## Be experts to invent robots, mechanical arms, robot cars with SERVO MOTOR from ETT

Users can invent robots, mechanical arms, robot cars easily with SERVO MOTOR by themselves.
They don't design gear and in part of controller is used only 1 signal cable. There's range of Torque between 2.3 Kg-CM to 28.8 Kg-CM. SERVO MOTOR is DC MOTOR is consist of Gear set and controller in one Module. There's 1 signal cable, 2 VCC and GND only but it is able to contole robot to turn left/right +90°/-90° (180°) by SERVO MOTOR without any sensor reflection. It is able to adapt in various project works easily.

- Be controlled SERVO MOTOR by input pulse into SERVO MOTOR and be direction and position of rotation
- Be able to use Power Supply DC 4-6 Volt, Rotation 180° and be able adapt SERVO MOTOR to rotate around as 360° for using with wheel of robot
- Port JR Type Standard
- There's 14 modes for distribution from GWS Co, Ltd., and FUTABA Co, Ltd. for S3003.

| | |
|---|---|
| ♦ GWS MICRO/STD/JR | (A-M0-M-00007) It is small and light. |
| ♦ GWS S03N/STD/JR | (A-MO-M-00005) It is standard for using. |
| ♦ GWS S03N/STD/JR | (A-MO-A-00044) It is hi-speed but low S03N. |
| ♦ GWS S03T/STD/JR | (A-MO-A-00006) It is standard but high S03N. |
| ♦ GWS S03T/2BB/J | (A-MO-A-00073) It is the same size as S03T and Ball Bearings. |
| ♦ GWS S03T/2BBMG/J | (A-MO-A-00074) There's Ball Bearings and brass gearbox. |
| ♦ GWS S03TXF/STD/JR | (A-MO-A-00045) It is hi-speed but low S03T. |
| ♦ GWS S04/BBM/JR | (A-MO-A-00008) It is large with 13 Kg-CM. |
| ♦ GWS S666/FET/JR | (A-MO-A-00009) It is the largest with 22 Kg-CM. |
| ♦ GWS S677 2BB/MG | (A-MO-A-00116) There's Ball Bearings and brass gearbox with 26.50 Kg-CM. |
| ♦ GWS PICO/STD/JR | (A-MO-A-00023) It is the smallest with 5.4 g. |
| ♦ GWS MICRO/2BBMG/JR | (A-MO-A-00037) It is small and light with metal gear. |
| ♦ GWS S35/STD/JR | (A-MO-A-00111) It is to turn 360 ° |
| ♦ FUTABA S3003 | (A-MO-Y-00025) It is a standard of FUTABA with 4.1 Kg-CM. |

| Model | STD | BBM | Size ( L x W x H ) Mm/in | Weight | | 4.8V | | | 6V | | | Modify 360 ° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | g | oz | SPEED (sec / 60°) | Torque Kg-cm | Torque Oz-in | SPEED (sec / 60°) | Torque Kg-cm | Torque Oz-in | |
| Micro | ✓ | | 28 x 14 x 29.8<br>1.1 x 0.55 x 1.17 | 18 | 0.63 | 0.16 | 1.8 | 25 | 0.13 | 2.30 | 32 | ✓ |
| S03N | ✓ | | 39.5 x 20.0 x 35.6<br>1.56 x 0.79 x 1.40 | 41 | 1.44 | 0.23 | 2.40 | 47 | 0.18 | 4 | 56 | ✓ |
| S03NXF | ✓ | | 39.5 x 20.0 x 35.6<br>1.56 x 0.79 x 1.40 | 41 | 1.45 | 0.15 | 2.20 | 31 | 0.12 | 2.45 | 34 | ✓ |
| S03T | ✓ | | 39.5 x 20.0 x 39.6<br>1.56 x 0.79 x 1.56 | 46 | 1.62 | 0.33 | 7.20 | 100 | 0.27 | 8 | 111 | ✓ |
| S03TXF | ✓ | | 39.5 x 20.0 x 39.6<br>1.56 x 0.79 x 1.56 | 46 | 1.62 | 0.21 | 5 | 69 | 0.17 | 6.20 | 86 | ✓ |
| S04 | | ✓ | 54.4 x 26.5 x 51.5<br>2.14 x 1.04 x 2.03 | 114 | 4 | 0.25 | 10 | 138.88 | 0.20 | 13 | 180.5 | |
| S666/FET | ✓ | | 63.0 x 32.0 x 61.6<br>2.48 x 1.26 x 2.43 | 142.4 | 5.02 | 0.25 | 18 | 250 | 0.21 | 22 | 306 | ✓ |
| PICO | ✓ | | 22.8 x 9.5 x 15.5<br>0.90 x 0.37 x 0.61 | 5.40 | 0.19 | 0.12 | 0.70 | 10 | 0.09 | 0.84 | 12 | ✓ |
| MICRO/ 2BBM | | ✓ | 28 x 14 x 29.8<br>1.1 x 0.55 x 1.17 | 18 | 0.63 | 0.16 | 1.80 | 25 | 0.13 | 2.30 | 32 | ✓ |
| S35 | ✓ | | 39.5 x 20.0 x 39.5<br>1.56 x 0.79 x 1.56 | 42 | 1.48 | - | - | - | 0.13 | 2.8 | 39.2 | ✓ |
| S3003 | ✓ | | 41 x 20 x 36<br>1.6 x 0.8 x 1.4 | 37.2 | 1.3 | 0.23 | 3.2 | 44 | 0.19 | 4.1 | 56.8 | ✓ |
| S03T/ 2BB/J | | ✓ | 39.5 x 20.0 x 39.6<br>1.56 x 0.79 x 1.56 | 46.0 | 1.62 | 0.33 | 7.2 | 100 | 0.27 | 8 | 111 | ✓ |
| S03T/2BB MG/J | | ✓ | 40.6 x20.0 x 42.8<br>1.60 x 0.79 x 1.70 | 73 | 2.57 | 0.33 | 7.4 | 103 | 0.27 | 8.6 | 119 | ✓ |
| S677 2BB/MG | | ✓ | 63.0 x 32.0 x 61.6<br>2.48 x 1.26 x 2.43 | 180 | 6.35 | 0.17 | 21.50 | 298 | 0.145 | 26.50 | 368 | ✓ |

● STD = Oiliness Bearing 2BB = 2 Ball Bearings MG = Metal Gear With Ball Bearings NMG = 2BBMG

**GEAR SET is a spare part of SERVO MOTOR GWS from ETT. Users can repair gear system inside SERVO MOTOR. There's 4 Gear Set;**

**1. GWS05/GS** (A-MO-M-00070)
There's 4-Gearwheel in package.
- USE WITH SERVO MOTOR S03N/S03T/S03NXF/S03TXF

**2. GWS04BBM/GS** (A-MO-M-00071)
There's 4-Gearwheel and 1-iron Gearwheel in package.
- USE WITH SERVO MOTOR GWS S04BBM

**3. GWS MICRO/GS** (A-MO-M-00072)
There's 4-Gearwheel in package.
- USE WITH SERVO MOTOR GWS MICRO/STD

**4. GWS 605/GS** (A-MO-M-00091)
There's 4-Gearwheel in package.
- USE WITH SERVO MOTOR GWS S666/STD/JR