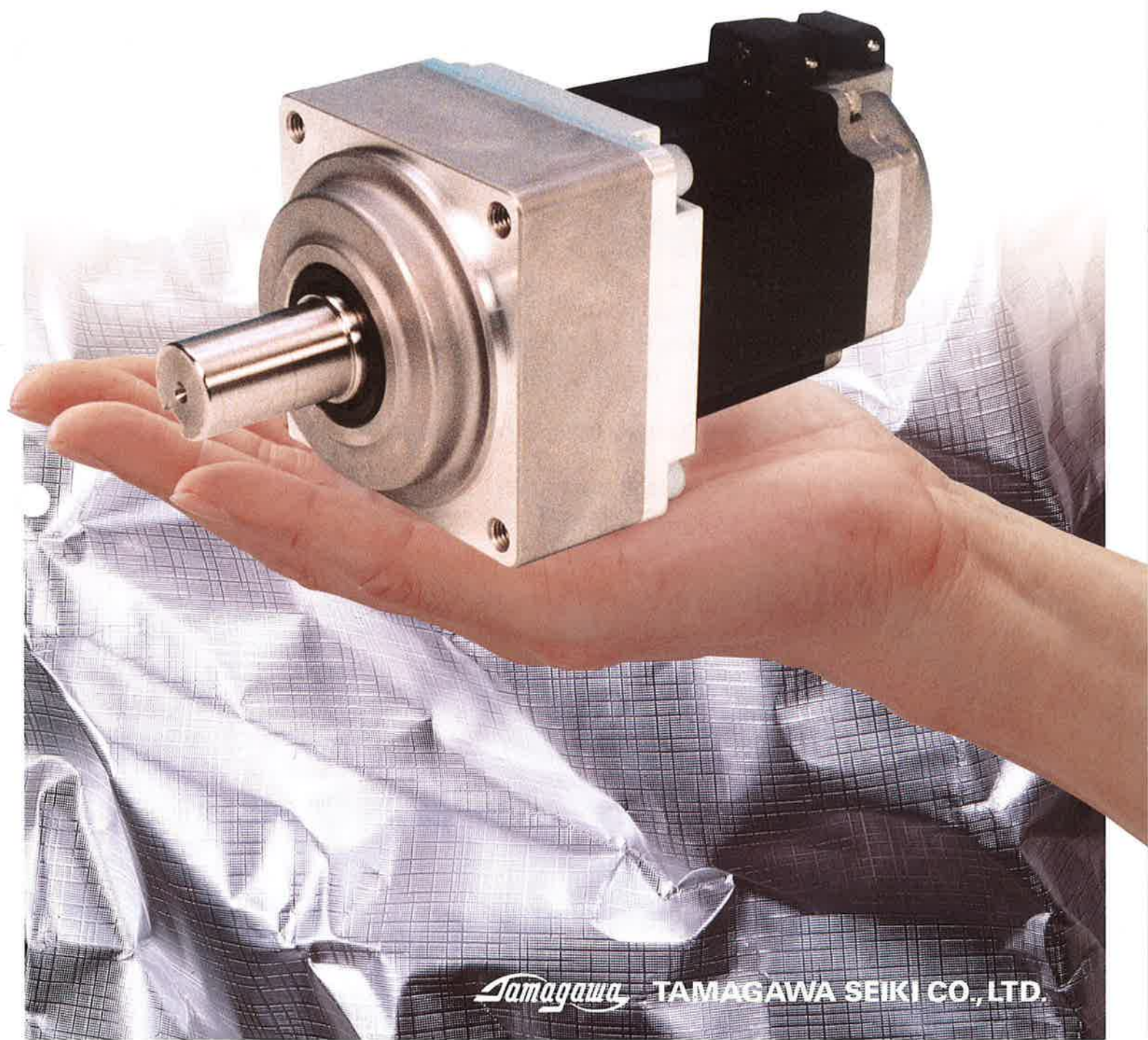


TBL-i II Series

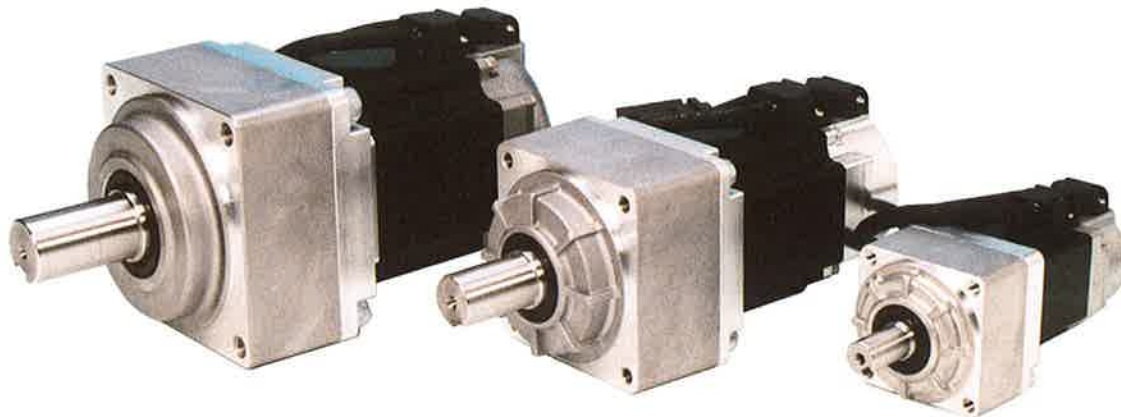
AC Servomotor with Reduction gear



TBL-i II Series

AC Servomotor with Reduction gear

Considerable downsizing (by 30% according to in-house comparison) is realized by attaching a reducer to an AC Servomotor which is the smallest in the industry.



Features

- Super-compact size
- High-performance sun-and-planet gears
Come with small-quiet gears which achieve a 10' backlash as standard equipment. (Quieter by 10dB than existing ones)
- A wide variety of sensors
A 17bit encorder (17bit Abs/Inc) is provided for a high-performance servomotor.
A resolver is provided for a highly reliable servomotor.
* 2,000 C/T or 2,048 C/T (14 wires, wire-saving type) encoders are optional.

Model

TS □□□□ N □□□□ E □□□

Motor Type

TS 4602 : 50W
TS 4603 : 100W
TS 4607 : 200W
TS 4609 : 400W
TS 4613 : 600W
TS 4614 : 750W

Sensor Specifications

10 : 17bit Inc
20 : 17bit Abs
30 : Resolver
60 : 17bit Inc+Bk
70 : 17bit Abs+Bk
80 : Resolver+Bk

Reduction Ratio

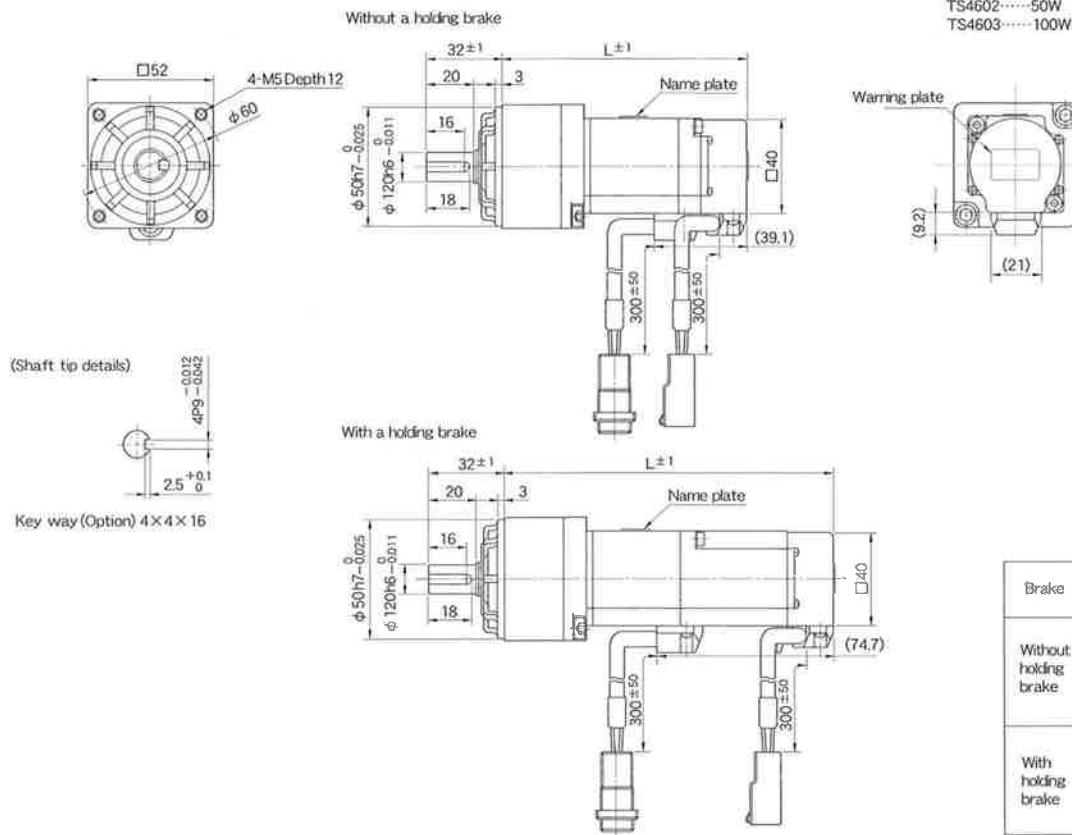
16 : 1/5
17 : 1/9
18 : 1/15
19 : 1/25

Power Supply

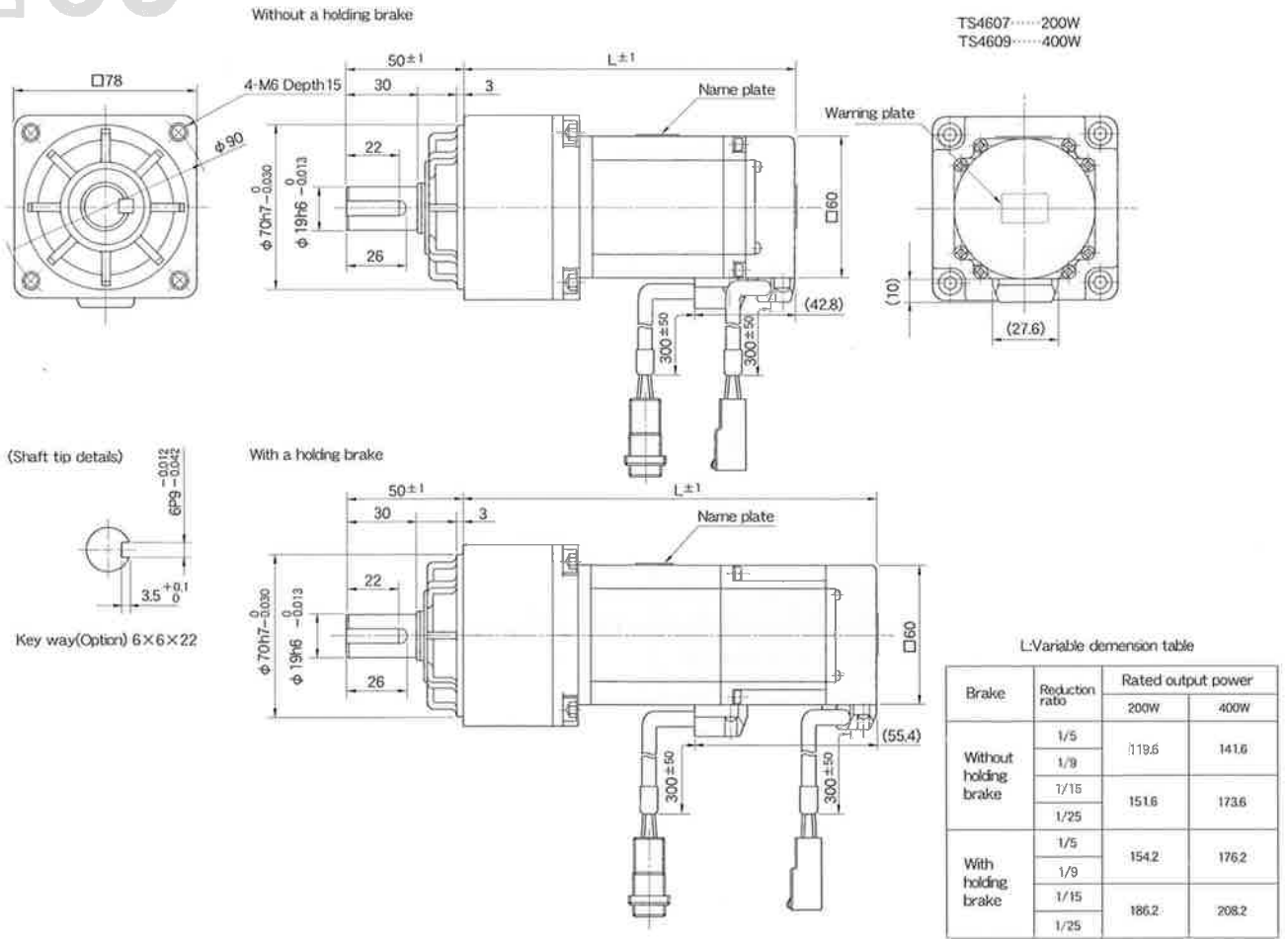
1 : 100V (50~400W)
2 : 200V

□□ : Standard Specifications

40



60



Tamagawa

TAMAGAWA TRADING CO.,LTD.
A COMPANY OF TAMAGAWA SEIKI CO.,LTD.



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to maintain the quality of the product. MTBF (mean time between failures) of our product is quite long; yet, the predictable failure rate is not zero. The user is advised, therefore, that multiple safety means be incorporated in your system or product so as to prevent any consequential troubles resulting from the failure of our product.



ALL specifications are subject to change without notice.

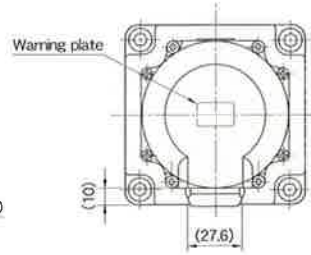
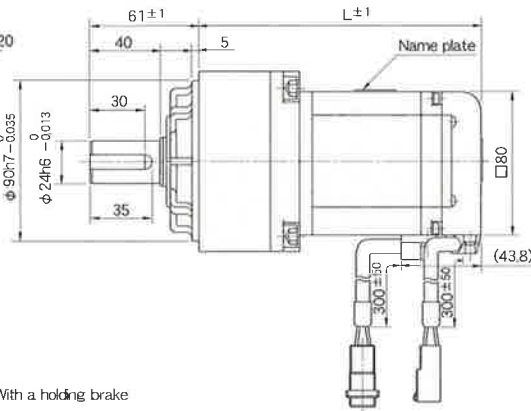
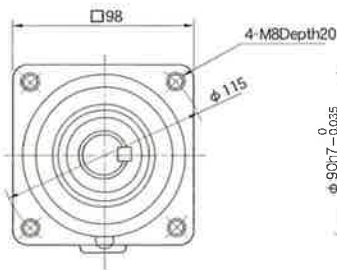
● URL <http://www.tamagawa-seiki.co.jp>

02.7
T12-1613, 2,000, 2002.7

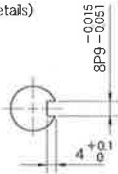
80

Without a holding brake

TS4613.....600W
TS4614.....750W

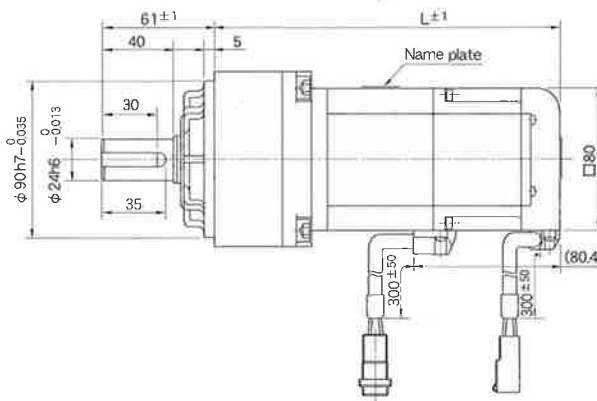


(Shaft tip details)



Key way(Option) 8×7×30

With a holding brake



L : Variable dimension table

Brake	Reduction ratio	Rated output power	
		600W	750W
Without holding brake	1/5	147.2	156.2
	1/9		
	1/15	182.7	191.7
	1/25		
With holding brake	1/5	183.8	192.8
	1/9		
	1/15	219.3	228.3
	1/25		

Pat. Pend.

Smart Inc

SI35 Series



Features

- Absolute signal output
- 17bit/turn (6000 min⁻¹)
- Two-way serial communication type (NRZ)
- Fail-check operation
- Small size (φ 35)

Pat. Pend.

Smart Abs

SA35 Series



Features

- Absolute signal output
- 17bit/turn Multi turn 16bit (6000 min⁻¹)
- Two-way serial communication type (NRZ)
- Fail check operation
- Even during power outage, multi-turn data is backed up by external batteries

Smartsyn



Features

- Wide temperature range
Operating temperature
● -55~+155°C
- Excellent environmental resistance
 - Vibration 196m/s² (20G) 10~500Hz
2 hours for each of 3 axes
 - Shock 980m/s² (100G)
3 times for each of 6 axes, 18 times in total
 - Humidity
90%RH at 60°C
- High reliability
Basically the same structure as motors
MTBF : 1 million hours
Reliability is 10 times as high as SE
- Detects absolute position
- Long distance transmission is possible (Immune to noise)

Specifications

(1) Common Specifications

Motor form : Magnet 8 poles Y connection
 Direction of rotation : U→V→W,CCW viewed from shaft end
 Insulation class : F
 Insulation strength : AC1500V 60S
 Insulation resistance : DC500V 100MΩ Min
 Life : ON/OFF repetition 10⁶times or more
 : Rated torque continuation (input 3000 min⁻¹)10,000h or more

Operating temprange : 0~+40℃
 (with a resolver : 0~+55℃)
 Operating humidrange : 20~80%RH
 (without condensation)
 Storage temprange : -10~+85℃
 (with a resolver : -20~+100℃)

(2) Specifications

Specifications of motors 〈Reducer input〉				Specifications of reducer							
Model	Output (W)	Rotation speed (min ⁻¹)	Rated torque (N·m)	Reduction ratio	Rotation speed (min ⁻¹)	Rated torque (N·m)	Peak torque (N·m)	Max. radial shaft load (N)	Max. thrust shaft load (N)	Reducer inertia ×10 ⁻⁴ kg·m ² (GD ² /4)	Mass of reducer (kg)
TS4602	50	3,000	0.159	1/5	600	0.51	1.47	490	245	0.008	0.35
				1/9	333	0.92	2.74	588	294	0.002	0.36
				1/15	200	1.67	5.00	784	392	0.006	0.57
				1/25	120	2.74	8.33	882	441	0.005	0.59
TS4603	100	3,000	0.318	1/5	600	1.18	3.72	490	245	0.008	0.35
				1/9	333	2.25	6.86	588	294	0.002	0.36
				1/15	200	3.72	11.4	784	392	0.006	0.57
				1/25	120	6.27	19.0	882	441	0.005	0.57
TS4607	200	3,000	0.64	1/5	600	2.22	6.66	980	490	0.079	1.2
				1/9	333	3.72	11.3	1,180	588	0.024	1.2
				1/15	200	6.27	18.8	1,470	735	0.065	1.9
				1/25	120	11.1	33.3	1,670	833	0.057	1.9
TS4609	400	3,000	1.27	1/5	600	5.39	16.2	980	490	0.079	1.2
				1/9	333	9.51	28.5	1,180	588	0.024	1.2
				1/15	200	15.8	47.5	1,470	735	0.065	1.9
				1/25	120	26.4	79.2	1,670	833	0.057	1.9
TS4613	600	3,000	1.91	1/5	600	8.30	24.9	1,080	539	0.221	2.2
				1/9	333	13.9	41.7	1,470	735	0.068	2.3
				1/15	200	23.2	69.6	1,760	882	0.179	3.4
				1/25	120	38.7	116	2,060	1,030	0.158	3.4
TS4614	750	3,000	2.39	1/5	600	10.7	32.1	1,080	539	0.221	2.2
				1/9	333	18.2	54.7	1,470	735	0.068	2.3
				1/15	200	30.4	91.2	1,760	882	0.179	3.4
				1/25	120	50.7	152	2,060	1,030	0.158	3.4

(Note 1) Output performance is represented by the values at input 3000 min⁻¹ and at ambient temp. 20℃.

(Note 2) The value of shaft load is measured at the center of an output shaft.

(Note 3) The rotation direction of the reducer is the same as that of a motor.

(Note 4) For details of motor specifications, please refer to separate specification sheets of AC servomotors.

(Note 5) As regards drivers, please refer to catalogs for TA8110 series.