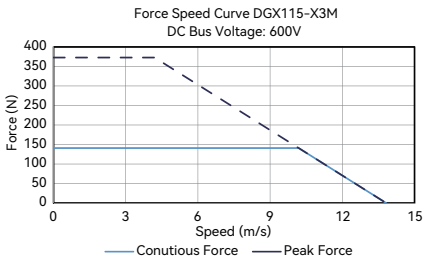
Module Model DGX115-X3M	Effective Stroke Y (mm)																														
	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720
Base Length Lb (mm)	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840	3900
Module Length Ls (mm)	2130	2190	2250	2310	2370	2430	2490	2550	2610	2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570	3630	3690	3750	3810	3870	3930
N	18	18	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32	33
Mass of Module (kg)	26.6	27.3	28.0	28.6	29.3	29.9	30.6	31.2	31.9	32.5	33.2	33.8	34.5	35.1	35.8	36.5	37.1	37.8	38.4	39.1	39.7	40.4	41.0	41.7	42.3	43.0	43.6	44.3	44.9	45.6	46.3

Note:

❶ The stroke of DGX115-X3M starts at 60mm and increases by 60mm at each interval.
❷ OPN Example: DGX115-S60-X3MLT27-F6

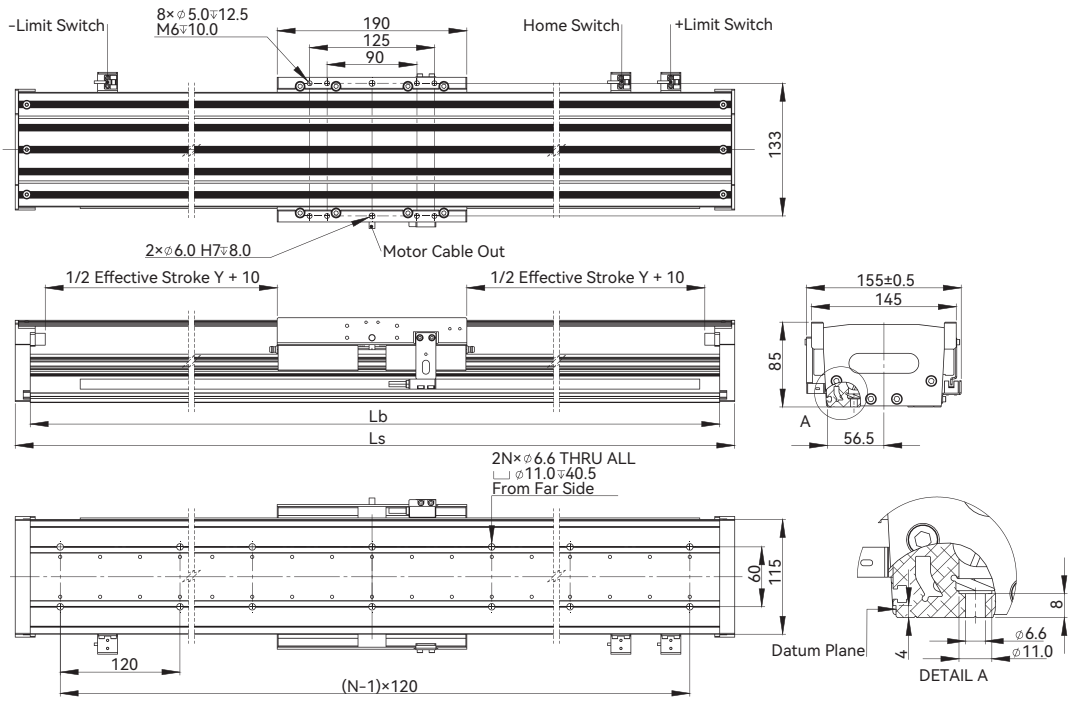
Force-Speed Curve





DGX115 Series

DGX115-X3L Dimensional Drawing



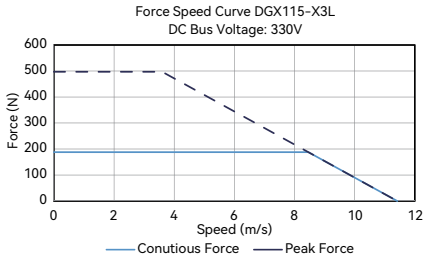
Module Stroke Table

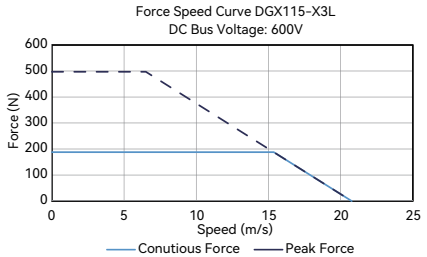
Module Model DGX115-X3L	Effective Stroke Y (mm)																														
	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860
Base Length Lb (mm)	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100
Module Length Ls (mm)	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290	1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070	2130
N	3★	3★	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18
Mass of Module (kg)	7.8	8.5	9.2	9.9	10.6	11.3	12.0	12.7	13.4	14.1	14.8	15.5	16.2	16.9	17.6	18.3	18.4	19.1	19.7	20.4	21.0	21.7	22.3	23.0	23.6	24.3	24.9	25.6	26.2	26.9	27.5
Module Model DGX115-X3L	Effective Stroke Y (mm)																														
	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720
Base Length Lb (mm)	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840	3900	3960
Module Length Ls (mm)	2190	2250	2310	2370	2430	2490	2550	2610	2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570	3630	3690	3750	3810	3870	3930	3990
N	18	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33
Mass of Module (kg)	28.2	28.9	29.5	30.2	30.8	31.5	32.1	32.8	33.4	34.1	34.7	35.4	36.0	36.7	37.4	38.0	38.7	39.3	40.0	40.6	41.3	41.9	42.6	43.2	43.9	44.5	45.2	45.8	46.5	47.2	47.8

Note:

❶ The stroke of DGX115-X3L starts at 60mm and increases by 60mm at each interval.
❷ OPN Example: DGX115-S60-X3LLT27-F6
★ Please use the four mounting holes near both sides of the end plate.

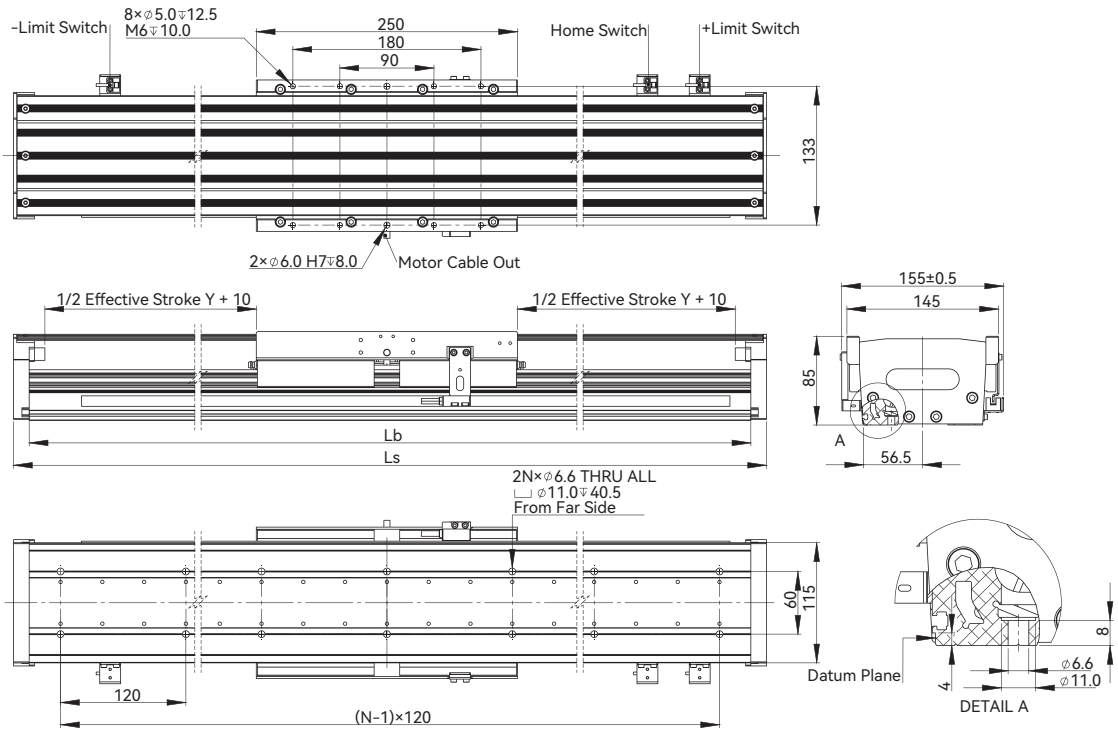
Force-Speed Curve





DGX115 Series

DGX115-X3G Dimensional Drawing



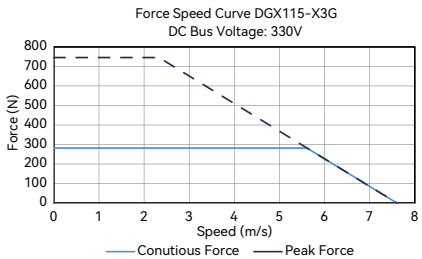
Module Stroke Table

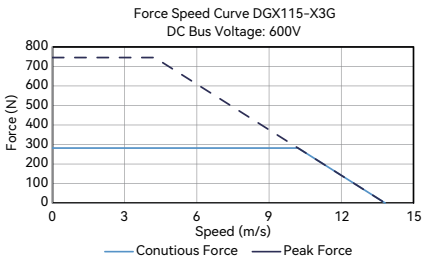
Module Model DGX115-X3G	Effective Stroke Y (mm)																														
	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860
Base Length Lb (mm)	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100	2160
Module Length Ls (mm)	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290	1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070	2130	2190
N	3★	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18
Mass of Module (kg)	10.1	10.8	11.5	12.2	12.9	13.6	14.3	15.0	15.7	16.4	17.1	17.8	18.5	19.2	19.9	20.0	20.7	21.3	22.0	22.6	23.3	23.9	24.6	25.2	25.9	26.5	27.2	27.8	28.5	29.1	29.8
Module Model DGX115-X3G	Effective Stroke Y (mm)																														
	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720
Base Length Lb (mm)	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840	3900	3960	4020
Module Length Ls (mm)	2250	2310	2370	2430	2490	2550	2610	2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570	3630	3690	3750	3810	3870	3930	3990	4050
N	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33	34
Mass of Module (kg)	30.5	31.1	31.8	32.4	33.1	33.7	34.4	35.0	35.7	36.3	37.0	37.6	38.3	39.0	39.6	40.3	40.9	41.6	42.2	42.9	43.5	44.2	44.8	45.5	46.1	46.8	47.4	48.1	48.8	49.4	50.1

Note:

❶ The stroke of DGX115-X3G starts at 60mm and increases by 60mm at each interval.
❷ OPN Example: DGX115-S60-X3GLT27-F6
★ Please use the four mounting holes near both sides of the end plate.

Force-Speed Curve





DGX135 Series

Motor Specifications	Unit	Value	
Motor	-	X5L	X5G
Continuous Force (NC) @100℃[1]	N	306	459
Peak Force	N	808	1213
Force Constant ±10%	N/Arms	58	86
Back EMF Constant ±10%	Vpeak/(m/s)	47	70.5
Resistance (L-L) @25℃ ±10%[2]	Ω	3.6	5.4
Inductance (L-L) ±30%[3]	mH	19.7	29.5
Continuous Current (NC) @100℃	Arms	5.3	5.3
Peak Current	Arms	18.0	18.0
Max. Bus Voltage[1]	Vdc	600	600
Magnetic Period	mm	20	20
Mechanical Specifications	**Unit**	**Value**	
Linear Guide Nominal Size	-	Built-in Guide Rail	
Resolution	μm	Incremental Magnetic Encoder: 1.0	
Repeatability	μm	Typical Value: ±2 / Guaranteed Value: ±4	
Straightness	μm/mm	±7 / 300	
Maximum Velocity	m/s	3	3
Rated Payload (Horizontal Orientation)[4]	kg	50	60
No-load Moving Mass	kg	4.4	6.3
Mounting Orientation[5]	-	Horizontal / Side / Inverted[6]	

1. Measurement is taken at ambient temperature 25ºC. Value depends on the thermal environment.
2. Resistance is measured by DC current with standard 0.3m lead wire.
3. Inductance is measured by current frequency of 1 kHz.
4. Rated payload based on 1m/s velocity and 1G acceleration.
5. Please ensure that the flatness of the installation surface is within 0.02mm per 300mm. Otherwise, it may affect the accuracy and usability of the module.
6. It is recommended to remove the top cover when installing the module with inverted orientation.

The contents of datasheet are subject to change without prior notice.

Ordering Part Number (OPN)

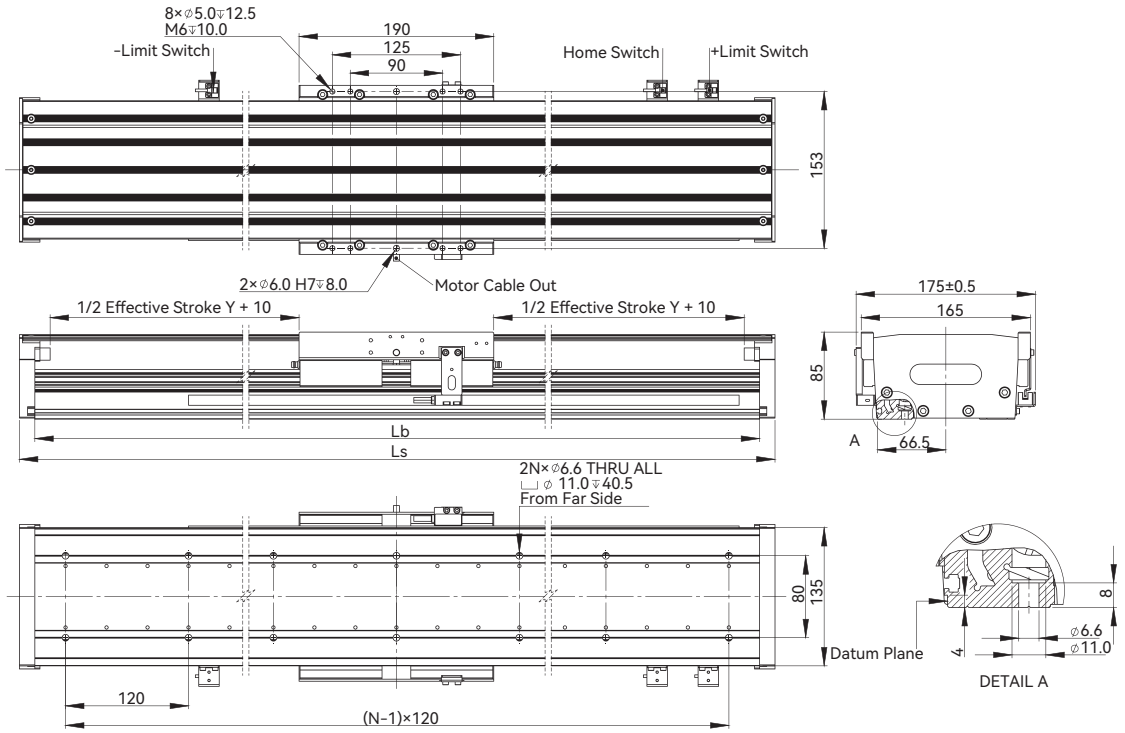
DGX135-S60-X5LLT27-F6

- Model: DGX135: Built-in Guide Rail Module
- Cover Type:[1] S: Standard (Clear Anodized)
- Effective Stroke:[2] 60: 60mm (Effective Stroke Optional Range: 60mm~3720mm)
- Motor Type: X5L / X5G
- Termination: Motor: MLX 4 / Encoder: DB9
- Cable Length: F: 0.3m
- Scale Type: 7: Incremental Magnetic Tape, 17ppm/K
- Encoder Type: LT2: Incremental Magnet (1.0μm)

Note:
1. Cover: Aluminum alloy (module total length ≤ 1230mm), stainless steel (Teflon black tape edging, module total length > 1230mm)
2. The selection of effective module stroke is shown in the table below. For more options, please consult a sales engineer.

DGX135 Series

DGX135-X5L Dimensional Drawing



Module Stroke Table

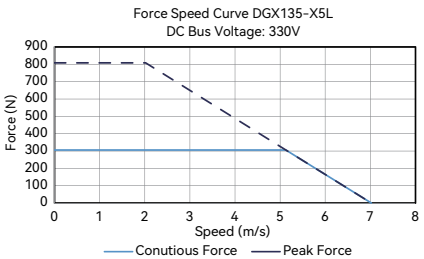
Module Model DGX135-X5L	Effective Stroke Y (mm)																															
	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860
Base Length Lb (mm)	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100
Module Length Ls (mm)	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290	1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070	2130
N	3★	3★	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18
Mass of Module (kg)	9.4	10.2	11.1	11.9	12.7	13.6	14.4	15.3	16.1	17.0	17.8	18.7	19.5	20.4	21.2	22.1	21.6	22.4	23.2	23.9	24.7	25.5	26.3	27.1	27.8	28.6	29.4	30.2	31.0	31.7	32.5

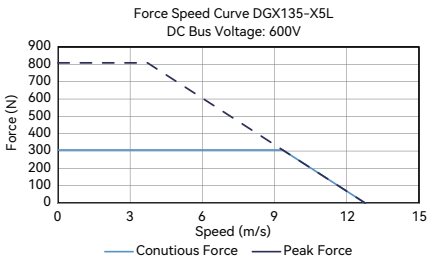
Module Model DGX135-X5L	Effective Stroke Y (mm)																															
	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720
Base Length Lb (mm)	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840	3900	3960
Module Length Ls (mm)	2190	2250	2310	2370	2430	2490	2550	2610	2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570	3630	3690	3750	3810	3870	3930	3990
N	18	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33
Mass of Module (kg)	33.3	34.1	34.8	35.6	36.4	37.2	38.0	38.7	39.5	40.3	41.1	41.9	42.6	43.4	44.2	45.0	45.8	46.5	47.3	48.1	48.9	49.7	50.4	51.2	52.0	52.8	53.6	54.3	55.1	55.9	56.7

Note:

❶ The stroke of DGX135-X5L starts at 60mm and increases by 60mm at each interval.
❷ OPN Example: DGX135-S60-X5LLT27-F6
★ Please use the four mounting holes near both sides of the end plate.

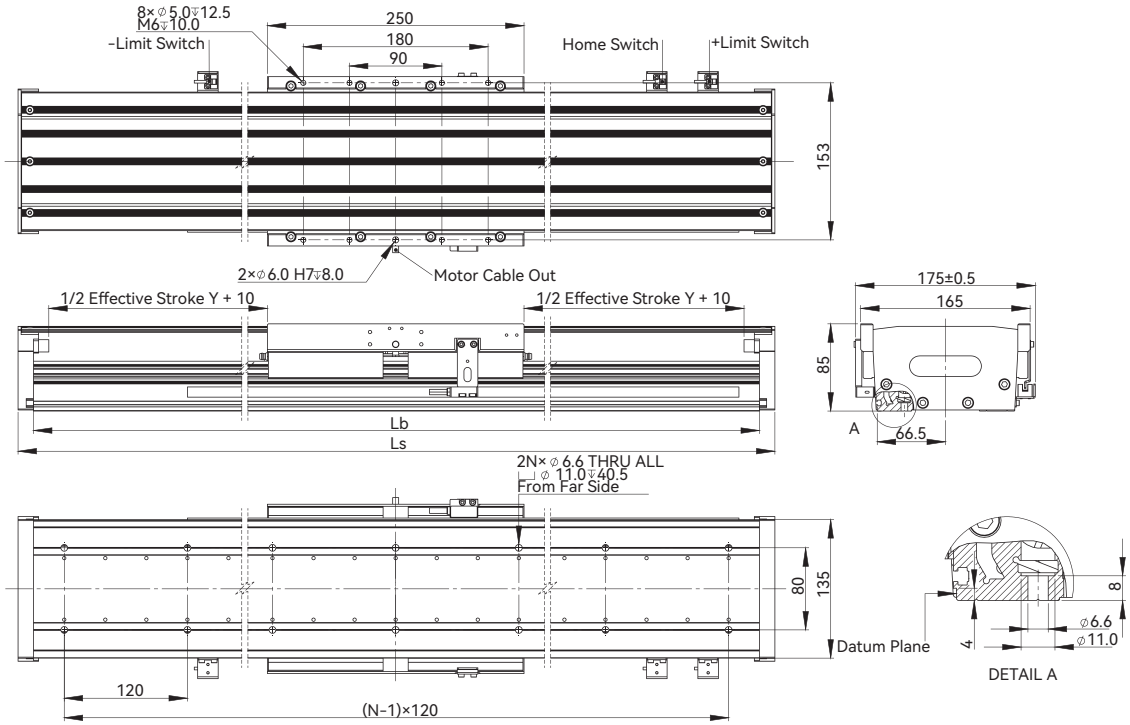
Force-Speed Curve





DGX135 Series

DGX135-X5G Dimensional Drawing



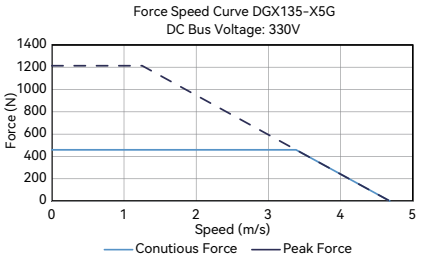
Module Stroke Table

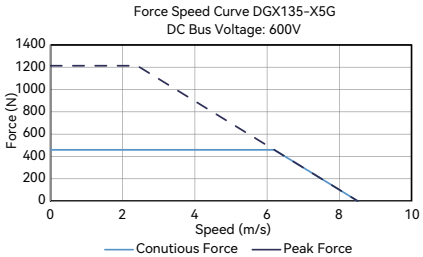
Module Model DGX135-X5G	Effective Stroke Y (mm)																															
	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860
Base Length Lb (mm)	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440	1500	1560	1620	1680	1740	1800	1860	1920	1980	2040	2100	2160
Module Length Ls (mm)	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290	1350	1410	1470	1530	1590	1650	1710	1770	1830	1890	1950	2010	2070	2130	2190
N	3★	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18
Mass of Module (kg)	12.1	13.0	13.8	14.7	15.5	16.4	17.2	18.1	18.9	19.7	20.6	21.4	22.3	23.1	24.0	23.5	24.3	25.1	25.9	26.6	27.4	28.2	29.0	29.8	30.5	31.3	32.1	32.9	33.7	34.4	35.2
Module Model DGX135-X5G	Effective Stroke Y (mm)																															
	1920	1980	2040	2100	2160	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720
Base Length Lb (mm)	2220	2280	2340	2400	2460	2520	2580	2640	2700	2760	2820	2880	2940	3000	3060	3120	3180	3240	3300	3360	3420	3480	3540	3600	3660	3720	3780	3840	3900	3960	4020
Module Length Ls (mm)	2250	2310	2370	2430	2490	2550	2610	2670	2730	2790	2850	2910	2970	3030	3090	3150	3210	3270	3330	3390	3450	3510	3570	3630	3690	3750	3810	3870	3930	3990	4050
N	19	19	20	20	21	21	22	22	23	23	24	24	25	25	26	26	27	27	28	28	29	29	30	30	31	31	32	32	33	33	34
Mass of Module (kg)	36.0	36.8	37.5	38.3	39.1	39.9	40.7	41.4	42.2	43.0	43.8	44.6	45.3	46.1	46.9	47.7	48.5	49.2	50.0	50.8	51.6	52.4	53.1	53.9	54.7	55.5	56.3	57.0	57.8	58.6	59.4

Note:

❶ The stroke of DGX135-X5G starts at 60mm and increases by 60mm at each interval.
❷ OPN Example: DGX135-S60-X5GLT27-F6
★ Please use the four mounting holes near both sides of the end plate.

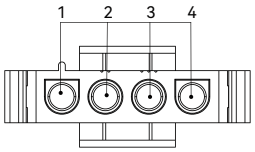
Force-Speed Curve



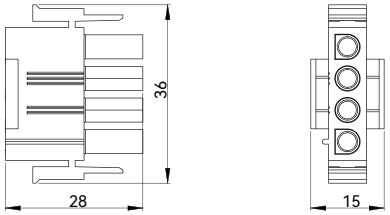


Connector and Pinout

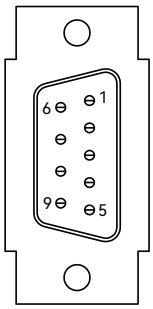
Motor Interface Output Signal

Connector Pin Configuration (View of Mating Connector)	Pin No.	Color	Signal	Function
	1	YELLOW+GREY	M1	Motor Phase
	2	ORANGE+BLUE	M2	Motor Phase
	3	RED+GREEN	M3	Motor Phase
	4	BLACK	PE	Ground

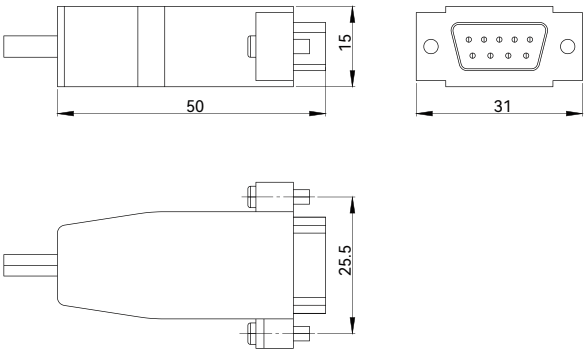
Motor Connector Dimensional Drawing



Encoder Connector Pinout

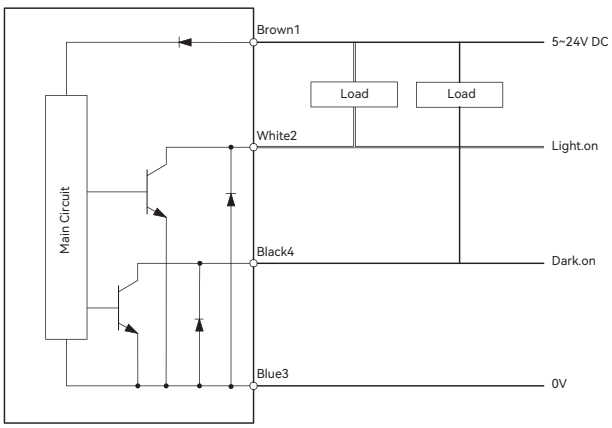
Connector Pin Configuration (View of Mating Connector)	Pin No.	Color	Signal	Function
	1	-	-	-
	5	Red	+5V	Power Supply 5V
	9	Black	0V	Power Supply 0V
	4	White	A+	Incremental A+
	8	Blue	A-	Incremental A-
	3	Brown	B+	Incremental B+
	7	Grey	B-	Incremental B-
	2	Green	Z+	Reference Mark+
	6	Purple	Z-	Reference Mark-
	Case	Braided Wire	Shield	Shielding

Encoder Connector Dimensional Drawing

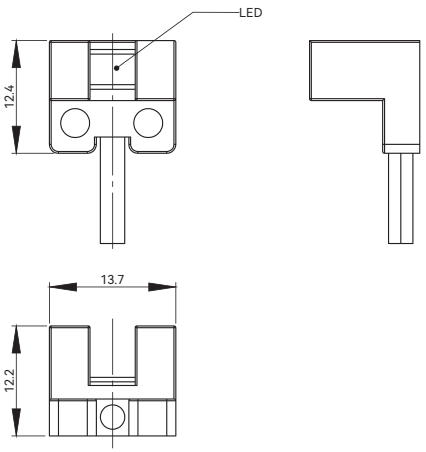


Home / Limit Photoelectric Sensor

Schematic Diagram



Photoelectric Sensor Dimensional Drawing



Output Response	Wire Color	Output Response	Output Mode	Cable Length
Output 1	BLACK	Dark ON	NPN	2m
Output 2	WHITE	Light ON		

Driver and Extension Cable

Driver Parameters

Driver Model		Unit	XASD-HPL3D2BSL	XASD-HPL007BSL	XASD-HNL3D2BSL	XASD-HNL007BSL
Number of Axis		-	Single			
Input Main Circuit	Voltage	V	Single Phase AC200~240	Single Phase / Three Phase AC200~240	Single Phase AC200~240	Single Phase / Three Phase AC200~240
	Frequency	Hz	50 / 60			
	Allowable Voltage Fluctuation	-	−15~10%			
Input Control Circuit	Voltage	V	Single Phase AC200V~240V			
	Frequency	Hz	50 / 60			
	Allowable Voltage Fluctuation	-	−15~10%			
STO Power		VDC	24VDC±10%			
Output Current	Continuous Current	Arms	3.2	7	3.2	7
	Peak Current (5s)	Arms	9.8	18	9.8	18
Mass		kg	0.8	1.1	0.8	1.1
Overall Dimensions		mm	150×45×150	170×60×150	150×45×150	170×60×150
USB		-	●		●	
Pulse		-	●			
EtherCat		-			●	
Modbus		-	●			
Analog		-	●		●	
Gantry Function		-	●		●	

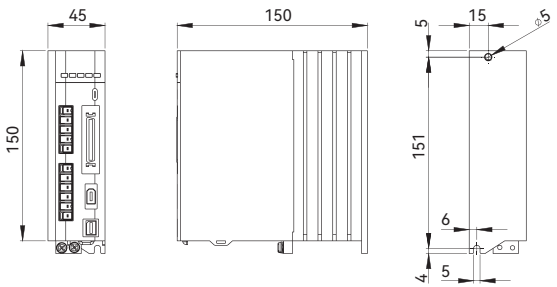
"●" represents support, "Blank" represents no support.

Driver Compatibility Table

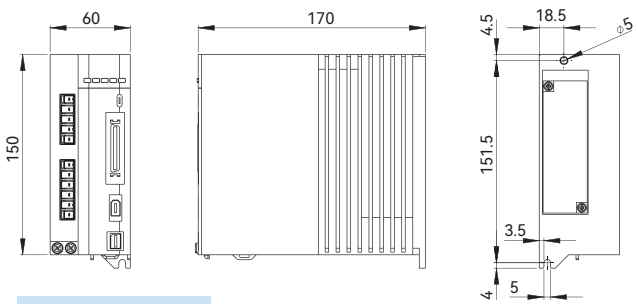
Driver Model	XASD-HPL3D2BSL	XASD-HPL007BSL	XASD-HNL3D2BSL	XASD-HNL007BSL
Supported Module Model	DGX115-X3S	-	DGX115-X3S	-
	DGX115-X3M	-	DGX115-X3M	-
	-	DGX115-X3L	-	DGX115-X3L
	-	DGX115-X3G	-	DGX115-X3G
	-	DGX135-X5L	-	DGX135-X5L
	-	DGX135-X5G	-	DGX135-X5G

Diver Dimensional Drawing

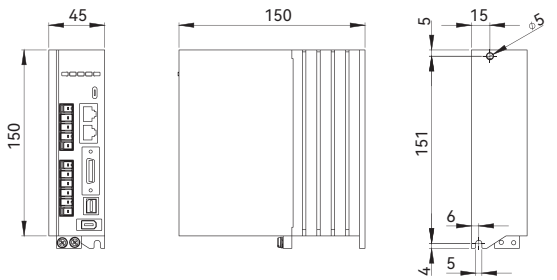
XASD-HPL3D2BSL



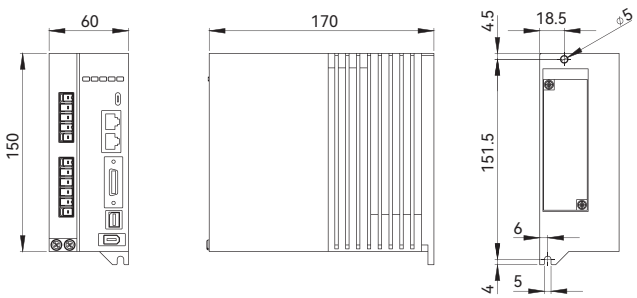
XASD-HPL007BSL



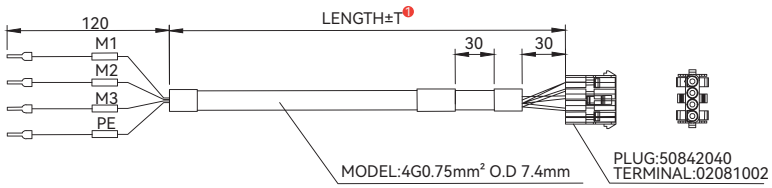
XASD-HNL3D2BSL



XASD-HNL007BSL



Motor Extension Cable



Note:
❶ TOLERANCE T: 0~100mm

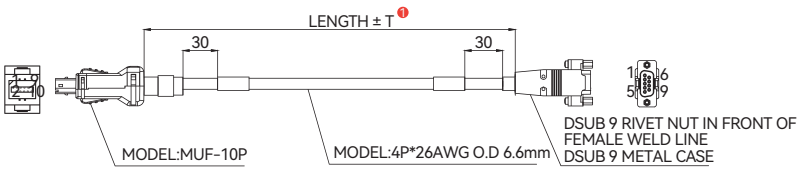
Driver Side	
Pinout	Signal
1	M1
2	M2
3	M3
4	PE

Module Side	
Pinout	Signal
1	M1
2	M2
3	M3
4	PE

Motor Extension Cable Model	Extension Cable Length
MC-10-MLX4-FL-10-C191	10:1m
MC-10-MLX4-FL-30-C191	30:3m
MC-10-MLX4-FL-50-C191	50:5m

Note:
❶ Motor extension cable: static bend radius R>37mm, dynamic bend radius R>74mm

Encoder Extension Cable



Note:
❶ TOLERANCE T: 0~100mm

Driver Side	
Pinout	Signal
5	A+
6	A-
7	B+
8	B-
9	Z+
10	Z-
1	+5V
2	0V
Case	Shield

Module Side	
Pinout	Signal
4	A+
8	A-
3	B+
7	B-
2	Z+
6	Z-
5	+5V
9	0V
Case	Shield

Encoder Extension Cable Model	Extension Cable Length
YC-XASD-LMDK9-NH-10-C191	10:1m
YC-XASD-LMDK9-NH-30-C191	30:3m
YC-XASD-LMDK9-NH-50-C191	50:5m

Note:
❶ Encoder extension cable: static bend radius R>33mm, dynamic bend radius R>66mm

Appendix

Multiple Carriages

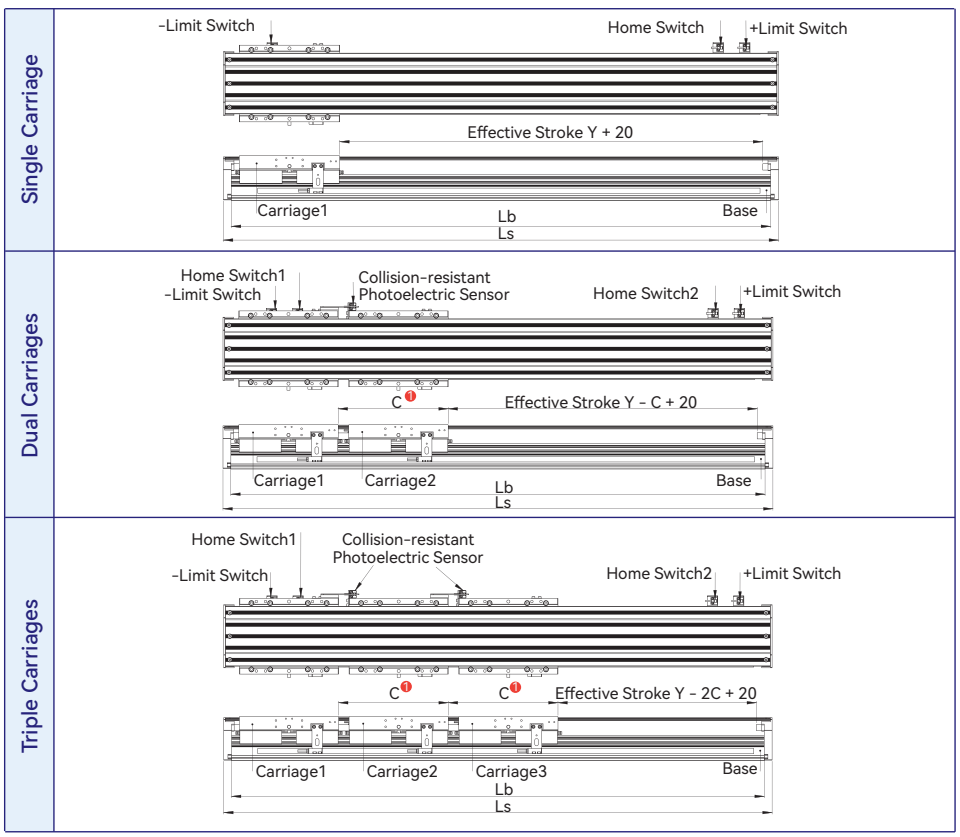
DGX modules come standard with 1 carriage, The number of carriages can be increased according to requirements. module can be changed to 3 carriages or more. The number of carriages after the change is reflected in the OPN.

DGX115-2S570❷-X3LLT27-F6

Number of Carriages:❶
Blank: Single Carriage / 2: Dual Carriages / 3: Triple Carriages

Note:
❶ For more carriages, please contact a sales engineer
❷ Stroke of multiple carriages needs to be calculated according to the table below or contact a sales engineer

Number of Carriages Change for DGX Series



Note:
❶ C = Carriage Length + 20mm
❷ The standard module is equipped with single carriage. When equipped with multiple carriages, the number of photoelectric sensors on the base increases from 3 to 4, and the additional carriages will be equipped with 1 anti-collision photoelectric sensor
❸ Module can be changed to 3 carriages or more
❹ When the total length of the module is specified, increasing the number of carriages will reduce the effective stroke
❺ If the number of carriages changes, it will come with the same number of drivers as the number of carriages

Akribis Worldwide Offices and Distribution Network

Manufacturing Facilities

Akribis Systems (Shanghai) Co., Ltd— HQ
C4, No.6999, Chuan Sha Rd, Pudong New Area, Shanghai, 201202
Tel: +86 21 5859 5800
www.akribis-sys.cn
cust-service@akribis-sys.cn

Akribis Systems Pte Ltd
56 Serangoon North Ave 4, 02-00 Singapore 555851
Tel: +65 6484 3357
www.akribis-sys.com
cust-service@akribis-sys.com

Akribis Systems (Nantong) Co., Ltd
Floor 2, Building 7, Boding Machinery, Industrial Park, Xingyuan Road, Tongzhou, Nantong, Jiangsu Province, 226000
Tel: +86 0513 8655 1333
www.akribis-sys.cn
cust-service@akribis-sys.cn

Akribis Systems Sdn Bhd (Selangor)
Lot 5815-A, Jalan Mawar, Taman Bukit Serdang, Seksyen 9, 43300 Seri Kembangan, Selangor D.E.
Tel: +603 8957 5815
www.akribis-sys.com
cust-service@akribis-sys.com

Akribis Systems （Shanghai） Co., Ltd Dongguan Branch
1F, Building B, No.12, Guliao 1st Road, Tianxin Village, Tangxia Town, Dongguan City, Guangdong Province, China, 523000
Tel: +86 0755 23777203
www.akribis-sys.cn
cust-service@akribis-sys.cn

Akribis Systems Korea Co., Ltd (Siheung)
1F/2F, 50, Maehwasandan 3-gil, Siheung-si, Gyeonggi-do, Republic of Korea, 14931
Tel: +82 31 509 5033
www.akribis-sys.co.kr
cust-service@akribis-sys.co.kr

Branches

Asia

Bangkok
Tel: +66 2476 8691
www.akribis-sys.com
cust-service@akribis-sys.com

Hang zhou
Tel: +86 0571 86513821
www.akribis-sys.cn
cust-service@akribis-sys.cn

Kfar-Saba
Tel: +972 5430 0036 5
www.agito-akribis.com
agito.info@akribis-sys.com

Mumbai / Bangalore
Tel: +91 022 68629000
www.akribis-sys.com
cust-service@akribis-sys.com

Penang
www.akribis-sys.com
cust-service@akribis-sys.com

North America

Franklin
www.akribis-sys.com
cust-service@akribis-sys.com

Europe

Erlangen
Tel: +49 9131 81179 0
www.akribis-sys.de
sales@akribis-sys.de