

直线电机模组

Linear motor module

VL6

最大行程 (mm) Max Stroke	1360
最大载重 (KG) Max Payload	10
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

VL8

最大行程 (mm) Max Stroke	1760
最大载重 (KG) Max Payload	20
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

VL9

最大行程 (mm) Max Stroke	3780
最大载重 (KG) Max Payload	25
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

VL11

最大行程 (mm) Max Stroke	3780
最大载重 (KG) Max Payload	25
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

VL14

最大行程 (mm) Max Stroke	5500
最大载重 (KG) Max Payload	30
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

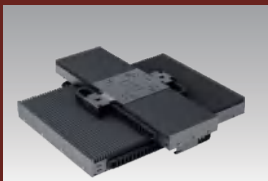
VL17

最大行程 (mm) Max Stroke	5500
最大载重 (KG) Max Payload	60
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

VL22

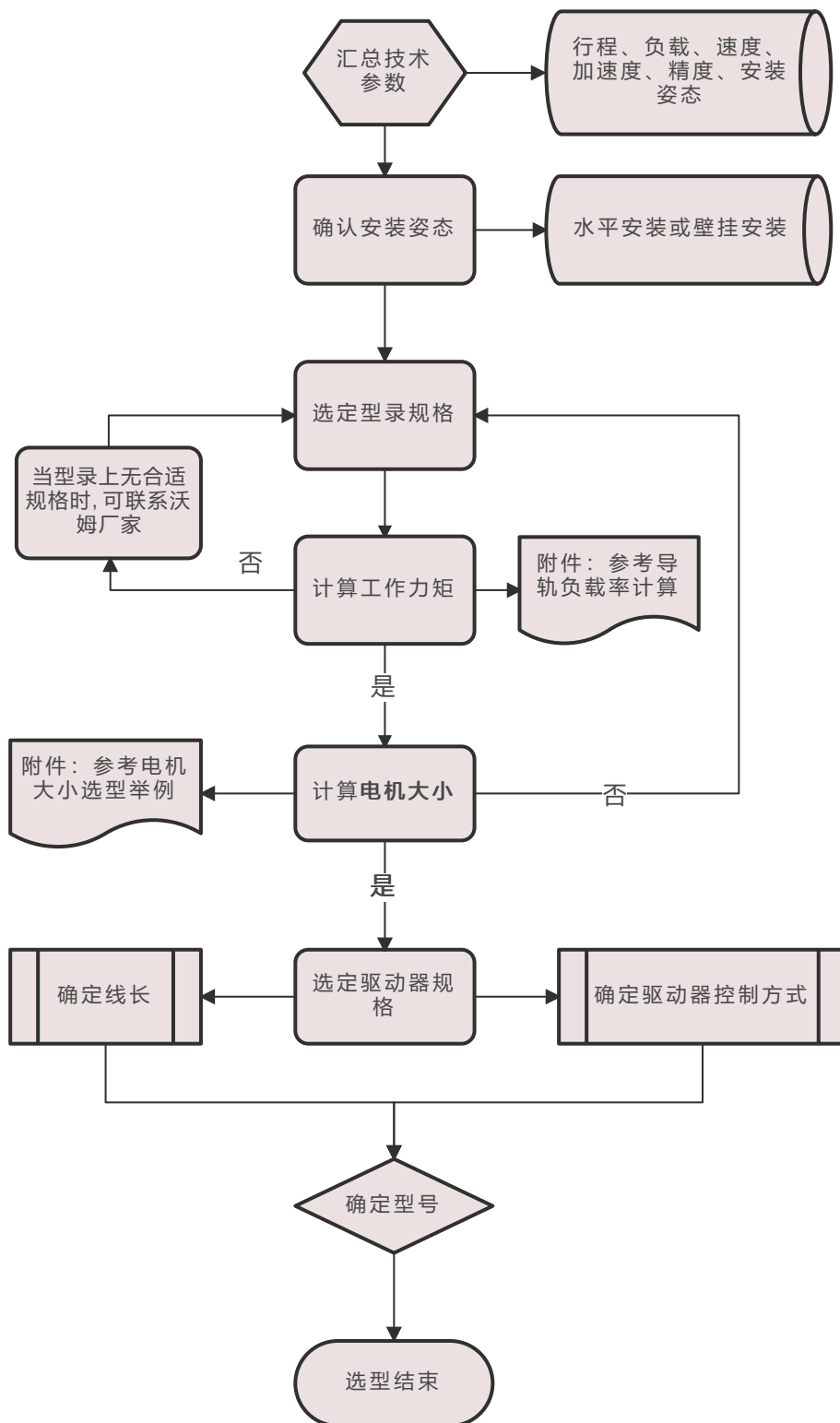
最大行程 (mm) Max Stroke	5500
最大载重 (KG) Max Payload	85
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

XY直线电机平台 (封闭式)
XY linear motor (Desktop type)



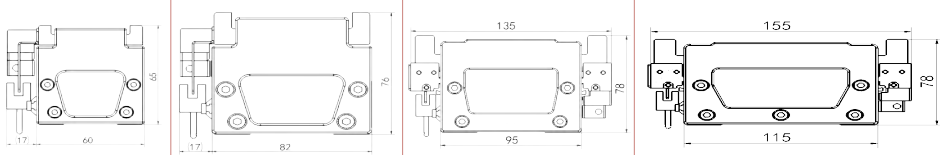
最大行程 (mm) Max Stroke	2000
额定负荷 (KG) Body Width	45
重复定位精度 Repeatability(mm)	±0.005/0.002/0.001

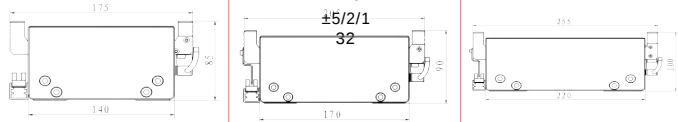
沃姆直线电机模组选型流程



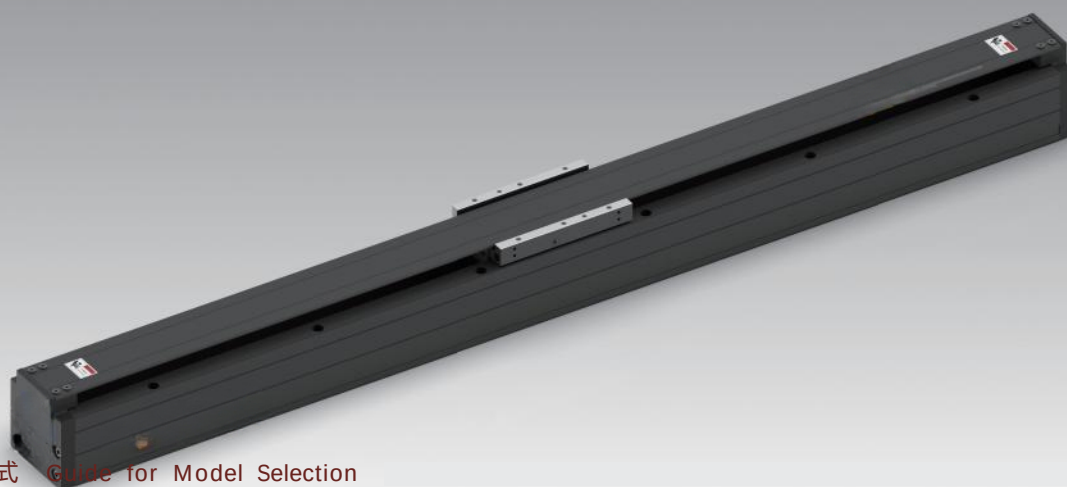
参数汇总

Parameter summary

结构型式 structural type	半封闭结构 semi-closed structure									
规格 Specification	模组型号 Module Model		VL6		VL8		VL9		VL11	
	电机样式 Motor Style		VL6T0	VL6T1	VL8F2	VL8F3	VL9S2	VL9S3	VL11E2	VL11E3
	电机尺寸 Motor Dimensions (WxHxL)		28x32.3x40	28x32.3x96	45x32.3x136	45x32.3x176	60x32.3x136	60x32.3x176	75x32.3x136	75x32.3x176
电机参数 Motor Parameters	电流 Current	连续电流Continuous Current(A)	2.5							
		峰值电流Peak Current(A)	10							
	推力 Thrust	连续推力Continuous Thrust(N)	38		52	98	110.5	147	152	203
		峰值推力Peak Thrust(N)	152		208	392	442	558	609	812
	重现精度 Repeat Accuracy	磁栅反馈Magnetic Grid Feedback(um)	±5							
		光栅反馈Grating Feedback(um)	±5/2/1							
尺寸 Dimensions	极距 Pole Pitch (mm)		20							
	截面尺寸Sectional Dimensions(mm)									
驱动器 Driver	品牌 Brand	控制方式 Control Mode	型号 Model				通讯接口 Communication Interface		模拟输入 Analog Input	
	沃姆 WOMMER	脉冲 Pulse	FV5-E1-PA3R0				模拟电压,脉冲 Analog voltage, pulse		1	
		EtherCAT总线	FV5-E1-NA3R0				EtherCAT,模拟电压,脉冲Analog voltage, pulse		1	
	高创 Googoltech	脉冲 Pulse	CDHD2S-0032AAP1				模拟电压Analog voltage,脉冲pulse,USB		1	
		EtherCAT总线	CDHD2S-0032AEC2				EtherCAT,模拟电压Analog voltage,脉冲pulse,USB,RS232		2	
	三菱 Mitsubishi	脉冲 Pulse	MR-J4-40A-RJ001				脉冲pulse,USB,modbus RTU		1	
		SSCNET III/H总线	MR-J4-40B-RJ001				SSCNET III/H,USB		/	
	松下 Panasonic	脉冲 Pulse	MDDL35SL				脉冲pulse,USB		/	
		EtherCAT总线	MDDL35BL				EtherCAT,USB		/	

结构型式 structural type										
规格 Specification										
	半封闭结构 semi-closed structure									
电机参数 Motor Parameters	模组型号 Module Model		VL14			VL17			VL22	
	电机样式 Motor Style		VL14S1B	VL14S2B	VL14S3B	VL14S4B	VL17E1B	VL17E2B	VL17E3B	VL17E4B
	电机尺寸 Motor Dimensions (WxHxL)		60x40x86	60x40x150	60x40x214	60x40x278	80x40x86	80x40x150	80x40x214	80x40x278
	电流 Current	连续电流Continuous Current(A)						4		
		峰值电流Peak Current(A)								
电机参数 Motor Parameters	推力 Thrust	连续推力Continuous Thrust(N)	82	164	246	328	128.4	256.8	385.2	513.2
		峰值推力Peak Thrust(N)	287	574	861	1148	119.4	898.8	1346.8	1796.2
尺寸 Dimensions	重现精度 Repeat Accuracy		±5							
			±5/2/1							
	极距 Pole Pitch (mm)		32							
尺寸 Dimensions	截面尺寸Sectional Dimensions(mm)									
驱动器 Driver	品牌 Brand	控制方式 Control Mode	型号 Model				通讯接口 Communication Interface		模拟输入 Analog Input	
	沃姆 WOMMER	脉冲	FV5-E1-PA4B500				模拟电压,脉冲 Analog voltage, pulse		1	
		EtherCAT总线	FV5-E1-NA4R5				EtherCAT,模拟电压,脉冲Analog voltage, pulse		1	
	高创 Googoltech	脉冲	CDHD2S-4D52AAP1				模拟电压Analog voltage,脉冲pulse,USB		1	
		EtherCAT总线	CDHD2S-4D52AEC2				EtherCAT,模拟电压Analog voltage,脉冲pulse,USB,RS232		2	
	三菱 Mitsubishi	脉冲	MR-J4-70A-RJ001				脉冲pulse,USB,modbus RTU		1	
		SSCNET III/H总线	MR-J4-70B-RJ001				SSCNET III/H,USB		/	
	松下 Panasonic	脉冲	MDDL45SL				脉冲pulse,USB		/	
		EtherCAT总线	MDDL45BL				EtherCAT,USB		/	

VL6



■ 型号表示方式 Guide for Model Selection

VL6T1 — S640 — M1U0.5 — C 3 — ZG1

滑台数量 Number of sliding carrier	
1	1个滑台(可省略不写) 1 sliding carrier(omissible)
2	2个滑台 2 sliding carriers
3	3个滑台 3 sliding carriers
...	...

本体样式 Body Type	
VL6T0	VL6T0电机样式 VL6T0 motor type
VL6T1	VL6T1电机样式 VL6T1 motor type

行程 Stroke	
40-1360	

编码器 Encoder	
M	(数字量)磁性编码器 (Digital) magnetic encoder
O	(数字量)光学编码器 (Digital) optical encoder

分辨率 Resolution	
1U	分辨率1微米 Resolution of 1 μ m
05U	分辨率0.5微米 Resolution of 0.5 μ m

配线 Cable	
0.5	电缆长度0.5m,不配延长线 Cable length 0.5m,not equipped with extension cords
3	电缆长度3m Cable length 3m
5	电缆长度5m Cable length 5m
10	电缆长度10m Cable length 10m

光电开关 Photoelectric switch	
C3	3个外置式光电开关 3 external photoelectric switches
C4	4个外置式光电开关 4 external photoelectric switches
E	客户自配光电开关 Client self photoelectric switch
感应器类型 Sensor type	
无 NO	NPN
P	PNP

驱动器品牌 Drive brand	驱动器配置 Drive configuration
G1	高创1代 空白 脉冲型 G1 Gen1 Blank Pulse type
G2	高创2代 EtherCAT总线型 G2 Gen2 EtherCAT Bus type
G3	高创3代 CANopen总线型 G3 Gen3 CANopen Bus type
P	松下
T	台达
V1	单轴驱动
V2	双驱驱动
Z	客户自配驱动器

基本规格 Specification

项目 Items	电机样式 Motor Type	VL6T0	VL6T1
导轨规格 Items		直线无限循环型	
分辨率(最高速度) Resolution (max speed)		Magnetic Scale: 1 μm Resol. / Grating Scale: 0.5 μm Resol/(1.5m/s)	
重复定位精度(μm) Repeatability (μm)		磁性编码器±5 光学编码器±3 Magnetic encoder±5 Optical encoder±3	
持续推力(N) Continuous Thrust (N)		18	38
峰值推力(N) Peak Thrust (N)		56	152
静态容许力矩(N.M) Static allowable Moment (N.M)		MP:9.27 MY:9.27 MR:37.33	MP:112 MY:112 MR:160
动态容许力矩(N.M)(注1) Dynamic allowable Moment (N.M)(Note1)		MP:3.49 MY:3.49 MR:14	MP:18.47 MY:18.47 MR:26.35
负荷允许伸出长度(mm)(注2) Overhang load length (mm)(Note2)		125	350
最大负载(kg)(注3) Max Payload (kg)(Note3)		5	10

注1: 基准额定寿命为10000km时的值。行走寿命因运行条件、安装状态不同而发生变化。

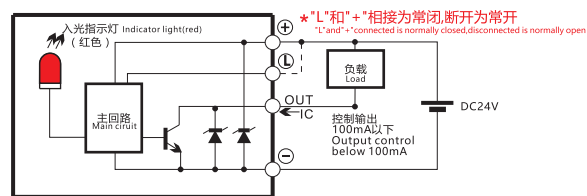
Note 1: The reference rating life is based on 10,000 km. Actual travel life may vary depending on running conditions and installation status.

注2: 即使满足负载和力矩容许范围, 当负载伸出长度过大时, 负载末端在定位时依然可能产生抖动或共振, 此时因适当下调和放宽动作条件。

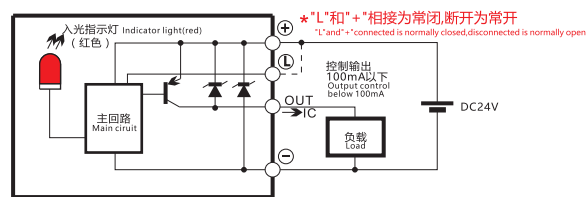
Note 2: Even if both the load and the torque stay within the acceptable range, excessive load overhang may still cause vibration or resonance at the end of the load during positioning. In such cases, the motion conditions shall be appropriately relaxed or expanded.

注3: 行程1000mm,速度500mm/s, 加速度0.5G, 停留时间0.1s条件下的值。

Note 3: Values are based on the following conditions: Stroke: 1,000 mm; Speed: 500 mm/s; Acceleration: 0.5 G; Dwell time: 0.1 s



NPN型感应开关接线图
NPN model magnetic switch wiring diagram



PNP型感应开关接线图
PNP model magnetic switch wiring diagram

动态容许力矩值(mm)

Dynamic allowable Moment(mm)

VL6T1 水平安装				
条件	负载 (kg)	Lx	Ly	Lz
V=1.5m/s a=1.5G S=1m	3.5	214	97	143
	2.5	312	141	208
	1.5	539	245	359
V=1m/s a=1G S=1m	6.0	131	77	131
	4.0	207	121	207
	2.0	433	255	433
V=0.8m/s a=0.8G S=1m	8.0	100	65	123
	6.0	135	90	169
	4.0	211	140	263
V=0.5m/s a=0.5G S=1m	10.0	88	73	176
	8.0	112	93	224
	5.0	185	154	371

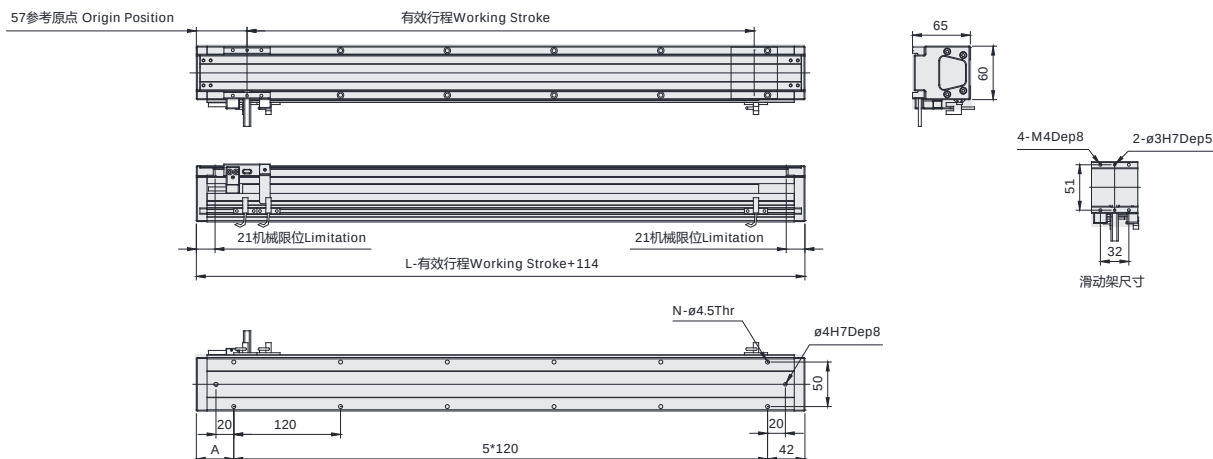
VL6T1 墙面安装				
条件	负载 (kg)	Lx	Ly	Lz
V=1.5m/s a=1.5G S=1m	3.5	200	134	91
	2.5	298	199	135
	1.5	526	350	239
V=1m/s a=1G S=1m	6.0	118	118	69
	4.0	193	193	114
	2.0	419	420	104
V=0.8m/s a=0.8G S=1m	8.0	84	105	56
	6.0	122	152	81
	4.0	197	247	131
V=0.5m/s a=0.5G S=1m	8.0	99	197	82
	6.0	139	279	116
	5.0	172	344	143

- 1、可负载条件: $\frac{Lx1}{Lx} + \frac{Ly1}{Ly} + \frac{Lz1}{Lz} \leq 1$; ($Lx1$ 、 $Ly1$ 、 $Lz1$ 为实际值)
1.Allowable Load Conditions: $Lx1/Lx + Ly1/Ly + Lz1/Lz \leq 1$; $Lx1$, $Ly1$, and $Lz1$ represent actual values)
- 2、 Lx 、 Ly 、 Lz 表示该方向的重心位置;
2. Lx , Ly , and Lz represent the position of the center of gravity in each respective direction.
- 3、满足负载条件, 预测寿命60000KM;
3.If load conditions are met, the predicted service life is 60,000 KM.

VL6

VL6T0

单位 Unit (mm)

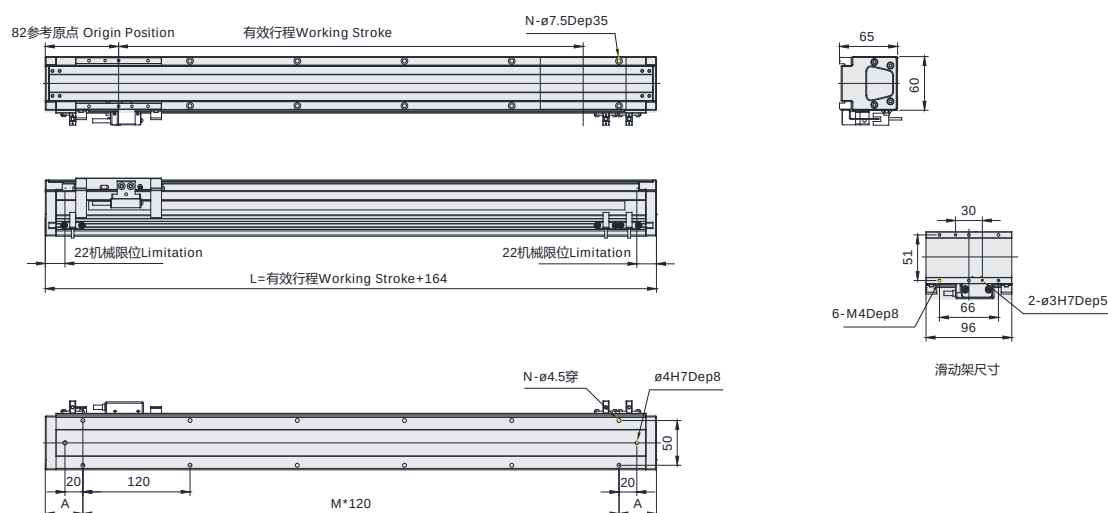


行程	90	150	210	270	330	390	450	510	570	630	690	750	810	870	930	990	1050	1110	1170	1230	1290	1350	1410
L	204	264	324	384	444	504	564	624	684	744	804	864	924	984	1014	1104	1168	1224	1284	1344	1404	1464	1524
A	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
N	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
KG	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1

注：①、运动部件质量0.4kg
 ②、The moving part weight is 0.4KG
 ③、如需更长行程模组，请联系沃姆公司。
 ④、For longer stroke linear module, please contact WOMMER.

VL6T1

单位 Unit (mm)



行程	40	100	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1000	1060	1120	1180	1240	1300	1360
L	204	264	324	384	444	504	564	624	684	744	804	864	924	984	1014	1104	1168	1224	1284	1344	1404	1464	1524
A	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42	72	42
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
N	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
KG	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6

注：①、运动部件质量0.7kg
 ②、The moving part weight is 0.7KG
 ③、如需更长行程模组，请联系沃姆公司。
 ④、For longer stroke linear module, please contact WOMMER.



■ 型号表示方式 Guide for Model Selection

VL8F2 — S640 — M1U0.5 — C 3 — ZG1

滑台数量 Number of sliding carrier	
无	1个滑台(可省略不写) 1 sliding carrier(omissible)
2	2个滑台 2 sliding carriers
3	3个滑台 3 sliding carriers
...	...

本体样式 Body Type	
VL8F2	VL8F2电机样式 VL8F2 motor type
VL8F3	VL8F3电机样式 VL8F3 motor type

行程 Stroke
60-1800

编码器 Encoder	
M	(数字量)磁性编码器 (Digital) magnetic encoder
O	(数字量)光学编码器 (Digital) optical encoder

分辨率 Resolution	
1U	分辨率1微米 Resolution of 1 μm
05U	分辨率0.5微米 Resolution of 0.5 μm

配线 Cable	
0.5	电缆长度0.5m,不配延长线 Cable length 0.5m,not equipped with extension cords
3	电缆长度3m Cable length 3m
5	电缆长度5m Cable length 5m
10	电缆长度10m Cable length 10m

光电开关 Photoelectric switch	
C3	3个外置式光电开关 3 external photoelectric switches
C4	4个外置式光电开关 4 external photoelectric switches
E	客户自配光电开关 Client self-photoelectric switch
传感器类型 Sensor type	
无	NPN
P	PNP

驱动器品牌 Drive brand		驱动器配置 Drive configuration	
G1	高创1代	空白	脉冲型
G2	高创2代	E	①PulseCAT总框型 ②PulseCATMain 5m
G3	高创3代	C	CATopen总框型 CATopen main 5m
P	松下 Panasonic		
T	台达 Delta		
V1	单轴驱动		
V2	双驱驱动		
Z	客户自配驱动器		

VL8

基本规格 Specification

项目 Items	电机样式 Motor Type	VL8F2	VL8F3
导轨规格 Items		直线无限循环型	
分辨率(最高速度) Resolution (max speed)		Magnetic Scale: 1 μm Resol. / Grating Scale: 0.5 μm Resol/(2m/s)	
重复定位精度(um) Repeatability (um)		磁性编码器 ±5 光学编码器 ±3 Magnetic encoder ±5 Optical encoder ±3	
持续推力(N) Continuous Thrust (N)		52	98
峰值推力(N) Peak Thrust (N)		208	392
静态容许力矩(N.M) Static allowable Moment (N.M)		MP:399 MY:399 MR:525	MP:687 MY:687 MR:715
动态容许力矩(N.M)(注1) Dynamic allowable Moment (N.M)(Note1)		MP:69 MY:69 MR:91	MP:109 MY:109 MR:113
负荷允许伸出长度(mm)(注2) Overhang load length (mm)(Note2)		550	700
最大负载(kg)(注3) Max Payload (kg)(Note3)		15	20

注1: 基准额定寿命为10000km时的值。行走寿命因运行条件、安装状态不同而发生变化。

Note 1: The reference rating life is based on 10,000 km. Actual travel life may vary depending on running conditions and installation status.

注2: 即使满足负载和力矩容许范围, 当负载伸出长度过大时, 负载末端在定位时依然可能产生抖动或共振, 此时因适当下调和放宽动作条件。

Note 2: Even if both the load and the torque stay within the acceptable range, excessive load overhang may still cause vibration or resonance at the end of the load during positioning. In such cases, the motion conditions shall be appropriately relaxed or expanded.

注3: 行程1000mm,速度500mm/s, 加速度0.5G, 停留时间0.1s条件下的值。

Note 3: Values are based on the following conditions: Stroke: 1,000 mm; Speed: 500 mm/s; Acceleration: 0.5 G; Dwell time: 0.1 s

动态容许力矩值(mm)

Dynamic allowable Moment(mm)

VL8F2 水平安装					VL8F2 墙面安装				
条件	负载 (kg)	Lx	Ly	Lz	条件	负载 (kg)	Lx	Ly	Lz
V=2m/s a=2G S=1m	2.0	1490	540	746	V=2m/s a=2G S=1m	2.0	1472	736	533
	1.5	2000	727	1000		1.5	1988	994	720
	1.0	2000	727	1000		1.0	1988	994	720
V=1.5m/s a=1.5G S=1m	3.5	875	387	583	V=1.5m/s a=1.5G S=1m	3.5	854	570	378
	3.0	1027	454	685		3.0	1007	671	455
	2.0	1562	690	1040		2.0	1541	1027	682
V=1m/s a=1G S=1m	7.0	459	261	459	V=1m/s a=1G S=1m	7.0	438	438	249
	5.0	654	371	654		5.0	633	633	360
	4.0	824	468	824		4.0	803	803	456
V=0.5m/s a=0.5G S=1m	15.0	231	183	462	V=0.5m/s a=0.5G S=1m	15.0	210	420	166
	12.0	292	231	584		12.0	271	543	215
	10.0	353	280	706		10.0	332	665	264

VL8F3 水平安装					VL8F3 墙面安装				
条件	负载 (kg)	Lx	Ly	Lz	条件	负载 (kg)	Lx	Ly	Lz
V=2m/s a=2G S=1m	4.0	1158	390	580	V=2m/s a=2G S=1m	4.0	1132	566	382
	3.0	1563	528	781		3.0	1530	768	519
	2.0	1563	528	781		2.0	1530	768	519
V=1.5m/s a=1.5G S=1m	7.0	677	275	450	V=1.5m/s a=1.5G S=1m	7.0	651	434	264
	6.0	796	323	531		6.0	770	513	312
	5.0	964	392	642		5.0	938	625	381
V=1m/s a=1G S=1m	15.0	328	167	328	V=1m/s a=1G S=1m	15.0	302	302	154
	10.0	506	258	506		10.0	480	480	245
	5.0	1040	531	1040		5.0	1013	1013	517
V=0.5m/s a=0.5G S=1m	20.0	274	187	548	V=0.5m/s a=0.5G S=1m	20.0	247	495	169
	15.0	369	253	739		15.0	343	687	235
	10.0	561	384	1123		10.0	535	1070	366

1、可负载条件: $\frac{Lx1}{Lx} + \frac{Ly1}{Ly} + \frac{Lz1}{Lz} \leq 1$; ($Lx1$, $Ly1$, $Lz1$ 为实际值)

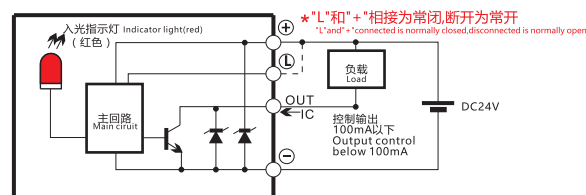
1.Allowable Load Conditions: $Lx1/Lx + Ly1/Ly + Lz1/Lz \leq 1$; $Lx1$, $Ly1$, and $Lz1$ represent actual values)

2、Lx、Ly、Lz表示该方向的重心位置;

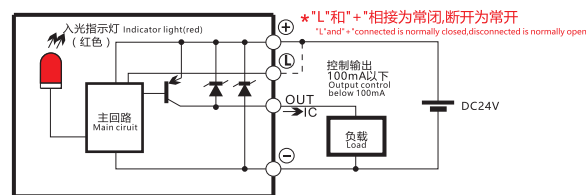
2.Lx, Ly, and Lz represent the position of the center of gravity in each respective direction.

3、满足负载条件, 预测寿命60000KM;

3.If load conditions are met, the predicted service life is 60,000 KM.



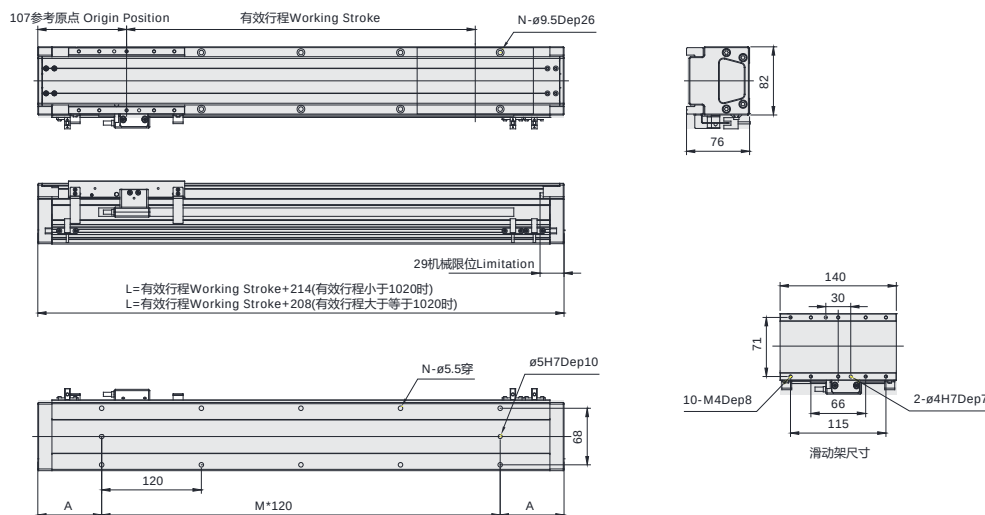
NPN型感应开关接线图
NPN model magnetic switch wiring diagram



PNP型感应开关接线图
PNP model magnetic switch wiring diagram

VL8F2

单位 Unit (mm)

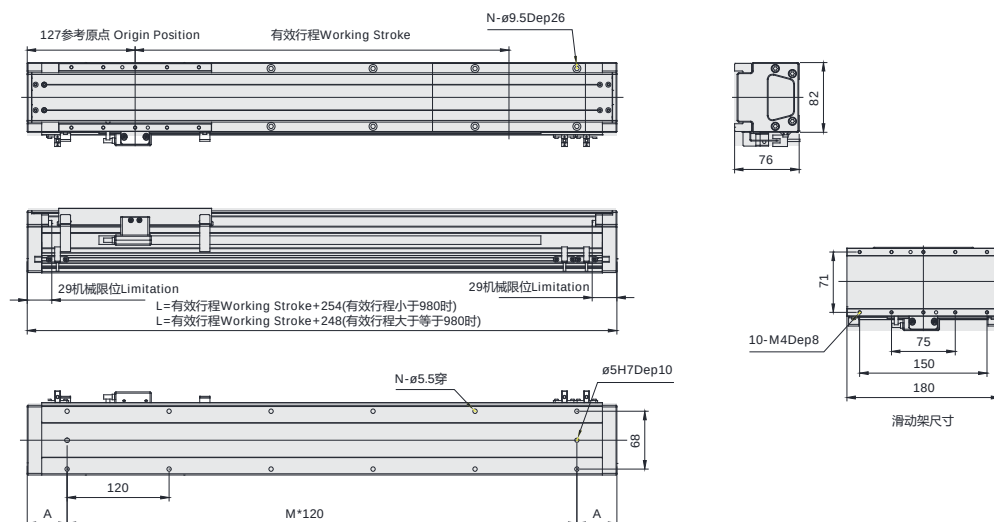


行程	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	.....	1800
L	274	334	394	454	514	574	634	694	754	814	874	934	994	1054	1114	1174	1228	1288	1348	1408	1468	.....	2008
A	77	47	77	47	77	47	77	47	77	47	77	47	77	47	77	47	74	44	74	44	74	.....	44
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	.....	16
N	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	.....	34
KG	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	.....	19.5

注: ①、运动部分重量 1.8kg
 ②、The moving part weight is 1.8KG
 ③、如需更长行程模组, 请联系沃姆公司。
 ④、For longer stroke linear module, please contact WOMMER.

VL8F3

单位 Unit (mm)



行程	80	140	200	260	320	380	440	500	560	620	680	740	800	860	920	980	1040	1100	1160	1220	.....	1760
L	334	394	454	514	574	634	694	754	814	874	934	994	1054	1114	1174	1228	1288	1348	1408	1468	.....	2008
A	50	80	50	80	50	80	50	80	50	80	50	80	50	80	50	78	48	78	48	78	.....	78
M	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	.....	16
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	.....	34
KG	5.6	6.1	6.6	7.1	7.6	8.1	8.6	9.1	9.6	10.1	10.6	11.1	11.6	12.1	12.6	13.1	13.6	14.1	14.6	15.1	.....	19.6

注: ①、运动部分重量 2.4kg
 ②、The moving part weight is 2.4KG
 ③、如需更长行程模组, 请联系沃姆公司。
 ④、For longer stroke linear module, please contact WOMMER.

VL9



■ 型号表示方式 Guide for Model Selection

VL9S2 — S640 — M1U0.5 — C 3 — ZG1

滑台数量 Number of sliding carrier	
1	1个滑台(可省略不写) 1 sliding carrier(omissible)
2	2个滑台 2 sliding carriers
3	3个滑台 3 sliding carriers
...	...

本体样式 Body Type	
VL9S2	VL9S2电机样式 VL9S2 motor type
VL9S3	VL9S3电机样式 VL9S3 motor type

行程 Stroke
60-3780

编码器 Encoder	
M	(数字量)磁性编码器 (Digital) magnetic encoder
O	(数字量)光学编码器 (Digital) optical encoder

分辨率 Resolution	
1U	分辨率1微米 Resolution of 1 μ m
05U	分辨率0.5微米 Resolution of 0.5 μ m

配线 Cable	
0.5	电缆长度0.5m,不配延长线 Cable length 0.5m,not equipped with extension cords
3	电缆长度3m Cable length 3m
5	电缆长度5m Cable length 5m
10	电缆长度10m Cable length 10m

光电开关 Photoelectric switch	
C3	3个常开式光电开关 3 constant photoelectric switches
C4	4个常开式光电开关 4 constant photoelectric switches
E	客户自配光电开关 Self set photoelectric switch

传感器类型 Sensor type	
无	NPN
NO	PNP
P	PNP

驱动器品牌 Drive brand	驱动器配置 Drive configuration
G1	高创1代 Microdrive 1 generation
G2	高创2代 Microdrive 2 generation
G3	高创3代 Microdrive 3 generation
P	松下 Panasonic
T	台达 Delta
V1	单轴驱动
V2	双轴驱动
Z	客户自配驱动器

基本规格 Specification

项目 Items	电机样式 Motor Type	VL9S2	VL9S3
导轨规格 Items		直线无限循环型	
分辨率(最高速度) Resolution (max speed)		Magnetic Scale: 1 μm Resol. / Grating Scale: 0.5 μm Resol/(1.5m/s)	
重复定位精度(μm) Repeatability (μm)		磁性编码器±5 光学编码器±3 Magnetic encoder±5 Optical encoder±3	
持续推力(N) Continuous Thrust (N)		110.5	147
峰值推力(N) Peak Thrust (N)		442	588
静态容许力矩(N.M) Static allowable Moment (N.M)		MP:556 MY:556 MR:976	MP:1385 MY:1385 MR:1552
动态容许力矩(N.M)(注1) Dynamic allowable Moment (N.M)(Note1)		MP:97 MY:97 MR:170	MP:210 MY:210 MR:235
负荷允许伸出长度(mm)(注2) Overhang load length (mm)(Note2)		600	800
最大负载(kg) 注1 Max Payload (kg)		25	35

注1: 基准额定寿命为10000km时的值。行走寿命因运行条件、安装状态不同而发生变化。

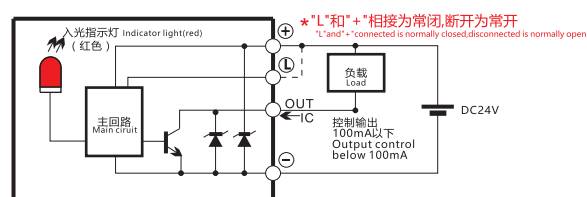
Note 1: The reference rating life is based on 10,000 km. Actual travel life may vary depending on running conditions and installation status.

注2: 即使满足负载和力矩容许范围, 当负载伸出长度过大时, 负载末端在定位时依然可能产生抖动或共振, 此时因适当下调和放宽动作条件。

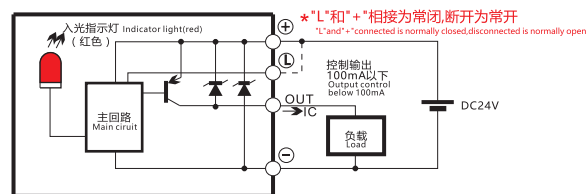
Note 2: Even if both the load and the torque stay within the acceptable range, excessive load overhang may still cause vibration or resonance at the end of the load during positioning. In such cases, the motion conditions shall be appropriately relaxed or expanded.

注3: 行程1000mm,速度500mm/s, 加速度0.5G, 停留时间0.1s条件下的值。

Note 3: Values are based on the following conditions: Stroke: 1,000 mm; Speed: 500 mm/s; Acceleration: 0.5 G; Dwell time: 0.1 s



NPN型感应开关接线图
NPN model magnetic switch wiring diagram



PNP型感应开关接线图
PNP model magnetic switch wiring diagram

动态容许力矩值(mm)

Dynamic allowable Moment(mm)

VL9S2 水平安装					VL9S2 墙面安装				
条件	负载 (kg)	Lx	Ly	Lz	条件	负载 (kg)	Lx	Ly	Lz
V=2m/s a=2G S=1m	6.0	646	252	323	V=2m/s a=2G S=1m	6.0	625	312	243
	5.0	790	307	395		5.0	769	384	299
	4.0	790	307	395		4.0	769	384	299
V=1.5m/s a=1.5G S=1m	8.0	503	243	335	V=1.5m/s a=1.5G S=1m	8.0	483	322	233
	7.0	583	282	389		7.0	563	375	272
	6.0	690	333	460		6.0	669	446	323
V=1m/s a=1G S=1m	12.0	359	228	359	V=1m/s a=1G S=1m	11.0	374	374	238
	10.0	438	279	438		9.0	470	470	299
	8.0	557	354	557		7.0	621	621	395
V=0.5m/s a=0.5G S=1m	23.0	204	190	408	V=0.5m/s a=0.5G S=1m	18.0	245	490	229
	20.0	237	222	475		15.0	302	604	282
	18.0	265	248	531		12.0	388	774	362

VL9S3 水平安装					VL9S3 墙面安装				
条件	负载 (kg)	Lx	Ly	Lz	条件	负载 (kg)	Lx	Ly	Lz
V=2m/s a=2G S=1m	7.0	1263	436	631	V=2m/s a=2G S=1m	7.0	1230	615	425
	6.0	1485	513	742		6.0	1453	726	502
	5.0	1485	513	742		5.0	1453	726	502
V=1.5m/s a=1.5G S=1m	12.0	752	314	501	V=1.5m/s a=1.5G S=1m	12.0	720	480	300
	10.0	913	380	609		10.0	881	587	368
	8.0	1156	483	770		8.0	1122	749	469
V=1m/s a=1G S=1m	23.0	411	217	411	V=1m/s a=1G S=1m	17.0	536	536	283
	18.0	535	282	535		12.0	788	788	416
	13.0	755	399	755		8.0	1217	1217	643
V=0.5m/s a=0.5G S=1m	35.0	298	214	597	V=0.5m/s a=0.5G S=1m	25.0	392	785	282
	25.0	425	305	850		20.0	502	1007	361
	15.0	720	517	1441		15.0	688	1376	494

1、可负载条件: $\frac{Lx1}{Lx} + \frac{Ly1}{Ly} + \frac{Lz1}{Lz} \leq 1$; ($Lx1$ 、 $Ly1$ 、 $Lz1$ 为实际值)

1.Allowable Load Conditions: $Lx1/Lx + Ly1/Ly + Lz1/Lz \leq 1$; $Lx1$, $Ly1$, and $Lz1$ represent actual values)

2、 Lx 、 Ly 、 Lz 表示该方向的重心位置;

2. Lx , Ly , and Lz represent the position of the center of gravity in each respective direction.

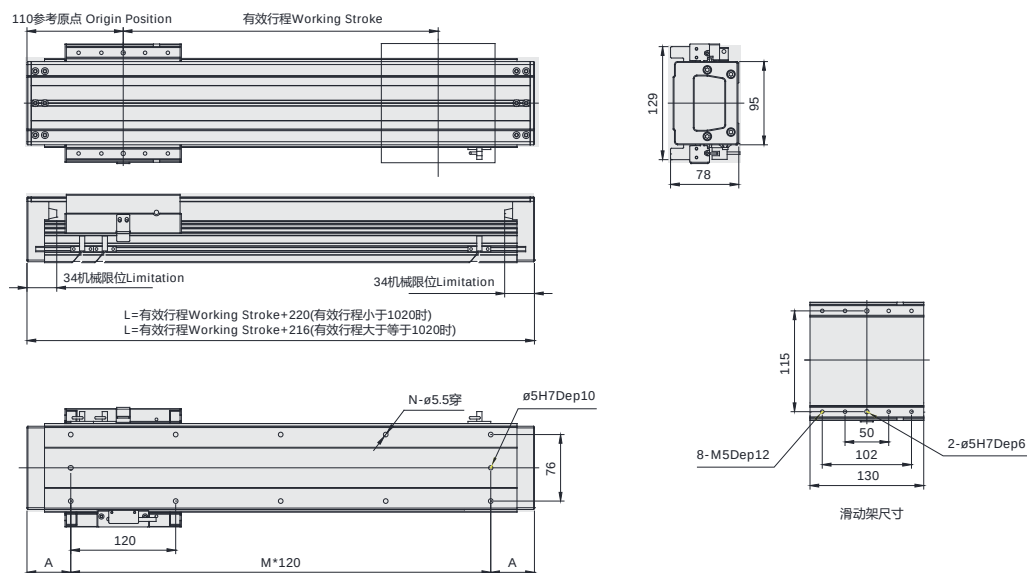
3、满足负载条件, 预测寿命60000KM;

3.If load conditions are met, the predicted service life is 60,000 KM.

VL9

VL9S2

单位 Unit (mm)

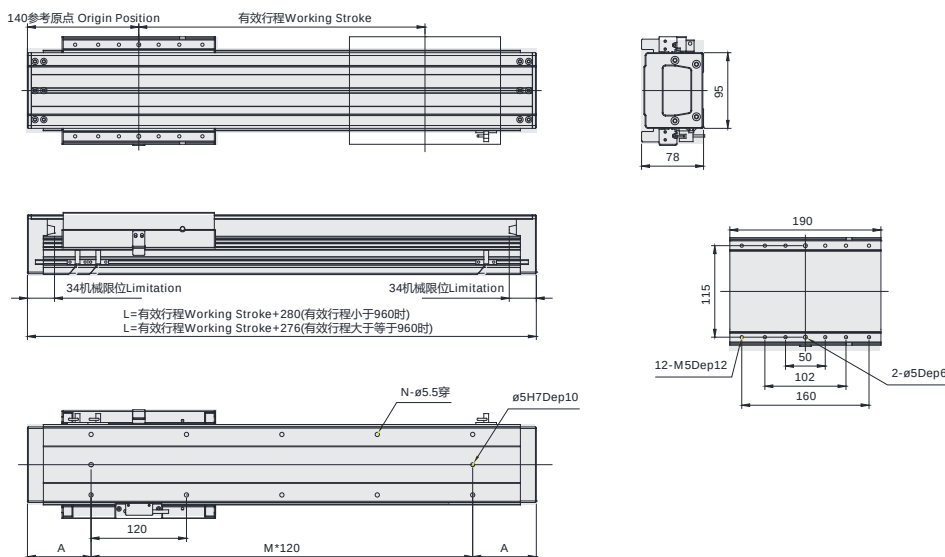


行程	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	.....	3780
L	280	340	400	460	520	580	640	700	760	820	880	940	1000	1060	1120	1180	1236	1296	1356	1416	1476	.....	3996
A	80	50	80	50	80	50	80	50	80	50	80	50	80	50	80	50	78	48	78	48	78	.....	78
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	.....	32
N	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	.....	66
KG	6.5	7.2	7.9	8.6	9.3	10.0	10.7	11.4	12.1	12.8	13.5	14.2	14.9	15.6	16.3	17.0	17.7	18.4	19.1	19.8	21.5	.....	49.9

注: ①、运动部位质量2.4kg
②、The moving part weight is 2.4KG
③、如需更长行程模组, 请联系沃姆公司
④、For longer stroke linear module, please contact WOMMER.

VL9S3

单位 Unit (mm)



行程	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	.....	3720
L	340	400	460	520	580	640	700	760	820	880	940	1000	1060	1120	1180	1236	1296	1356	1416	1476	.....	3996
A	50	80	50	80	50	80	50	80	50	80	50	80	50	80	50	78	48	78	48	78	.....	78
M	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	.....	32
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	.....	66
KG	7.5	8.2	8.9	9.6	10.3	11.0	11.7	12.4	13.1	13.8	14.5	15.2	15.9	16.6	17.3	18.0	18.7	19.4	20.1	20.8	.....	50.2

注: ①、运动部位质量3.4kg
②、The moving part weight is 3.4KG
③、如需更长行程模组, 请联系沃姆公司
④、For longer stroke linear module, please contact WOMMER.

VL11



■ 型号表示方式 Guide for Model Selection

VL11E2 — S600 — M1U0.5 — C 3 — ZG1

滑台数量 Number of sliding carrier	
1	1个滑台(可省略不写) 1 sliding carrier(omissible)
2	2个滑台 2 sliding carriers
3	3个滑台 3 sliding carriers
...	...

本体样式 Body Type	
VL11E2	VL11E2电机样式 VL11E2 motor type
VL11E3	VL11E3电机样式 VL11E3 motor type

行程 Stroke
60-3780

编码器 Encoder	
M	(数字量)磁性编码器 (Digital) magnetic encoder
O	(数字量)光学编码器 (Digital) optical encoder

分辨率 Resolution	
1U	分辨率1微米 Resolution of 1 μ m
05U	分辨率0.5微米 Resolution of 0.5 μ m

配线 Cable	
0.5	电缆长度0.5m,不配延长线 Cable length 0.5m,not equipped with extension cords
3	电缆长度3m Cable length 3m
5	电缆长度5m Cable length 5m
10	电缆长度10m Cable length 10m

光电开关 Photoelectric switch	
C3	3个外置式光电开关 3 external photoelectric switches
C4	4个外置式光电开关 4 external photoelectric switches
E	客户自配光电开关 User self photoelectric switch
感应器类型 Sensor type	
无	NPN
P	PNP

驱动器品牌 Drive brand	驱动器配置 Drive configuration
G1 高创1代	空白 脉冲型 Blank Pulse type
G2 高创2代	E EtherCAT总线型 EtherCAT main line
G3 高创3代	C CANopen总线型 CANopen main line
P 松下 Panasonic	
T 台达 Delta	
V1 单轴驱动	
V2 双轴驱动	
Z 客户自配驱动器	

VL11

基本规格 Specification

项目 Items	电机样式 Motor Type	VL11E2	VL11E3
导轨规格 Items		直线无限循环型	
分辨率(最高速度) Resolution (max speed)		Magnetic Scale: 1 μm Resol. / Grating Scale: 0.5 μm Resol/(1.5m/s)	
重复定位精度(μm) Repeatability (μm)		磁性编码器±5 光学编码器±3 Magnetic encoder±5 Optical encoder±3	
持续推力(N) Continuous Thrust (N)		152	203
峰值推力(N) Peak Thrust (N)		609	812
静态容许力矩(N.M) Static allowable Moment (N.M)		MP:556 MY:556 MR:1185	MP:1385 MY:1385 MR:1886
动态容许力矩(N.M)(注1) Dynamic allowable Moment (N.M)(Note1)		MP:97 MY:97 MR:206	MP:210 MY:210 MR:286
负荷允许伸出长度(mm)(注2) Overhang load length (mm)(Note2)		650	850
最大负载(kg) 注1 Max Payload (kg)		25	45

注1: 基准额定寿命为10000km时的值。行走寿命因运行条件、安装状态不同而发生变化。

Note 1: The reference rating life is based on 10,000 km. Actual travel life may vary depending on running conditions and installation status.

注2: 即使满足负载和力矩容许范围, 当负载伸出长度过大时, 负载末端在定位时依然可能产生抖动或共振, 此时因适当下调和放宽动作条件。

Note 2: Even if both the load and the torque stay within the acceptable range, excessive load overhang may still cause vibration or resonance at the end of the load during positioning. In such cases, the motion conditions shall be appropriately relaxed or expanded.

注3: 行程1000mm,速度500mm/s, 加速度0.5G, 停留时间0.1s条件下的值。

Note 3: Values are based on the following conditions: Stroke: 1,000 mm; Speed: 500 mm/s; Acceleration: 0.5 G; Dwell time: 0.1 s

动态容许力矩值(mm)

Dynamic allowable Moment(mm)

VL11E2 水平安装					VL11E2 墙面安装				
条件	负载 (kg)	Lx	Ly	Lz	条件	负载 (kg)	Lx	Ly	Lz
V=2m/s a=2G S=1m	7.0	543	220	270	V=2m/s a=2G S=1m	7.0	526	262	213
	6.0	646	260	323		6.0	629	314	254
	5.0	790	319	395		5.0	773	386	313
V=1.5m/s a=1.5G S=1m	9.0	440	224	294	V=1.5m/s a=1.5G S=1m	9.0	424	283	215
	8.0	503	255	335		8.0	486	324	247
	7.0	583	296	389		7.0	566	376	287
V=1m/s a=1G S=1m	13.0	328	223	328	V=1m/s a=1G S=1m	12.0	342	342	233
	11.0	395	269	395		10.0	421	421	286
	9.0	490	334	490		8.0	540	540	367
V=0.5m/s a=0.5G S=1m	25.0	186	192	372	V=0.5m/s a=0.5G S=1m	20.0	220	440	227
	20.0	236	244	475		18.0	248	496	256
	18.0	265	274	530		15.0	305	611	315

VL11E3 水平安装					VL11E3 墙面安装				
条件	负载 (kg)	Lx	Ly	Lz	条件	负载 (kg)	Lx	Ly	Lz
V=2m/s a=2G S=1m	11.0	322	284	388	V=2m/s a=2G S=1m	11.0	750	375	274
	10.0	361	315	431		9.0	939	469	343
	9.0	409	353	483		7.0	1236	618	452
V=1.5m/s a=1.5G S=1m	17.0	515	230	343	V=1.5m/s a=1.5G S=1m	13.0	663	442	297
	15.0	591	264	394		11.0	799	532	357
	12.0	752	336	501		9.0	994	663	445
V=1m/s a=1G S=1m	33.0	275	158	275	V=1m/s a=1G S=1m	20.0	451	451	260
	28.0	331	190	331		15.0	623	623	359
	23.0	411	237	411		10.0	966	966	556
V=0.5m/s a=0.5G S=1m	45.0	228	184	456	V=0.5m/s a=0.5G S=1m	28.0	351	702	284
	35.0	298	241	596		25.0	398	796	322
	30.0	351	284	702		20.0	509	1018	412

1、可负载条件: $\frac{Lx1}{Lx} + \frac{Ly1}{Ly} + \frac{Lz1}{Lz} \leq 1$; (Lx1、Ly1、Lz1为实际值)

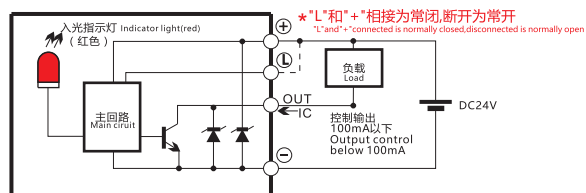
1.Allowable Load Conditions: $Lx1/Lx + Ly1/Ly + Lz1/Lz \leq 1$; Lx1, Ly1, and Lz1 represent actual values)

2、Lx、Ly、Lz表示该方向的重心位置;

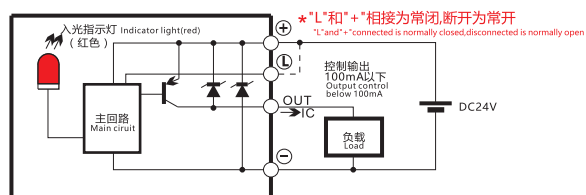
2.Lx, Ly, and Lz represent the position of the center of gravity in each respective direction.

3、满足负载条件, 预测寿命60000KM;

3.If load conditions are met, the predicted service life is 60,000 KM.



NPN型感应开关接线图
NPN model magnetic switch wiring diagram

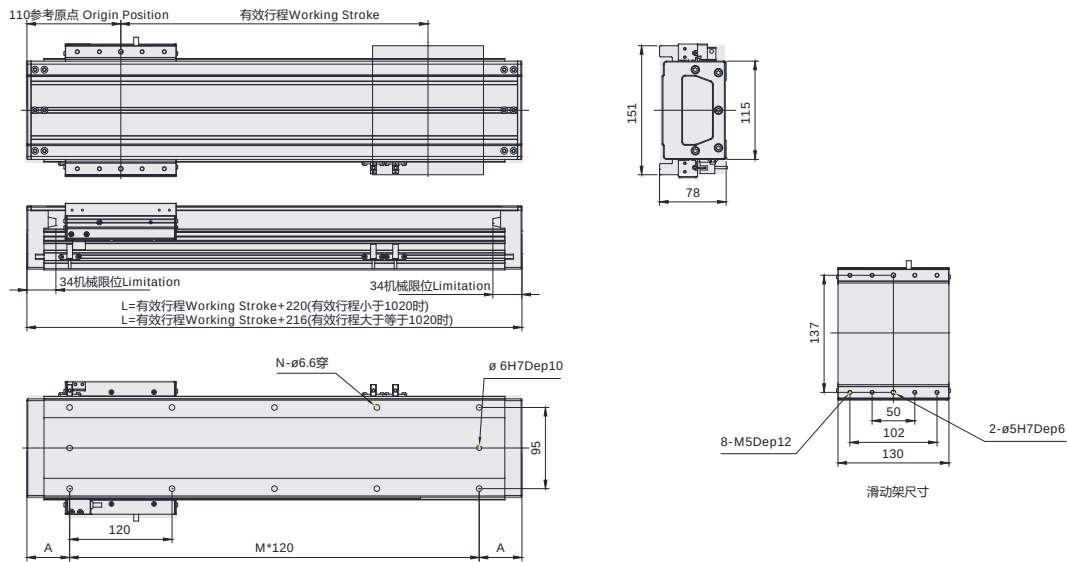


PNP型感应开关接线图
PNP model magnetic switch wiring diagram

VL11

VL11E2

单位 Unit (mm)

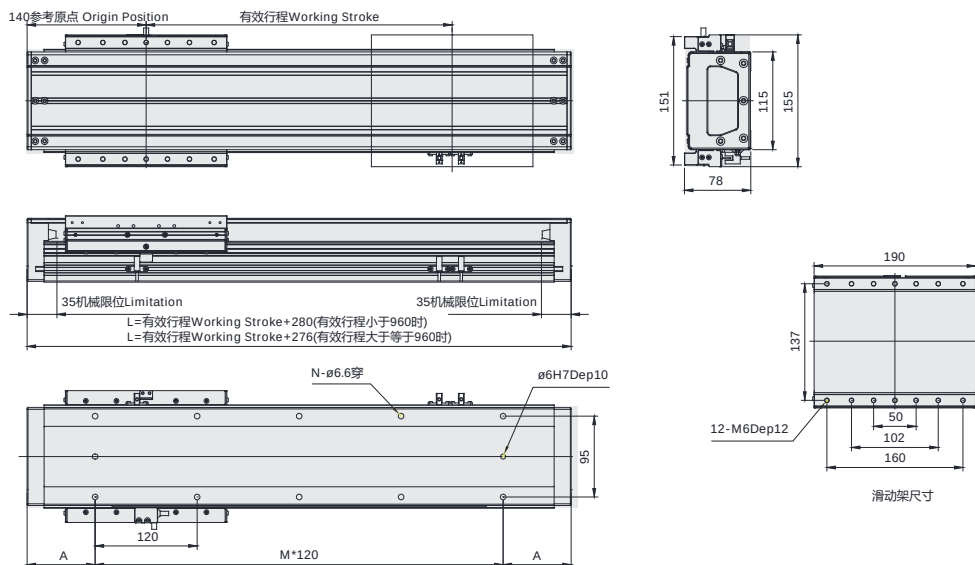


行程	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	.....	3780
L	280	340	400	460	520	580	640	700	760	820	880	940	1000	1060	1120	1180	1236	1296	1356	1416	1476	.....	3996
A	80	50	80	50	80	50	80	50	80	50	80	50	80	50	80	50	78	48	78	48	78	.....	78
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	.....	32
N	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	.....	66
KG	7.5	8.3	9.0	9.8	10.5	11.3	12.0	12.8	13.5	14.3	15	15.8	16.5	17.3	18	18.8	19.5	20.3	21	21.8	22.5	.....	54

注: ①. 运动部件重量 2.4kg
 ②. The moving part weight is 2.4KG
 ③. 如需更长行程模组, 请联系沃姆公司
 ④. For longer stroke linear module, please contact WOMMER.

VL11E3

单位 Unit (mm)



行程	60	120	180	240	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	.....	3720
L	340	400	460	520	580	640	700	760	820	880	940	1000	1060	1120	1180	1236	1296	1356	1416	1476	.....	3996
A	50	80	50	80	50	80	50	80	50	80	50	80	50	80	50	78	48	78	48	78	.....	78
M	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	.....	32
N	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	.....	66
KG	9	9.8	10.5	11.3	12.0	12.8	13.5	14.3	15.0	15.8	16.5	17.3	18.0	18.8	19.5	20.3	21.0	21.8	22.5	23.3	.....	54.8

注: ①. 运动部件重量 3.4kg
 ②. The moving part weight is 3.4KG
 ③. 如需更长行程模组, 请联系沃姆公司
 ④. For longer stroke linear module, please contact WOMMER.

VL14



■ 型号表示方式 Guide for Model Selection

VL14S1B — S500 — M1U0.5 — C 3 — ZG1

滑台数量 Number of sliding carrier	
1	1个滑台(可省略不写) 1 sliding carrier(omissible)
2	2个滑台 2 sliding carriers
3	3个滑台 3 sliding carriers
...	...

本体样式 Body Type	
VL14	本体宽度 Body Width
S1	电机尺寸86*60*40 Motor Dimensions86*60*40
S2	电机尺寸150*60*40 Motor Dimensions150*60*40
S3	电机尺寸214*60*40 Motor Dimensions214*60*40
S4	电机尺寸276*60*40 Motor Dimensions276*60*40
B	VBM系列 VBM Series

行程 Stroke
100-3500

编码器 Encoder	
M	(数字量)磁性编码器 (Digital) magnetic encoder
O	(数字量)光学编码器 (Digital) optical encoder
MA	(数字量)磁性绝对值 (Digital) magnetic absolute encoder

分辨率 Resolution	
1U	分辨率1微米 Resolution of 1 μm
05U	分辨率0.5微米 Resolution of 0.5 μm

配线 Cable	
0.2	电缆长度0.2m,不配延长线 Cable length 0.2m,not equipped with extension cords
3	电缆长度3m Cable length 3m
5	电缆长度5m Cable length 5m
10	电缆长度10m Cable length 10m

光电开关 Photoelectric switch	
C3	3个外置式光电开关 3 external photoelectric switches
C4	4个外置式光电开关 4 external photoelectric switches
E	客户自配光电开关 Client user photoelectric switch

感应器类型 Sensor type	
无 NO	NPN
P	PNP

驱动器品牌 Drive brand		驱动器配置 Drive configuration	
G1	高创1代 Blank	空白 Blank	脉冲型 Pulse type
G2	高创2代 ShenCAT15轴型	E	EtherCAT15轴型 EtherCAT15 axis
G3	高创3代 CANopen总线型	C	CANopen总线型 CANopen bus
P	松下 Panasonic		
T	台达 Delta		
V1	经济型/单轴驱动 Economic/Single axis drive		
V2	经济型/双轴驱动 Economic/Double axis drive		
Z-客户自配驱动器 Z-Client user furnished Drive System			
其它：特殊定制 Other：Special Customization			

基本规格 Specification

项目 Items	电机样式 Motor Type	VL14S1B	VL14S2B	VL14S3B	VL14S4B
导轨规格 Items		15x12.5-2			
滑块数量 Number of linear block		4	4	4	6
分辨率(最高速度) Resolution (max speed)		Magnetic Scale: 1 μm Resol. / Grating Scale: 0.5 μm Resol/(3m/s)			
重复定位精度(um) Repeatability (um)		磁性编码器±5 光学编码器±3 Magnetic encoder±5 Optical encoder±3			
持续推力(N) Continuous Thrust (N)		82	164	246	328
峰值推力(N) Peak Thrust (N)		287	574	861	1148
静态容许力矩(N.M) Static allowable Moment (N.M)		MP:360 MY:155 MR:524	MP:858 MY:369 MR:891	MP:1329 MY:572 MR:891	MP:2701 MY:1162 MR:1336
动态容许力矩(N.M)(注1) Dynamic allowable Moment (N.M)(Note1)		MP:169 MY:107 MR:245	MP:381 MY:242 MR:396	MP:590 MY:376 MR:396	MP:1000 MY:636 MR:494
负荷允许伸出长度(mm)(注2) Overhang load length (mm)(Note2)		400	600	800	1000
最大负载(kg) (注3) Max Payload (kg)(Note3)		30	55	70	90

注1: 基准额定寿命为10000km时的值。行走寿命因运行条件、安装状态不同而发生变化。

Note 1: The reference rating life is based on 10,000 km. Actual travel life may vary depending on running conditions and installation status.

注2: 即使满足负载和力矩容许范围,当负载伸出长度过大时,负载末端在定位时依然可能产生抖动或共振,此时因适当下调和放宽动作条件。

Note 2: Even if both the load and the torque stay within the acceptable range, excessive load overhang may still cause vibration or resonance at the end of the load during positioning. In such cases, the motion conditions shall be appropriately relaxed or expanded.

注3: 行程1000mm,速度500mm/s,加速度0.5G,停留时间0.1s条件下的值。

Note 3: Values are based on the following conditions: Stroke: 1,000 mm; Speed: 500 mm/s; Acceleration: 0.5 G; Dwell time: 0.1 s

动态容许力矩值(mm)

Dynamic allowable Moment(mm)

VL14S1B					VL14S1B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Conditions	负载 Load	Lx	Ly	Lz	条件 Conditions	负载 Load	Lx	Ly	Lz
V=1m/s a=1.5G S=1m	5.0	1474	482	983	V=1m/s a=1.5G S=1m	5.0	908	605	655
	4.0	1864	609	1243		4.0	1155	770	833
	3.0	2515	822	1676		3.0	1567	1044	1130
V=1m/s a=1G S=1m	10.0	772	340	772	V=1m/s a=1G S=1m	10.0	463	463	433
	8.0	979	431	979		8.0	595	595	556
	6.0	1324	583	1324		6.0	813	813	760
V=0.5m/s a=0.5G S=1m	30.0	269	181	538	V=0.5m/s a=0.5G S=1m	25.0	183	366	243
	20.0	418	282	836		20.0	239	479	318
	10.0	864	584	1729		10.0	522	1044	693
VL14S4B					VL14S4B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Conditions	负载 Load	Lx	Ly	Lz	条件 Conditions	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=2m	13.0	3314	641	1657	V=2m/s a=2G S=2m	13.0	2034	1017	795
	10.0	4343	840	2171		10.0	2688	1344	1051
	7.0	6253	1210	3126		7.0	3993	1951	1526
V=1m/s a=1G S=2m	48.0	965	268	965	V=1m/s a=1G S=2m	48.0	540	540	281
	38.0	1233	343	1233		38.0	711	711	370
	28.0	1695	471	1695		28.0	1004	1004	523
V=0.5m/s a=0.5G S=2m	90.0	558	199	1117	V=0.5m/s a=0.5G S=2m	80.0	328	657	205
	80.0	632	225	1264		70.0	388	777	242
	70.0	726	258	1452		60.0	468	937	292

VL14S2B					VL14S2B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Conditions	负载 Load	Lx	Ly	Lz	条件 Conditions	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	5.0	3282	798	1641	V=2m/s a=2G S=1m	5.0	2049	1024	1089
	4.0	4131	1004	2065		4.0	2589	1294	1376
	3.0	5546	1349	2773		3.0	3488	1744	1583
V=1m/s a=1G S=1m	20.0	877	345	877	V=1m/s a=1G S=1m	20.0	522	522	419
	15.0	1189	468	1189		15.0	720	720	578
	10.0	1812	714	1812		10.0	1116	1116	895
V=0.5m/s a=0.5G S=1m	55.0	337	192	675	V=0.5m/s a=0.5G S=1m	50.0	202	405	218
	45.0	418	239	837		40.0	266	533	287
	35.0	546	312	1093		30.0	373	746	402

VL14S3B					VL14S3B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Conditions	负载 Load	Lx	Ly	Lz	条件 Conditions	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	10.0	2520	543	1260	V=2m/s a=2G S=1m	10.0	1549	774	697
	8.0	3178	685	1589		8.0	1968	984	885
	6.0	4276	922	2138		6.0	2666	1333	1200
V=1m/s a=1G S=1m	35.0	771	251	771	V=1m/s a=1G S=1m	35.0	436	436	275
	25.0	1102	359	1102		25.0	647	647	408
	15.0	1875	612	1875		15.0	1139	1139	718
V=0.5m/s a=0.5G S=1m	70.0	417	183	835	V=0.5m/s a=0.5G S=1m	65.0	233	466	184
	60.0	492	215	984		55.0	289	578	227
	50.0	596	261	1192		45.0	369	738	291

1、可负载条件: $\frac{Lx1}{Lx} + \frac{Ly1}{Ly} + \frac{Lz1}{Lz} \leq 1$; ($Lx1$, $Ly1$, $Lz1$ 为实际值)

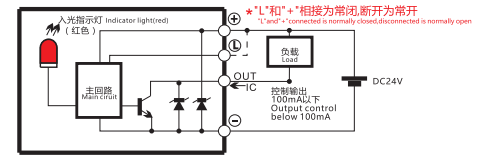
1.Allowable Load Conditions: $Lx1/Lx + Ly1/Ly + Lz1/Lz \leq 1$; $Lx1$, $Ly1$, and $Lz1$ represent actual values)

2、 Lx , Ly , Lz 表示该方向的重心位置;

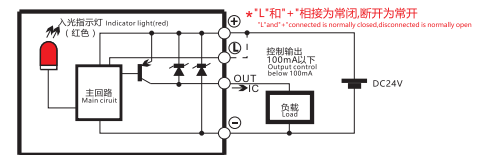
2. Lx , Ly , and Lz represent the position of the center of gravity in each respective direction.

3、满足负载条件, 预测寿命60000KM;

3.If load conditions are met, the predicted service life is 60,000 KM.



NPN型感应开关接线图
NPN model magnetic switch wiring diagram

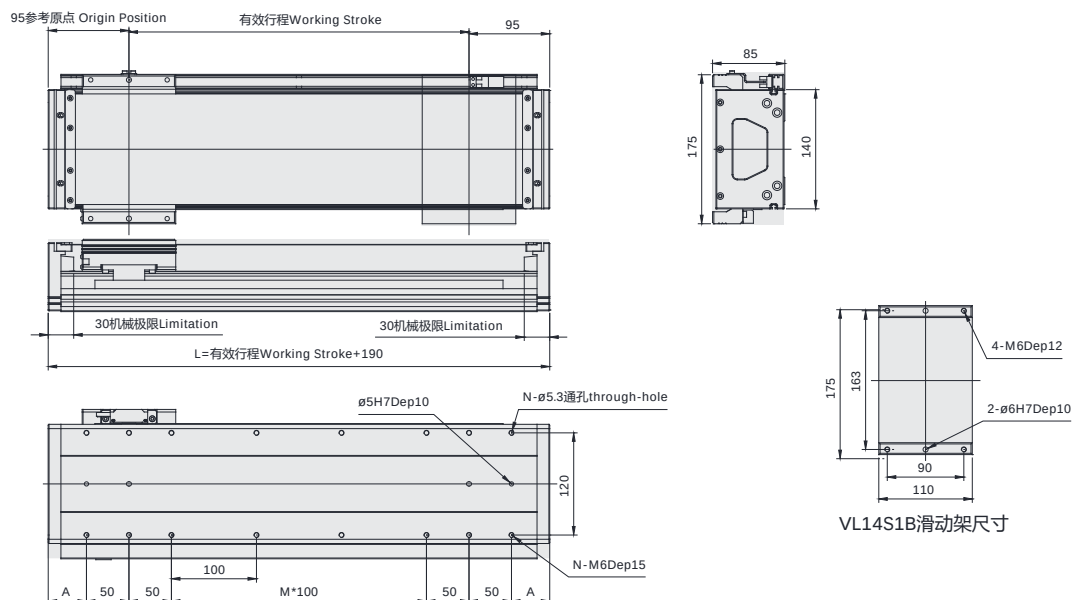


PNP型感应开关接线图
PNP model magnetic switch wiring diagram

VL14

VL14S1B

单位 Unit (mm)



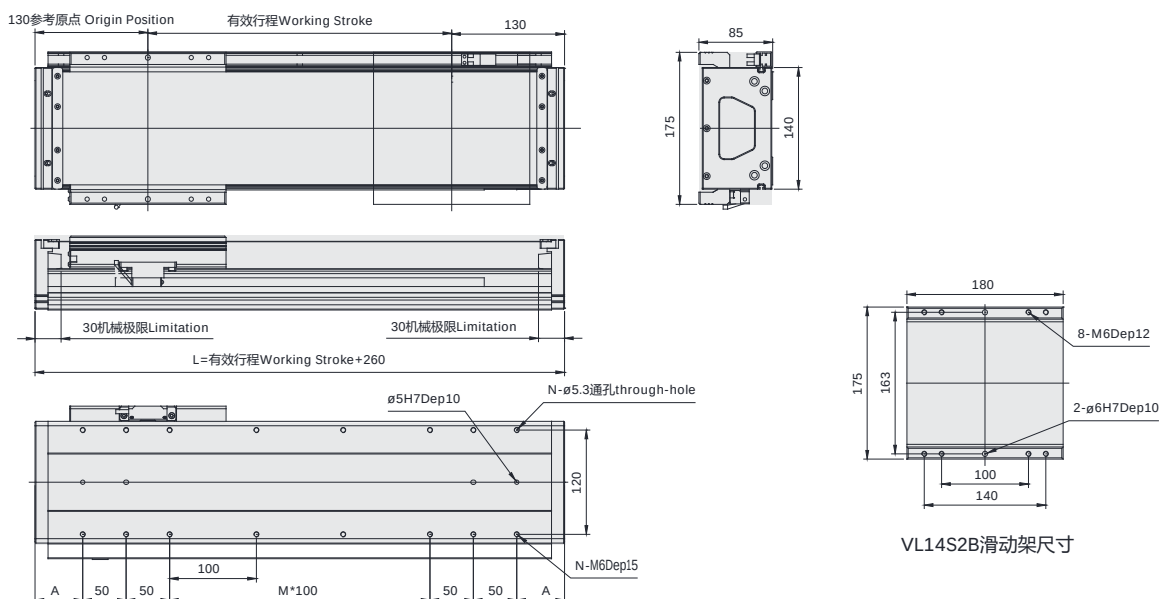
VL14S1B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390
A	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45
M	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11
N	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32
KG	6.9	7.7	8.5	9.3	10.1	10.9	11.7	12.5	13.3	14.1	14.9	15.7	16.5	17.3	18.1	18.9	19.7	20.5	21.3	22.1	22.9	23.7	24.5

注: ①、运动部位质量 2.5kg
②、The moving part weight is 2.5KG
③、如需更长行程模组, 请联系沃姆默公司。
④、For longer stroke linear module, please contact WOMMER.

VL14S2B

单位 Unit (mm)



VL14S2B滑动架尺寸

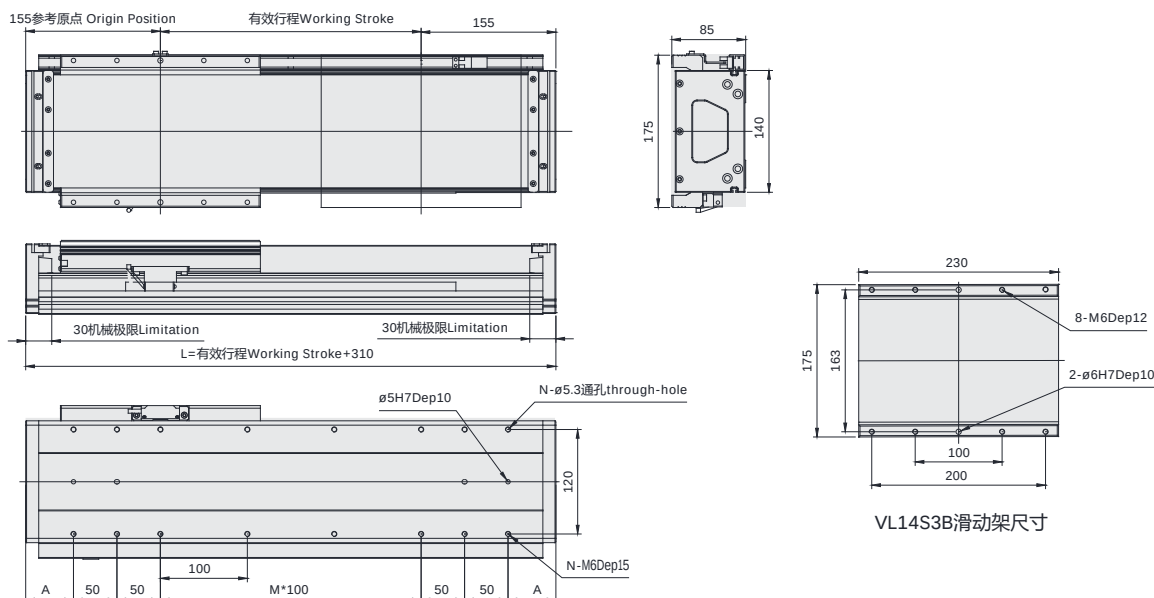
行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	360	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11
N	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32
KG	8.4	9.2	10	10.8	11.6	12.4	13.2	14.0	14.8	15.6	16.4	17.2	18.0	18.8	19.6	20.4	21.2	22.0	22.8	23.6	24.4	25.2	26.0

注: ①、运动部位质量 3.4kg
②、The moving part weight is 3.4KG
③、如需更长行程模组, 请联系沃姆默公司。
④、For longer stroke linear module, please contact WOMMER.

VL14

VL14S3B

单位 Unit (mm)

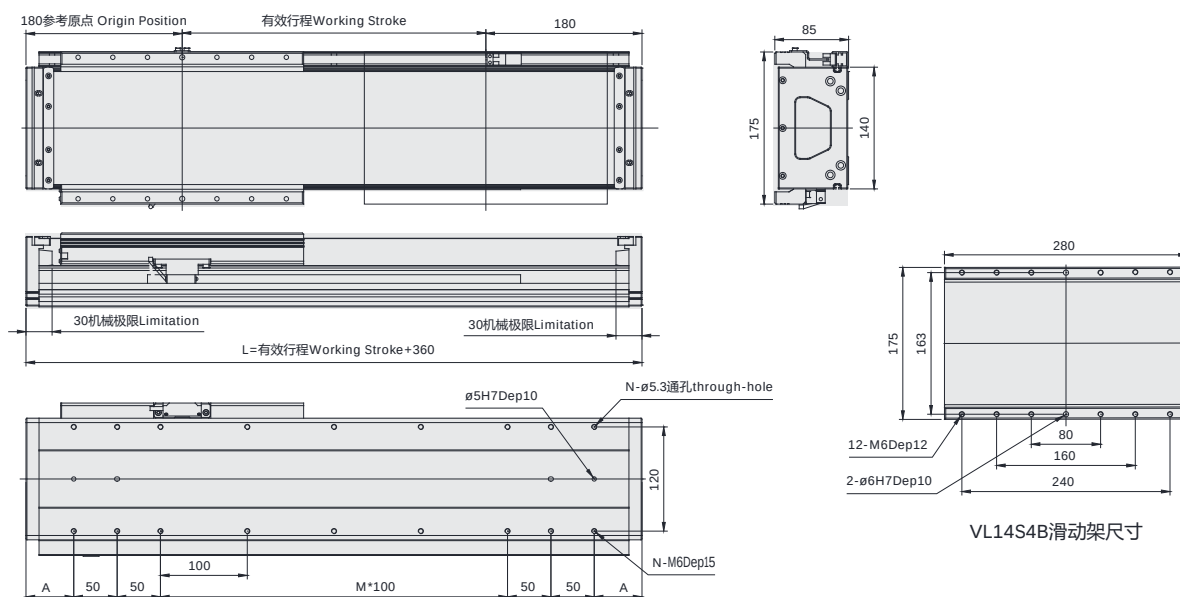


行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510
A	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55
M	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12
N	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34
KG	9.2	10	10.8	11.6	12.4	13.2	14.0	14.8	15.6	16.4	17.2	18.0	18.8	19.6	20.4	21.2	22.0	22.8	23.6	24.4	25.2	26.0	26.8

注: ①. 运动部位质量5kg
 ①. The moving part weight is 5KG
 ②. 如需更长行程模组, 请联系沃姆公司.
 ②. For longer stroke linear module, please contact WOMMER.

VL14S4B

单位 Unit (mm)



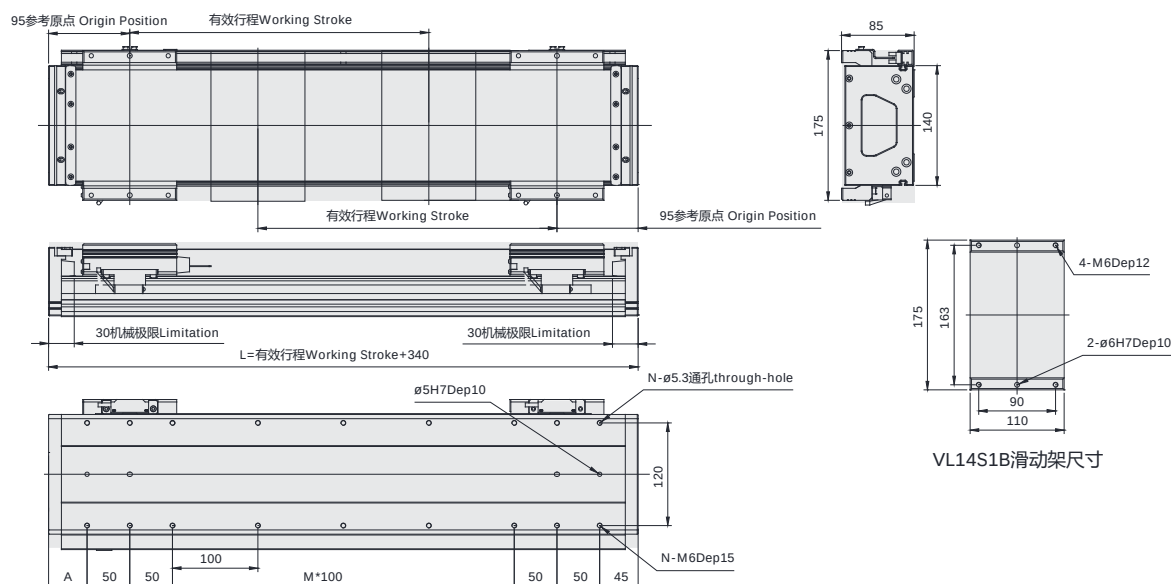
行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34
KG	10	10.8	11.6	12.4	13.2	14.0	14.8	15.6	16.4	17.2	18.0	18.8	19.6	20.4	21.2	22.0	22.8	23.6	24.4	25.2	26.0	26.8	27.6

注: ①. 运动部位质量6kg
 ①. The moving part weight is 6KG
 ②. 如需更长行程模组, 请联系沃姆公司.
 ②. For longer stroke linear module, please contact WOMMER.

VL14

2VL14S1B

单位 Unit (mm)



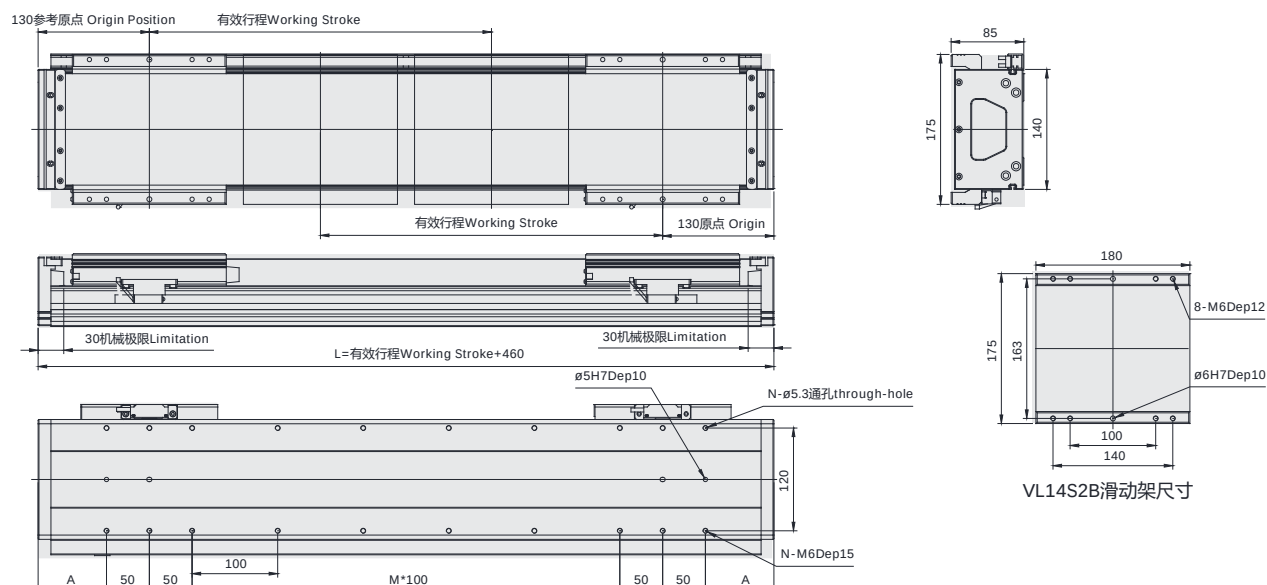
VL14S1B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540
A	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34
KG	11.6	12.4	13.2	14.0	14.8	15.6	16.4	17.2	18.0	18.8	19.6	20.4	21.2	22.0	22.8	23.6	24.4	25.2	26.0	26.8	27.6	28.4	29.2

注: ①、运动部位质量2.5kg
①、The moving part weight is 2.5KG
②、如需更长行程模组, 请联系沃姆公司。
②、For longer stroke linear module, please contact WOMMER.

2VL14S2B

单位 Unit (mm)



VL14S2B滑动架尺寸

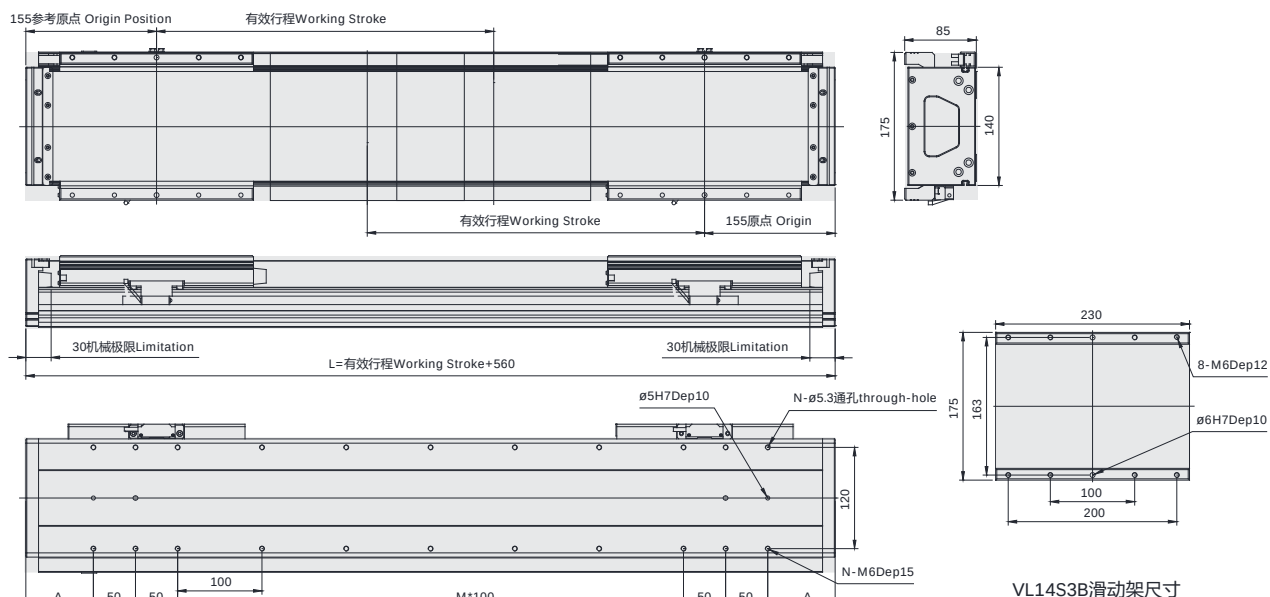
行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34
KG	14.7	15.5	16.3	17.1	17.9	18.7	19.5	20.3	21.1	21.9	22.7	23.5	24.3	25.1	25.9	26.7	27.5	28.3	29.1	29.9	30.7

注: ①、运动部位质量3.4kg
①、The moving part weight is 3.4KG
②、如需更长行程模组, 请联系沃姆公司。
②、For longer stroke linear module, please contact WOMMER.

VL14

2VL14S3B

单位 Unit (mm)



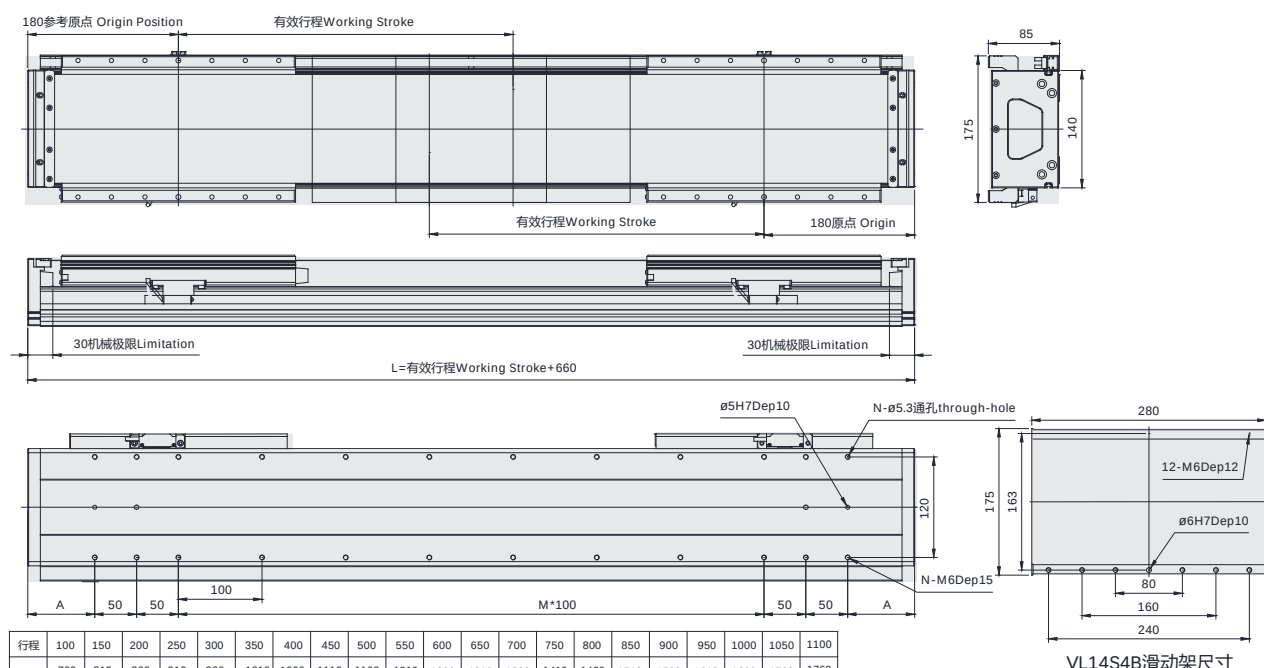
VL14S3B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610	1660
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
N	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36	36
KG	16.3	17.1	17.9	18.7	19.5	20.3	21.1	21.9	22.7	23.5	24.3	25.1	25.9	26.7	27.5	28.3	29.1	29.9	30.7	31.5	32.3

注: ①、运动部位质量5kg
 ①、The moving part weight is 5KG
 ②、如需更长行程模组, 请联系沃姆公司。
 ②、For longer stroke linear module, please contact WOMMER.

2VL14S4B

单位 Unit (mm)



VL14S4B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560	1610	1660	1760	1760
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14
N	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36	36	38	38
KG	17.9	18.7	19.5	20.3	21.1	21.9	22.7	23.5	24.3	25.1	25.9	26.7	27.5	28.3	29.1	29.9	30.7	31.5	32.3	33.1	33.9

注: ①、运动部位质量6kg
 ①、The moving part weight is 6KG
 ②、如需更长行程模组, 请联系沃姆公司。
 ②、For longer stroke linear module, please contact WOMMER.

VL17



■ 型号表示方式 Guide for Model Selection

VL17E1B — S500 — M1U0.5 — C 3 — ZG1

滑台数量 Number of sliding carrier	
1	1个滑台(可省略不写) 1 sliding carrier(omissible)
2	2个滑台 2 sliding carriers
3	3个滑台 3 sliding carriers
...	...

本体样式 Body Type	
VL17	本体宽度 Body Width
E1	电机尺寸86*80*40 Motor Dimensions86*80*40
E2	电机尺寸150*80*40 Motor Dimensions150*80*40
E3	电机尺寸214*80*40 Motor Dimensions214*80*40
E4	电机尺寸276*80*40 Motor Dimensions276*80*40
B	VBM系列 VBM Series

VL17(15 Guideways)

VL17A(20 Guideways)

行程 Stroke
100-3500

编码器 Encoder	
M	(数字量)磁性编码器 (Digital) magnetic encoder
O	(数字量)光学编码器 (Digital) optical encoder
MA	(数字量)磁性绝对值 (Digital) magnetic absolute encoder

分辨率 Resolution	
1U	分辨率1微米 Resolution of 1 μm
05U	分辨率0.5微米 Resolution of 0.5 μm

配线 Cable	
0.2	电缆长度0.2m,不配延长线 Cable length 0.2m,not equipped with extension cords
3	电缆长度3m Cable length 3m
5	电缆长度5m Cable length 5m
10	电缆长度10m Cable length 10m

光电开关 Photoelectric switch	
C3	3个外置式光电开关 3 external photoelectric switches
C4	4个外置式光电开关 4 external photoelectric switches
E	客户自配光电开关 Customer self-photoelectric switch

感应器类型 Sensor type	
无	NPN
P	PNP

驱动器品牌 Drive brand	驱动器配置 Drive configuration
G1 高创1代	空白 脉冲型 Blank Pulse type
G2 高创2代	E EtherCAT总线型 EtherCAT main line
G3 高创3代	C CANopen总线型 CANopen main line
P 松下	
T 台达	
V1 经济型/单轴驱动 Economy Model with Single-Axis Drive	
V2 经济型/双轴驱动 Economy Model with Dual-Axis Drive	
Z:客户自配驱动器 Z:Customer-Assembled Drive System	
其它: 特殊定制 Other: Special Customization	

VL17

基本规格 Specification

项目 Items	电机样式 Motor Type	AL17E1B /VL17AE1B	VL17E2B /VL17AE2B	VL17E3B /VL17AE3B	VL17E4B /VL17AE4B
导轨规格 Items		VL17(15x12.5-2) VL17A(20x15.5-2)			
滑块数量 Number of linear block		4	4	4	6
分辨率(最高速度) Resolution (max speed)		Magnetic Scale: 1 μm Resol. / Grating Scale: 0.5 μm Resol/(3m/s)			
重复定位精度(um) Repeatability (um)		磁性编码器+5 光学编码器+3 Magnetic encoder±5 Optical encoder±3			
持续推力(N) Continuous Thrust (N)		128	257	385	513
峰值推力(N) Peak Thrust (N)		449	899	1347	1796
静态容许力矩(N.M) Static allowable Moment (N.M)		VL17E1.MP:360 MY:155 MR:682 VL17AE1.MP:494 MY:212 MR:1012	VL17E1.MP:858 MY:367 MR:1160 VL17AE1.MP:1183 MY:509 MR:1645	VL17E3.MP:1329 MY:571 MR:1159 VL17AE3.MP:1852 MY:796 MR:1645	VL17E4.MP:2701 MY:1162 MR:1740 VL17AE4.MP:3780 MY:1625 MR:2467
动态容许力矩(N.M)(注1) Dynamic allowable Moment (N.M)(Note1)		VL17E1.MP:169 MY:107 MR:319 VL17AE1.MP:229 MY:118 MR:470	VL17E2.MP:381 MY:243 MR:515 VL17AE2.MP:494 MY:314MR:687	VL17E3.MP:591 MY:376 MR:515 VL17AE3.MP:774 MY:492 MR:687	VL17E4.MP:1000 MY:636 MR:844 VL17AE4.MP:1316 MY:1005 MR:859
负荷允许伸出长度(mm)(注2) Overhang load length (mm)(Note2)		400	600	800	1000
最大负载(kg) (注3) Max Payload (kg)(Note3)		45	80	90	100

注1: 基准额定寿命为10000km时的值。行走寿命因运行条件、安装状态不同而发生变化。

Note 1: The reference rating life is based on 10,000 km. Actual travel life may vary depending on running conditions and installation status.

注2: 即使满足负载和力矩容许范围, 当负载伸出长度过大时, 负载末端在定位时依然可能产生抖动或共振, 此时因适当下调和放宽动作条件。

Note 2: Even if both the load and the torque stay within the acceptable range, excessive load overhang may still cause vibration or resonance at the end of the load during positioning. In such cases, the motion conditions shall be appropriately relaxed or expanded.

注3: 行程1000mm,速度500mm/s, 加速度0.5G, 停留时间0.1s条件下的值。

Note 3: Values are based on the following conditions:Stroke: 1,000 mm;Speed: 500 mm/s;Acceleration: 0.5 G;Dwell time: 0.1 s

动态容许力矩值(mm) Dynamic allowable Moment(mm)

VL17E1B					VL17E1B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Condition	负载 Load	Lx	Ly	Lz	条件 Condition	负载 Load	Lx	Ly	Lz
V=1.5m/s a=1.5G S=1m	9.0	773	266	515	V=1.5m/s a=1.5G S=1m	9.0	469	312	365
	8.0	882	304	588		8.0	537	358	418
	7.0	1021	352	681		7.0	625	417	487
V=1m/s a=1G S=1m	16.0	456	216	456	V=1m/s a=1G S=1m	16.0	268	268	276
	13.0	575	272	575		13.0	343	343	354
	10.0	767	363	767		10.0	464	464	479
V=0.5m/s a=0.5G S=1m	45.0	167	126	334	V=0.5m/s a=0.5G S=1m	40.0	180	281	154
	35.0	224	169	448		30.0	148	296	227
	25.0	326	247	652		20.0	242	484	371

VL17E4B					VL17E4B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Condition	负载 Load	Lx	Ly	Lz	条件 Condition	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	23.0	1813	386	906	V=2m/s a=2G S=1m	23.0	1092	546	483
	18.0	2352	500	1176		18.0	1434	717	634
	13.0	3384	783	1652		13.0	2040	1020	903
V=1m/s a=1G S=1m	65.0	692	221	692	V=1m/s a=1G S=1m	65.0	379	379	233
	55.0	829	265	829		55.0	466	466	287
	45.0	1028	328	1028		45.0	592	592	365
V=0.5m/s a=0.5G S=1m	100.0	497	212	994	V=0.5m/s a=0.5G S=1m	90.0	292	584	224
	80.0	629	269	1259		70.0	399	798	395
	60.0	849	363	1699		50.0	591	1182	452

VL17E2B					VL17E2B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Condition	负载 Load	Lx	Ly	Lz	条件 Condition	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	10.0	1574	484	787	V=2m/s a=2G S=1m	10.0	978	485	557
	8.0	1998	513	999		8.0	1240	620	712
	6.0	2706	698	1353		6.0	1689	844	971
V=1m/s a=1G S=1m	35.0	472	283	472	V=1m/s a=1G S=1m	35.0	270	270	244
	25.0	685	296	685		25.0	406	406	367
	15.0	1184	511	1184		15.0	722	722	654
V=0.5m/s a=0.5G S=1m	80.0	229	144	441	V=0.5m/s a=0.5G S=1m	75.0	121	243	154
	70.0	256	168	513		65.0	147	295	187
	60.0	384	199	609		55.0	183	367	233

VL17E3B					VL17E3B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Condition	负载 Load	Lx	Ly	Lz	条件 Condition	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	15.0	1632	380	816	V=2m/s a=2G S=1m	15.0	993	496	495
	10.0	2510	584	1255		10.0	1551	775	774
	5.0	5144	1198	2572		5.0	3227	1613	1611
V=1m/s a=1G S=1m	45.0	582	214	582	V=1m/s a=1G S=1m	45.0	325	325	237
	35.0	766	281	766		35.0	442	442	323
	25.0	1097	403	1097		25.0	653	653	477
V=0.5m/s a=0.5G S=1m	90.0	316	163	632	V=0.5m/s a=0.5G S=1m	85.0	168	337	161
	80.0	359	185	718		75.0	199	399	190
	70.0	415	214	830		65.0	240	481	229

1、可负载条件: $\frac{Lx_1}{Lx} + \frac{Ly_1}{Ly} + \frac{Lz_1}{Lz} \leq 1$; (Lx1, Ly1, Lz1为实际值)

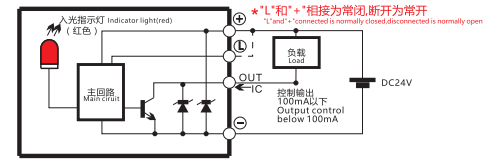
1.Allowable Load Conditions: $Lx_1/Lx + Ly_1/Ly + Lz_1/Lz \leq 1$; Lx1, Ly1, and Lz1 represent actual values)

2、Lx、Ly、Lz表示该方向的重心位置;

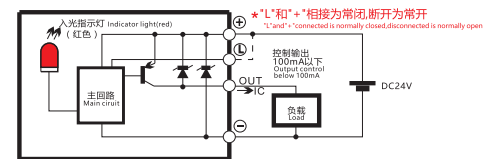
2.Lx, Ly, and Lz represent the position of the center of gravity in each respective direction.

3、满足负载条件, 预测寿命60000KM;

3.If load conditions are met, the predicted service life is 60,000 KM.



NPN型感应开关接线图
NPN model magnetic switch wiring diagram

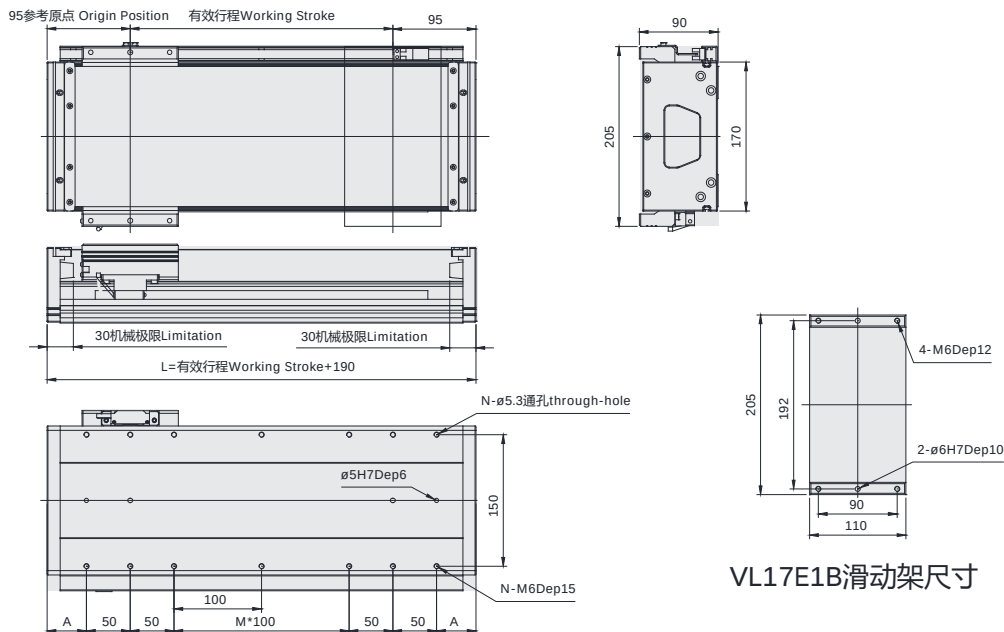


PNP型感应开关接线图
PNP model magnetic switch wiring diagram

VL17

VL17S1B

单位 Unit (mm)



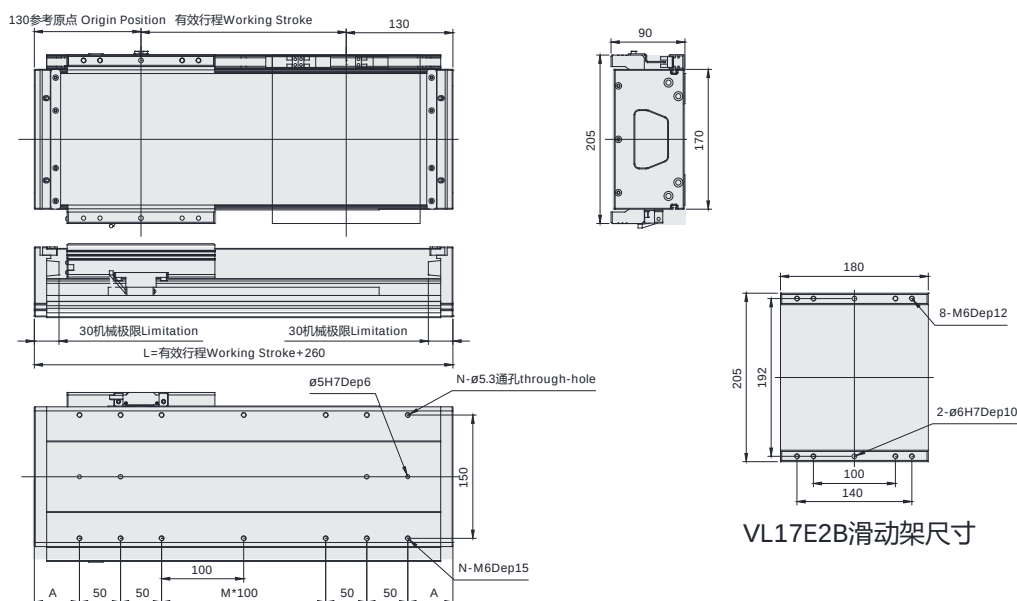
VL17E1B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390
A	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45
M	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11
N	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32
KG	8.2	9.1	10.0	10.9	11.8	12.7	13.6	14.5	15.4	16.3	17.2	18.1	19.0	19.9	20.8	21.7	22.6	23.5	24.4	25.3	26.2	27.1	28.0

注: ①、运动部位质量3.2kg
②、The moving part weight is 3.2KG
③、如需更长行程模组, 请联系沃姆公司。
④、For longer stroke linear module, please contact WOMMER.

VL17S2B

单位 Unit (mm)



VL17E2B滑动架尺寸

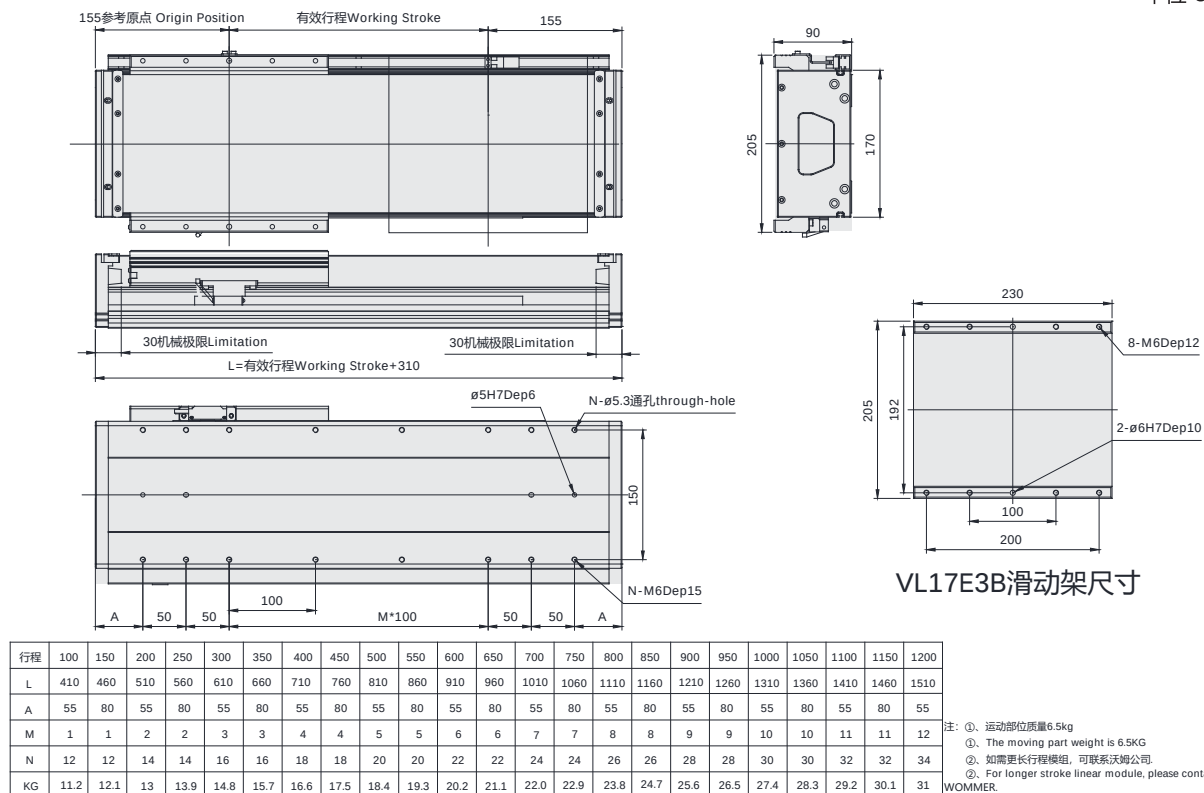
行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	360	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11
N	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32
KG	10.3	11.2	12.1	13	13.9	14.8	15.7	16.6	17.5	18.4	19.3	20.2	21.1	22.0	22.9	23.8	24.7	25.6	26.5	27.4	28.3	29.2	30.1

注: ①、运动部位质量4.9kg
②、The moving part weight is 4.9KG
③、如需更长行程模组, 请联系沃姆公司。
④、For longer stroke linear module, please contact WOMMER.

VL17

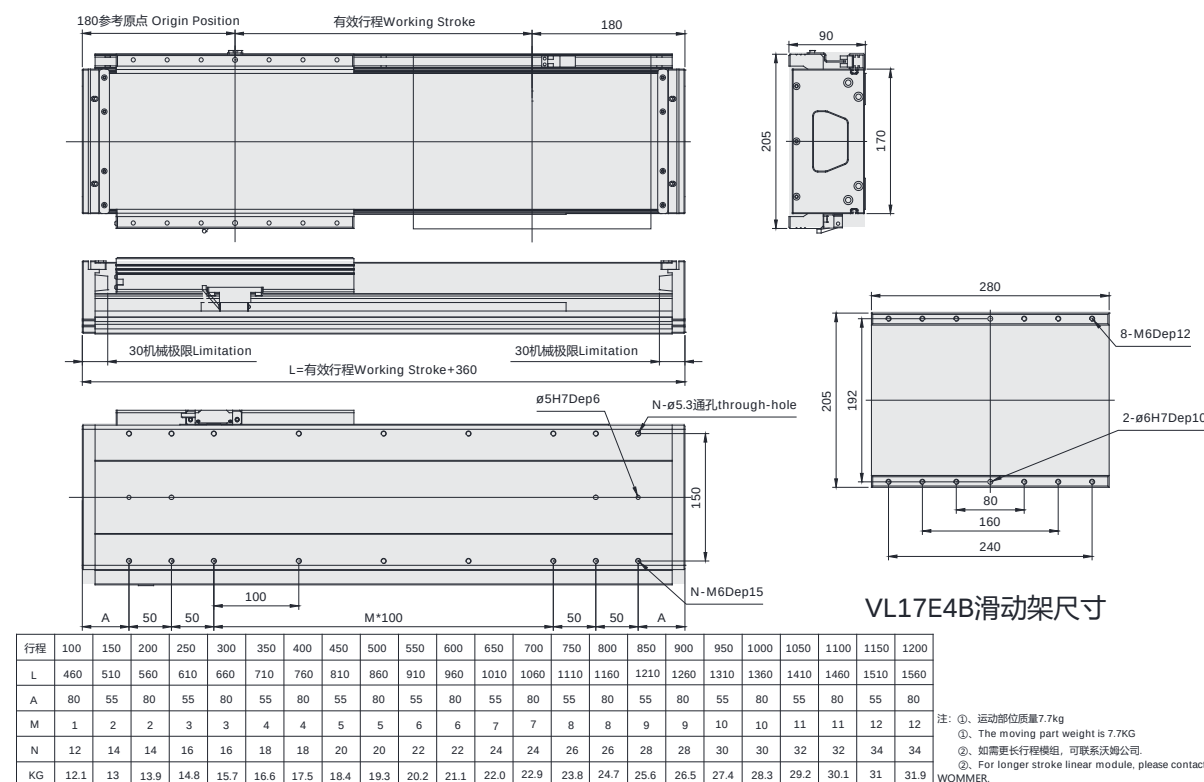
VL17S3B

单位 Unit (mm)



VL17S4B

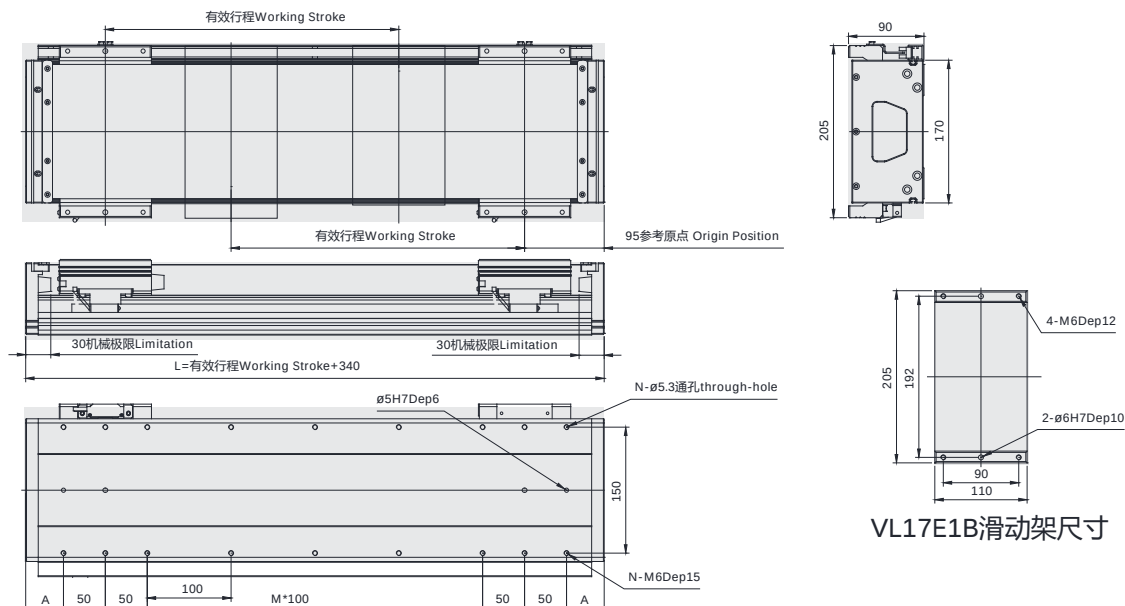
单位 Unit (mm)



VL17

2VL17S1B

单位 Unit (mm)



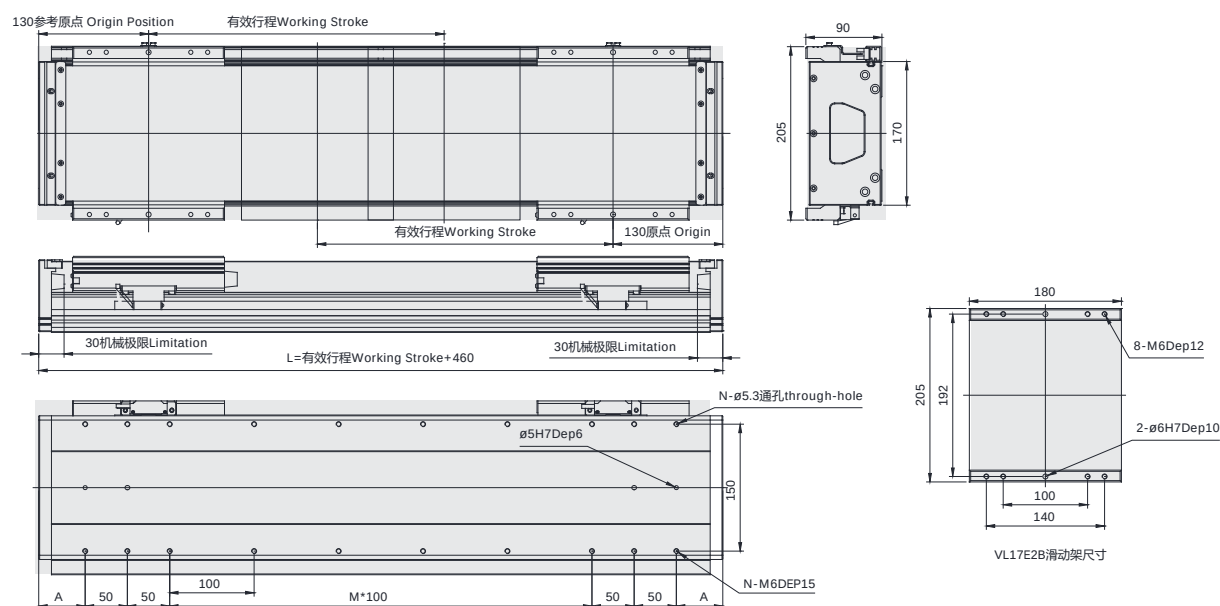
VL17E1B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540
A	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34
KG	13.7	14.6	15.5	16.4	17.3	18.2	19.1	20.0	20.9	21.8	22.7	23.6	24.5	25.4	26.3	27.2	28.1	29.0	29.9	30.8	31.7	32.6	33.5

注: ①、运动部件重量3.2kg
 ②、The moving part weight is 3.2KG
 ③、如需更长行程模组, 请联系沃姆公司
 ④、For longer stroke linear module, please contact WOMMER.

2VL17S2B

单位 Unit (mm)



VL17E2B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34
KG	17.9	18.8	19.7	20.6	21.5	22.4	23.3	24.2	25.1	26.0	26.9	27.8	28.7	29.6	30.5	31.4	32.3	33.2	34.1	35.0	35.9

注: ①、运动部件重量4.5kg
 ②、The moving part weight is 4.5KG
 ③、如需更长行程模组, 请联系沃姆公司
 ④、For longer stroke linear module, please contact WOMMER.

注: ①、运动部位质量7.7kg
①、The moving part weight is 7.7KG
②、如需更长行程模组, 可联系沃姆公司。
②、For longer stroke linear module, please contact WOMMER

VL22



■ 型号表示方式 Guide for Model Selection

VL22H1B — S500 — M1U0.5 — C 3 — ZG1

滑台数量 Number of sliding carrier	
1	1个滑台(可省略不写) 1 sliding carrier(omissible)
2	2个滑台 2 sliding carriers
3	3个滑台 3 sliding carriers
...	...

本体样式 Body Type	
VL22	本体宽度 Body Width
H1	电机尺寸86*100*40 Motor Dimensions86*100*40
H2	电机尺寸150*100*40 Motor Dimensions150*100*40
H3	电机尺寸214*100*40 Motor Dimensions214*100*40
H4	电机尺寸276*100*40 Motor Dimensions276*100*40
B	VBM系列 VBM Series
VL22(20 Guideways)	
VL22A(25 Guideways)	

行程 Stroke
100-3500

编码器 Encoder	
M	(数字量)磁性编码器 (Digital) magnetic encoder
O	(数字量)光学编码器 (Digital) optical encoder
MA	(数字量)磁性绝对值 (Digital) magnetic absolute encoder

分辨率 Resolution	
1U	分辨率1微米 Resolution of 1 μ m
05U	分辨率0.5微米 Resolution of 0.5 μ m

配线 Cable	
0.2	电缆长度0.2m,不配延长线 Cable length 0.2m,not equipped with extension cords
3	电缆长度3m Cable length 3m
5	电缆长度5m Cable length 5m
10	电缆长度10m Cable length 10m

光电开关 Photoelectric switch	
C3	3个外置式光电开关 3 external photoelectric switches
C4	4个外置式光电开关 4 external photoelectric switches
E	客户自配光电开关 Client self-configure photoelectric switch
感应器类型 Sensor type	
无	NPN
P	PNP

驱动器品牌 Drive brand	驱动器配置 Drive configuration	
G1	高创1代	空白 脉冲型 Blank Pulse type
G2	高创2代	E EtherCAT总线型 EtherCAT main line
G3	高创3代	C CANopen总线型 CANopen main line
P	松下 Panasonic	
T	台达 Delta	
V1	倍多利/倍特驱动 Beiduo/Beite drive	
V2	倍多利/倍特驱动 Beiduo/Beite drive	
Z	客户自配驱动器 Client self-configure drive	
其它: 特殊定制 Other: Special Customization		

基本规格 Specification

项目 Items	电机样式 Motor Type	VL22H1B/VL22AH1B	VL22H2B/VL22AH2B	VL22H3B/VL22AH3B	VL22H4B/VL22AH4B
导轨规格 Items		AL22(20x15.5-2) AL22A(25x18-2)			
滑块数量 Number of linear block		4	4	4	6
分辨率(最高速度) Resolution (max speed)		Magnetic Scale: 1 μm Resol. / Grating Scale: 0.5 μm Resol/(3m/s)			
重复定位精度(μm) Repeatability (μm)		磁性编码器±5 光学编码器±3 Magnetic encoder±5 Optical encoder±3			
持续推力(N) Continuous Thrust (N)		175	350	525	700
峰值推力(N) Peak Thrust (N)		613	1226	1839	2450
静态容许力矩(N.M) Static allowable Moment (N.M)		VL22H1.MP:469 MY:287 MR:1358 VL22AH1.MP:836 MY:359 MR:2057	VL22H2.MP:1076 MY:660 MR:2206 VL22AH2.MP:1768 MY:760 MR:3328	VL22H3.MP:1745 MY:1070 MR:2206 VL22AH3.MP:2808 MY:1207 MR:3328	VL22H4.MP:3610 MY:2213 MR:3309 VL22AH4.MP:5772 MY:2482 MR:4992
动态容许力矩(N.M)(注1) Dynamic allowable Moment (N.M)(Note1)		VL22H1.MP:218 MY:138 MR:630 VL22AH1.MP:402 MY:207 MR:990	VL22H2.MP:450 MY:286 MR:921 VL22AH2.MP:763 MY:393 MR:1436	VL22H3.MP:729 MY:464 MR:921 VL22AH3.MP:1212 MY:625 MR:1436	VL22H4.MP:1257 MY:799 MR:1152 VL22AH4.MP:2076 MY:1285 MR:1795
负荷允许伸出长度(mm)(注2) Overhang load length (mm)(Note2)		450	675	900	1125
最大负载(kg) (注3) Max Payload (kg)(Note3)		55	100	110	150

注1: 基准额定寿命为10000km时的值。行走寿命因运行条件、安装状态不同而发生变化。

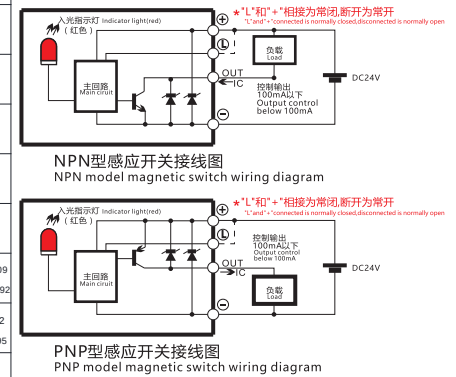
Note 1: The reference rating life is based on 10,000 km. Actual travel life may vary depending on running conditions and installation status.

注2: 即使满足负载和力矩容许范围, 当负载伸出长度过大时, 负载末端在定位时依然可能产生抖动或共振, 此时因适当下调和放宽动作条件。

Note 2: Even if both the load and the torque stay within the acceptable range, excessive load overhang may still cause vibration or resonance at the end of the load during positioning. In such cases, the motion conditions shall be appropriately relaxed or expanded.

注3: 行程1000mm,速度500mm/s, 加速度0.5G, 停留时间0.1s条件下的值。

Note 3: Values are based on the following conditions: Stroke: 1,000 mm; Speed: 500 mm/s; Acceleration: 0.5 G; Dwell time: 0.1 s



VL22H1B					VL22H1B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Precondition	负载 Load	Lx	Ly	Lz	条件 Precondition	负载 Load	Lx	Ly	Lz
V=1.5m/s a=1.5G S=1m	10	899	331	599	V=1.5m/s a=1.5G S=1m	10	553	369	473
	8	1158	423	767		8	712	475	609
	6	1570	578	1046		6	978	652	837
V=1m/s a=1G S=1m	23	393	284	393	V=1m/s a=1G S=1m	23	233	233	273
	20	463	240	463		20	277	277	325
	17	557	289	557		17	337	337	395
V=0.5m/s a=0.5G S=1m	55	173	152	347	V=0.5m/s a=0.5G S=1m	50	187	215	280
	45	220	193	440		40	144	288	268
	35	293	258	586		30	204	409	382

VL22H2B					VL22H2B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Precondition	负载 Load	Lx	Ly	Lz	条件 Precondition	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	13	1399	385	699	V=2m/s a=2G S=1m	13	867	433	548
	10	1862	512	931		10	1161	580	734
	7	2722	748	1361		7	1707	853	1080
V=1m/s a=1G S=1m	45	419	283	419	V=1m/s a=1G S=1m	45	244	244	258
	35	559	271	559		35	333	333	352
	25	811	393	811		25	493	493	521
V=0.5m/s a=0.5G S=1m	100	282	158	484	V=0.5m/s a=0.5G S=1m	90	123	246	195
	90	228	179	456		80	144	288	229
	80	261	205	522		70	171	342	272

VL22H3B					VL22H3B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Precondition	负载 Load	Lx	Ly	Lz	条件 Precondition	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	25	1156	294	578	V=2m/s a=2G S=1m	25	700	350	394
	20	1481	376	740		20	907	453	510
	15	2023	514	1011		15	1251	625	704
V=1m/s a=1G S=1m	75	405	171	405	V=1m/s a=1G S=1m	75	222	222	194
	65	478	202	478		65	268	268	235
	55	578	245	578		55	332	332	291
V=0.5m/s a=0.5G S=1m	110	314	199	628	V=0.5m/s a=0.5G S=1m	100	186	372	226
	90	392	248	784		80	247	495	301
	70	514	326	1029		60	349	699	425

VL22H4B					VL22H4B				
水平安装 Horizontal Installation					壁挂安装 Wall Installation				
条件 Precondition	负载 Load	Lx	Ly	Lz	条件 Precondition	负载 Load	Lx	Ly	Lz
V=2m/s a=2G S=1m	32	1607	379	883	V=2m/s a=2G S=1m	32	972	486	494
	25	2099	495	1049		25	1283	641	653
	15	3592	847	1796		15	2233	1116	1136
V=1m/s a=1G S=1m	100	545	284	545	V=1m/s a=1G S=1m	100	296	296	223
	80	699	262	699		80	394	394	297
	60	956	358	956		60	558	558	419
V=0.5m/s a=0.5G S=1m	150	407	216	814	V=0.5m/s a=0.5G S=1m	130	252	504	249
	130	475	253	950		100	349	699	345
	110	568	302	1136		70	530	1061	524

1、可负载条件: $\frac{Lx1}{Lx} + \frac{Ly1}{Ly} + \frac{Lz1}{Lz} \leq 1$; ($Lx1$, $Ly1$, $Lz1$ 为实际值)

1.Allowable Load Conditions: $Lx1/Lx + Ly1/Ly + Lz1/Lz \leq 1$; $Lx1$, $Ly1$, and $Lz1$ represent actual values)

2、 Lx , Ly , Lz 表示该方向的重心位置;

2. Lx , Ly , and Lz represent the position of the center of gravity in each respective direction.

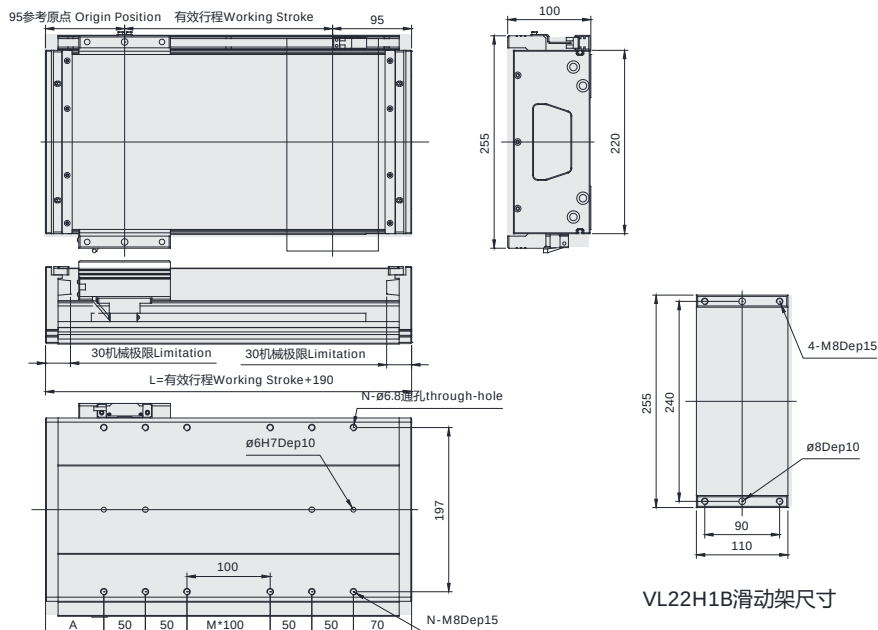
3、满足负载条件, 预测寿命60000KM;

3.If load conditions are met, the predicted service life is 60,000 KM.

VL22

VL22H1B

单位 Unit (mm)



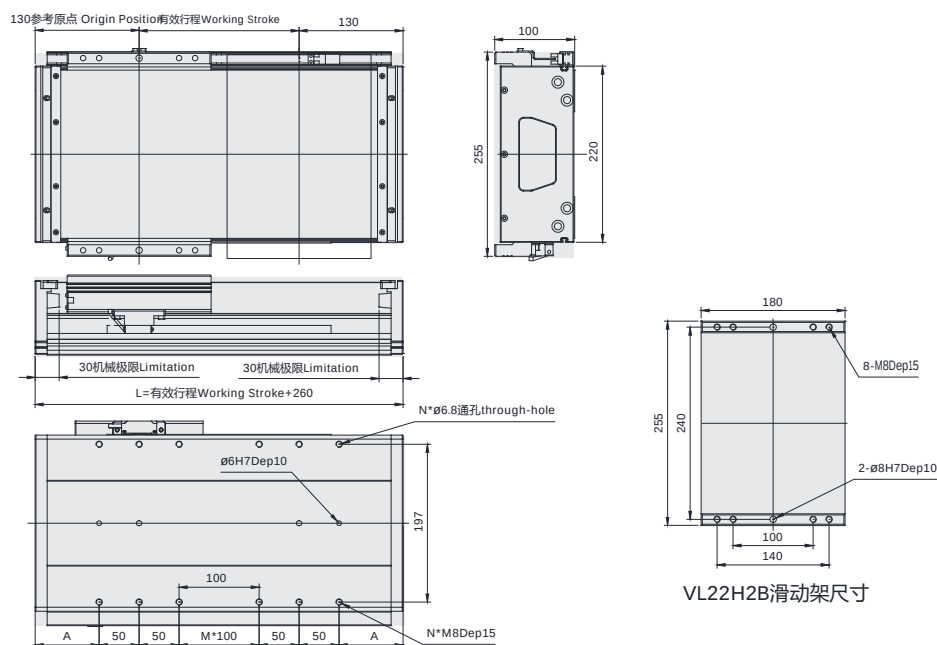
VL22H1B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390
A	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45
M	0	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11
N	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32
KG	11.7	13.1	14.5	15.9	17.3	18.7	20.1	21.5	22.9	24.3	25.7	27.1	28.5	29.9	31.3	32.7	34.1	35.5	36.9	38.3	39.7	41.1	42.5

注: ①. 运动部位质量4.0kg
 ②. The moving part weight is 4.0KG
 ③. 如需更长行程模组, 请联系沃姆公司.
 ④. For longer stroke linear module, please contact WOMMER.

VL22H2B

单位 Unit (mm)



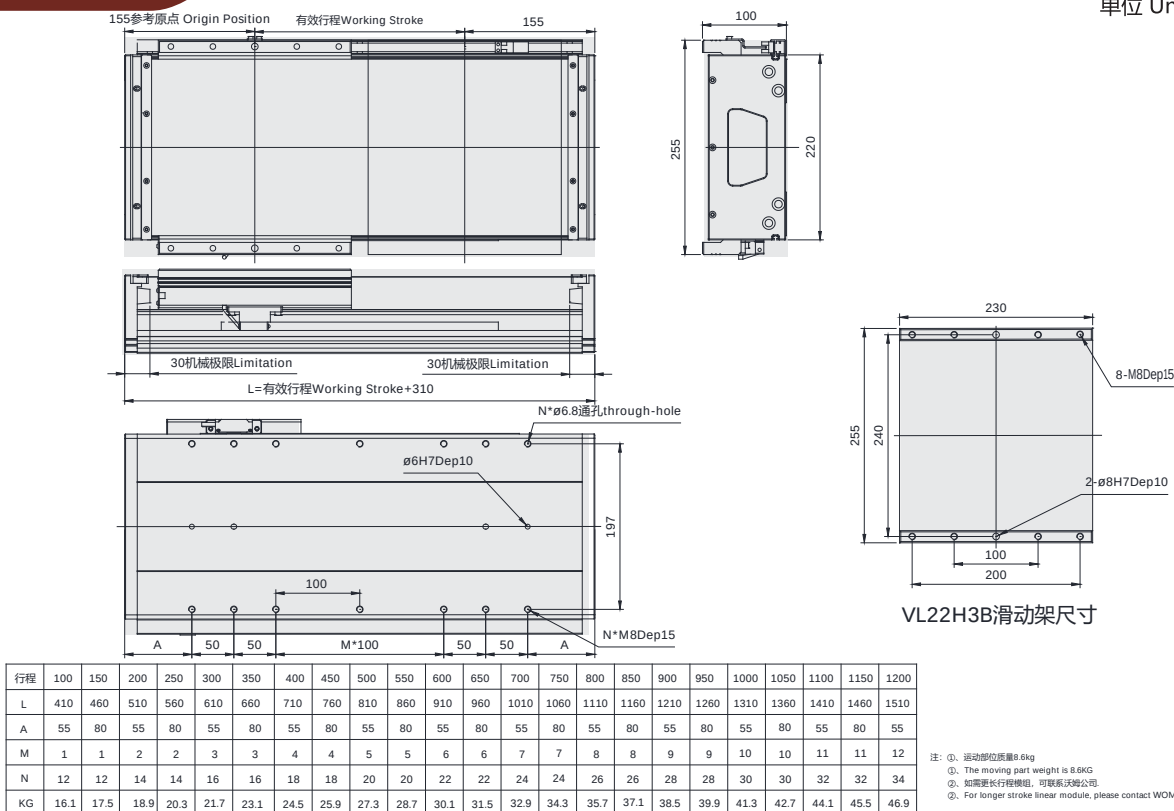
VL22H2B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	360	410	460	510	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	0	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11
N	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32
KG	14.7	16.1	17.5	18.9	20.3	21.7	23.1	24.5	25.9	27.3	28.7	30.1	31.5	32.9	34.3	35.7	37.1	38.5	39.9	41.3	42.7	44.1	45.5

注: ①. 运动部位质量6kg
 ②. The moving part weight is 6KG
 ③. 如需更长行程模组, 请联系沃姆公司.
 ④. For longer stroke linear module, please contact WOMMER.

VL22H3B

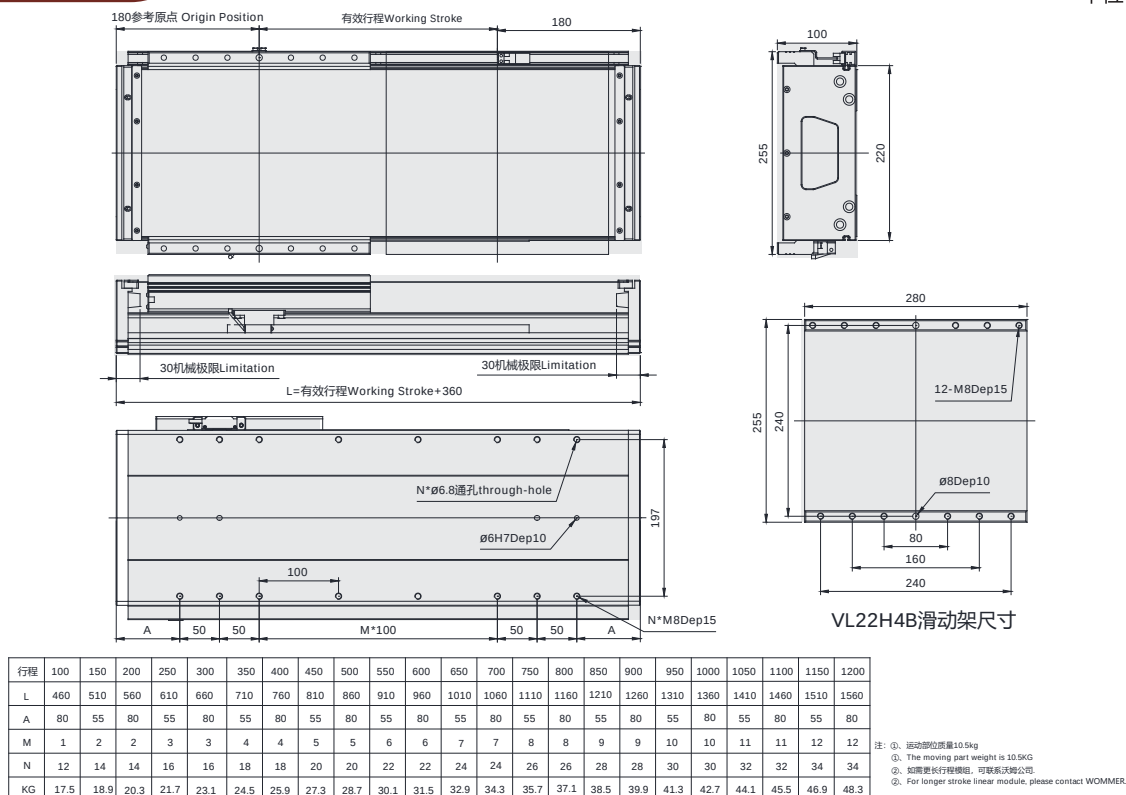
单位 Unit (mm)



VL22H3B滑动架尺寸

VL22H4B

单位 Unit (mm)

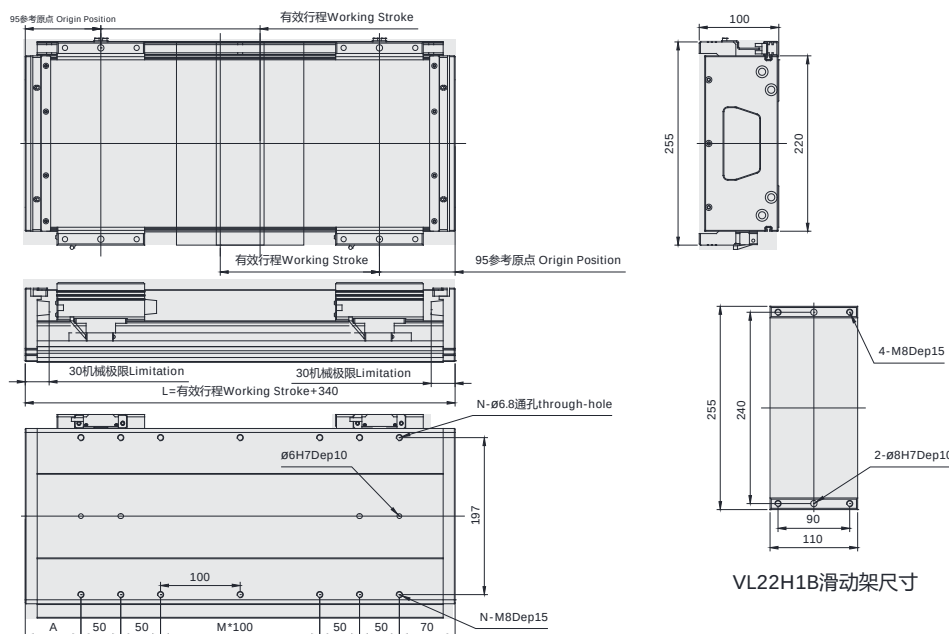


VL22H4B滑动架尺寸

VL22

2VL22H1B

单位 Unit (mm)



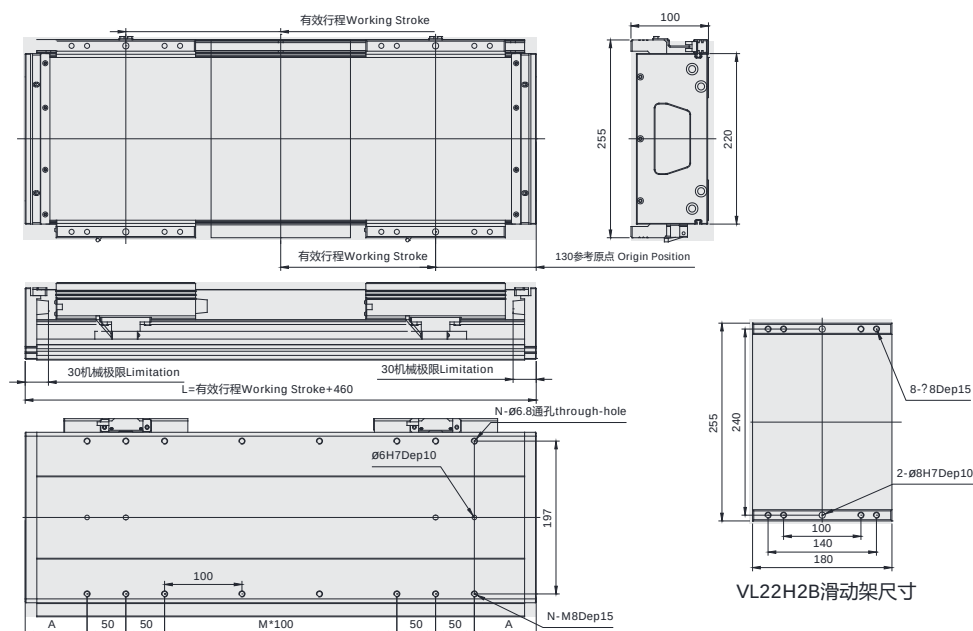
VL22H1B滑动架尺寸

行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200
L	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540
A	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70	45	70
M	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34
KG	19.6	21.0	22.4	23.8	24.2	25.6	28.0	30.4	32.8	35.2	37.6	40.0	42.4	44.8	47.2	49.6	52.0	54.4	56.8	59.2	61.6	64.0	26.4

注: ①、运动部件质量4.0kg
②、The moving part weight is 4.0KG
③、如需更长行程模块, 请联系沃姆公司。
④、For longer stroke linear module, please contact WOMMER.

2VL22H2B

单位 Unit (mm)

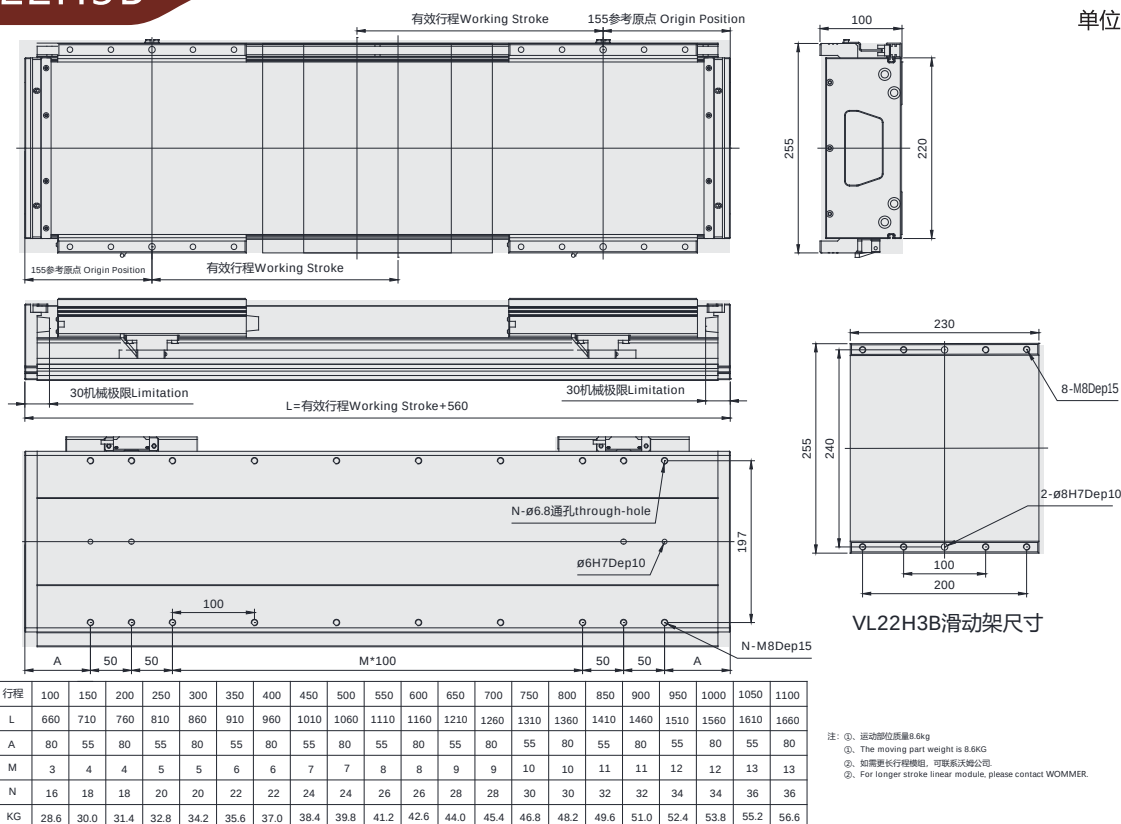


VL22H2B滑动架尺寸

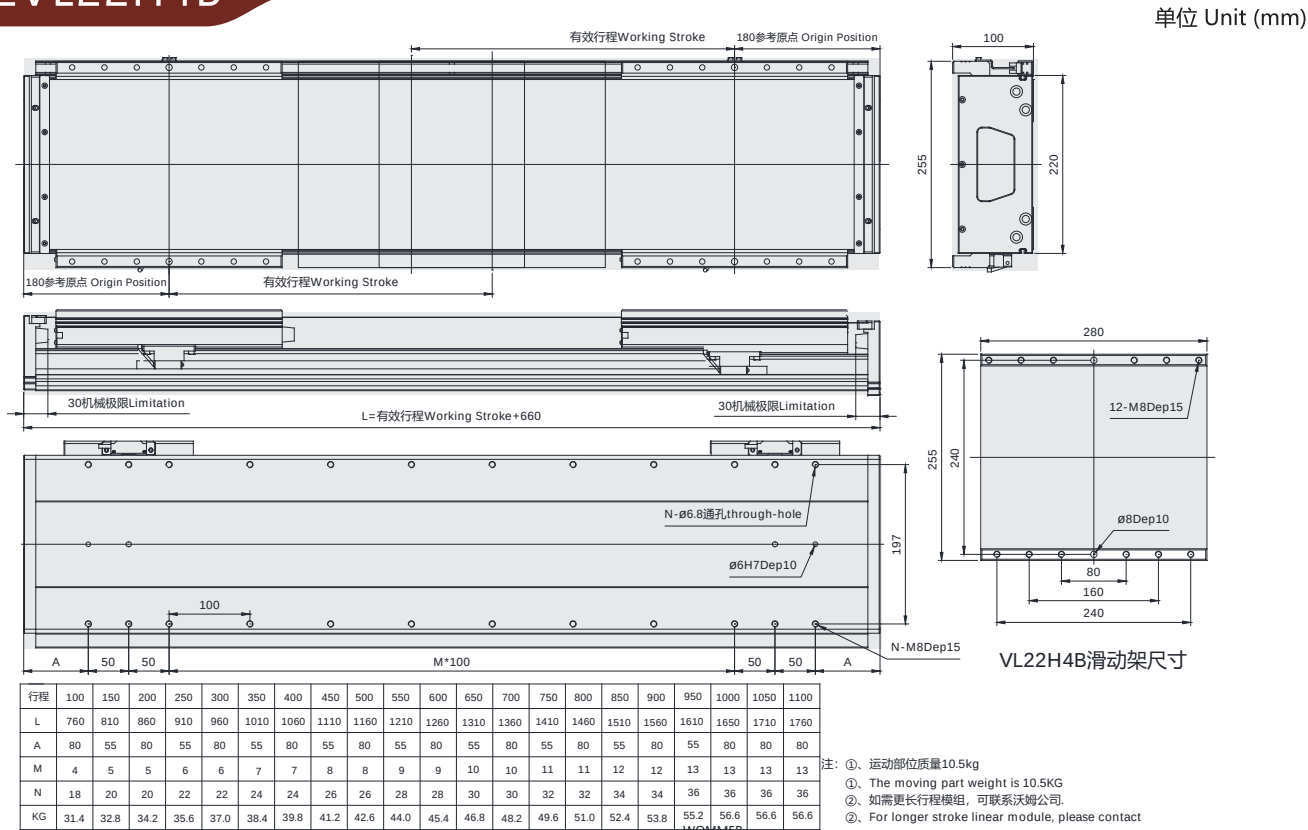
行程	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
L	560	610	660	710	760	810	860	910	960	1010	1060	1110	1160	1210	1260	1310	1360	1410	1460	1510	1560
A	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80	55	80
M	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12
N	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34
KG	25.8	27.2	28.6	30.0	31.4	32.8	34.2	35.6	37.0	38.4	39.8	41.2	42.6	44.0	45.4	46.8	48.2	49.6	51.0	52.4	53.8

注: ①、运动部件质量6kg
②、The moving part weight is 6KG
③、如需更长行程模块, 请联系沃姆公司。
④、For longer stroke linear module, please contact WOMMER.

2VL22H3B

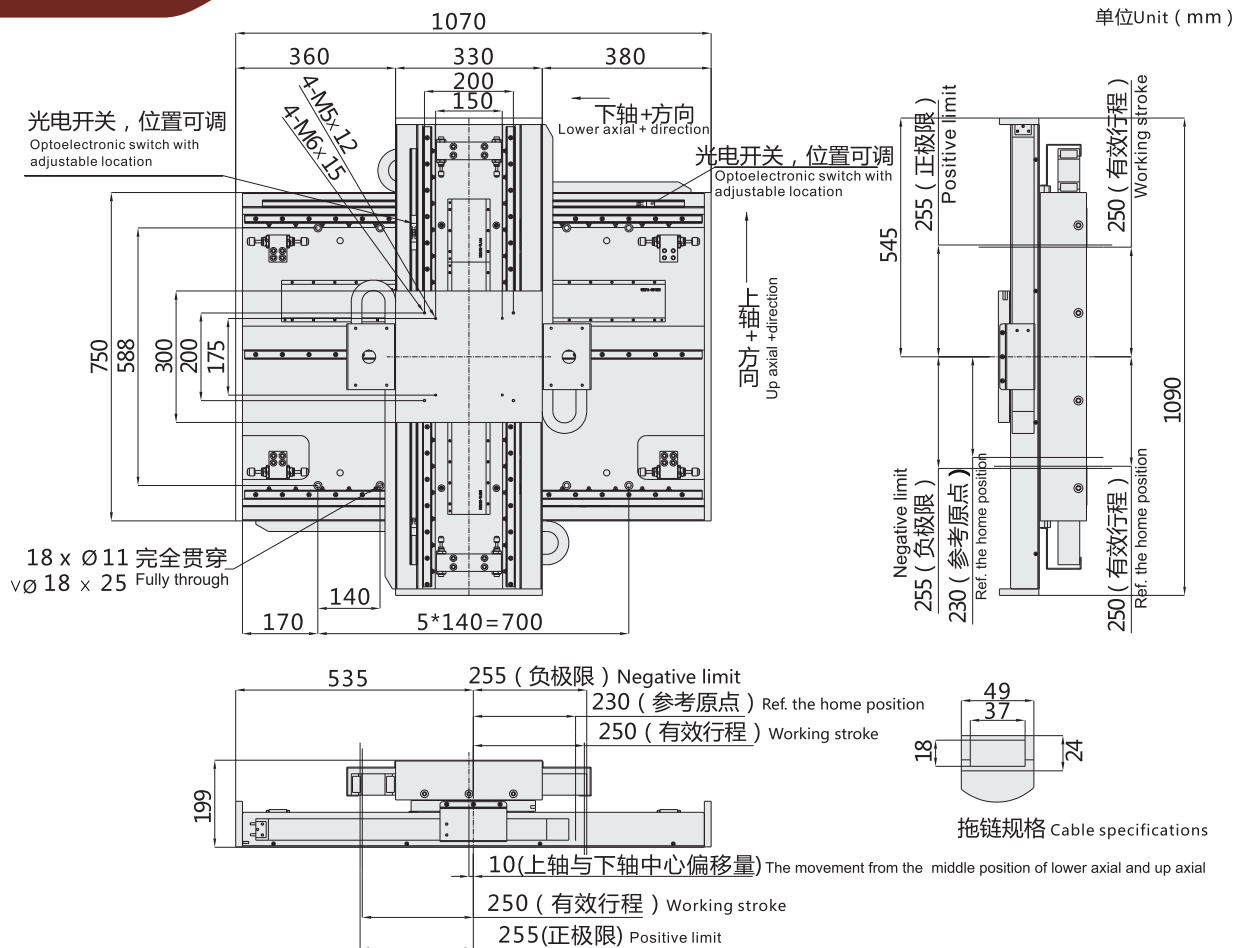
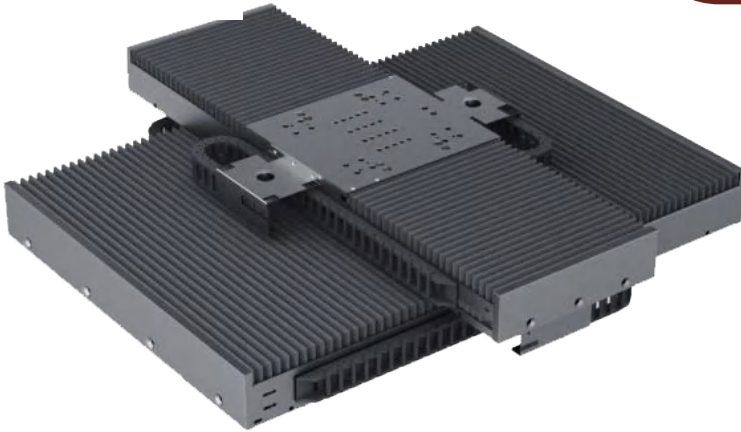


2VL22H4B



MEMO

XY直线电机平台 (封闭式) XY linear motor (Desktop type)



技术参数 Technical specifications

平台规格 : Model of the table:	LMDTX-IGE186-IGE268-S500-S500-Y20		
峰值推力 (N) Peak Current(N)	上轴 :1110 Up axial:1110	下轴 :1700 lower shaft:1700	重复定位精度 (mm) Repeatability(mm)
连续推力(N) Continuous Force(N)	上轴 :300 Up axial:300	下轴 :435 lower shaft:435	定位精度 (mm) Position accuracy(mm)
行程(mm) Stroke(mm)	上轴 :500 Up axial:500	下轴 :500 lower shaft:500	限位开关 Limit switch
最大加速度 (m/s/s) Max. acceleration (m/s/s)	12		外观 Facade
最大速度 (m/s) Maximum Speed (m/s)	0.8		基座材质 Base seat material
额定载荷 (kg) Rated Payload (kg)	45		安装方式 Installation Way
编码器 (um) Encoder (um)	光栅尺 : 0.1 grating ruler:0.1		平台重量 (kg) Table weight(kg)

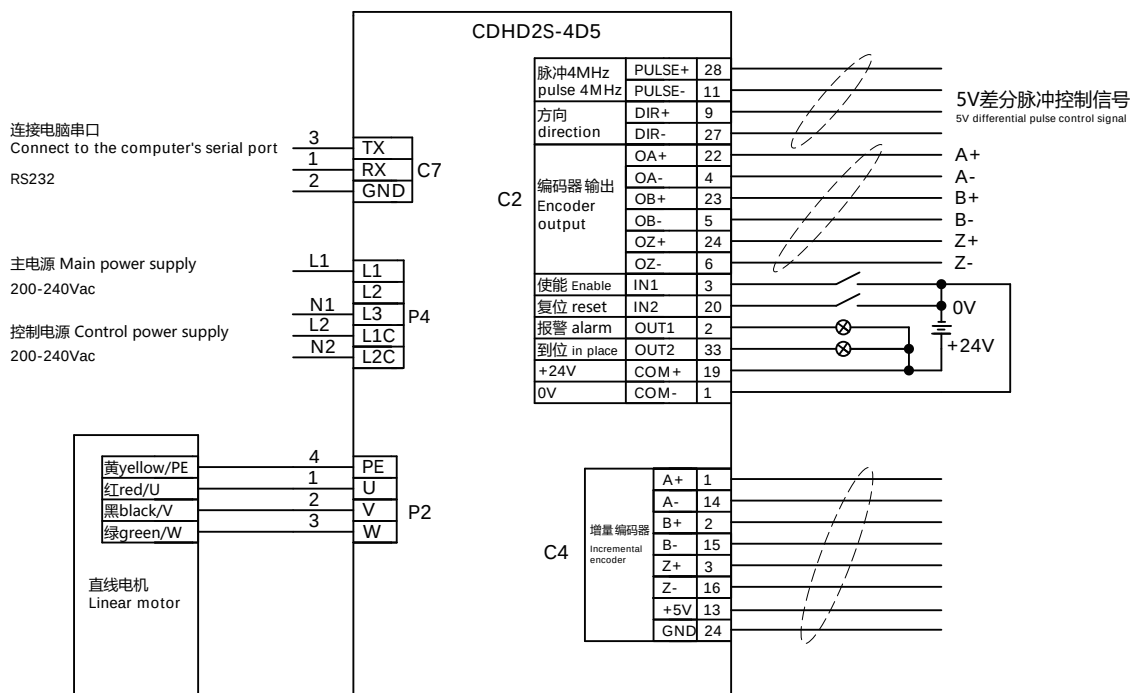
注: 客户需求要定制的, 请与我们联系。Remark: if customization requires,pls contact us directly.

直线模组驱动器接线图

Linear module driver wiring diagram

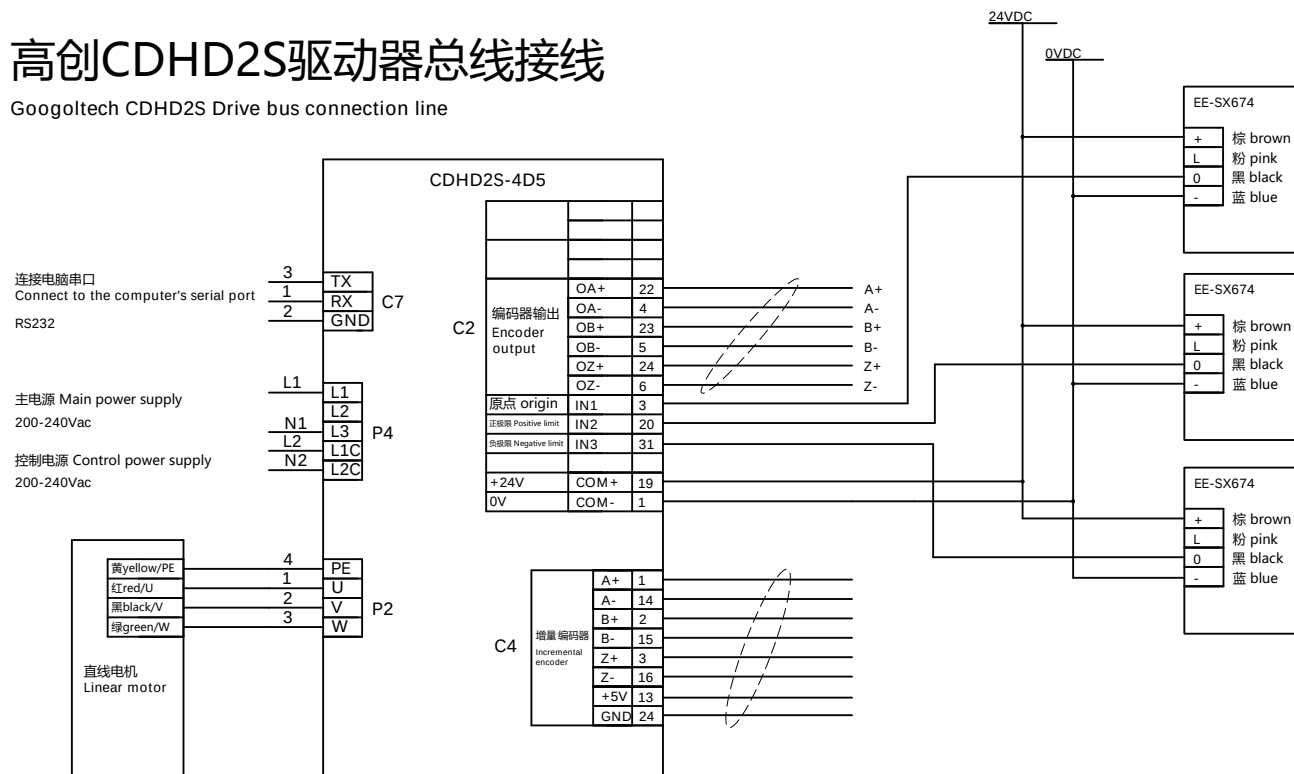
高创CDHD2S驱动器差分脉冲接线

Googoltech CDHD2S Driver Differential Pulse Wiring



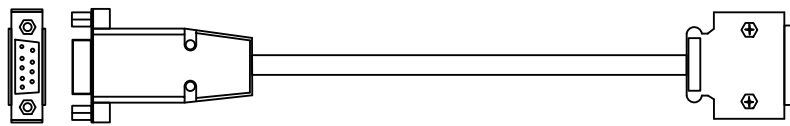
高创CDHD2S驱动器总线接线

Googoltech CDHD2S Drive bus connection line



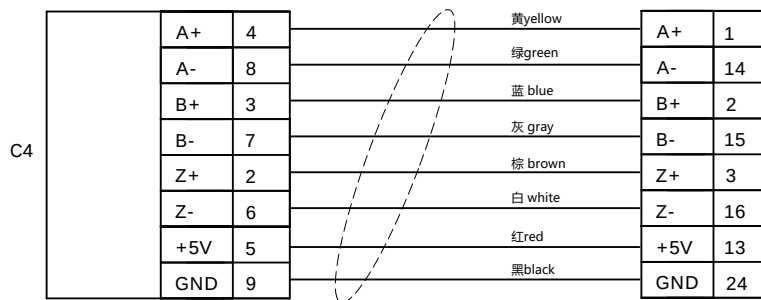
编码器接线图

Encoder wiring diagram



DB9针母头
DB9 female connector

SCSI26针
SCSI26-pin

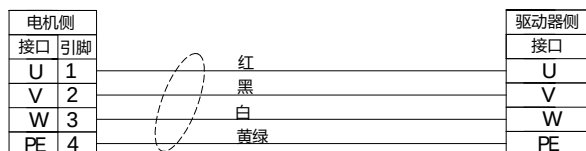
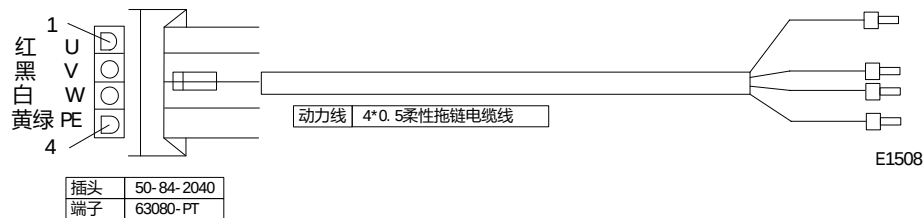


备注：屏蔽线接外壳上。

Note: The shielded wire is connected to the shell.

电机线接线图

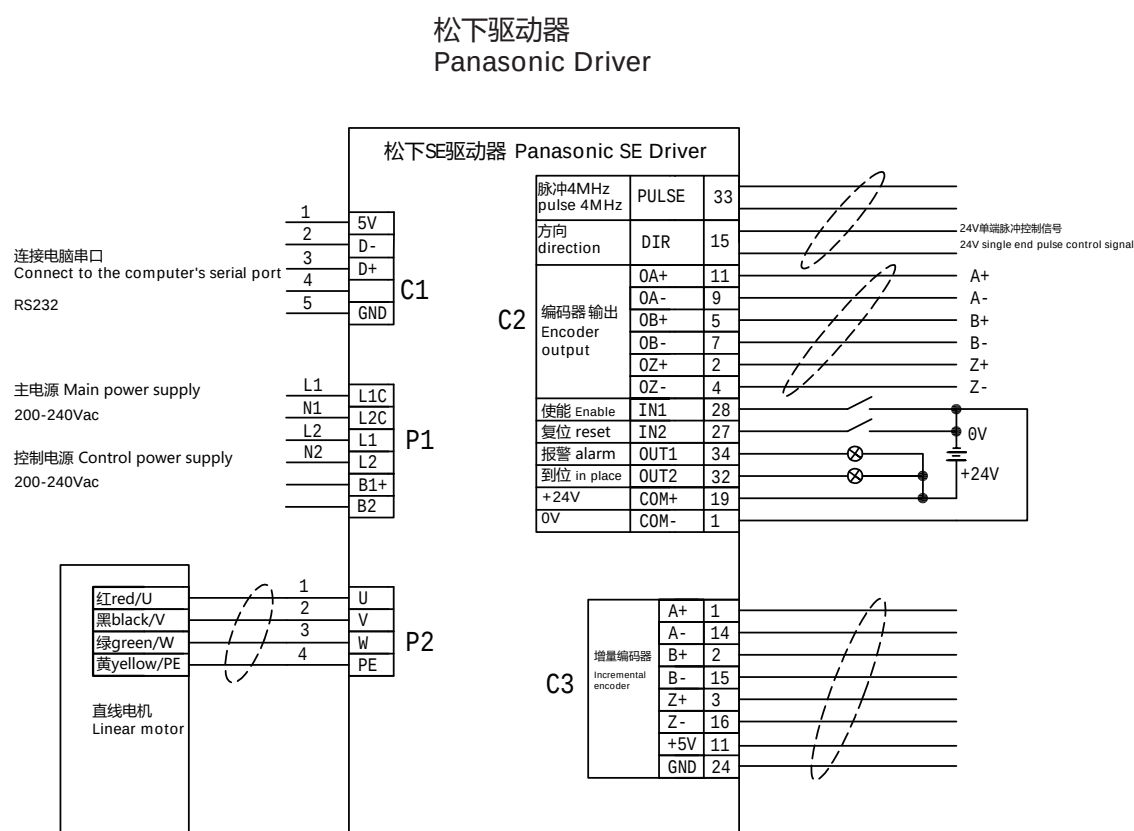
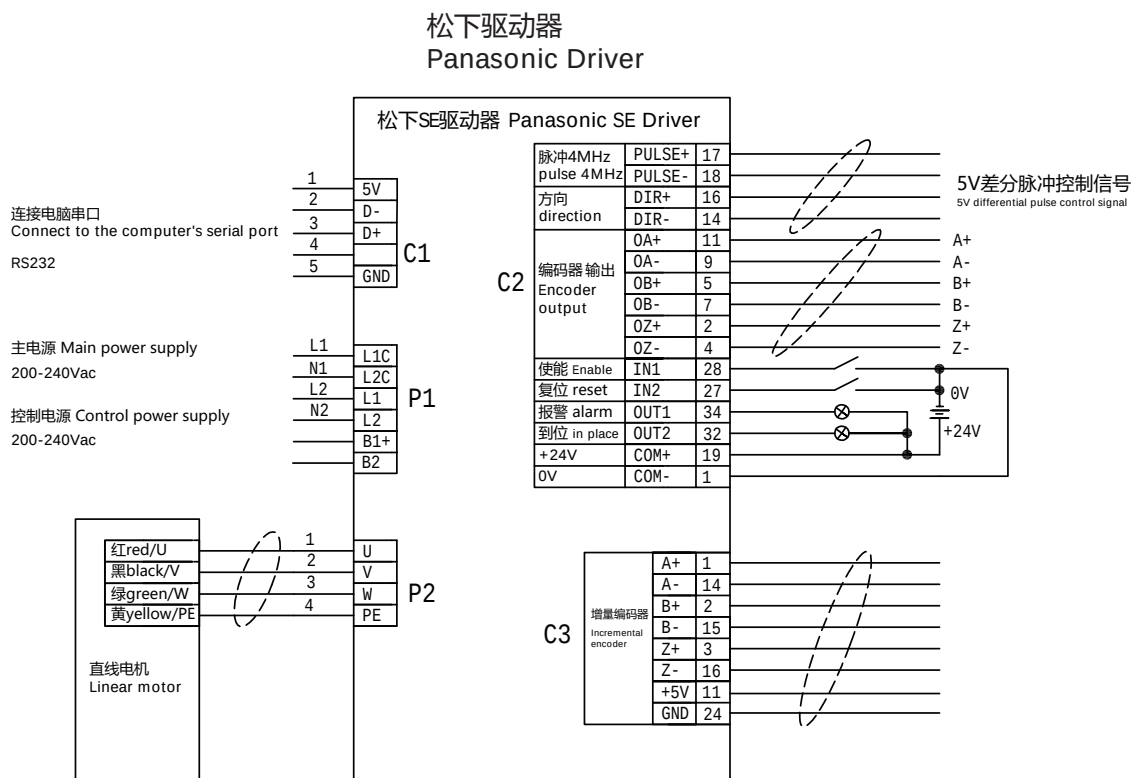
Motor wire wiring diagram



备注：屏蔽线接地线上。

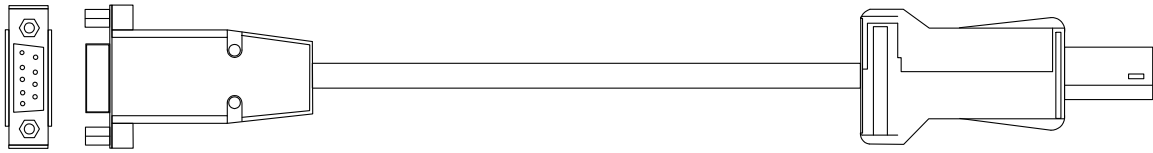
Note: On the shielded wire ground wire.

Linear module driver wiring diagram



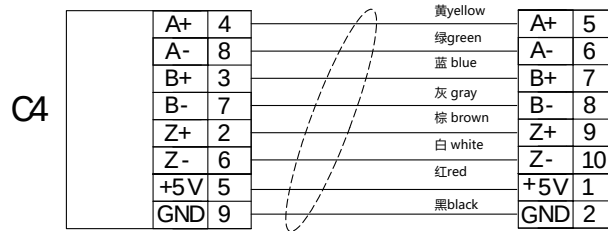
编码器接线图

Encoder wiring diagram



DB9 针母头
DB9 female connector

DVOPM20026

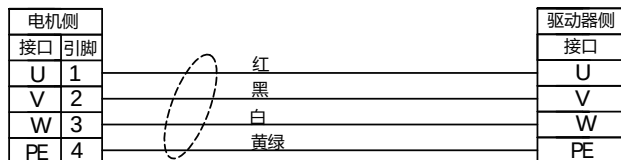
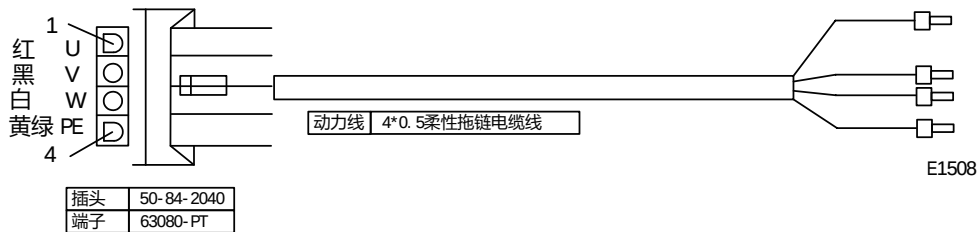


备注：屏蔽线接外壳上。

Note: The shielded wire is connected to the shell.

电机线接线图

Motor wire wiring diagram



备注：屏蔽线接地线上。

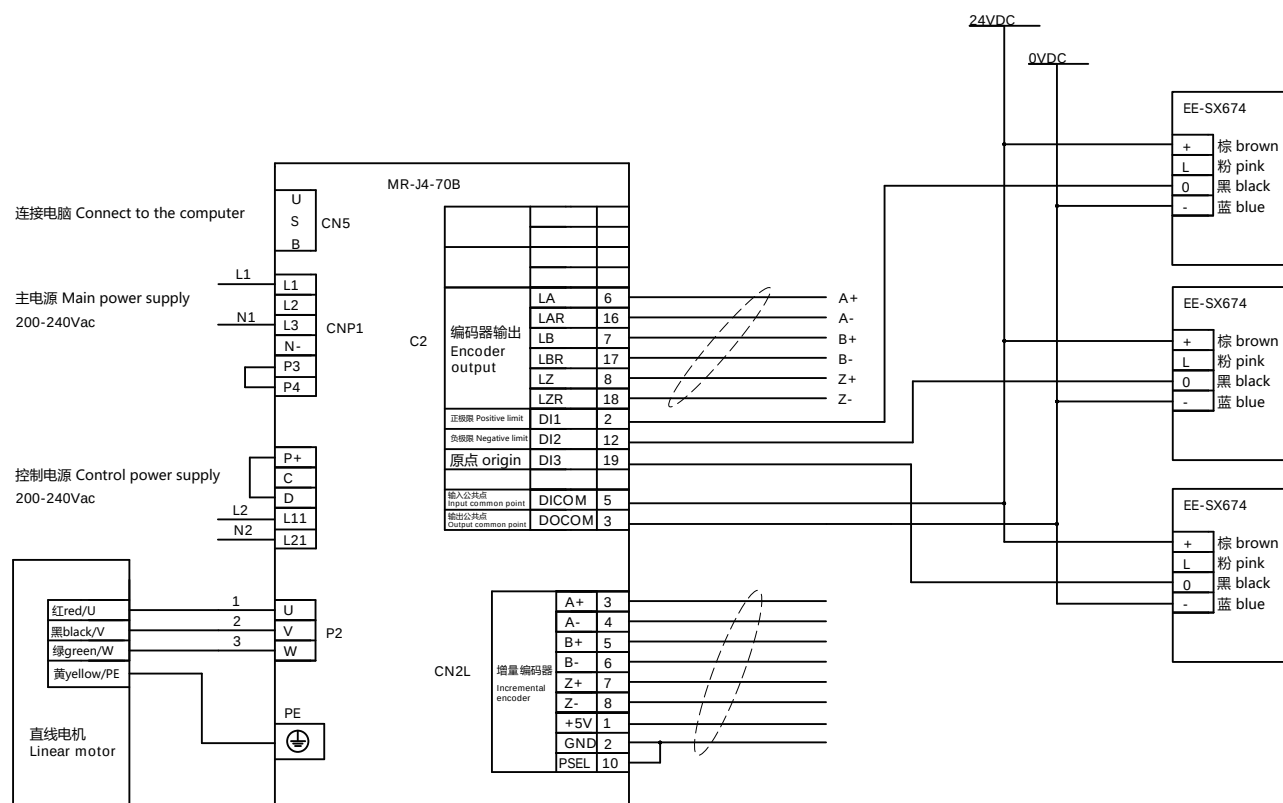
Note: On the shielded wire ground wire.

直线模组驱动器接线图

Linear module driver wiring diagram

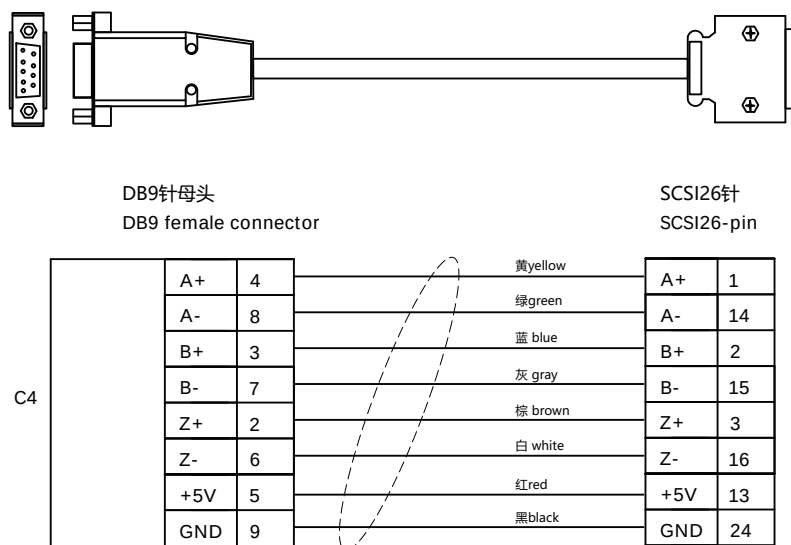
三菱MR-J4-B驱动器总线接线

Mitsubishi MR-J4-B driver bus wiring



编码器接线图

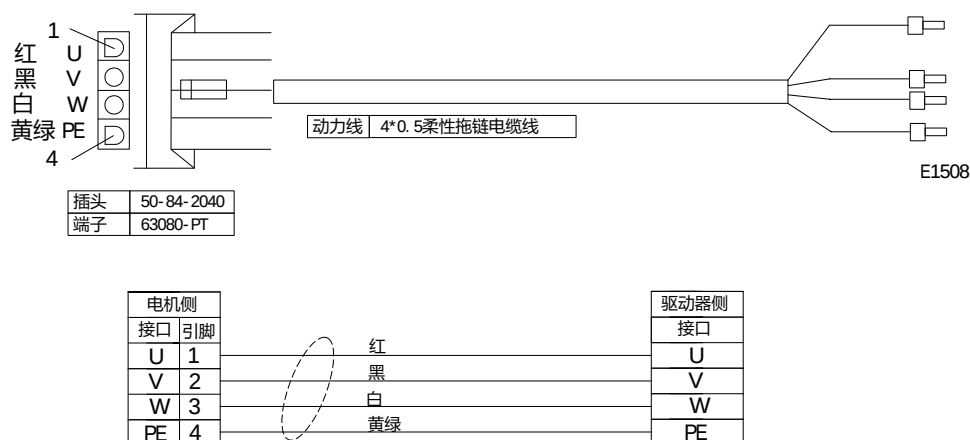
Encoder wiring diagram



备注：屏蔽线接外壳上。
Note: The shielded wire is connected to the shell.

电机线接线图

Motor wire wiring diagram

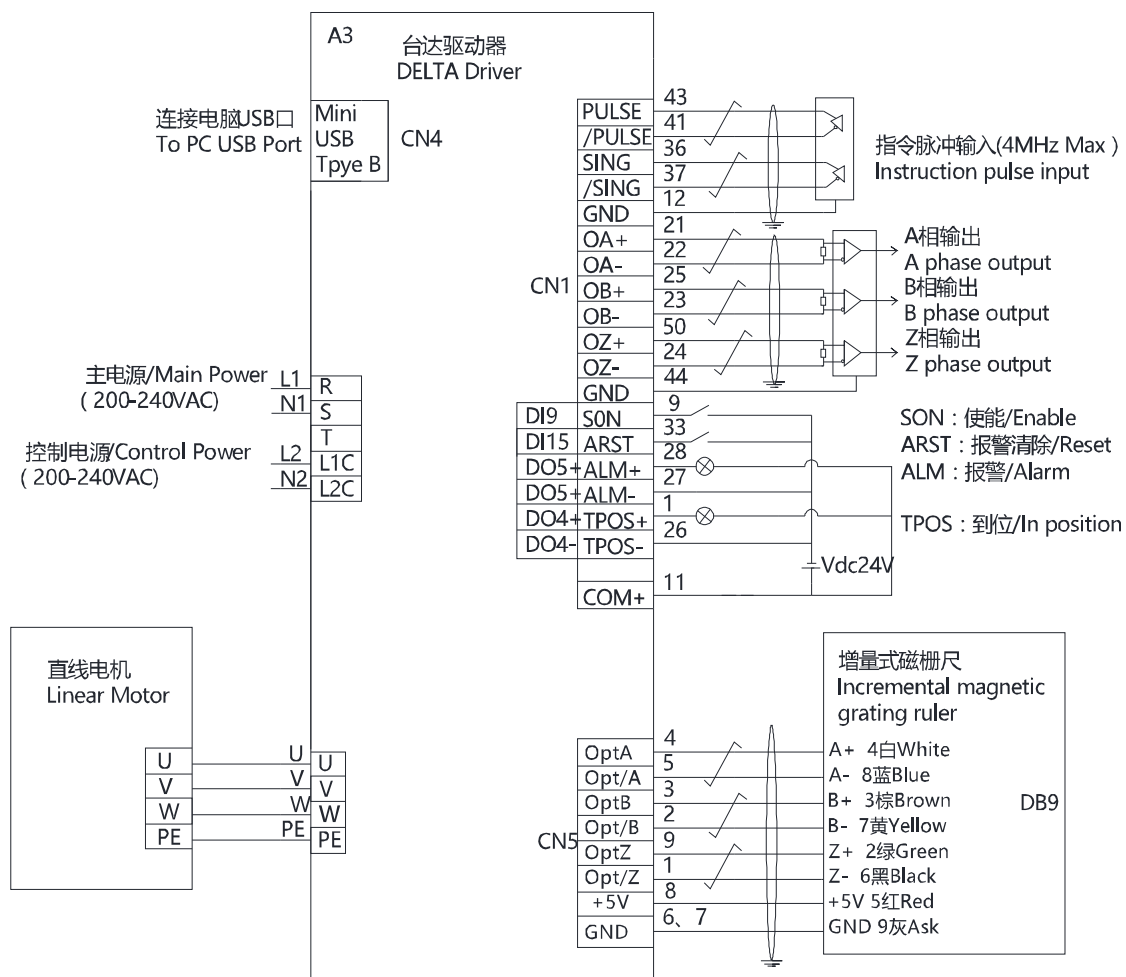


备注：屏蔽线接地线上。
Note: On the shielded wire ground wire.

直线模组驱动器接线图

Linear module driver wiring diagram

直线模组接线图 (台达驱动器 : 位置控制模式+差分接法)
Linear Module Connection Diagram (DELTA:
Position Control Mode + Differential Connection Method)



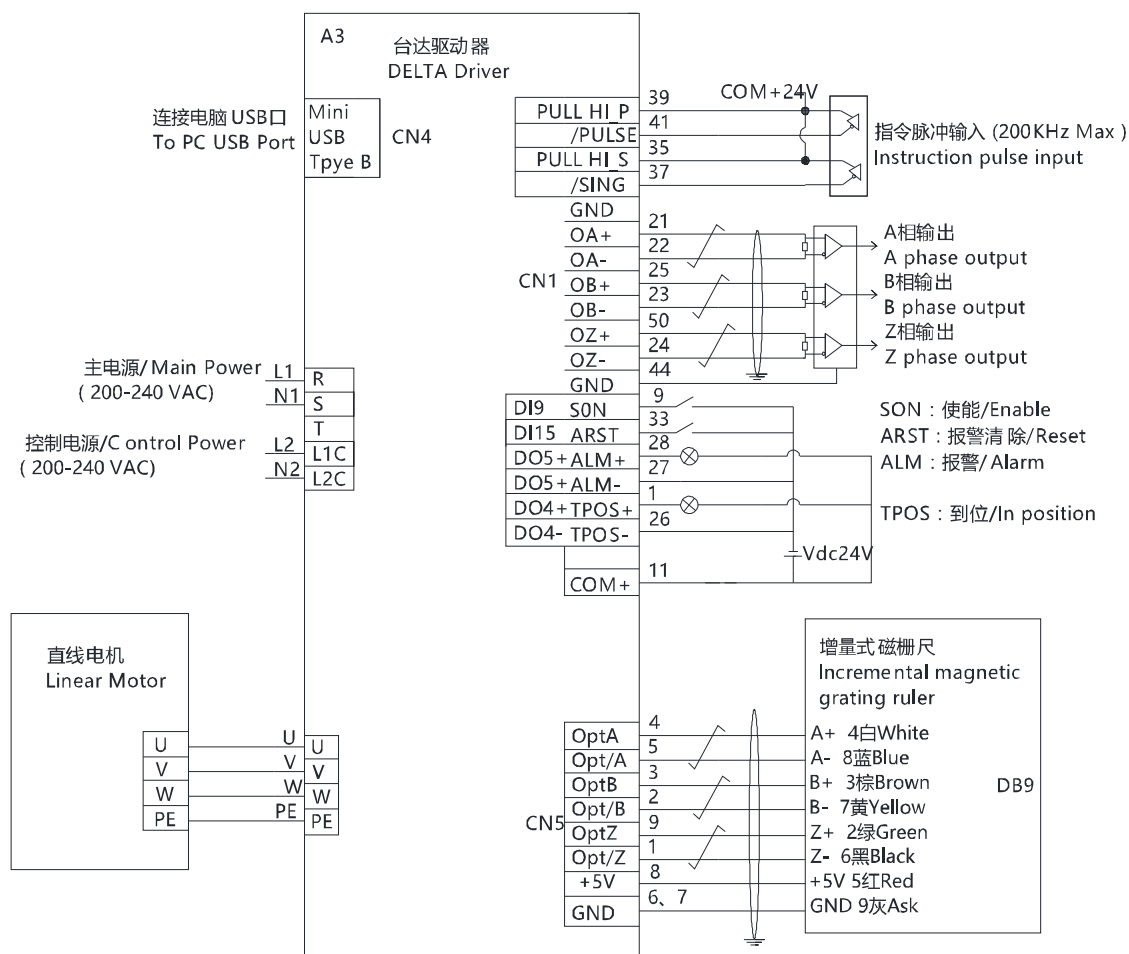
直线模组驱动器接线图

Linear module driver wiring diagram

直线模组接线图（台达驱动器：位置控制模式+共阳接法）

Linear Module Connection Diagram (DELTA:

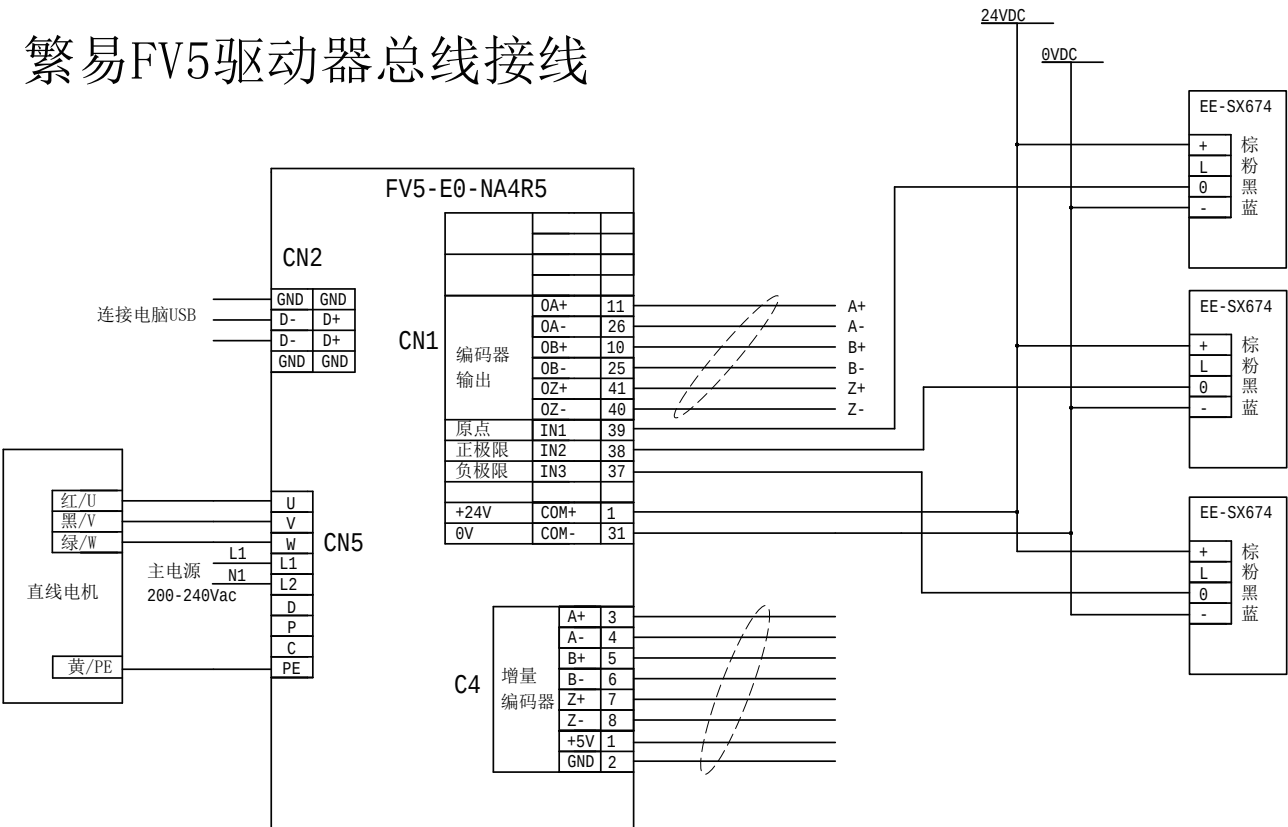
Position Control Mode + common anode connection)



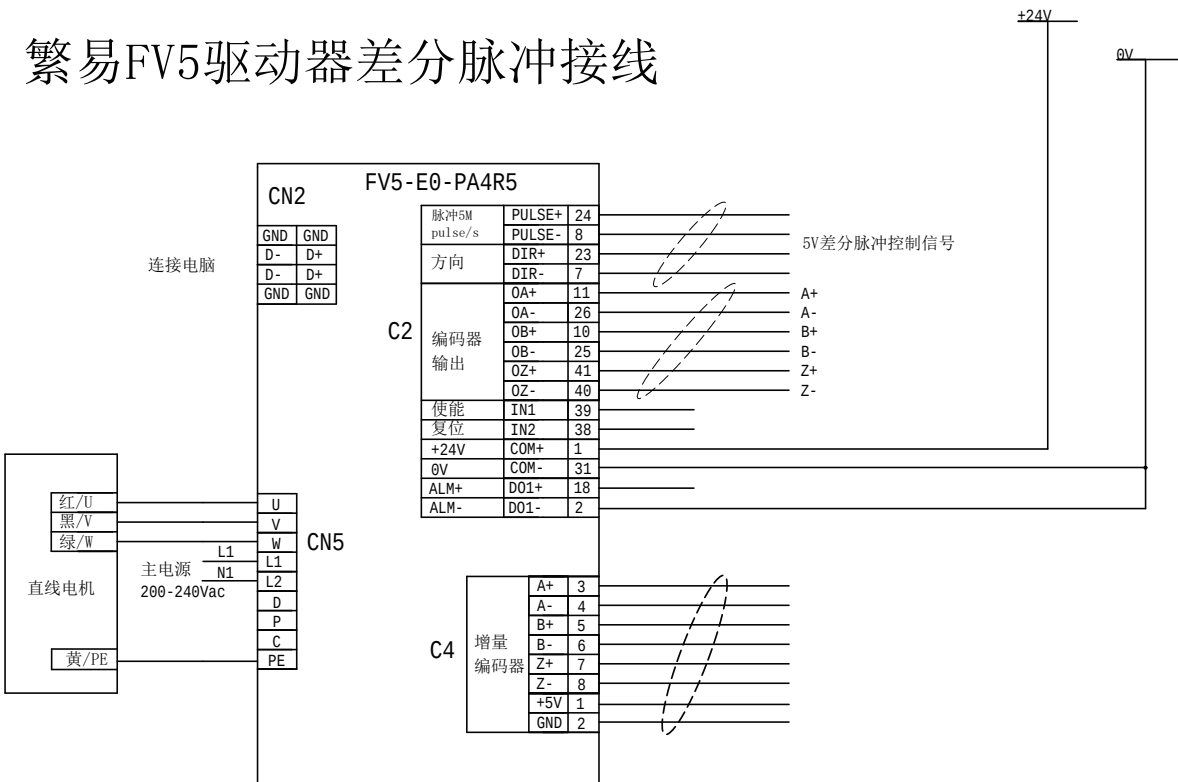
直线模组驱动器接线图

Linear module driver wiring diagram

繁易FV5驱动器总线接线

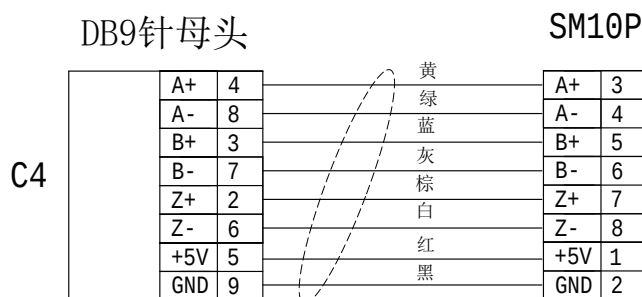
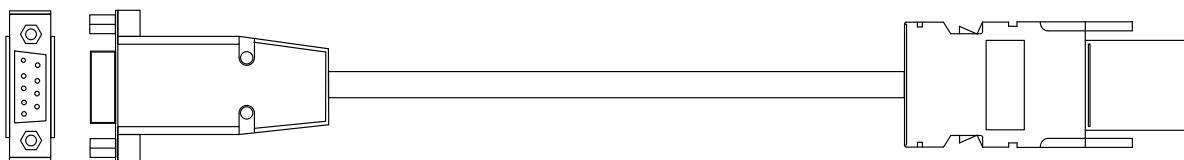


繁易FV5驱动器差分脉冲接线



编码器接线图

Encoder wiring diagram

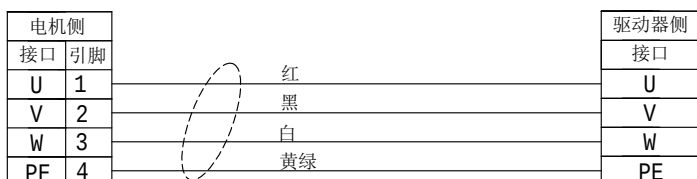
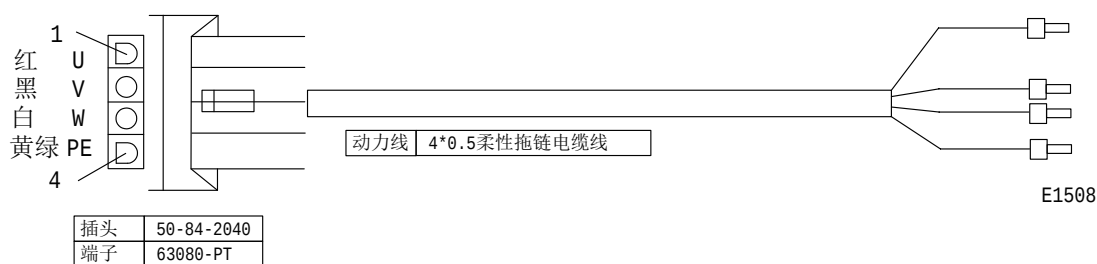


备注：屏蔽线接外壳上。

Note: The shielded wire is connected to the shell.

电机线接线图

Motor wire wiring diagram



备注：屏蔽线接地线上。

Note: On the shielded wire ground wire.

附件

Attachment

一、导轨负载率计算

1、技术参数汇总:

①、行程:1000mm

②、负载:7kg

③、负载重量重心位置:

$Lx1=100mm; Ly1=50mm; Lz1=120mm$

方向如右图所示

④、速度:1000mm/s

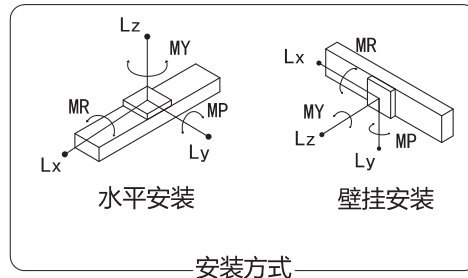
⑤、加速度:1G

⑥、安装方式:水平安装

2、暂定模组型号:VL8F2

3、查表: $Lx=459; Ly=261; Lz=459$

4、计算模组负载率: $\frac{Lx1}{Lx} + \frac{Ly1}{Ly} + \frac{Lz1}{Lz} = \frac{100}{459} + \frac{50}{261} + \frac{120}{459} = 0.67 \leq 1$, 满足要求。



二、电机大小选型

1、直线电机选型就是根据所需的峰值推力和持续推力来选择合适的电机;

可以通过如下公式 (1) 和 (2) 来确定峰值推力和持续推力

$$(1) F_p = M \cdot A + F_f$$

$$(2) F_{con} = \sqrt{\frac{F_a^2 T_a + F_c^2 T_c + F_d^2 T_d + F_w^2 T_w}{T_a + T_c + T_d + T_w}}$$

F_p : 峰值推力 M : 质量 A : 加速度 F_f : 摩擦力 F_{con} : 持续推力 F_a : 加速力 T_a : 加速时间
 F_c : 匀速推力 T_c : 匀速时间 F_d : 减速力 T_d : 减速时间 F_w : 驻留力 T_w : 驻留时间 S : 行程

2、举例

项目	符号	值	项目	符号	值
负载质量	M	7kg	速度	V	1m/s
动子质量	M1	3kg	加速度	A	10m/s ²
行程	S	1m	重力加速度	g	10m/s ²
摩擦系数	u	0.05	驻留时间	Tw	0.2

I、节拍计算

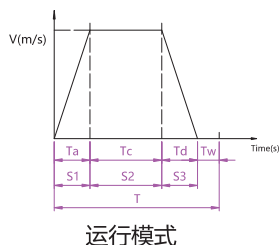
①、加减速时间: $T_a = T_d = \frac{V}{A} = \frac{1}{10} = 0.1s$

②、加减速距离: $S_1 = S_3 = \frac{1}{2} A T_a^2 = \frac{1}{2} \cdot 10 \cdot 0.1^2 = 0.05m$

③、匀速距离: $S_2 = S - S_1 - S_3 = 0.9m$

④、匀速时间: $T_c = \frac{S_2}{V} = \frac{0.9}{1} = 0.9s$

⑤、总运动时间: $T = T_a + T_c + T_d + T_w = 0.1 + 0.9 + 0.1 + 0.2 = 1.3s$



运行模式

II、推力计算

①、摩擦力: $F_f = (M + M1) \cdot g \cdot u = (7 + 3) \cdot 10 \cdot 0.05 = 5N$

②、加速力: $F_a = (M + M1) \cdot A + F_f = (7 + 3) \cdot 10 + 5 = 105N$

③、减速力: $F_d = (M + M1) \cdot A - F_f = (7 + 3) \cdot 10 - 5 = 95N$

④、 $F_{con} = \sqrt{\frac{F_a^2 T_a + F_c^2 T_c + F_d^2 T_d + F_w^2 T_w}{T_a + T_c + T_d + T_w}} = \sqrt{\frac{105^2 \cdot 0.1 + 5^2 \cdot 0.9 + 95^2 \cdot 0.1 + 0^2 \cdot 0.2}{0.1 + 0.9 + 0.1 + 0.2}} = 39.5N$

III、判定

①、接上文, 预选模组型号为:VL8F2

查样册可得:持续推力52N;峰值推力208N

②、 $F_a \cdot 1.3 = 105 \cdot 1.3 = 136.5 < 208N$;峰值推力满足要求;

$F_{con} \cdot 1.3 = 39.5 \cdot 1.3 = 51.35 < 52N$;持续推力满足要求;

III、该规格满足要求