About YAKO

Shenzhen YAKO Automation Technology Co., Ltd. was found in 2006, located in High Technology Industry Zone of Shenzhen, China. Our technology can trace back to 1996, when we finished our first stepper driver prototype.

Now we have more than 200 employees and a factory of more than 5,000 square meters. YAKO's biggest shareholder is Shenzhen Topband Co., Ltd., which has a 273 million USD turnover in 2016 and listed in Shenzhen Stock Exchange with stock code 002139.

After 11 years of development, YAKO owns creative R&D center and well-experienced sales team. We keep on improving our management system, shortening response time and sticking with customers and market.

YAKO always keep innovating and providing high performance and reliable products as well as best service to customers. With "excellent performance and quality" for many years, YAKO successfully became one of the best known brand in Chinese market, developing into one of the fastest growing enterprises in motion control industry filed.

- YAKO Culture -

YAKO Vision
To be the most reliable motion control supplier in the world

YAKO Principle
Customer centered, integrity based and quality founded

YAKO Mission
Build future with quality and achieve glory with integrity

YAKO Team
Healthy, happy and successful

YAKO Headquarters

YAKO R&D Center

YAKO Shanghai Branch

Content

PLC (Programmable logic Controller)

YX^{H} Series Introduction 01

YX1S YX1S^{H} Mini PLC 03

YX1N, YX1N^{H} Small PLC 05

YX2N, YX2N^{H} Medium PLC 07

YX3U, YX3U^{H} High Performance PLC 09

YX IO Extend Module 11

YX-BD Extend Board 14

Leadscrew Stepper Motor

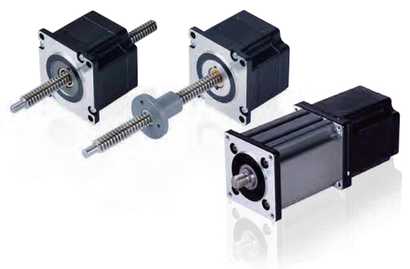
How to Choose Model 15

35mm Leadscrew Stepper Motor 17

42mm Leadscrew Stepper Motor 18

57mm Leadscrew Stepper Motor 19

86mm Leadscrew Stepper Motor 20



Support IEC 61131-3 Programming platform

Logic + Process + Motion Control

Accessory: network interface, USB port, SD card

Avaliable Option: switch, pulse, analog, I/O port

YX^{H} Amazing Upgrade

YX^{H} series new generation high-performance PLC is based on YX series, its features are comprehensive. YXH series have excellent performance on cost, reliability, convenience, extension ability and security.

Features

Structure: multiple sizes, DIN rail mounting:

- Covering 4 series: YX1SH, YX1NH, YX2NH, YX3UH
- Main module control points 10~128 points, up to 384 points can be extended
- Japanese style plug terminal
- Multi-function extension interface

Hardware: I/O standard modular optional, deploy freely

- Configurable switch, pulse, analog and other I/O signals
- Multiple communication port standard or optional: RS232 / RS422 / RS485, CAN, USB, LAN, MiniSD card, Wifi module
- HMI drive interface optional
- Extension BUS driver interface optional
- Program capacity start from 2K to 64K steps, the calculation speed: 0.065us ~ 0.55us/step

Software: software kernel optional, support various programming platform:

- Standard PLC based on IEC 61131-3: Support multi-language (ST, IL, LD, SFC, FBD, CFC) programming platform with encryption
- Support logic and calculate control, process control, motion control and visual control.
- Mitsubishi PLC
- Siemens PLC
- Support C/C ++ language development, support software modular

YX Series Naming Rules

YX□□ ① □ ② - □□□ ③ □□□ ④ - □□□ ⑤

① Series

YX1S	Mini
YX1N	Small
YX2N	Medium
YX3U	High perf.

② Version

H	High conf.
None	General

③ Basic type I/O Source

10/14/20/30	1S Series
14/24/40/60	1N Series
16/32/48/64/80/128	2N/3U Series
1/2/4/8/16/32/48	Extension series
None	N/A

④ Model Type

MR	PLC module, relay type output
MS	PLC module, thyristor output
MT	PLC module, transistor output
MU	PLC module, user-defined I/O
ER	Switch extension, relay output
ET	Switch extension, transistor output
EX	Switch input extension
EYR	Switch output extension, relay output
EYT	Switch output expansion, transistor output
EU	Switch extension, user-defined I/O
AD	Analog input extension
DA	Analog output extension
HC	Pulse input count extension
PG	Pulse output position extension
BD	Function extension board

⑤ Port Type

E	AC100～240V PNP input, PNP output
ES	AC100～240V PNP/NPN input, PNP/NPN output (relay output)
ESS	AC100～240V PNP/NPN input, NPN output (transistor output)
D	DC24V PNP input, PNP output
DS	DC24V PNP/NPN input, PNP output (relay output)
DSS	DC24V PNP/NPN input, NPN output (transistor output)
TC	Thermocouple temperature acquisition
PT	PT100 temperature acquisition
232	RS-232C data communication
422	RS-422 data communication
485	RS-485 data communication
485I	RS-485 data communication
4EX	4 switch input
2EYT	2 transistor output
2AD	2 analog input
8AV	8 analog potentiometer
1DA	1 analog output

YX1S YX1S^{H} Mini PLC

10/14/20/30 M

Features

- Low-cost and small sized mini PLC, used in small application

- Control points start from 10 to 30, basic unit: 10/14/20/30, small size and high speed calculation ability

- Multiple software and communications extension ability

- Program encryption CPU, input and output integration, various M5S parts selection for input and output signals

Purchase Model

YX	①	②	③								④		⑤		
											Model Mark		Polarity Mark		
	Series	Ver.	I/O Number	Standard	Maximum										
				②Normal Series	②+H Series										
Type	Main Module			BI	BO	PI	PO	PI	PO/ PWM	AI	AO	Model	Drive Type	Power Type	Output Polarity	Input Polarity
	1S	Normal and +H Series	10	6	4	2	2	4	4/4	2	2	M	R: S: T: U:	E; D	S	S
			14	8	6	2	2	6	4/6	2	2					
			20	12	8	2	2	8	4/8	2	2					
			30	16	14	2	2	14	4/14	4	2					

Type	Series	Ver.	I/O Number	Other Source								Software Support					Dimension	Weight
				Standard				+H Source				Standard	②+H Source				L*W*H (mm)	kg
				②Normal Series			②+H Series					②Normal	②+H Series					
	Main Module			Extension	RS422	Potentiometer	LAN	RS485	USB	WIFI	SD	FX	IEC	FX	S7	C		
	1S	Normal and +H Series	10	X	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	60*90*75	0.3
			14	X	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	60*90*75	0.35
			20	X	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	70*90*75	0.4
			30	X	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	100*90*75	0.45

Note:

1. ◎ Optional, × No support, ※ No support temporarily, BD stands for BD extension board would support main module;
2. +H model's weight will change according to customized configuration.

YX1S^{H} Performance Specification

Item		Specification
Performance	Program execution mode	Program cycle operation, with interrupt command
	Control point	10～30 points
	Program memory	256KB
	Data memory	12KB
	Clock function	Built-in real-time clock（Time setting command, time comparison command）
	Basic command set	Support all IEC 61131-3
	Application command set	Support application command library
	Computing speed	High speed command:33μs/1000 IL command, basic command:50μs/1000 IL conmand, Application command:10-100μs+/IL
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, pulse capture function
	Basic model	10/14/20/30
	Pulse input	2*100kHz
	Pulse output	4*200kHz
Hardware	Analog input	2ch，12Bit（Optional）
	Analog output	D/A：2ch , 12Bit@Y6,Y7（Optional）; PWM->D/A：4ch , 8Bit（Optional）
	Communication Interface	RS422, RS485(CAN Optional), USB（Programming communication port）, LAN standard hardware interface
	Communication module	WiFi communicating module（Optional）
	Analog potentiometer	Optional for 2（Alternative with LAN communication interface）
	External storage	MiniSD card，maximum 2GB
Software	Programming software	Based on IEC 61131-3 standard software platform MULTIPROG
	Programming language	Support multiple languages（IL,ST,LD,SFC,FBD,CFC）
	User-defined command	Support C/C# programming
	Program encryption	Support project encryption, prohibit download

YX1S Performance Specification

Item		Specification
Power input and output	Power	AC：AC100V～240V DC：DC24V
	Power consumption*1	AC：19W(10M,14M), 20W(20M), 21W(30M) DC：6W(10M), 6.5W(14M), 7W(20M), 8W(30M)
	Impulse current	AC：15A max 5ms/AC100V,25A max 5ms/AC200V DC：10A max 100μs/DC24V
	24V power supply	AC：DC24V 400mA
	Input	DC24V 7mA/5mA none-voltage contact, or NPN open set electrode transistor input
	Output	Relay output：2A/1 point、8A/4 point COM AC250V, below DC30V Transistor output：0.5A/1 point, 0.8A/4 points COM DC5V~DC30V
	extensions	By installing extension board, it can extend for several input and output points or analog input and output.
Performance	Program memory	Built-in Storage box: 2,000 step(battery-free EEPROM), annotation input, write in RUN model,program transfer function
	Clock function	Built-in real-time clock(Time setting command, time comparison command)
	Command	27 basic command, 2 step ladder chart command, 85 application command
	Computing speed	Basic command：0.55～0.7μs/command, application command：3.7～several 100μs/command
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, pulse capture function
	Maximum input and output points	30 points(By installing extension board, it can extend for several input and output points)
	Auxiliary relay, timer	Auxiliary relay：512 points; timer：64 point
	Counter	General 16 bit increase counter：32 points High speed 32 bit increase and decrease counter：[1 phase]60kHz/2points,10kHz/4 points[2 phase]30kHz/1 point、5kHz/1 point
	Data register	General 256 point, for index 16 points, for files 1500 points the most
Others	Analog potentiometer	Build-in 2 points, add 8 points by using YX1N-8AV-BD extension board
	Function extension board	Comply with YX1N-□□□-BD extension board
	Special adapter	Connect through YX1N-CNV-BD

YX1N YX1N^{H} Small PLC

10/24/40/60 M

Features

- Combination of mini PLC and the modular and processing power of high performance PLC

- Modular structure, 14~128 input/output range, support extended special function modules (such as analog input/output)

- Small size and high speed calculation ability

- Multiple software and communications extension ability

Purchase Model

YX	①	②	③									④		⑤		
												Model Mark		Polarity Mark		
Type	Series	Ver.	I/O Number	Standard	Maximum							Model	Drive Type	Power Type	Output Polarity	Input Polarity
				②Normal Series				②+H Series								
	Main Module			BI	BO	PI	PO	PI	PO/PWM	AI	AO					
	1N	Normal and +H Series	14	8	6	2	2	4	4/4	2	2	M	R: S: T: U:	E; D	S	S
			24	14	10	2	2	4	4/6	2	2					
			40	24	16	2	2	8	4/8	2	2					
			60	36	24	2	2	8	4/14	4	2					

Type	Series	Ver.	I/O Number	Other Source								Software Support					Dimension	Weight
				Standard				+H Source				Standard	②+H Source				L*W*H (mm)	kg
				②Normal Series				②+H Series				②Normal	②+H Series					
	Main Module			Extension	RS422	Potentiometer	LAN	RS485	USB	WIFI	SD	FX	IEC	FX	S7	C		
	1S	Normal and +H Series	14	√	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	90*90*75	0.45
			24	√	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	90*90*75	0.5
			40	√	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	130*90*75	0.65
			60	√	1	2	Alternative	1	1	BD	BD	√	√	√	※	√	175*90*75	0.8

Note:

1. ◎ Optional, × No support, ※ No support temporarily, BD stands for BD extension board would support main module;
2. +H model's weight will change according to customized configuration.

● YX1N^{H} Performance Specification

Item		Specification
Performance	Program execution mode	Program cycle operation, with interrupt command
	Control point	10～30 points, extend to 128 points the most
	Program memory	256KB
	Data memory	12KB
	Clock function	Built-in real-time clock（Time setting command, time comparison command）
	Basic command set	Support all IEC 61131-3
	Application command set	Support application command library
	Computing speed	High speed command:33μs/1000 IL command, basic command:50μs/1000 IL conmand, Application command:10-100μs+/IL
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, pulse capture function
	Basic model	14/24/40/60
	Pulse input	4*100kHz
	Pulse output	4*200kHz
Hardware	Analog input	4ch，12Bit（Optional）
	Analog output	D/A：2ch , 12Bit@Y6,Y7（Optional）; PWM->D/A：4ch , 8Bit（Optional）
	Communication Interface	RS422, RS485(CAN Optional), USB（Programming communication port）, LAN standard hardware interface
	Communication module	WiFi communicating module（Optional）
	Analog potentiometer	Optional for 2（Alternative with LAN communication interface）
	External storage	MiniSD card，maximum 2GB
Software	Programming software	Based on IEC 61131-3 standard software platform MULTIPROG
	Programming language	Support multiple languages（IL,ST,LD,SFC,FBD,CFC）
	User-defined command	Support C/C# programming
	Program encryption	Support project encryption, prohibit download

● YX1N Performance Specification

Item		Specification
Power input and output	Power	AC：AC100V～240V DC：DC24V
	Power consumption*1	AC：30W(24M), 32W(40M), 35W(60M) DC：15W(24M), 18W(40M), 20W(60M)
	Impulse current	AC：30A max 5ms/AC100V, 50A max 5ms/AC200V DC：25A max 1ms/DC24V, 22A max 0.3ms/DC12V
	24V power supply	AC：DC24V 400mA
	Input	DC24V 7mA/5mA none-voltage contact, or NPN open set electrode transistor input
	Output	Relay output：2A/1 point、8A/4 point COM AC250V, below DC30V Transistor output：0.5A/1 point, 0.8A/4 points COM DC5V~DC30V
	extensions	By installing extension board, it can extend for several input and output points or analog input and output.
Performance	Program memory	Built-in Storage box: 8,000 step(battery-free EEPROM), annotation input, write in RUN model,program transfer function
	Clock function	Built-in real-time clock(Time setting command, time comparison command)
	Command	27 basic command, 2 step ladder chart command, 85 application command
	Computing speed	Basic command：0.55～0.7μs/command, application command：3.7～several 100μs/command
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, pulse capture function
	Maximum input and output points	128 points
	Auxiliary relay, timer	Auxiliary relay：1536 points; timer：256 point
	Counter	16 bit increase counter：200 points / 32 bit increase and decrease counter: 35 points / High speed 32 bit increase and decrease counter：[1 phase]60kHz/2points,10kHz/4 points[2 phase]30kHz/1 point、5kHz/1 point
	Data register	General 8,000 point, for index 16 points, for files 7,000 points the most
Others	Analog potentiometer	Build-in 2 points, add 8 points by using YX1N-8AV-BD extension board
	Function extension board	Comply with YX1N-□□□-BD extension board
	Special adapter	Connect through YX1N-CNV-BD

YX2N YX2N^{H} Medium PLC

16/32/48/64/80/128 M

Features

- Terminal type of medium-sized PLC, faster program execution, fully communication function

- Modular structure, providing 16 to 256 I/O points, 8 additional special function modules (such as analog I/O)

- Small size and high speed calculation

- CPU, power supply and I/O integration, strong extension ability by installing extension modules (communication / analog / I/O)

Purchase Model

YX	①	②	③									④		⑤		
												Model Mark		Polarity Mark		
Type	Series	Ver.	I/O Number	Standard	Maximum							Model	Drive Type	Power Type	Output Polarity	Input Polarity
					②Normal Series			②+H Series								
	Main Module			BI	BO	PI	PO	PI	PO/PWM	AI	AO					
	2N	Normal and +H Series	16	8	8	8	2	2	6/8	6	2	M	R: S: T: U:	E; D	S	S
			32	16	16	8	2	2	6/8	6	2					
			48	24	24	8	2	2	6/8	6	2					
			64	32	32	8	2	2	6/8	6	2					
			80	40	40	8	2	2	6/8	6	2					
			128	64	64	8	2	2	6/8	6	2					

Type	Series	Ver.	I/O Number	Other Source								Software Support					Dimension	Weight
				Standard				+H Source				Standard	②+H Source				L*W*H (mm)	kg
				②Normal Series				②+H Series				②Normal	②+H Series					
	Main Module			Extension	RS422	Potentiometer		LAN	RS485	USB	WIFI	SD	FX	IEC	FX	S7	C	
	2N	Normal and +H Series	16	√	1	X	2	1	1	1	◎	◎	√	√	√	※	√	130*90*87	0.6
			32	√	1	X	2	1	1	1	◎	◎	√	√	√	※	√	150*90*87	0.65
			48	√	1	X	2	1	1	1	◎	◎	√	√	√	※	√	182*90*87	0.85
			64	√	1	X	2	1	1	1	◎	◎	√	√	√	※	√	220*90*87	1.0
			80	√	1	X	2	1	1	1	◎	◎	√	√	√	※	√	285*90*87	1.2
			128	√	1	X	2	1	1	1	◎	◎	√	√	√	※	√	350*90*87	1.8

Note:

1. ◎ Optional, × No support, ※ No support temporarily, BD stands for BD extension board would support main module;
2. +H model's weight will change according to customized configuration.

YX2N^{H} Performance Specification

Item		Specification
Performance	Program execution mode	Program cycle operation, with interrupt command
	Control point	16~128 points, extend to 256 points the most
	Program memory	256KB
	Data memory	12KB
	Clock function	Built-in real-time clock（Time setting command, time comparison command）
	Basic command set	Support all IEC 61131-3
	Application command set	Support application command library
	Computing speed	High speed command:33μs/1000 command, IL command,basic command:50μs/1000 IL conmand, Application command:10-100μs+/IL
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, pulse capture function
	Basic model	16/32/48/64/80/128
	Pulse input	2*100kHz
	Pulse output	6*200kHz
Hardware	Analog input	6ch，12Bit（Optional）
	Analog output	D/A：2ch , 12Bit@Y6,Y7（Optional）; PWM->D/A：8ch , 8Bit（Optional）
	Communication Interface	RS422, LAN(CAN, RS485, RS232 Optional), USB(Programming communication port)standard hardware interface
	Communication module	WiFi communicating module（Optional）
	Analog potentiometer	2
	External storage	MiniSD card，maximum 2GB
Software	Programming software	Based on IEC 61131-3 standard software platform MULTIPROG
	Programming language	Support multiple languages（IL,ST,LD,SFC,FBD,CFC）
	User-defined command	Support C/C# programming
	Program encryption	Support project encryption, prohibit download

YX2N Performance Specification

Item		Specification
Power input and output	Power	AC：AC100V～240V DC：DC24V
	Power consumption*1	AC：30W(16M), 40W(32M), 50W(48M),60W(64M),70W(80M),100W(128M) DC：25W(32M), 30W(48M), 35W(64M), 40W(80M)
	Impulse current	AC：40A max 5ms/AC100V, 60A max 5ms/AC200V
	24V power supply	AC：below 25mA（16M,32M） below 460mA（48M,64M,80,128M）
	Input	DC24V 7mA/5mA none-voltage contact, or NPN open set electrode transistor input
	Output	Relay output：2A/1 point, 8A/4 point COM 8A/8 point COM AC250V, below DC30V Transistor output：0.5A/1 point (0.3A/1 point for Y000 and Y001), 0.8A/4 point COM DC5V~DC30V
	extensions	Comply with extension modules and units for YX2N series
Performance	Program memory	Built-in Storage box: 8,000 step (Battery support) , annotation input, write in RUN model, 1,600 steps max for storage box installation
	Clock function	Built-in real-time clock(Time setting command, time comparison command)
	Command	27 basic command, 2 step ladder chart command, 132 application command
	Computing speed	Basic command：0.08μs/command, application command：1.52～several 100μs/command
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, timing interrupt, counting interrupt , pulse capture function
	Maximum input and output points	256 points
	Auxiliary relay, timer	Auxiliary relay：3072 points; timer：256 point
	Counter	16 bit increase counter：200 points / 32 bit increase and decrease counter: 35 points / High speed 32 bit increase and decrease counter：[1 phase]60kHz/2points,10kHz/4 points[2 phase]30kHz/1 point, 5kHz/1 point
	Data register	General 8,000 point, for index 16 points, for files 7,000 points the most
Others	Analog potentiometer	Add 8 points by using YX2N-8AV-BD extension board
	Function extension board	Comply with YX2N-□□□-BD extension board
	Special adapter	Connect through YX2N-CNV-BD

YX3U YX3U^{H} High Performance PLC

16/32/48/64/80/128 M

Features

- High performance in speed, capacity and functionality

- Built-in high-speed processing and positioning functions, 384 I/O points (with extension)

- CPU, power supply and I/O integration, strong extension ability by installing extension modules

- Multiple software and communication extension

Purchase Model

YX	①	②	③								④		⑤		
											Model Mark		Polarity Mark		
Type	Series	Ver.	I/O Number	Standard	Maximum						Model	Drive Type	Power Type	Output Polarity	Input Polarity
				②Normal Series				②+H Series							
	Main Module			BI	BO	PI	PO	PI	PO/PWM	AI	AO					
	3U	Normal and +H Series	16	8	8	8	4	3	6/8	6	2	M	R: S: T: U:	E; D	S	S
			32	16	16	8	4	3	6/8	6	2					
			48	24	24	8	4	3	6/8	6	2					
			64	32	32	8	4	3	6/8	6	2					
			80	40	40	8	4	3	6/8	6	2					
			128	64	64	8	4	3	6/8	6	2					

Type	Series	Ver.	I/O Number	Other Source								Software Support					Dimension	Weight
				Standard				+H Source				Standard	②+H Source				L*W*H (mm)	kg
				②Normal Series				②+H Series				②Normal	②+H Series					
	Main Module			Extension	RS422	Potentiometer		LAN	RS485	USB	WIFI	SD	FX	IEC	FX	S7	C	
	3U	Normal and +H Series	16	√	1	X		Alternative	1	1	◎	BD	√	√	√	※	√	130*90*87	0.6
			32	√	1	X		Alternative	1	1	◎	BD	√	√	√	※	√	150*90*87	0.65
			48	√	1	X		Alternative	1	1	◎	BD	√	√	√	※	√	182*90*87	0.85
			64	√	1	X		Alternative	1	1	◎	BD	√	√	√	※	√	220*90*87	1.0
			80	√	1	X		Alternative	1	1	◎	BD	√	√	√	※	√	285*90*87	1.2
			128	√	1	X		Alternative	1	1	◎	BD	√	√	√	※	√	350*90*87	1.8

Note:

1. ◎ Optional, × No support, ※ No support temporarily, BD stands for BD extension board would support main module;

2. +H model's weight will change according to customized configuration.

YX3U^{H} Performance Specification

Item		Specification
Performance	Program execution mode	Program cycle operation, with interrupt command
	Control point	16～128 points, extend to 256 points the most
	Program memory	512KB
	Data memory	64KB
	Clock function	Built-in real-time clock（Time setting command, time comparison command）
	Basic command set	Support all IEC 61131-3
	Application command set	Support application command library
	Computing speed	High speed command:33μs/1000 command, IL command,basic command:50μs/1000 IL conmand, Application command:10-100μs+/IL
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, pulse capture function
	Basic model	16/32/48/64/80/128
	Pulse input	3*100kHz
	Pulse output	6*200kHz
Hardware	Analog input	6ch，12Bit（Optional）
	Analog output	D/A：2ch , 12Bit@Y6,Y7（Optional）; PWM->D/A：8ch , 8Bit（Optional）
	Communication Interface	RS422, LAN(CAN, RS485, RS232 Optional), USB(Programming communication port)standard hardware interface
	Communication module	WiFi communicating module（Optional）
	Analog potentiometer	2
	External storage	MiniSD card，maximum 2GB
Software	Programming software	Based on IEC 61131-3 standard software platform MULTIPROG
	Programming language	Support multiple languages（IL,ST,LD,SFC,FBD,CFC）
	User-defined command	Support C/C# programming
	Program encryption	Support project encryption, prohibit download

YX3U Performance Specification

Item		Specification
Power input and output	Power	AC：AC100V～240V 50/60Hz DC：DC24V
	Power consumption*1	AC：30W(16M), 35W(32M), 40W(48M),45W(64M),50W(80M),65W(128M) DC：25W(16M), 30W(32M), 35W(48M), 40W(64M),45W(80M)
	Impulse current	AC：30A max 5ms/AC100V，45A max 5ms/AC200V
	24V power supply	DC：below 400mA（16M,32M） below 600mA（48M,64M,80M,128M）
	Input	DC24V 5～7mA none-voltage contact, or NPN open set electrode transistor input, PNP open set electrode input
	Output	Relay output：2A/1 point, 8A/4 points COM, 8 points/8 points COM AC250V(240V for CE、UL/cUL), below DC30V Transistor output：0.5A/1 point, 0.8A/4 points, 1.6A/8 points COM DC5V~DC30V
	extensions	Comply with extension modules and units for YX2N series
Performance	Program memory	Build-in 64,000 step RAM (battery support) Accessory：64,000 step RAM storage box(with or without program delivery function), 16,000 step flash memory storage box
	Clock function	Built-in real-time clock (Leap year correction function)，monthly deviation ±45s/25°C
	Command	7 basic command, 2 step ladder chart command, 209 application command
	Computing speed	Basic command：0.065μs/command, application command：0.645～several 100μs/command
	High speed processing	Input and output refresh command, input filter adjustment command, input interrupt function, timing interrupt, high speed counting interrupt , pulse capture function
	Maximum input and output points	384 points (basic unit, extended I/O points, and remote I/O points)
	Auxiliary relay, timer	Auxiliary relay：7,680 points; timer：512 point
	Counter	16 bit increase counter：200 points / 32 bit counter: 35 points / High speed 32 bit counter：[1 phase]100kHz/6 points, 10kHz/2 points[2 phase]50kHz/2 points(set as fourfold), 1 phase 200kHz, 2 phase 100kHz for high-speed input adapter
	Data register	General 8,000 point, for index 16 points, for files 32,768 points (need storage box)
Others	Analog potentiometer	Comply with YX3U-□□□-BD extension board
	Function extension board	Comply with YX2H,YX2N and YX3U series modules and units
	Special adapter	For analog(4 sets the most),for communication（2 sets the most including communication board, need extension board); high speed I/O（2 sets for input the most） (need extension board when using analog or sepcail communication adapter in the same time)

Features

- Extension module for YX series main module
- Occupies 8 points or 16 points signal

8E 16E

Purchase Model Naming Rule

YX- □□ □□□

Series / Number of ponints / Funtion code

Purchase Model

Order Number	No. of Points	I/O Points and Type				Power	Dimension W*H*Lmm	Weight Kg	Apply with
		Input		Output					
YX-8ER	8 points	4 points (Occupy 8 points)	DC 24V	4 points (Occupy 8 points)		Extension module	43*90*87	0.2	YX1N YX2N YX3U
YX-8EX		8 points		-	-				
YX-16ER	16 points	8 points		8 points	Relay		40*90*87	0.3	YX1N" YX2N" YX3U"
YX-16EX		16 points		-	-				

Order Number	No. of Points	I/O Points and Type				Power	Dimension W*H*Lmm	Weight Kg	Apply with
		Input		Output					
YX-8EYR	8点	-	-	8点	Relay	Extension module	43*90*87	0.2	YX1N YX2N YX3U
YX-8EYT		-			Transistor				
YX-16EYR	16点	-		16点	Relay		40*90*87	0.3	YX1N" YX2N" YX3U"
YX-16EYT		-			Transistor				

Purchase Model

YX	①	②	③			④	
	Series	Version	Basic Model I/O			Model Mark	
			No. of Points	Standard Points		Model	Drive Type
	Extension Unit (extension type)			BI	BO		
Type	1S/1N/2N	none-H	8	4	4	E	R; X; Y-R/S/T;
			8	8	-		
			8	-	8		
			16	8	8		
			16	16	-		
			16	-	16		

Note:

1. ◎ Optional, × No support, ※ No support temporarily, BD stands for BD extension board would support main module;
2. +H model's weight will change according to customized configuration.

Features

- Extension module for YX series main module
- Occupies 32 points or 48 points signal
- Integrated with power module

32E 48E

Purchase Model Naming Rule

YX- □□ □□□

Series / Number of ponints / Funtion code

Purchase Model

Order Number	No. of Points	I/O Points and Type				Power	Dimension W*H*Lmm	Weight Kg	Apply with
		Input		Output					
YX-32ER	32 points	16 points	DC 24V	16 points	Relay	None	150*90*87	0.65	YX1N YX2N YX3U
YX-32ET					Transistor				
YX-48ER	48 points	24 points		24 points	Relay		182*90*87	0.85	YX1N " YX2N " YX3U "
YX-48ET					Transistor				

Purchase Model

YX	①	②	③			④	
	Series	Version	Basic Model I/O			Model Mark	
			No. of Points	Standard Points		Model	Drive Type
	Extension Unit (extension type)			BI	BO		
Type	1S/1N/2N	none H	32	16	16	E	R; T;
			48	24	24		

Note:

1. ◎ Optional, × No support, ※ No support temporarily, BD stands for BD extension board would support main module;
2. +H model's weight will change according to customized configuration.

YX I/O Extension Module Series

YX Analog and Pulse

Features

- Extension module for YX series main module
- Occupies 8 points or 16 points signal

Purchase Model Naming Rule

YX- □□ □□□

Series / Number of ponints / Funtion code

Purchase Model

	Model	YX-2AD	YX-4AD	YX-2AD	YX-4AD
	Item	Voltage Input		Current Input	
Analog Input	Analog input range	DC0～10V，DC0～5V	DC0～10V	DC4～20mA	DC4～20mA
	Input characteristics	Voltage/current inputs Same input feature of 2 channel	-	Voltage/current inputs Same input feature of 2 channel	-
	Effective digital output	12-bit binary	11-bit binary+1-bit symbol	12-bit binary	12-bit binary
	Accuracy	±1%	±1%	±1%	±1%
	Switch speed	2.5ms/channel	6ms/15ms	2.5ms/channel	6ms/15ms
	Isolation method	Input and PLC power supply isolate with optocoupler and DC/DC converter(no isolation between inputs)			
	Power	DC5V 20mA DC24V 50mA	DC5V 30mA DC24V±10% 55mA	DC5V 20mA DC24V 50mA	DC5V 30mA DC24V±10% 55mA

	Model	YX-2DA	YX-4DA	YX-2DA	YX-4DA
	Item	Voltage Input		Current Input	
Analog Output	Analog input range	DC0～10V、DC0～5V	DC-10～10V	DC4～20mA	DC0～20mA
	Effective digital output	12-bit binary	11-bit binary+1-bit symbol	12-bit binary	12-bit binary
	Accuracy	±1%	±1%	±1%	±1%
	Switch speed	4ms/channel	2.1ms/4 channel	4ms/channel	2.1ms/4 channel
	Isolation method	Input and PLC power supply isolate with optocoupler and DC/DC converter(no isolation between inputs)			
	Power	DC5V 30mA DC24V 85mA	DC5V 30mA DC24V±10% 200mA	DC5V 30mA DC24V 85mA	DC5V 30mA DC24V±10% 200mA
	No. of I/O	8 points PLC input or output (calculated on the input or output side)			
	Dimension and weight	43*90*87mm,0.2Kg	55*90*87mm,0.3Kg	43*90*87mm,0.2Kg	55*90*87mm,0.3Kg
	Compliant model	YX series PLC			

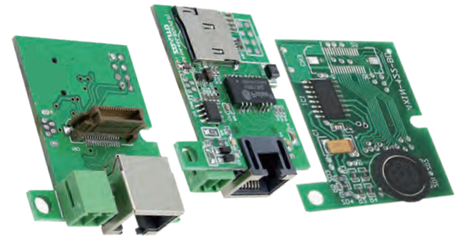
	Model	YX-1PG
Pluse Input /Output	No. of control axis	1 axis (max 8 pcs control 8 axes for YX1N and YX2N)
	Command speed	10Hz～100kHz(Command unit can be selected between Hz, cm/min, 10deg/min, inch/min)
	Pulse setting	10～±999999(Command unit can be selected between pulse, um, mdeg, 10～4inch, magnification for position data can be set)
	Pulse output	Output signal form：FP, RP, PLS, direction Pulse output terminal：Open set electrode transistor output DC5~24V below 35mA
	Communicate with PLC	Using FROM/TO command，execute by cache
	Power	Input signal：DC24V 40mA Pulse output：DC5V～24V below 35mA
	No. of I/O	8 points PLC input or output (calculated on the input or output side)
	Dimension and weight	55*90*87mm,0.3Kg
	Compliant model	YX series PLC

YX-BD I/O Extension Module Series

YX-BD

Features

- Extension module for YX series main module
- I/O extension, analog, communicating module optional
- Suitable for few I/O extension application



Purchase Model Naming Rule

YX- □□ □□□

Series / Number of ponints / Funtion code

Purchase Model

- Switching value extension board：Suitable for few I/O extension application

Model	No. of Channel	I/O Specification				Insulation	Compliant Model	
		Input		Output			YX1S	YX1N
YX-4EX-BD	4	4 points	DC 24V	-	-	None	○	○
YX-2EYT-BD	2	-	-	2 points	Transistor	None		

- Analog value extension board: can be installed inside AX1S, AX1N PLC, 2-channel analog input or 1-channel analog output board. Extend 8-point analog potentiometer by AX-BD-8AV function extension board

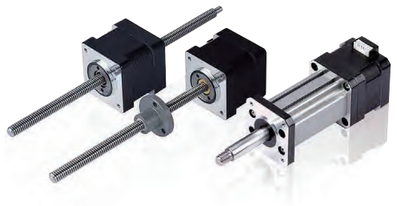
Model	Channel	I/O Specification			Insulation	Compliant Model	
		Input	Input	Output		YX1S	YX1N
YX-2AD-BD	2	Output range	DC0～10V (Input resistance 300kΩ)	DC4～20mA (Input resistance 250Ω)	Inter-channel: not isolated Between channels: not isolated	○	○
		Resolution	2.5mV (10V/4000)	8uA {(4～20mA)/2000}			
YX-8AV-BD	8	Resolution	Adjustment range：8 bit occupy I/O No.：0	-	Inter-channel: not isolated Between channels: not isolated	○	○
YX-1DA-BD	1	Output range	DC0～10V (Input resistance 2kΩ～1MΩ)	DC4～20mA (Input resistance 500Ω)	Inter-channel: not isolated Between channels: not isolated	○	○
		Resolution	2.5mV (10V/4000)	8uA {(4～20mA)/2000}			

- Communication, analog extension board：PLC built-in communication extension board (RS232C/RS485/RS422)

Model	Channel	Features and communication	No. of units	Insulation	Compliant model			
					YX1S	YX1N	YX2N	YX3U
YX-232-BD	1	Communication direction: half duplex bidirectional / Maximum transmission distance: 15m / Control command: RS command	1 maximum	None	YX1N-232-BD		YX2N-232-BD	YX3U-232-BD
YX-422-BD	1	Standard with PLC, connect to peripheral equipment / RS422-port, perform same communication	1 maximum	None	YX1N-422-BD		YX2N-422-BD	YX3U-422-BD
YX-485-BD	1	Communication direction: half duplex unidirectional / Maximum transmission distance: 50m / Control command: RS command	1 maximum	None	YX1N-485-BD		YX2N-485-BD	YX3U-485-BD
YX-485I-BD	1	Communication direction: half duplex unidirectional / Maximum transmission distance: 50m / Control command: RS command	1 maximum	Yes	YX1N-485I-BD		YX2N-485I-BD	YX3U-485I-BD
YX1H-485-BD	2	Communication direction: 485-half duplex unidirectional\ LAN-half duplex bidirectional; Maximum transmission distance: 485-50m\LAN-100m ; Control command: 485-RS command\ LAN-TCP/IP, LWIP	1 maximum	None	YX1S H	YX1N H	-	-

35 mm Leadscrew Stepper Motor

35mm leadscrew stepper motor maximum thrust up to 230N
Fixed internal drive motor and ball screw optional



● Motor Specifications

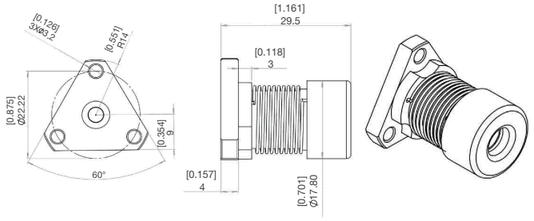
Motor	Voltage (V)	Current (A)	Resist. (Ω)	Induct. (mH)	Wire No.	Length (mm)
35-2105	6.6	0.5	13.2	14.0	4	34
35-2110	3.3	1.0	3.5	3.6	4	34
35-2115	2.2	1.5	1.8	1.9	4	34
35-2205	12.0	0.5	24.0	29.0	4	46
35-2210	6.0	1.0	6.0	7.2	4	46
35-2215	4.0	1.5	2.7	3.2	4	46

● Optional Leadscrew and Step Length

Diameter (inch)	Screw Dia. (mm)	Lead Length (inch)	Lead Length (mm)	Lead Code	Step Length @1.8° (mm)*	Step Length @0.9° (mm)*
0.25	6.35	0.024	0.6096	AA	0.003	0.0015
0.25	6.35	0.039	1	AB	0.005	0.0025
0.25	6.35	0.048	1.2192	B	0.006	0.003
0.25	6.35	0.05	1.27	D	0.006	0.0032
0.25	6.35	0.0625	1.5875	F	0.008	0.004
0.25	6.35	0.096	2.4384	J	0.012	0.0061
0.25	6.35	0.1	2.54	K	0.012	0.0064
0.25	6.35	0.125	3.175	L	0.015875	0.0079375
0.218	5.56	0.192	4.8768	AQ	0.024	0.0122
0.25	6.35	0.192	4.8768	Q	0.024	0.0122
0.25	6.35	0.25	6.35	S	0.031	0.0159
0.25	6.35	0.33	8.382	U	0.041	0.021
0.25	6.35	0.384	9.7536	W	0.048	0.0244
0.25	6.35	0.5	12.7	Y	0.0635	0.03175

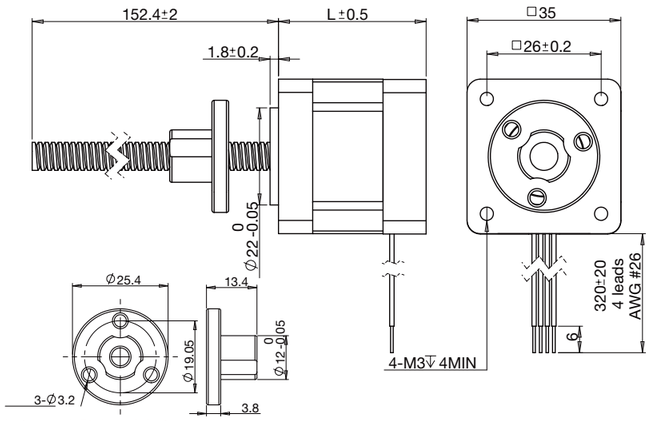
*Motor winding parameters and screw length customizable
*Round value

● Nuts for Eliminating Gap

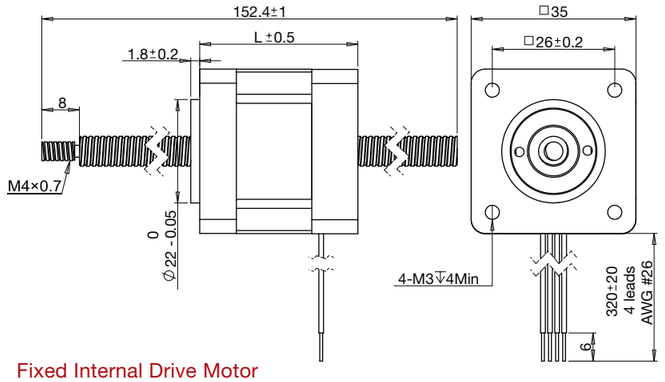


35 mm Dimension

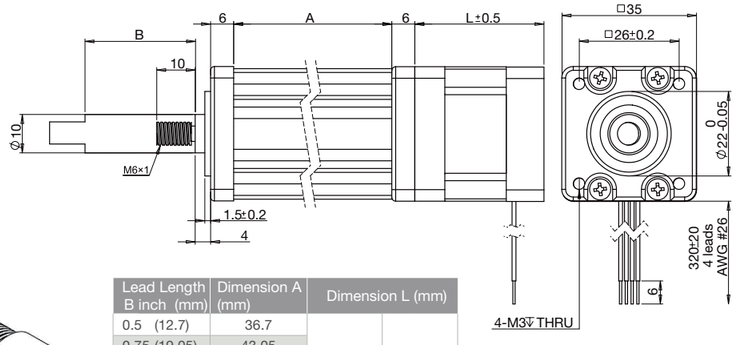
External Drive Motor



Internal Drive Motor



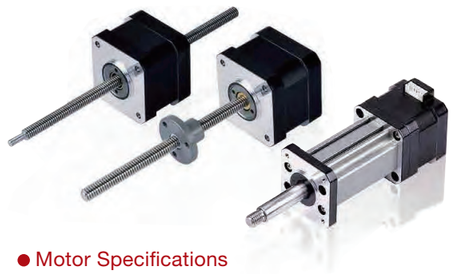
Fixed Internal Drive Motor



Lead Length B inch (mm)	Dimension A (mm)	Dimension L (mm)	
0.5 (12.7)	36.7	Single stack motor 35mm	Double stack motor 49mm
0.75 (19.05)	43.05		
1.0 (25.4)	49.4		
1.25 (31.8)	55.8		
1.5 (38.1)	62.1		
2.0 (50.8)	74.8		
2.5 (63.5)	87.5		

42 mm Leadscrew Stepper Motor

42mm leadscrew stepper motor maximum thrust up to 266N
Fixed internal drive motor and ball screw optional



● Motor Specifications

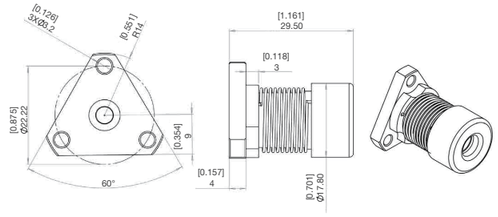
Motor	Voltage	Current (A)	Resist. (Ω)	Induct. (mH)	Wire No.	Length (mm)
42-2105	7.2	0.5	14.4	19.8	4	34
42-2110	3.6	1.0	3.6	5.0	4	34
42-2115	2.4	1.5	1.85	2.2	4	34
42-2205	11.0	0.5	22.0	46.0	4	48
42-2212	4.5	1.2	3.8	8.0	4	48
42-2225	2.2	2.5	0.9	1.8	4	48

● Optional Leadscrew and Step Length

Diameter (inch)	Screw Dia. (mm)	Lead Length (inch)	Lead Length (mm)	Lead Code	Step Length @1.8° (mm)*	Step Length @0.9° (mm)*
0.25	6.35	0.024	0.6096	AA	0.003	0.0015
0.25	6.35	0.039	1	AB	0.005	0.0025
0.25	6.35	0.048	1.2192	B	0.006	0.003
0.25	6.35	0.05	1.27	D	0.006	0.0032
0.25	6.35	0.0625	1.5875	F	0.008	0.004
0.25	6.35	0.096	2.4384	J	0.012	0.0061
0.25	6.35	0.1	2.54	K	0.012	0.0064
0.25	6.35	0.125	3.175	L	0.015875	0.0079375
0.218	5.56	0.192	4.8768	AQ	0.024	0.0122
0.25	6.35	0.192	4.8768	Q	0.024	0.0122
0.25	6.35	0.25	6.35	S	0.031	0.0159
0.25	6.35	0.33	8.382	U	0.041	0.021
0.25	6.35	0.384	9.7536	W	0.048	0.0244
0.25	6.35	0.5	12.7	Y	0.0635	0.03175

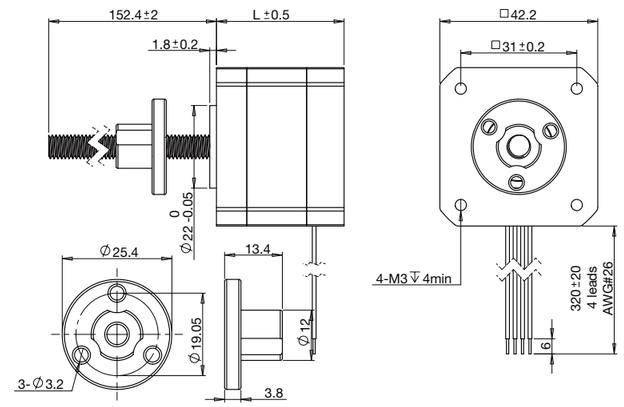
*External drive screw 8/9.525mm optional
*Motor winding parameters and screw length customizable
*Round value

● Nuts for Eliminating Gap

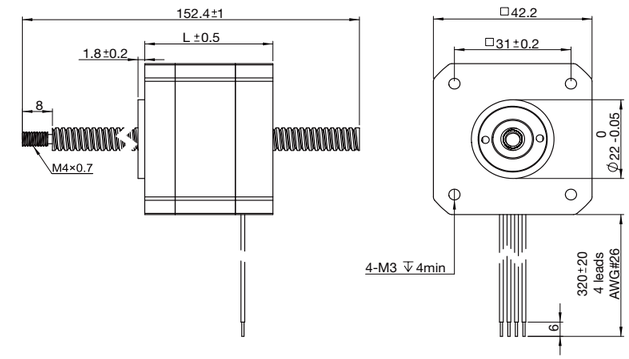


42 mm Dimension

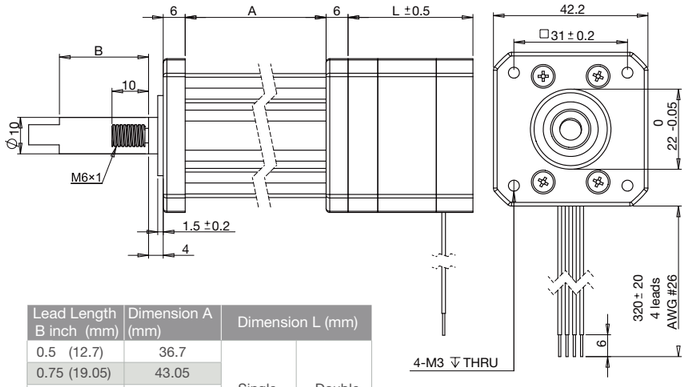
External Drive Motor



Internal Drive Motor



Fixed Internal Drive Motor

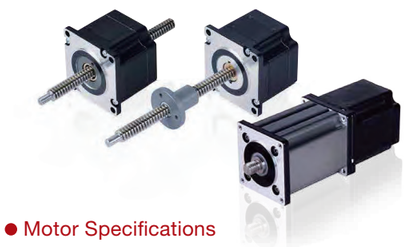


Lead Length B inch (mm)	Dimension A (mm)	Dimension L (mm)	
0.5 (12.7)	36.7	Single stack motor 35mm	Double stack motor 49mm
0.75 (19.05)	43.05		
1.0 (25.4)	49.4		
1.25 (31.8)	55.8		
1.5 (38.1)	62.1		
2.0 (50.8)	74.8		
2.5 (63.5)	87.5		

※Specification upgrade will not be informed. Please confirm the latest catalog version. If you have any question, please contact YAKO.※

57 mm Leadscrew Stepper Motor

57mm leadscrew stepper motor maximum thrust up to 890N
Fixed internal drive motor and ball screw optional



● Motor Specifications

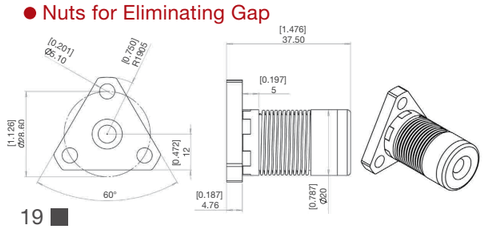
Motor	Voltage	Current (A)	Resist. (Ω)	Induct. (mH)	Wire No.	Length (mm)
57-2110	6.4	1.0	6.4	16.4	4	45
57-2120	3.2	2.0	1.6	4.1	4	45
57-2130	2.1	3.0	0.8	1.7	4	45
57-2210	10.8	1.0	11.5	32.0	4	65
57-2225	4.2	2.5	2.0	5.2	4	65
57-2240	2.4	4.0	0.7	2.0	4	65

● Optional Leadscrew and Step Length

Diameter (inch)	Screw Dia. (mm)	Lead Length (inch)	Lead Length (mm)	Lead Code	Step Length @1.8° (mm)*	Step Length @0.9° (mm)*
0.315	10	0.079	2	MG	0.01	0.005
0.315	8	0.158	4	MM	0.02	0.01
0.315	8	0.315	8	MT	0.04	0.02
0.375	9.525	0.025	0.635	A	0.003	0.0016
0.375	9.525	0.05	1.27	D	0.006	0.0032
0.375	9.525	0.0625	1.5875	F	0.008	0.004
0.375	9.525	0.083	2.1082	H	0.01	0.0053
0.375	9.525	0.1	2.54	K	0.012	0.0064
0.375	9.525	0.125	3.175	L	0.015	0.0079
0.375	9.525	0.167	4.2418	P	0.021	0.0106
0.375	9.525	0.2	5.08	R	0.025	0.0127
0.375	9.525	0.25	6.35	S	0.031	0.0159
0.375	9.525	0.375	9.525	V	0.047	0.0238
0.375	9.525	0.384	9.7536	W	0.048	0.0244
0.375	9.525	0.4	10.16	X	0.0508	0.0254
0.375	9.525	0.5	12.7	Y	0.063	0.0318
0.375	9.525	1.0	25.4	Z	0.127	0.0635

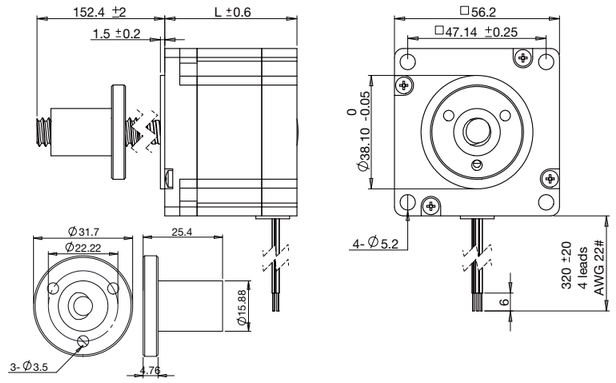
*External drive screw 15.875mm optional
*Motor winding parameters and screw length customizable
*Round value

● Nuts for Eliminating Gap

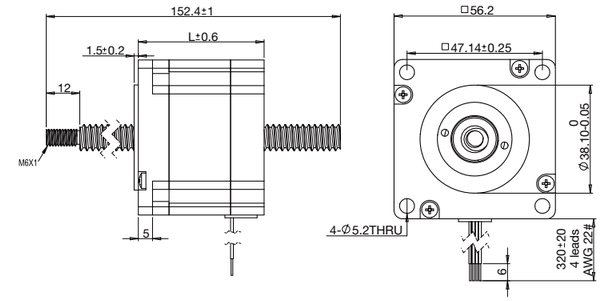


57 mm Dimension

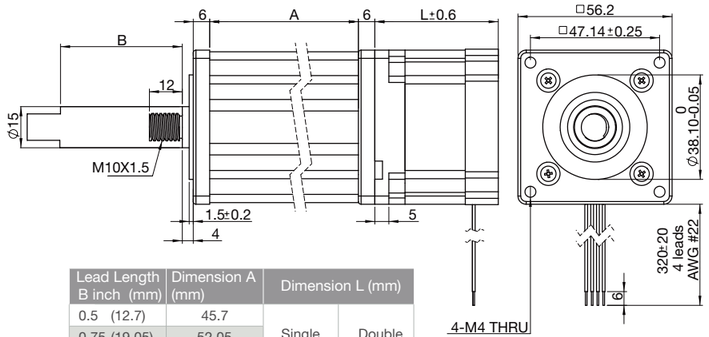
External Drive Motor



Internal Drive Motor



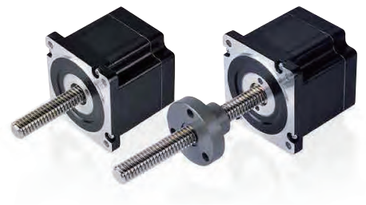
Fixed Internal Drive Motor



Lead Length B inch (mm)	Dimension A (mm)	Dimension L (mm)	
0.5 (12.7)	45.7	Single stack motor 47mm	Double stack motor 66mm
0.75 (19.05)	52.05		
1.0 (25.4)	58.4		
1.25 (31.8)	64.8		
1.5 (38.1)	71.1		
2.0 (50.8)	83.8		
2.5 (63.5)	96.5		

86 mm Leadscrew Stepper Motor

86mm leadscrew stepper motor maximum thrust up to 2225N
Ball screw optional



● Motor Specifications

Motor	Voltage	Current (A)	Resist. (Ω)	Induct. (mH)	Wire No.	Length (mm)
86-2113	12.0	1.3	9.2	71.0	4	76
86-2130	5.1	3.0	1.9	15.0	4	76
86-2155	2.85	5.5	0.52	4.5	4	76

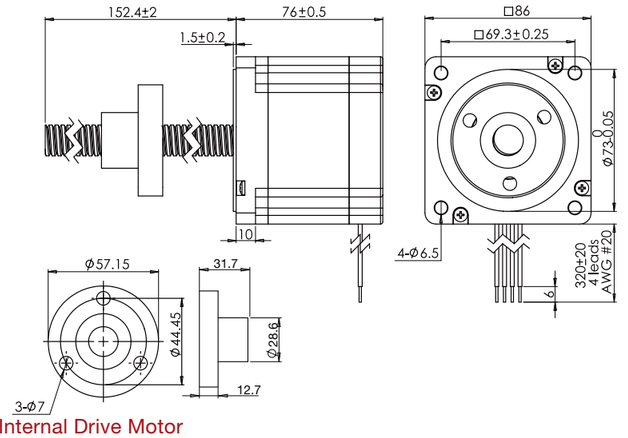
● Optional Leadscrew and Step Length

Diameter (inch)	Screw Dia. (mm)	Lead Length (inch)	Lead Length (mm)	Lead Code	Step Length @1.8° (mm)*	Step Length @0.9° (mm)*
0.625	15.875	0.1	2.54	K	0.012	0.0051
0.625	15.875	0.125	3.175	L	0.015	0.0064
0.625	15.875	0.2	5.08	R	0.025	0.0102
0.625	15.875	0.25	6.35	S	0.031	0.0127
0.625	15.875	0.5	12.7	Y	0.0635	0.03175
0.625	15.875	1.0	25.4	Z	0.127	0.0508

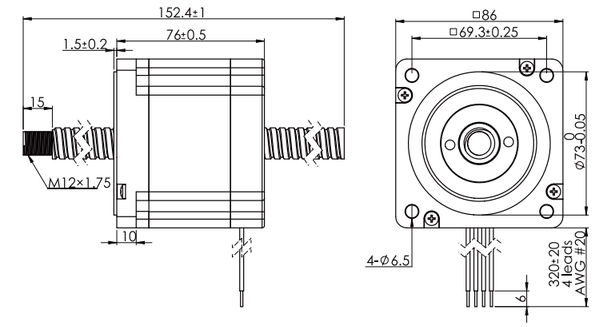
*Motor winding parameters and screw length customizable
*Round value

86 mm Dimension

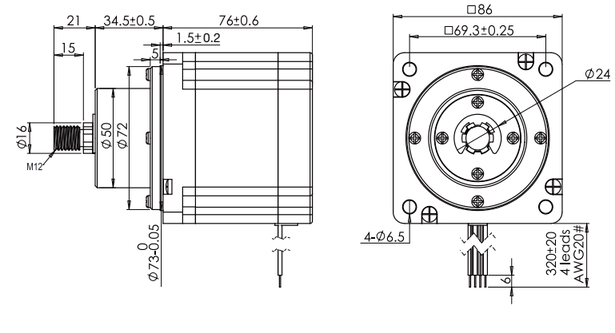
External Drive Motor



Internal Drive Motor



Fixed Internal Drive Motor



※Specification upgrade will not be informed. Please confirm the latest catalog version. If you have any question, please contact YAKO.※