

SERVO TETA

Series TDF



2023

Products Catalog

Servo motors are very precise motors used to control speed, position and torque.

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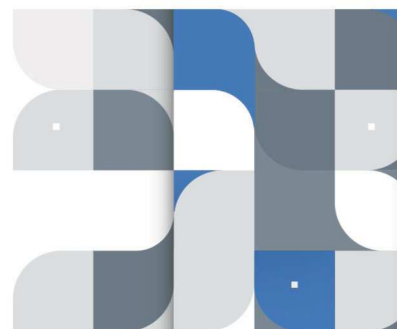


TETA

ELECTRIC

SERVO TETA

Series TDF



سری محصول

Product Series

A

پارت نامبر درایو

Drive Part Number

①

Name

Sign	Product name
TD	TETA servo drive

④

Drive power

Sign	Rated input voltage (kW)
P1	0.1
P2	0.2
P4	0.4
P7	0.75
01	1.0
1P5	1.5
2P3	2.3
2P6	2.6
03	3.0
4P5	4.5
5P5	5.5
7P5	7.5
11	11
15	15
22	22
32	32
37	37
45	45
55	55

②

Type

Sign	Product name
C	EtherCAT bus type
E	X-NET bus type
F	Full function type
K	Standard type
L	Pulse type
C1	Small size buse type
L1	Small size pulse type
K1	Small size standard type
N1	Small size CANopen type

⑤

Encoder specification

Sign	Encoder specification
C	Communication type encoder

TD - - C - H

① ② ③ ④ ⑤ ⑥

③

Voltage specification

Sign	Rated input voltage
2	AC220V
4	AC380V

⑥

Product type

Sign	Product type
H	Enhanced type drive

پارت نامبر موتور

Motor Part Number

1

Inertia type

Sign	Inertia
TML	Low inertia motor
TMM	Medium inertia motor
TMH	High inertia motor

2

Base number

Sign	Base number
40	Base40
60	Base60
80	Base80
100	Base100
130	Base130
180	Base180

TML - 60 17 30 B 1 - - B

① ② ③ ④ ⑤ ⑥ ⑨ ⑧ ⑨

4

Rated speed

Sign	Rated speed (rpm)
15	1500
20	2000
25	2500
30	3000

3

Encoder specification

Sign	specification
17	Multi-turn 17-bit
23	Multi-turn 23-bit

8

Rated power

Sign	Rated power (kW)
P1	0.1
P2	0.2
P4	0.4
P7	0.75
P8	0.85
01	1
1P3	1.3
1P5	1.5
1P8	1.8
02	2.0
2P3	2.3
03	3.0
4P4	4.4
5P5	5.5
7P5	7.5
22	22
30	30
37	37
45	45
55	55

5

Motor shaft specification

Sign	shaft specification
A	With key, no oil seal, with threaded hole
B	With key, with oil seal, with threaded hole
C	No key, no oil seal, with threaded hole
D	No key, with oil seal, with threaded hole
E	Special shaft specification (length, shaft diameter, etc.)

6

Motor connector type

Sign	connector type
1	AMP plug
2	Aviation plug
3	Connector

7

Power supply voltage

Sign	Power supply voltage
2	220V
4	380V

9

Power-off brake

Sign	Power-off brake
B	With brake
Empty	Without brake

جدول راهنمای توان و مدل

Power and Model Guide Table

B

Power	Motor model	Matched driver	Encoder cable	Power cable	Cable accessories package
400W	TML-601730B2-2P4	TDF-2P4-C	EC/ECF- 7AV -length	PC/PCF-4SAV-07- length	CDB-44P-15P
750W	TML-801730B2-2P7	TDF-2P7-C	EC/ECF- 7AV -length	PC/PCF-4SAV-07- length	CDB-44P-15P
750W With Brake	TML-801730B2-2P7-B	TDF-2P7-C	EC/ECF- 7AV -length	PC/PCF-6WSAV-07- length	CDB-44P-15P
1KW	TMH-1301715B2-2P8	TDF-201-C	EC/ECF- 10AVS -length	PC/PCF-4MAV-15- length	CDB-44P-15P
1KW With Brake	TMH-1301715B2-2P8-B	TDF-201-C	EC/ECF- 10AVS -length	PC/PCF-7WMAV-15- length	CDB-44P-15P
1.5KW	TMH-1301720B2-21P5	TDF-21P5-C	EC/ECF- 10AVS -length	PC/PCF-4MAV-15- length	CDB-44P-15P
1.5KW With Brake	TMH-1301720B2-21P5-B	TDF-21P5-C	EC/ECF- 10AVS -length	PC/PCF-7WMAV-15- length	CDB-44P-15P
2.6KW	TMH-1301715B2-22P3	TDF-22P6-C	EC/ECF- 10AVS -length	PC/PCF-4MAV-15- length	CDB-44P-15P
2.6KW With Brake	TMH-1301715B2-22P3-B	TDF-22P6-C	EC/ECF- 10AVS -length	PC/PCF-7WMAV-15- length	CDB-44P-15P
3KW	TMH-1801715B2-403	TDF-403-C-H	EC/ECF- 15AV -length	PC/PCF-4BAV-25- length	CDB-44P-15P
3KW With Brake	TMH-1801715B2-403-B	TDF-403-C-H	EC/ECF- 15AV -length	PC/PCF-6WBAV-25- length	CDB-44P-15P

- پک کابل ها (کابل موتور+ کابل انکدر) در مترهای 3M، 5M، 10M و 15M توسط شرکت قابل عرضه می باشد.
- کلیه ی کابل های موتور و انکدر در نوع High Flexibility با انعطاف پذیری بالا نیز موجود می باشند که برای کاربری های با کورس حرکتی زیاد و نویز بالا توصیه می شود.

مشخصات درایو
Drive Specifications

جدول مشخصات
Specification Table

C

Basic specification	Model Specification		Pulse type		EtherCAT bus type		CANopen bus type	X-NET bus type	Full function type	Standard type	
			TDL1 series	TDL series	TDC1 series	TDC series	TDN1 series	TDE series	TDF series	TDK1 series	TDK series
	Power range (KW)		0.1~0.75	0.1~2.6	0.1~15	0.1~32	0.1~0.75	0.1~22	0.1~7.5	11~15	0.1~3.0
	Input power supply		Single/three phase AC200~240V , 50/60Hz . Three-phase AC380V~440V , 50/60Hz								
	Encoder feedback		17-bit /23-bit communication encoder								
	Control mode		Three-phase full wave rectifier IPM, PWM control ,sine wave current drive mode								
	Use Environment	Ambient temperature	Operation : -10℃ ~ 40℃ (no condensation) / storage : -20℃ ~ 60℃ (no condensation)								
		Ambient humidity	Operation/ storage: 90% RH and below (no condensation)								
		Vibration /shock resistance	4.9 m/s2 /19.6m/s2								
	Function	Electronic CAM	No								
Protection function		Overvoltage ,undervoltage, overheating, overcurrent, overspeed, analog input abnormality, excessive position deviation, output short circuit, encoder abnormality, regeneration abnormality protection, overtravel protection, oscillation protection, phase loss protection, etc									
Dynamic brake		No									
Communication function		RS232: standard modbusRTU protocol RS485: standard modbusRTU protocol	RS232: standard modbusRTU protocol	RS232:Standard modbusRTU protocol EtherCAT: support EtherCAT bus communication (max 32 axes)		RS232: standard modbusRTU protocol CANopen: support CANopen bus communication (max 64 axes)	RS232:standard modbusRTU protocol RS485:standard modbusRTU protocol Support X-NET bus communication (max 20 axes)	RS232:standard modbusRTU protocol RS485:standard modbusRTU protocol			
Brake resistor		Built-in brake resistor , external brake resistor can be connected									
Display and operate		5-bit LED indicator light, power indicator light ,4 buttons									
Position output		Output form	No							ABZ differential feedback output	
	Frequency division function	No							Yes		
	Collector z phase output	Yes									
I/O signal	Analog input	No							2 channels input	No	
	Digital input (SI)	3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	10 channels	5 channels		
	Digital output (SO)	3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	3 channels	3 channels (750W and below) 4 channels (above 750W)	8 channels	4 channels		
Position	Max input pulse frequency	Collector open: 200kpps(C1/ N1 not support pulse)							Collector open: 200kpps [optocoupler] Differential input: 500kpps [optocoupler] Long line reception: 2Mpps [only TDF series support]		
	Pulse command mode	3.3V~5V/18~24V pulse+direction, AB phase pulse, CW/CCW signal	18~24V pulse+direction, AB phase pulse, CW/CCW signal (C cannot support CW/CCW, C1/ N1 not support external pulse)							3.3V~5V/18~24V pulse+direction, AB phase pulse, CW/CCW signal	
	Control mode	External pulse/ built-in position		built-in position/EtherCAT motion bus	External pulse/ built-in position/EtherCAT motion bus	built-in position/CANopen motion bus	External pulse/ built-in position/X-NET motion bus	External pulse/ built-in position			
	Feedforward compensation	0~100% (set the resolution to 1%)									



Speed control mode	Positioning complete width		1~65535 command unit (set the resolution to 1 command unit)				
	Electronic gear ratio		1/10000<B/A<10000				
	Control mode		Analog speed control (only TDF support) ,internal three segments of speed, external speed mode				
	Command smoothing mode		Low pass filter, smooth filter				
	Analog input	Voltage range	No			-10V~+10V (resolution 12-bit)	No
		Input impedance	No			72K	No
	Torque limit		Internal parameter			Internal parameter/ external analog	Internal parameter
	Speed change rate		External load rated change 0~100% : below +/-0.01% (at rated speed)				
			Rated voltage +10% : 0.01% (at rated speed)				
			Ambient temperature 20+~25° C : below +/-0.01% (at rated speed)				
Torque control mode	Control mode		Analog speed control (only TDF support), internal torque				
	Analog input	Voltage range	No			-10V~+10V (resolution 12-bit)	No
		Input impedance	No			72k	No
	Speed limit		Internal parameter			Internal parameter/ external analog	Internal parameter
	Bus control mode	Control axis number		No	32 axes	64 axes	20 axes
Communication protocol		No	EtherCAT protocol	CANopen protocol	X-NET protocol	No	

مشخصات موتور

Motor Specifications

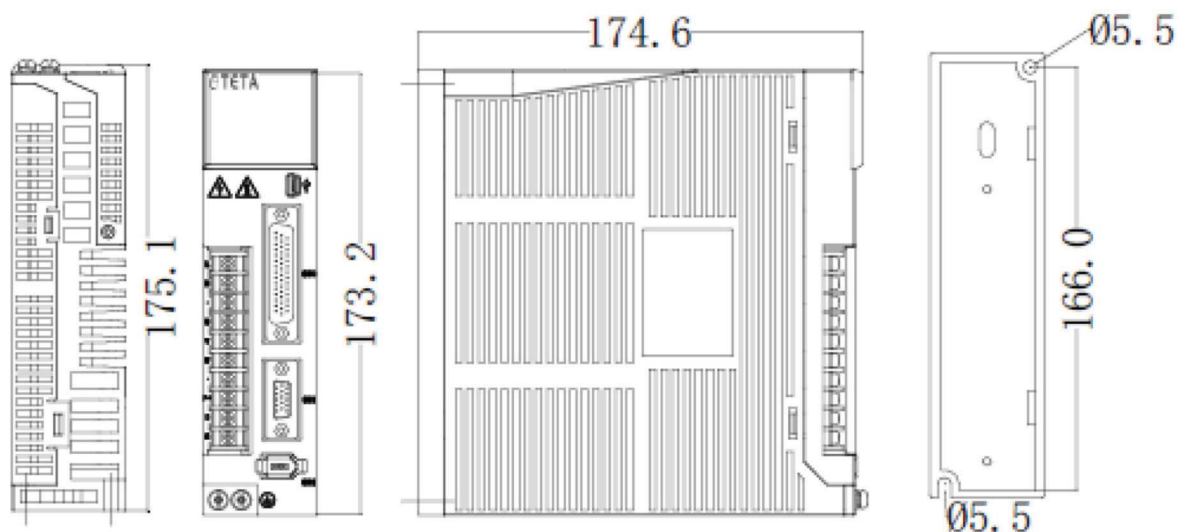
Voltage level		AC 220V								AC 380V	
Motor model		TML-60	TML-80	TMH 130171 B2-2P8	TMH 1301715 B2-2P8-B	TMH 130172 B2-21P5	TMH 1301720 B2-21P5-B	TMH 1301715 B2-22P3	TMH 1301715 B2-22P3-B	TMH-1801715 B2-403	TMH-1801715 B2-403-B
		2 P4	2 P7	2 P8		21 P5		22P3		43P0	
Rated power (KW)		0.4	0.75	0.85		1.5		2.3		3	
Rated speed(rpm)		3000		1500		2000		1500			
Max speed(rpm)		6500	5200	3000				2500		3000	
Rated torque(N.m)		1.27	2.39	5.41		7.16		14.6		19	
Max torque(N.m)		4.45	7.17	16.23		18		36.5		51.3	
Rated current(mA)		2700	4000	6000		8000		11800		11000	
Rotor inertia (10 [^] -7kg.m2)		273(262)	980(1030)	13860	15340	20000	21440	35240	36260	51000	55490
Inertia type		Low interia			High interia						
Recommended rotor inertia ratio		30			10						
Electrical constant τ e(ms)		2.95	5.184	6.944		8.409		9.893		22.539	
Mechanical constant e(ms)		0.603(0.623)	0.705(0.741)	1.823	2.017	1.523	1.633	1.234	1.27	1.251	1.361
EMF constant Ke (mV/rpm)		44	56	89		86		115		160	
Torque constant Kt (Nm/A)		0.47	0.598	0.902		0.895		1.237		1.727	
Pole of pairs		5		-		-		-		-	
Encoder bit		17		23	17	17					
Encoder type		magnetism		photoelectricity	magnetism	magnetism					
Motor insulation grade		ClassF(155°c)									
Protection level		Ip66		Ip65							
Use envorin- ment	Ambient temperat ure	-15°c ~+40°c (no freezing)									
	Ambient humiditv	Relative humidity<90%(no condensation)									

ابعاد درایو

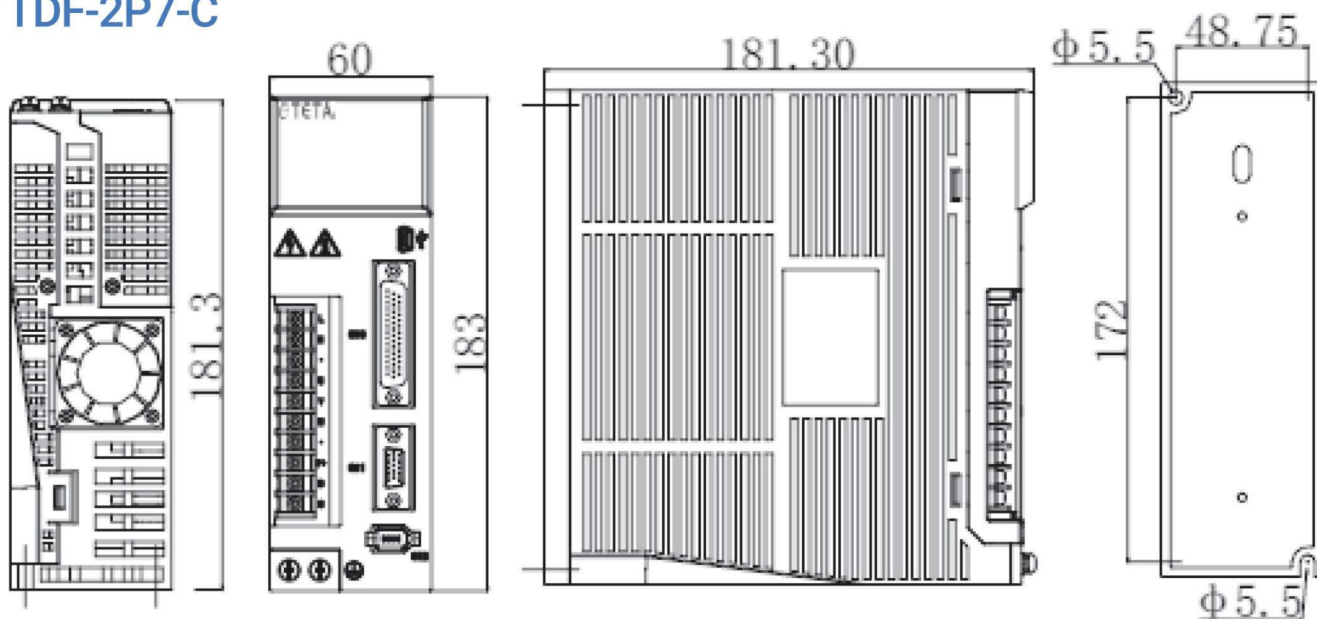
Drive Dimensions

D

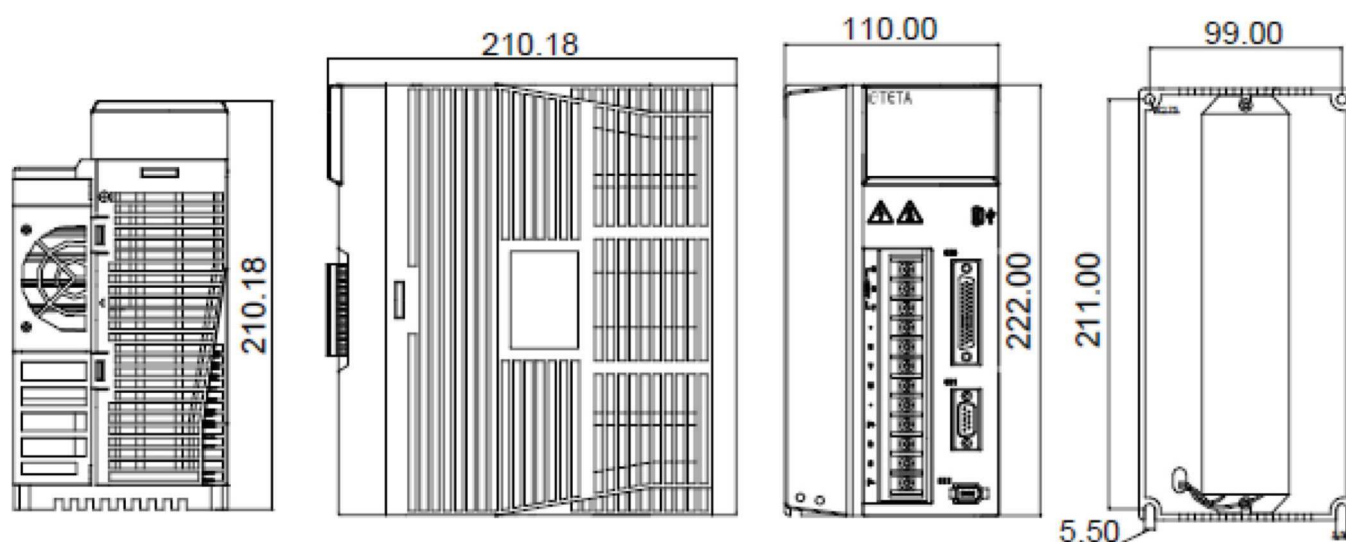
TDF-2P4-C



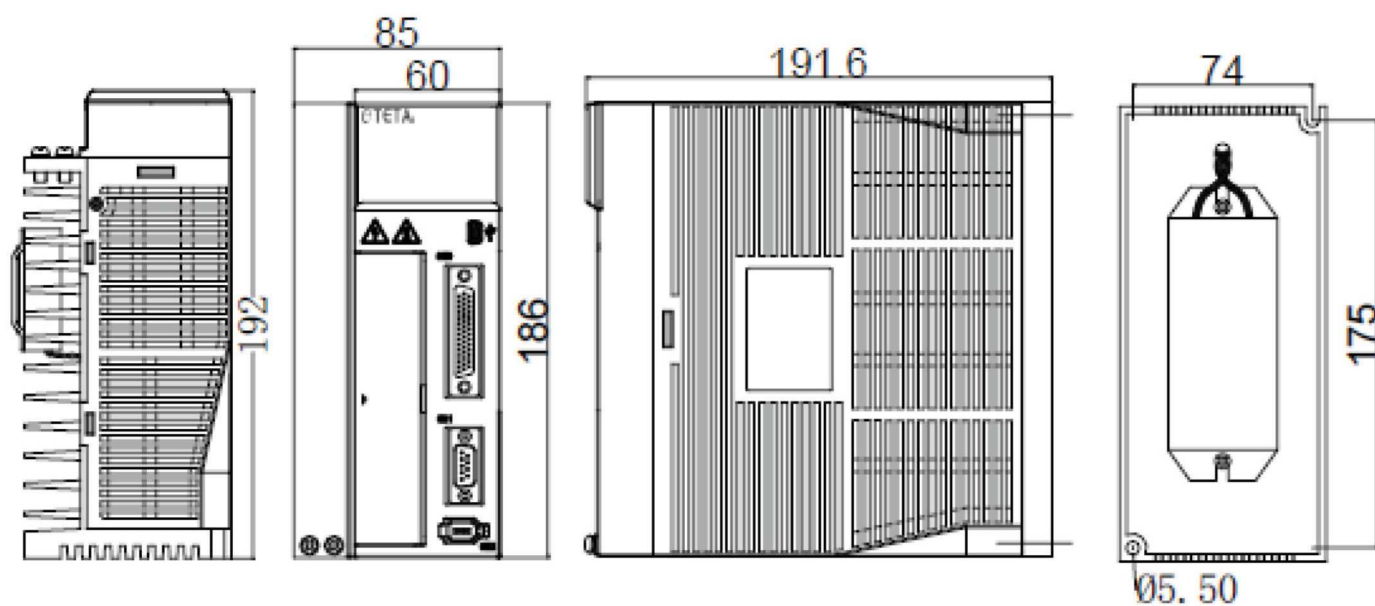
TDF-2P7-C



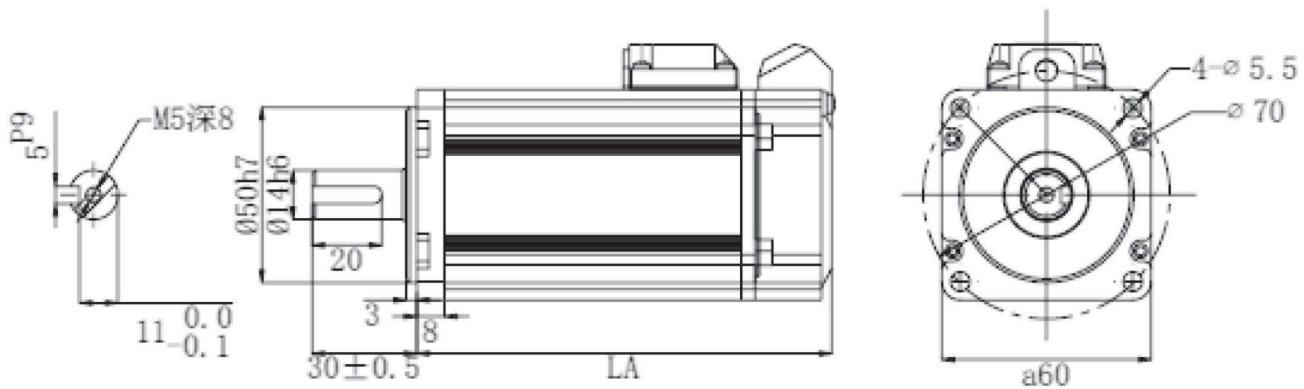
TDF-201-C ,TDF-21P5-C, TDF-22P6-C



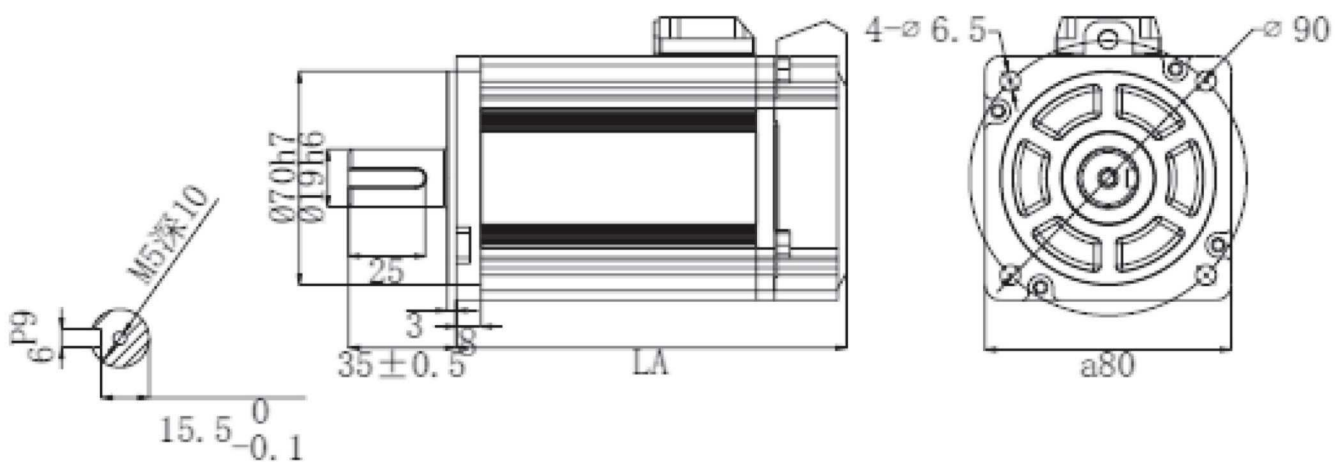
TDF-430-C



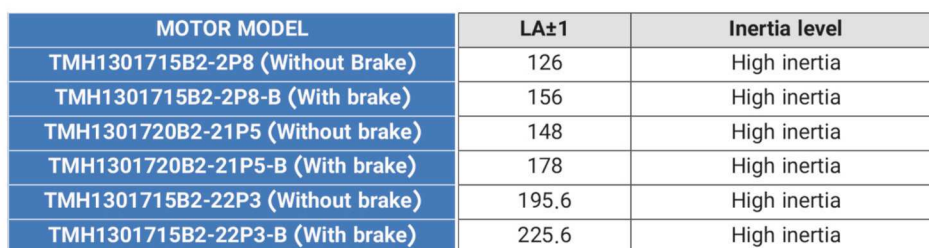
ابعاد موتور Motor Dimensions



MOTOR MODEL	LA±1	Inertia level
TML601730B2-2P4 (WITHOUT BRAKE)	107	Low inertia



MOTOR MODEL	LA±1	Inertia level
TML801730B2-2P7 (WITHOUT BRAKE)	117	Low inertia
TML801730B2-2P7B (WITH BRAKE)	150	Low inertia



SERVO TETA

Series TDF

دفتر تهران: ۸۱ ۷۷ ۹۵ ۸۸ - ۰۲۱
دفتر اصفهان: ۳۵۱۰۹ - ۰۳۱



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