

P523 series geared dc ironless rotor servo motors

The P523 series incorporate an ironless rotor low inertia dc servo motor equipped with a choice of either a dual track incremental encoder or precision dc tachogenerator. The use of re-inforced precious metal commutation results in high efficiency, which combined with the rotor design enables accurate control which is free from cogging, even at low operating speed.

The compact dual track encoder option may be used with a supply voltage ranging from 5 - 15 Vdc and provides the choice of either TTL or CMOS compatible output signals. Furthermore, a choice of either 15 or 16 ppr., when combined with the selected gear ratio enables the design engineer to tailor the system resolution to his exact requirements. For example, the use of the 16 ppr. option with the 25:2 gear ratio provides a convenient 200 ppr. resolution at the gearbox output.

When using analogue control circuits the optional version with dc tachogenerator provides an optimum velocity feedback signal to provide enhanced control, particularly at low speed.



Geared dc Servo Motor with integral tachometer	Ratio	Rated Speed (rpm)	Rated Torque (Ncm)	Peak Torque (Ncm)	Torque Constant (Ncm / Amp)
P523-D . 012-G01....	25:6	1000	2.1	4.9	4.2
-G03	25:4	600	3.2	7.3	6.3
-G04	25:3	500	4.2	9.7	8.5
-G05	10:1	400	4.6	10.5	9.2
-G06	25:2	320	5.7	13.2	11.5
-G08	50:3	250	7.6	17.5	15.3
-G09	20:1	200	9.1	21.1	18.3
-G11	25:1	168	11.4	26.3	22.9
-G14	100:3	120	15.2	35.1	30.5
-G16	125:3	100	19.0	43.9	38.2
-G17	50:1	80	22.8	52.7	45.8
-G19	125:2	60	25.4	58.7	51.1
-G21	250:3	50	33.8	78.3	68.1
-G23	125:1	30	50.8	80.0	102.2
-G27	250:1	20	60.0	80.0	204.5
-G34	500:1	10	65.0	85.0	373.7
-G41	1250:1	3	70.0	90.0	934.1
-G62	15,000:1	0.3	80.0	100.0	9,094.5

Voltage Options:

geared dc servo motor-encoder P523-DI 006 series : 6 Vdc
 geared dc servo motor-encoder P523-DI 012 series : 12 Vdc
 geared dc servo motor-encoder P523-DI 024 series : 24 Vdc

Torque constant

0.55 Kt
 as above (Kt)
 2.06 Kt

Encoder signals: dual track TTL or CMOS compatible, 15 ppr. @ motor (type I 20B)
 alternative option, 16 ppr. @ motor (type I 21B)

Geared dc servo motor-tacho : P523-DT series : 6, 12 & 24 Vdc as above.

tacho voltage : 1.5 mV /rpm x Gear ratio

tacho voltage tolerance : + 2 %

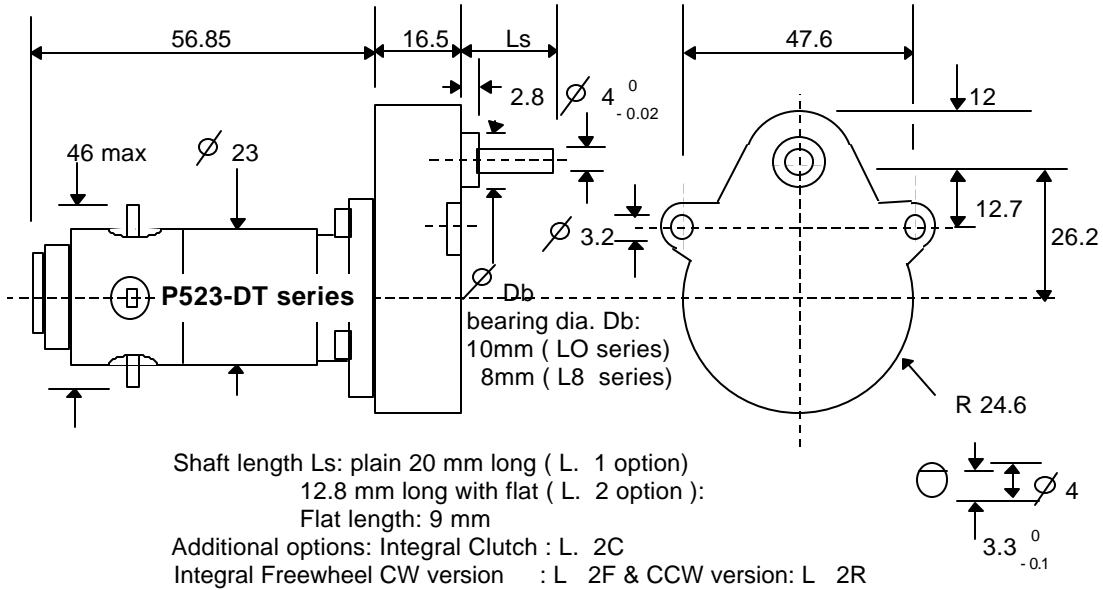
tacho resistance : 260 Ohms

Rotor inductance : 3 mH

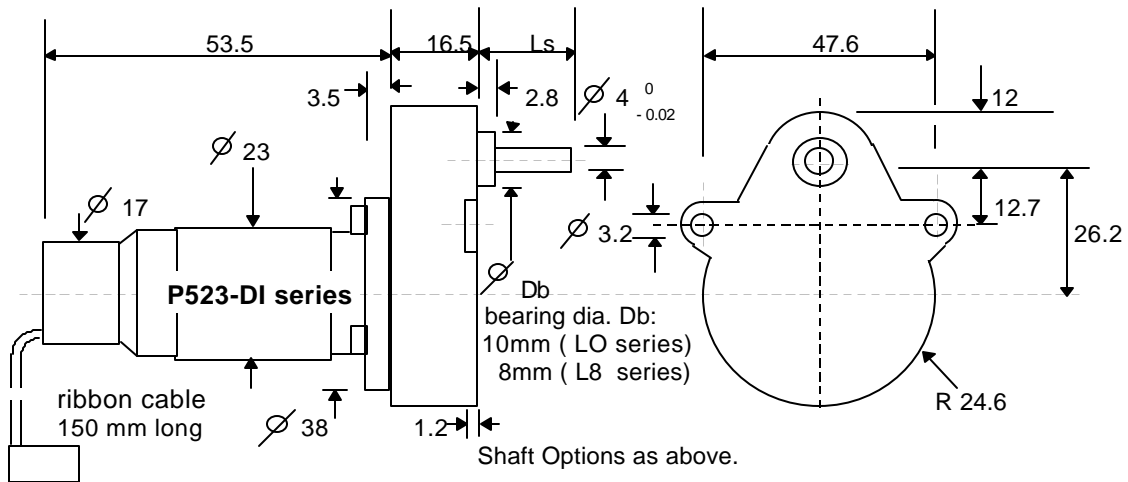
Polarity of output : dependent on direction of rotation

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Version with integral dc tachogenerator



Version with integral dual track incremental encoder



typical velocity control using geared motor-tacho

