

PLANETARY GEAR MOTOR
传动行星减速电动机



浙江赛亚智能传动科技有限公司

ZHEJIANG SAIYA INTELLIGENT TRANSMISSION TECHNOLOGY CO., LTD

传动型行星 PLANETARY GEAR MOTOR

- 采用双支撑结构输出轴，使齿轮箱的承载扭力大大提高。

Adopt dual supporting structure for output shaft so that the max torque of gearbox is increased a lot.

- 太阳轮与行星架采用花键联接方式，极大增强了内部齿轮箱承受扭矩，提高了整机的使用寿命。

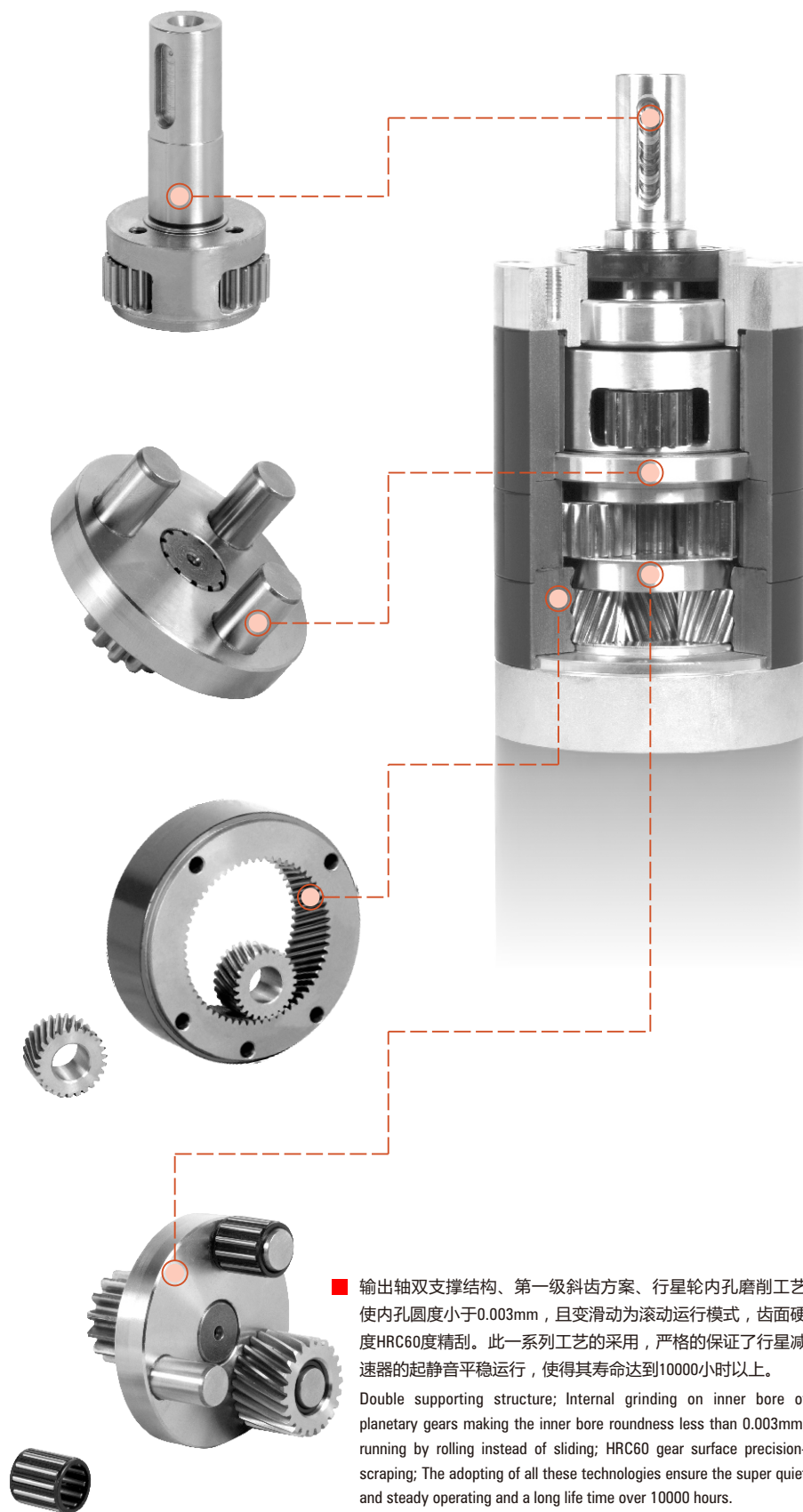
Sun wheel and planetary wheel are connected by spline which increase the max torque of gearbox and lengthen the life.

- 与电机连接的输入级采用斜齿，在高转速状态下，使齿轮箱的传动更加平稳，噪音更低。
- 齿轮箱内齿轮部分采用分段式结构，是齿轮箱的速比分布更广，整机结构设计更灵活。
- 齿轮箱与电机连接采用止口定位，轴向锁紧螺丝，使整机配合更精密，噪音更低。

• We use helical gear at input stage which make the noise low and run smoothly in high speed. • The inner gear ring is separated so that we can make more ratio and the design is flexible. • Gearbox and motor are located by a seam fix by screw in axial which increase the matching precision and reduce noise.

- 行星轮内孔采用滚针保持架，用滚动摩擦代替滑动摩擦，使齿轮箱的寿命更加长。

We use rolling pin holder inside planetary wheel. we use rolling friction instead of sliding grinding so the life of gearbox is much longer.



- 输出轴双支撑结构、第一级斜齿方案、行星轮内孔磨削工艺使内孔圆度小于0.003mm，且变滑动为滚动运行模式，齿面硬度HRC60度精刮。此一系列工艺的采用，严格的保证了行星减速器的起静音平稳运行，使得其寿命达到10000小时以上。

Double supporting structure; Internal grinding on inner bore of planetary gears making the inner bore roundness less than 0.003mm; running by rolling instead of sliding; HRC60 gear surface precision-scraping; The adopting of all these technologies ensure the super quiet and steady operating and a long life time over 10000 hours.

品名阅读方法 TYPE AND MOTOR NUMBER

电动机 Motor

S 62 BLDPN 24 60 - 30S
 ① ② ③ ④ ⑤ ⑥

电机参数 Motor Parameters	①	杭州赛亚传动设备有限公司标识 SAIYA Logo
		电机外径尺寸 Motor Outline Dimension:
	②	22:电机外径 Outer diameter Φ22mm 32:电机外径 Outer diameter Φ32mm 42:电机外径 Outer diameter Φ42mm 52:电机外径 Outer diameter Φ52mm 62:电机外径 Outer diameter Φ62mm 72:电机外径 Outer diameter Φ72mm 82:电机外径 Outer diameter Φ82mm
		电机型式 Motor Type:
	③	BLDPN:无刷直流电机，配行星减速箱式 BLDC motor , matched with planetary gearbox DPN:有刷直流电机，配行星减速箱式 Brush DC motor , matched with planetary gearbox
		电机使用额定电压 Rated Voltage For The Motor Using
④	48:48V 24:24V	
	电机输出额定功率 Rated Output Power For The Motor	
⑤	40:40W 60:60W	
	电机输出额定转速 Rated Output Speed For The Motor	
⑥	40S:4000RPM 30S:3000RPM	

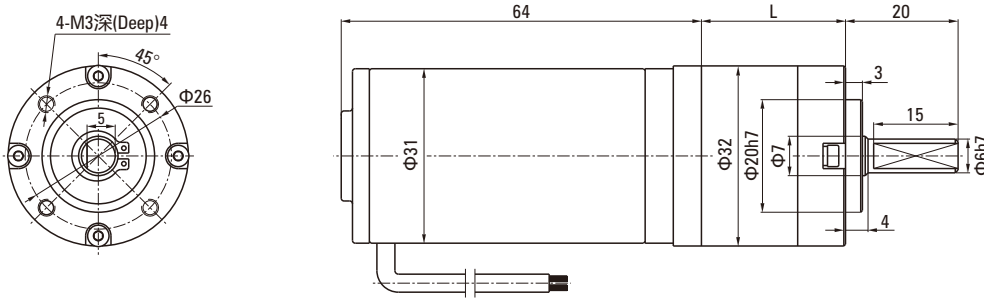
减速机 Reducer

62 ZPN 102.88K
 ① ② ③

①	减速机外径尺寸 Motor Outline Dimension: 32:减速机外径 Gear box external diameter Φ32mm 52:减速机外径 Gear box external diameter Φ52mm 42:减速机外径 Gear box external diameter Φ42mm 72:减速机外径 Gear box external diameter Φ72mm 62:减速机外径 Gear box external diameter Φ62mm 82:减速机外径 Gear box external diameter Φ82mm
②	类型 Motor Outline Dimension: ZPN:减速器输入斜齿轮 Gear box input shaft is helical gear
③	减速比 Gear Ratio: 例.102.88K:减速比 Reduction ratio:102.88:1

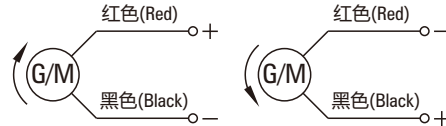
■ ZPNΦ32 BRUSH有刷

■ 外径32直流有刷行星减速电机外形图纸 Outside Diameter 32 DC Brush Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S32DPN	32ZPN□	一级Stage1	3.7~6.75
		二级Stage2	14~46
		三级Stage3	51~308

电机接线图 Wiring Diagram



■ 有刷直流电机技术参数 Blush DC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	功率 Power W	空载电流 No-load Current A	空载转速 No-load Speed RPM	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	电机寿命 Motor Life H
S32DPN2410-40S	24	10	0.4	5000	0.7	4000	0.024	2000
S32DPN2415-50S	24	15	0.5	6000	1.1	5000	0.029	2000

■ 有刷直流行星减速电机技术参数 Blush DC Planetary Gear Motor Technical Data-S32DPN2410-40S

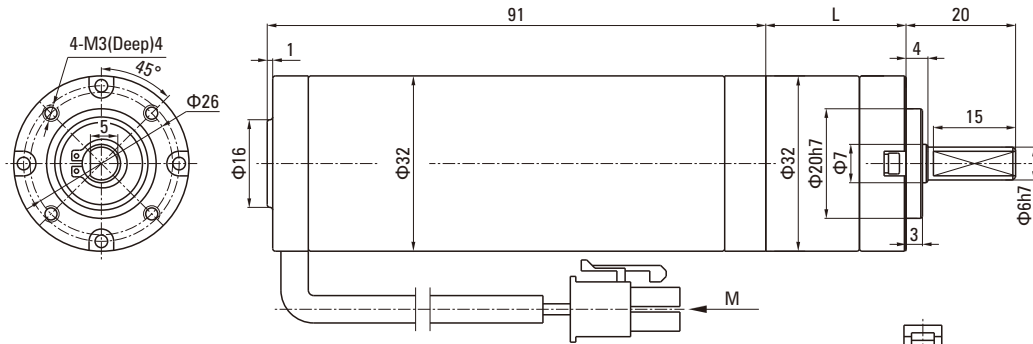
减速比 Ratio	3.7	5.18	6.75	13.73	19.2	25	28.93	34.97	45.56	50.89	68.08	78.7	92.7
输出轴转速 r/min Output shaft speed	1081	932	772	592	285	210	160	137	114	87	78	59	50
允许力矩 N.m Allowable torque	0.080	0.092	0.111	0.145	0.270	0.367	0.483	0.561	0.6777	0.890	0.889	1.185	1.3777
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	3	3	3

减速比 Ratio	99.5	115.1	129.6	149.9	168.85	195.28	236.1	307.54					
输出轴转速 r/min Output shaft speed	43	40	35	31	26	23	20	17					
允许力矩 N.m Allowable torque	1.621	1.743	2.004	2.266	2.614	2.945	3.400	4.000					
减速级数 Reduction stage	3	3	3	3	3	3	3	3					

ZPN系列 ZPN SERIES

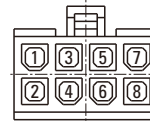
■ ZPNΦ32 BRUSHLESS无刷

■ 外径32直流无刷行星减速电机外形图纸 Outside Diameter 32 DC Brushless Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S32BLDPN	32ZPN□	3.7~6.75	25.6
		13.73~45.56	35.9
		50.89~307.54	46.2

M向视图
(View M)



1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	+Vcc

■ 无刷直流电机技术参数 BLDC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	防护等级 Grade Protection IP
S32BLDPN2420-40S	24	20	1.3	4000	0.048	20

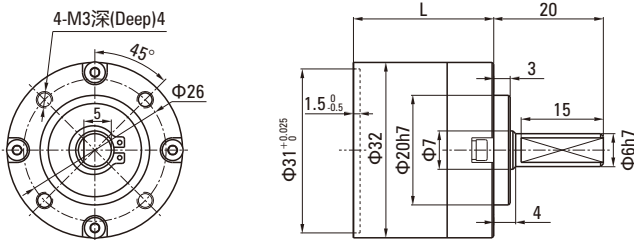
■ 无刷直行星减速电机技术参数 BLDC Planetary Gear Motor Technical Data-S32BLDPN2420-40S

减速比 Ratio	3.7	5.18	6.75	13.73	19.2	25	28.93	34.97	45.56	50.89	68.08	78.7	92.7
输出轴转速 r/min Output shaft speed	1081	772	593	291	208	160	138	114	88	79	59	51	43
允许力矩 N.m Allowable torque	0.16	0.22	0.29	0.53	0.74	0.97	1.12	1.35	1.76	1.77	2.37	2.74	3.23
减速级数 Reduction stage	1	1	1	2	2	2	2	2	2	3	3	3	3

减速比 Ratio	99.5	115.1	129.6	149.9	168.85	195.28	236.1	307.54					
输出轴转速 r/min Output shaft speed	40	35	31	27	24	20	17	13					
允许力矩 N.m Allowable torque	3.47	4.00	4.00	4.00	4.00	4.00	4.00	4.00					
减速级数 Reduction stage	3	3	3	3	3	3	3	3					

■ ZPNΦ32

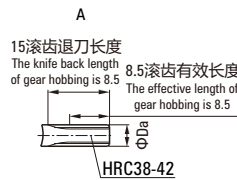
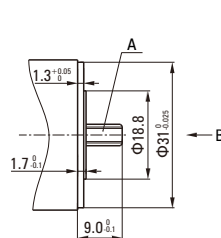
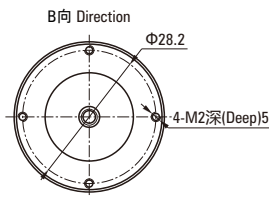
■ 外径32行星减速器 Outdiameter 32mm Planetary Gearbox



减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
32ZPN□	一级Stage1	3.7~6.75
	二级Stage2	14~46
	三级Stage3	51~308

传动级数 Transmission Stage	一级 Stage 1	二级 Stage 2	三级 Stage 3
传动效率 Transmission efficiency	90%	81%	73%
最大径向负载 Max radial load	140N	140N	140N
最大轴向负载 Max axial load	50N	50N	50N
额定扭矩 Rated torque	1N.m	2.25N.m	4N.m
瞬间承受扭矩 Instant beared torque	2倍与额定扭矩 Two times of the rated torque		
工作温度 Operating temperature	-10°C ~ +80°C		
润滑方式 Lubrication type	终生润滑 Lifetime lubrication		
安装方式 Mounting type	任意安装 Any		
推荐输入转速 Recommend input speed	≤3000RPM		
输入与输出转向 Input and output direction	相同 Same direction		
噪音 Noise	< 60dB(A) (L=1m, 3000rpm)		

电机配合方案 Motor Matching Scheme

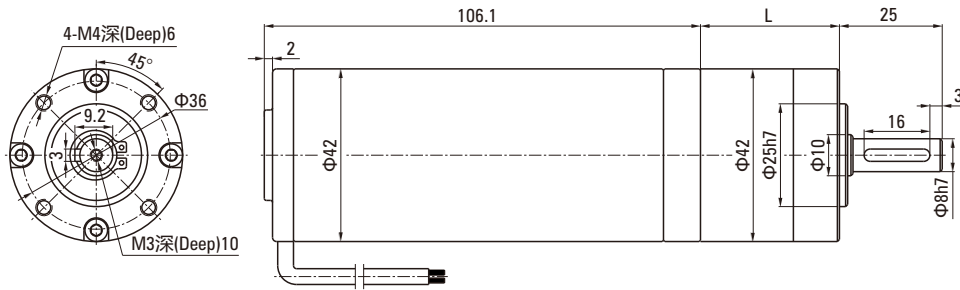


Da	一级速比 One stage of gear ratio	二级速比 Second stage of gear ratio	三级速比 Third stage of gear ratio	
Φ8.02 ^{-0.05/-0.08}	3.7	13.73	50.89	-
Φ7.05 ^{-0.05/-0.08}	4.29	-	68.08	-
		-	78.7	-
Φ5.82 ^{-0.05/-0.08}	5.18	19.2	99.5	-
		-	115.1	-
Φ4.57 ^{-0.05/-0.08}	6.75	25	92.7	168.85
		28.93	129.6	195.28
		34.97	149.9	236.1
		45.56	-	307.54

ZPN系列 ZPN SERIES

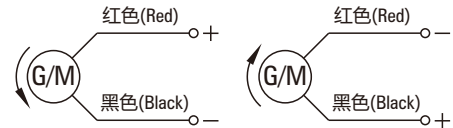
■ ZPNΦ42 BRUSH有刷

■ 外径42直流有刷行星减速电机外形图纸 Outside Diameter 42 DC Brush Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S42DPN	42ZPN□	3.65~8.63	33.8
		13.53~58.22	47.4
		67.08~392.98	61.0

电机接线图 Wiring Diagram



■ 有刷直流电机技术参数 Blush DC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	空载电流 No-load Current A	空载转速 No-load Speed RPM	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	电机寿命 Motor Life H
S42DPN2425-30S	24	25	0.6	3500	1.6	3000	0.080	600

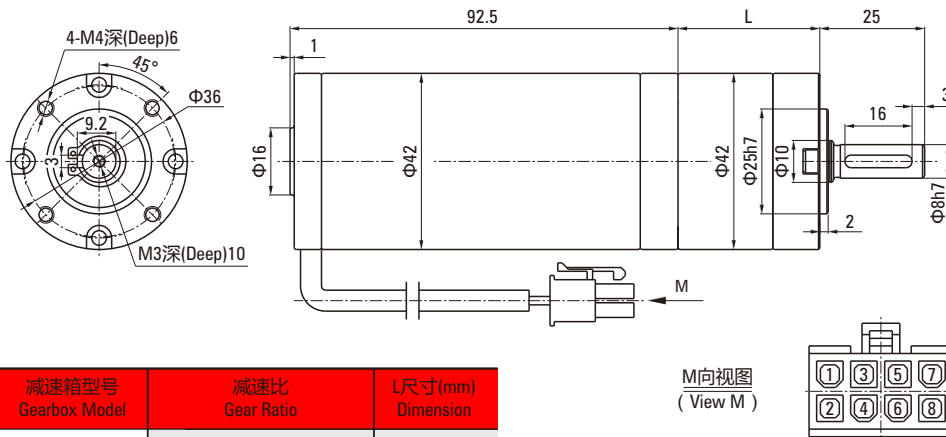
■ 有刷直流行星减速电机技术参数 Blush DC Planetary Gear Motor Technical Data-S42DPN2425-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	89	67	52	45	37
允许力矩 N.m Allowable torque	0.26	0.39	0.47	0.62	0.88	1.23	1.60	1.82	2.20	2.90	3.77	2.75	4.74
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3

减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	24	21	18	16	13	9.9	7.6			
允许力矩 N.m Allowable torque	5.34	6.01	6.95	7.46	8.49	9.67	11.19	13.53	15.00	15.00			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

■ ZPNΦ42 BRUSHLESS无刷

■ 外径42直流无刷行星减速电机外形图纸 Outside Diameter 42 DC Brushless Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S42BLDPN	42ZPN□	3.65~8.63	33.8
		13.53~58.22	47.4
		67.08~392.98	61.0

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	+Vcc

■ 无刷直流电机技术参数 BLDC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	防护等级 Grade Protection IP
S42BLDPN2440-30S	24	40	2.4	3000	0.127	20

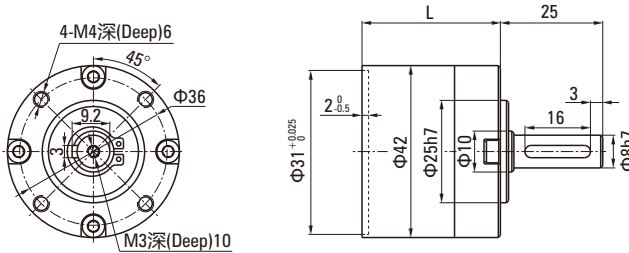
■ 无刷直流行星减速电机技术参数 BLDC Planetary Gear Motor Technical Data-S42BLDPN2440-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	88	67	52	45	37
允许力矩 N.m Allowable torque	0.42	0.61	0.75	0.99	1.40	1.95	2.54	2.89	3.50	4.61	6.00	6.24	7.54
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3
减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	23	21	18	16	13	10	8			
允许力矩 N.m Allowable torque	8.49	9.55	11.06	11.87	13.51	15.0	15.0	15.0	15.0	15.0			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

ZPN系列 ZPN SERIES

■ ZPNΦ42

■ 外径42行星减速器 Outdiameter 42mm Planetary Gearbox



减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
42ZPN□	一级Stage1	3.65~8.63
	二级Stage2	14~58
	三级Stage3	67~393

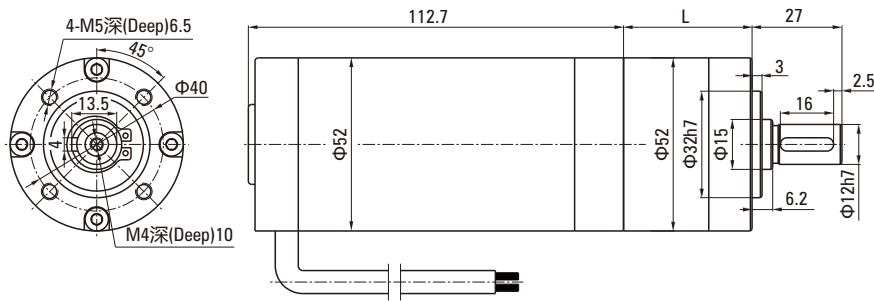
传动级数 Transmission Stage	一级 Stage 1	二级 Stage 2	三级 Stage 3
传动效率 Transmission efficiency	90%	81%	73%
最大径向负载 Max radial load	300N	300N	300N
最大轴向负载 Max axial load	110N	110N	110N
额定扭矩 Rated torque	3N.m	7.5N.m	15N.m
瞬间承受扭矩 Instant beared torque	2倍与额定扭矩 Two times of the rated torque		
工作温度 Operating temperature	-10°C ~ +80°C		
润滑方式 Lubrication type	终生润滑 Lifetime lubrication		
安装方式 Mounting type	任意安装 Any		
推荐输入转速 Recommend input speed	≤3000RPM		
输入与输出转向 Input and output direction	相同 Same direction		
噪音 Noise	< 60dB(A) (L=1m, 3000rpm)		

电机配合方案 Motor Matching Scheme

	Da	一级速比 One stage of gear ratio	二级速比 Second stage of gear ratio	三级速比 Third stage of gear ratio
	Φ7.12 ^{-0.05/-0.08}	5.36	-	102.88
	Φ5.78 ^{-0.05/-0.08}	6.55	28.05	145.36
	Φ4.56 ^{-0.05/-0.08}	8.63	44.69	165.64
		-	58.22	191.56
		-	-	231.61
	-	-	-	301.68
-	-	-	392.98	
	Φ10.73 ^{-0.05/-0.08}	3.65	13.53	67.08
			18.92	81.11
			24.65	91.36
			-	127.74

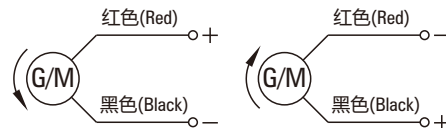
■ ZPNΦ52 BRUSH有刷

■ 外径52直流有刷行星减速电机外形图纸 Outside Diameter 52 DC Brush Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S52DPN	52ZPN□	3.65~8.63	38.6
		13.53~58.22	54.2
		67.08~392.98	69.8

电机接线图 Wiring Diagram



■ 有刷直流电机技术参数 BLDC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	空载电流 No-load Current A	空载转速 No-load Speed RPM	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	电机寿命 Motor Life H
S52DPN2440-30S	24	40	1.0	3500	2.5	3000	0.127	2000
S52DPN2460-30S	24	60	1.2	3600	4.0	3000	0.191	2000

■ 有刷直流行星减速电机技术参数 Blush DC Planetary Gear Motor Technical Data-S52DPN2440-30S

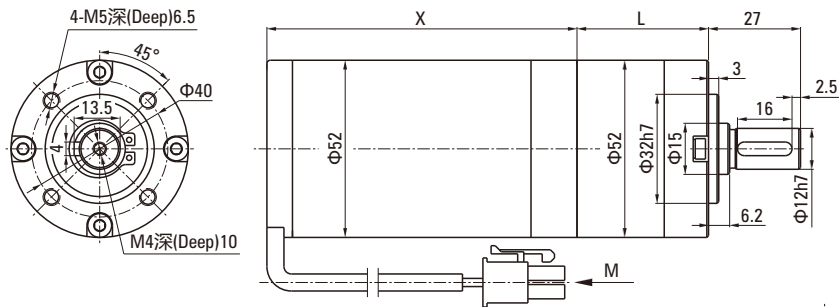
减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	89	67	52	45	37
允许力矩 N.m Allowable torque	0.42	0.61	0.75	0.99	1.39	1.95	2.54	2.89	3.49	4.60	5.99	6.22	7.52
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3

减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	24	21	18	16	13	9.9	7.6			
允许力矩 N.m Allowable torque	8.47	9.54	11.03	11.84	13.48	15.36	17.76	21.47	25.00	25.00			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

ZPN系列 ZPN SERIES

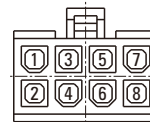
■ ZPNΦ52 BRUSHLESS无刷

■ 外径52直流无刷行星减速电机外形图纸 Outside Diameter 52 DC Brushless Motor



电机型号 Motor Type	X尺寸 (mm) Dimension	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸 (mm) Dimension
S52BLDPN2440-30S	91	52ZPN□	3.65~8.63	38.6
S52BLDPN2460-30S	110		13.53~58.22	54.2
			67.08~392.98	69.8

M向视图
(View M)



1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	+Vcc

■ 无刷直流电机技术参数 BLDC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	防护等级 Grade Protection IP
S52BLDPN2440-30S	24	40	2.4	3000	0.127	20
S52BLDPN2460-30S	24	60	3.8	3000	0.191	20

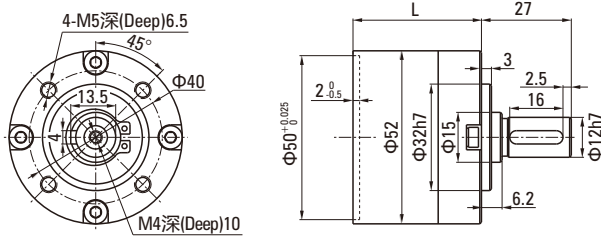
■ 无刷直流行星减速电机技术参数 BLDC Planetary Gear Motor Technical Data-S52BLDPN2440-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	88	67	52	45	37
允许力矩 N.m Allowable torque	0.42	0.61	0.75	0.99	1.40	1.95	2.54	2.89	3.50	4.61	6.00	6.24	7.54
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3

减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	23	21	18	16	13	10	8			
允许力矩 N.m Allowable torque	8.49	9.55	11.06	11.87	13.51	15.40	17.81	21.53	25	25			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

ZPNΦ52

■ 外径52行星减速器 Outdiameter 52mm Planetary Gearbox

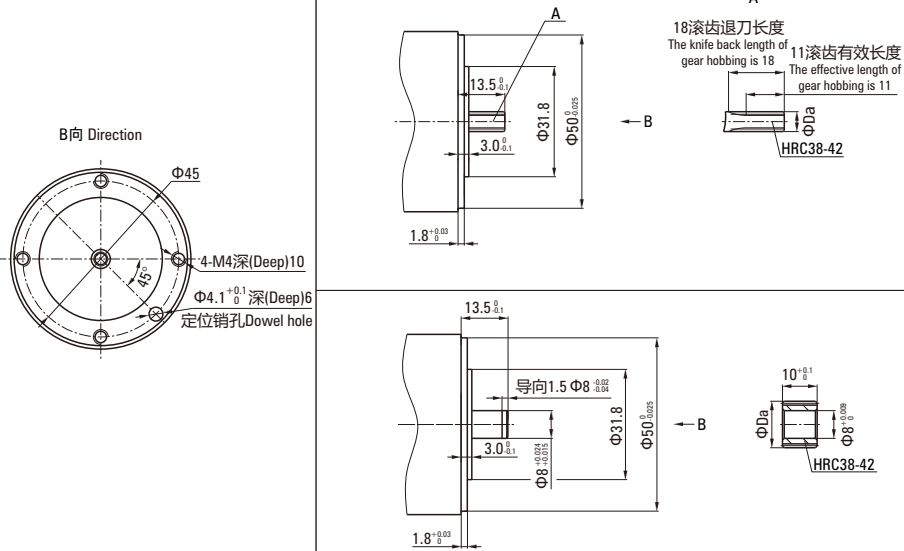


减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
52ZPN□	一级Stage1	3.65~8.63
	二级Stage2	14~58
	三级Stage3	67~393

传动级数 Transmission Stage	一级 Stage 1	二级 Stage 2	三级 Stage 3
传动效率 Transmission efficiency	90%	81%	73%
最大径向负载 Max radial load	450N	450N	450N
最大轴向负载 Max axial load	150N	150N	150N
额定扭矩 Rated torque	4N.m	12N.m	25N.m
瞬间承受扭矩 Instant beared torque	2倍与额定扭矩 Two times of the rated torque		
工作温度 Operating temperature	-10°C ~ +80°C		
润滑方式 Lubrication type	终生润滑 Lifetime lubrication		
安装方式 Mounting type	任意安装 Any		
推荐输入转速 Recommend input speed	≤3000RPM		
输入与输出转向 Input and output direction	相同 Same direction		
噪音 Noise	< 60dB(A) (L=1m, 3000rpm)		

电机配合方案 Motor Matching Scheme

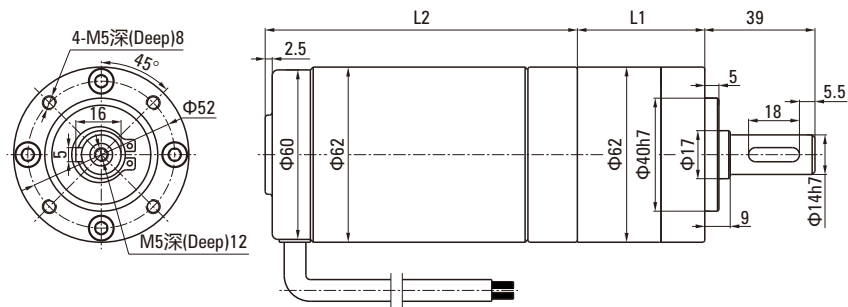
Da	一级速比 One stage of gear ratio	二级速比 Second stage of gear ratio	三级速比 Third stage of gear ratio	
			13.53	67.08
Φ8.88 ^{-0.05} _{-0.08}	5.36	-	102.88	-
Φ7.23 ^{-0.05} _{-0.08}	6.55	28.05	145.36	-
		33.92	-	-
Φ5.73 ^{-0.05} _{-0.08}	8.63	44.69	165.64	-
		58.22	191.56	-
		-	231.61	-
		-	301.68	-
		-	392.98	-
Φ13.42 ^{-0.05} _{-0.08}	3.65	13.53	67.08	-
		18.92	81.11	-
		24.65	91.36	-
		-	127.74	-



ZPN系列 ZPN SERIES

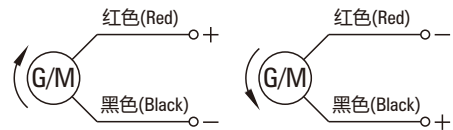
■ ZPNΦ62 BRUSH有刷

■ 外径62直流有刷行星减速电机外形图纸 Outside Diameter 62 DC Brush Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S62DPN	62ZPN□	3.65~8.63	45.1
		13.53~58.22	62.7
		67.08~392.98	80.3

电机接线图 Wiring Diagram



■ 有刷直流电机技术参数 Blush DC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	空载电流 No-load Current A	空载转速 No-load Speed RPM	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	电机寿命 Motor Life H	L尺寸 Dimension mm
S62DPN2440-30S	24	40	1.2	3500	2.5	3000	0.127	2000	110.5
S62DPN2460-30S	24	60	1.2	3500	3.5	3000	0.191	2000	121.5
S62DPN2490-30S	24	90	1.5	3700	5.5	3000	0.287	2000	133.5

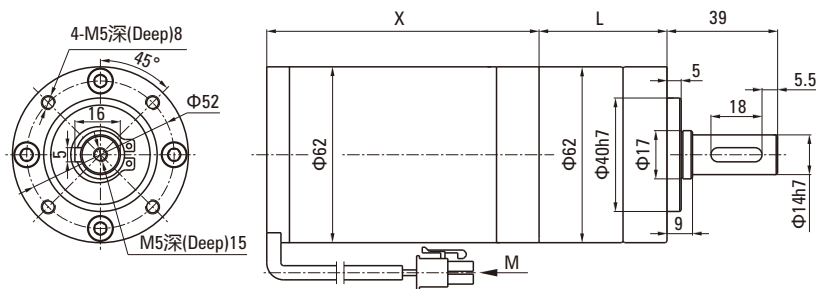
■ 有刷直流行星减速电机技术参数 Blush DC Planetary Gear Motor Technical Data-S62DPN2460-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	89	67	52	45	37
允许力矩 N.m Allowable torque	0.63	0.92	1.13	1.48	2.09	2.93	3.81	4.34	5.25	6.91	9.01	9.35	11.31
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3

减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	24	21	18	16	13	9.9	7.6			
允许力矩 N.m Allowable torque	12.74	14.34	16.58	17.81	20.27	23.10	26.71	32.29	42.06	50.00			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

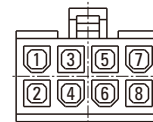
■ ZPNΦ62 BRUSHLESS无刷

■ 外径62直流无刷行星减速电机外形图纸 Outside Diameter 62 DC Brushless Motor



电机型号 Motor Type	X尺寸 (mm) Dimension	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸 (mm) Dimension
S62BLDPN2460-30S	96	62ZPN□	3.65~8.63	45.1
S62BLDPN2490-30S	113		13.53~58.22	62.7
			67.08~392.98	80.3

M向视图
(View M)



1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	+Vcc

■ 无刷直流电机技术参数 BLDC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	防护等级 Grade Protection IP
S62BLDPN2460-30S	24	60	3.4	3000	0.191	20
S62BLDPN2490-30S	24	90	5.4	3000	0.287	20

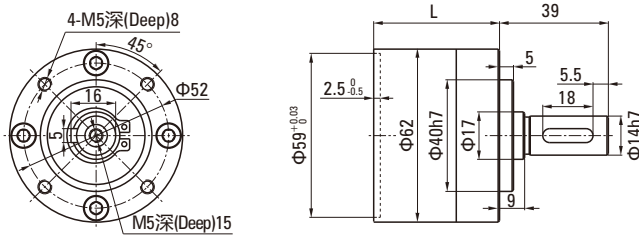
■ 无刷直流行星减速电机技术参数 BLDC Planetary Gear Motor Technical Data-S62BLDPN2460-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	88	67	52	45	37
允许力矩 N.m Allowable torque	0.63	0.92	1.13	1.48	2.09	2.93	3.81	4.34	5.25	6.91	9.01	9.35	11.31
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3
减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	23	21	18	16	13	10	8			
允许力矩 N.m Allowable torque	12.74	14.34	16.59	17.81	20.27	23.10	26.71	32.29	42.06	45.00			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

ZPN系列
ZPN SERIES

■ ZPNΦ62

■ 外径62行星减速器 Outdiameter 62mm Planetary Gearbox



减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
62ZPN□	一级Stage1	3.65~8.63
	二级Stage2	14~58
	三级Stage3	67~393

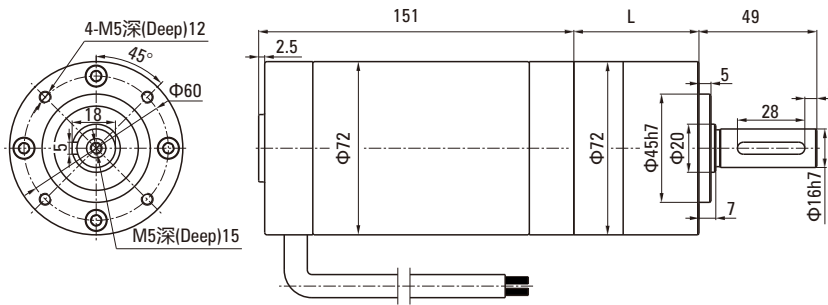
传动级数 Transmission Stage	一级 Stage 1	二级 Stage 2	三级 Stage 3
传动效率 Transmission efficiency	90%	81%	73%
最大径向负载 Max radial load	520N	520N	520N
最大轴向负载 Max axial load	150N	150N	150N
额定扭矩 Rated torque	8N.m	25N.m	50N.m
瞬间承受扭矩 Instant beared torque	2倍与额定扭矩 Two times of the rated torque		
工作温度 Operating temperature	-10°C ~ +80°C		
润滑方式 Lubrication type	终生润滑 Lifetime lubrication		
安装方式 Mounting type	任意安装 Any		
推荐输入转速 Recommend input speed	≤3000RPM		
输入与输出转向 Input and output direction	相同 Same direction		
噪音 Noise	< 60dB(A) (L=1m, 3000rpm)		

电机配合方案 Motor Matching Scheme

	Da	一级速比 One stage of gear ratio	二级速比 Second stage of gear ratio	三级速比 Third stage of gear ratio
<p>19.5滚齿退刀长度 The knife back length of gear hobbing is 19.5</p> <p>11.5滚齿有效长度 The effective length of gear hobbing is 11.5</p> <p>HRC38-42</p>	Φ10.66 ^{0.05} / _{-0.08}	5.36	-	102.88
	Φ8.69 ^{-0.05} / _{-0.08}	6.55	28.05	145.36
			33.92	-
<p>导向 Guide 2.5 Φ8^{0.02}/_{0.02}</p> <p>HRC38-42</p>	Φ6.82 ^{-0.05} / _{-0.08}	8.63	44.69	165.64
			58.22	191.56
			-	231.61
			-	301.68
<p>3 ±0.0125</p> <p>9.4⁰/_{-0.1}</p>	Φ16.11 ^{-0.05} / _{-0.08}	3.65	13.53	67.08
			18.92	81.11
			24.65	91.36
			-	127.74

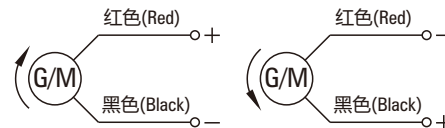
■ ZPNΦ72 BRUSH有刷

■ 外径72直流有刷行星减速电机外形图纸 Outside Diameter 72 DC Brush Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S72DPN	72ZPN□	3.65~8.63	52.00
		13.53~58.22	72.15
		67.08~392.98	92.30

电机接线图 Wiring Diagram



■ 有刷直流电机技术参数 Blush DC Motor Technical Data

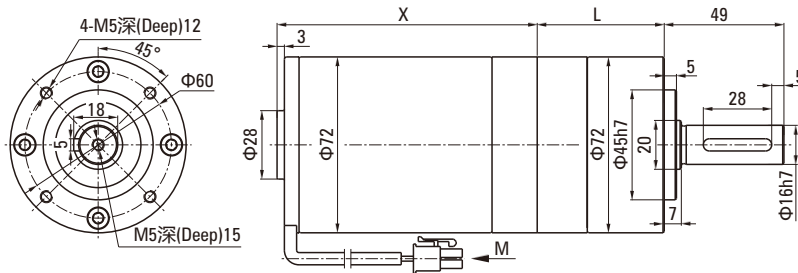
电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	空载电流 No-load Current A	空载转速 No-load Speed RPM	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	电机寿命 Motor Life H
S72DPN2490-30S	24	90	2.0	3400	5.5	3000	0.287	2000
S72DPN24120-30S	24	120	2.0	3500	7.2	3000	0.382	2000

■ 有刷直流行星减速电机技术参数 Blush DC Planetary Gear Motor Technical Data-S72DPN2490-30S

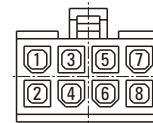
减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	89	67	52	45	37
允许力矩 N.m Allowable torque	0.94	1.38	1.69	2.23	3.15	4.40	5.73	6.52	7.89	10.39	13.53	14.05	16.99
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3
减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	24	21	18	16	13	9.9	7.6			
允许力矩 N.m Allowable torque	19.14	21.55	24.93	26.76	30.45	34.70	40.13	48.52	63.20	82.33			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

■ ZPNΦ72 BRUSHLESS无刷

■ 外径72直流无刷行星减速电机外形图纸 Outside Diameter 72 DC Brushless Motor



M向视图
(View M)



1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	+Vcc

电机型号 Motor Type	X尺寸 (mm) Dimension	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸 (mm) Dimension
S72BLDPN24120-30S	106.5	72ZPN□	3.65~8.63	52.0
S72BLDPN24150-30S	129.5		13.53~58.22	72.15
			67.08~392.98	92.3

■ 无刷直流电机技术参数 BLDC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	防护等级 Grade Protection IP
Z72BLDPN24120-30S	24	120	6.6	3000	0.382	20
Z72BLDPN24150-30S	24	150	8.5	3000	0.478	20

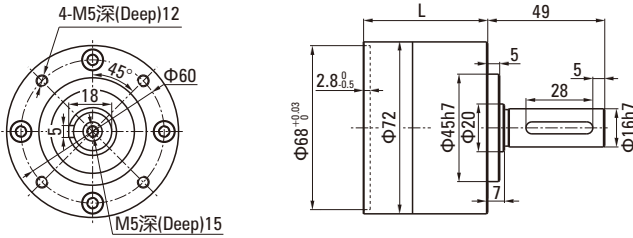
■ 无刷直流行星减速电机技术参数 BLDC Planetary Gear Motor Technical Data-S72BLDPN24120-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	88	67	52	45	37
允许力矩 N.m Allowable torque	1.25	1.84	2.25	2.97	4.19	5.85	7.63	8.68	10.50	13.83	18.01	18.71	22.62
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3

减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	23	21	18	16	13	10	8			
允许力矩 N.m Allowable torque	25.48	28.69	33.18	35.62	40.50	46.19	53.42	64.59	84.00	84.00			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

ZPNΦ72

■ 外径72行星减速器 Outdiameter 72mm Planetary Gearbox



减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
72ZPN□	一级Stage1	3.65~8.63
	二级Stage2	14~58
	三级Stage3	67~393

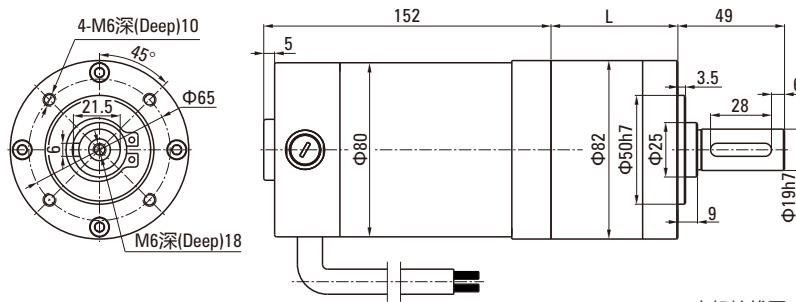
传动级数 Transmission Stage	一级 Stage 1	二级 Stage 2	三级 Stage 3
传动效率 Transmission efficiency	90%	81%	73%
最大径向负载 Max radial load	760N	760N	760N
最大轴向负载 Max axial load	160N	160N	160N
额定扭矩 Rated torque	14N.m	42N.m	84N.m
瞬间承受扭矩 Instant beared torque	2倍与额定扭矩 Two times of the rated torque		
工作温度 Operating temperature	-10°C ~ +80°C		
润滑方式 Lubrication type	终生润滑 Lifetime lubrication		
安装方式 Mounting type	任意安装 Any		
推荐输入转速 Recommend input speed	≤3000RPM		
输入与输出转向 Input and output direction	相同 Same direction		
噪音 Noise	< 60dB(A) (L=1m, 3000rpm)		

电机配合方案 Motor Matching Scheme

	Da	一级速比 One stage of gear ratio	二级速比 Second stage of gear ratio	三级速比 Third stage of gear ratio
<p>20.5滚齿退刀长度 The knife back length of gear hobbing is 20.5</p> <p>12.5滚齿有效长度 The effective length of gear hobbing is 12.5</p> <p>HRC38-42</p>	Φ12.47 ^{-0.05} _{-0.08}	5.36	-	102.88
	Φ10.27 ^{-0.05} _{-0.08}	6.55	28.05	145.36
<p>20.5滚齿退刀长度 The knife back length of gear hobbing is 20.5</p> <p>12.5滚齿有效长度 The effective length of gear hobbing is 12.5</p> <p>HRC38-42</p> <p>Φ10^{±0.012}</p> <p>1.5</p> <p>Φ68^{±0.019}</p> <p>2.5</p> <p>Φ58.9</p> <p>4-M5深(deep)12</p> <p>B向 Direction</p> <p>Φ5.1^{+0.1}₀深(deep)10</p>	Φ7.99 ^{-0.05} _{-0.08}	8.63	44.69	165.64
			58.22	191.56
			-	231.61
			-	301.68
			-	392.98
<p>20.5滚齿退刀长度 The knife back length of gear hobbing is 20.5</p> <p>12.5滚齿有效长度 The effective length of gear hobbing is 12.5</p> <p>HRC38-42</p> <p>Φ10^{±0.012}</p> <p>1.5</p> <p>Φ68^{±0.019}</p> <p>2.5</p> <p>Φ18.68^{-0.05}_{-0.08}</p> <p>3±0.015</p> <p>11.4^{±0.1}</p> <p>8.2^{±0.1}</p> <p>Φ10^{±0.012}</p> <p>1.5</p> <p>Φ68^{±0.019}</p> <p>2.5</p> <p>Φ58.9</p> <p>4-M5深(deep)12</p> <p>B向 Direction</p> <p>Φ5.1^{+0.1}₀深(deep)10</p>	Φ18.68 ^{-0.05} _{-0.08}	3.65	13.53	67.08
			18.92	81.11
			24.65	91.36
			-	127.74

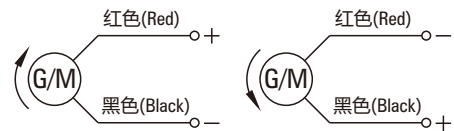
■ ZPNΦ82 BRUSH有刷

■ 外径82直流有刷行星减速电机外形图纸 Outside Diameter 82 DC Brush Motor



电机型号 Motor Type	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸(mm) Dimension
S82DPN	82ZPN□	3.65~8.63	63.70
		13.53~58.22	80.50
		67.08~392.98	103.2

电机接线图 Wiring Diagram



■ 有刷直流电机技术参数 Blush DC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	空载电流 No-load Current A	空载转速 No-load Speed RPM	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	电机寿命 Motor Life H
S82DPN24180-30S	12	180	2.5	3400	10.5	3000	0.573	2000
S82DPN24120-30S	24	120	2.0	3400	7.20	3000	0.382	2000
S82DPN48180-30S	48	180	1.5	3400	5.50	3000	0.573	2000

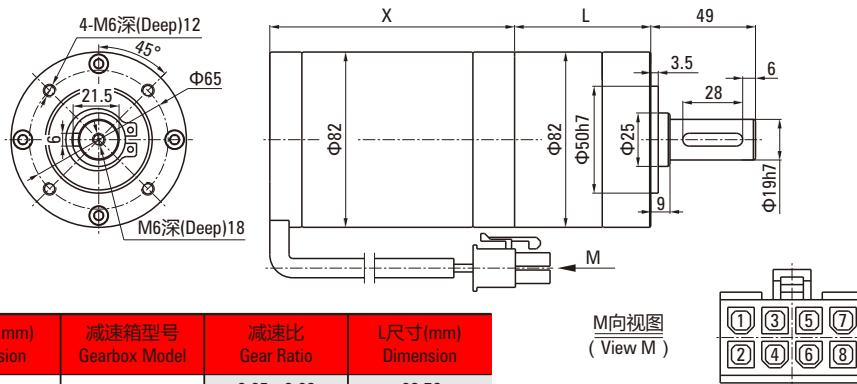
■ 有刷直流行星减速电机技术参数 Blush DC Planetary Gear Motor Technical Data-S82DPN24120-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	89	67	52	45	37
允许力矩 N.m Allowable torque	1.30	1.80	2.30	3.00	4.20	5.90	7.60	8.70	10.5	13.8	18.0	18.7	22.6
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3

减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	24	21	18	16	13	9.9	7.6			
允许力矩 N.m Allowable torque	25.5	28.7	33.2	35.6	40.5	46.2	53.4	64.6	84.0	84.0			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			

■ ZPNΦ82 BRUSHLESS无刷

■ 外径82直流无刷行星减速电机外形图纸 Outside Diameter 82 DC Brushless Motor



电机型号 Motor Type	X尺寸 (mm) Dimension	减速箱型号 Gearbox Model	减速比 Gear Ratio	L尺寸 (mm) Dimension
S82BLDPN24200-30S	114.5	82ZPN□	3.65~8.63	63.70
S82BLDPN24300-30S	136.5		13.53~58.22	80.50
			67.08~392.98	103.2

M向视图 (View M)

1	2	3	4	5	6	7	8
U	V	W	GND	Hv	Hw	Hu	+Vcc

■ 无刷直流电机技术参数 BLDC Motor Technical Data

电机型号 Motor Type	电压 Voltage V	额定功率 Rated Power W	额定电流 Rated Current A	额定转速 Rated Speed RPM	额定力矩 Rated Torque N.m	防护等级 Grade Protection IP
S82BLDPN24200-30S	24	200	12	3000	0.637	20
S82BLDPN24300-30S	24	300	18	3000	0.955	20

■ 无刷直流行星减速电机技术参数 BLDC Planetary Gear Motor Technical Data-S82BLDPN24200-30S

减速比 Ratio	3.65	5.36	6.55	8.63	13.53	18.92	24.65	28.05	33.92	44.69	58.22	67.08	81.11
输出轴转速 r/min Output shaft speed	822	560	458	348	222	159	122	107	88	67	52	45	37
允许力矩 N.m Allowable torque	2.09	3.07	3.75	4.94	6.98	9.76	12.71	14.47	17.49	23.05	30.02	31.18	37.70
减速级数 Reduction stage	1	1	1	1	2	2	2	2	2	2	2	3	3
减速比 Ratio	91.36	102.88	118.98	127.74	145.36	165.64	191.56	231.61	301.68	392.98			
输出轴转速 r/min Output shaft speed	33	29	25	23	21	18	16	13	10	8			
允许力矩 N.m Allowable torque	42.46	47.82	55.30	59.37	67.56	76.98	89.03	107.64	120.0	120.0			
减速级数 Reduction stage	3	3	3	3	3	3	3	3	3	3			



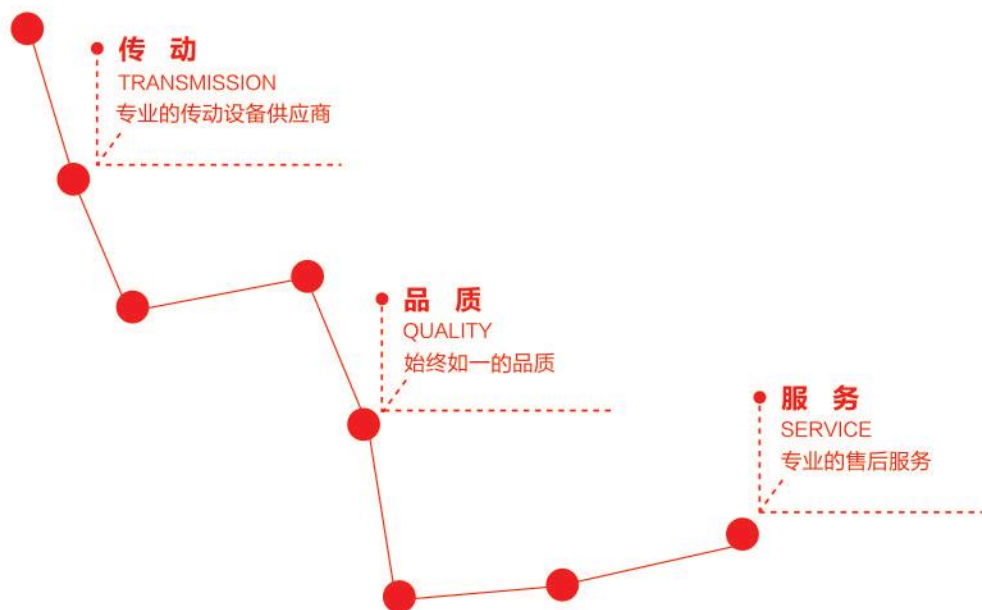
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