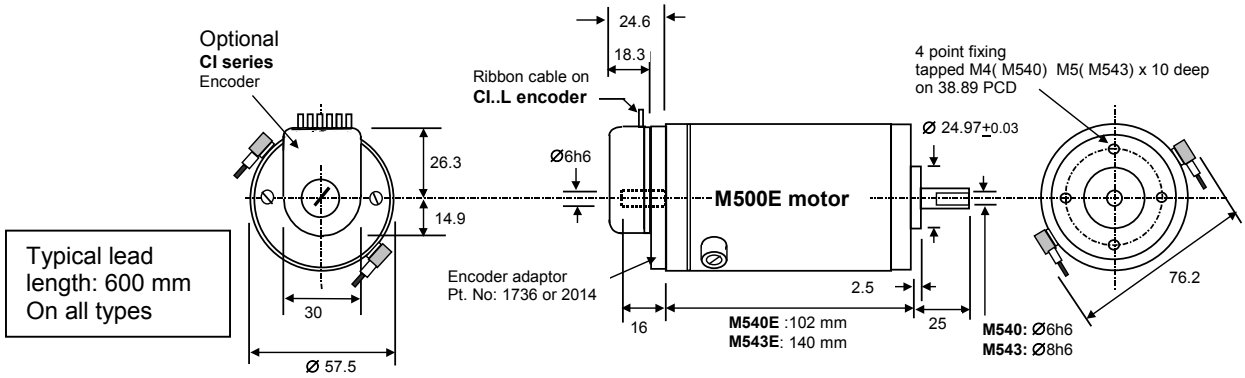
0.05 –0.1 kW industrial dc servo motor M500 series

The M500 series motors provide the ideal solution for use in applications that require output power ratings up to 100 watts combined with fast response and accurate control.

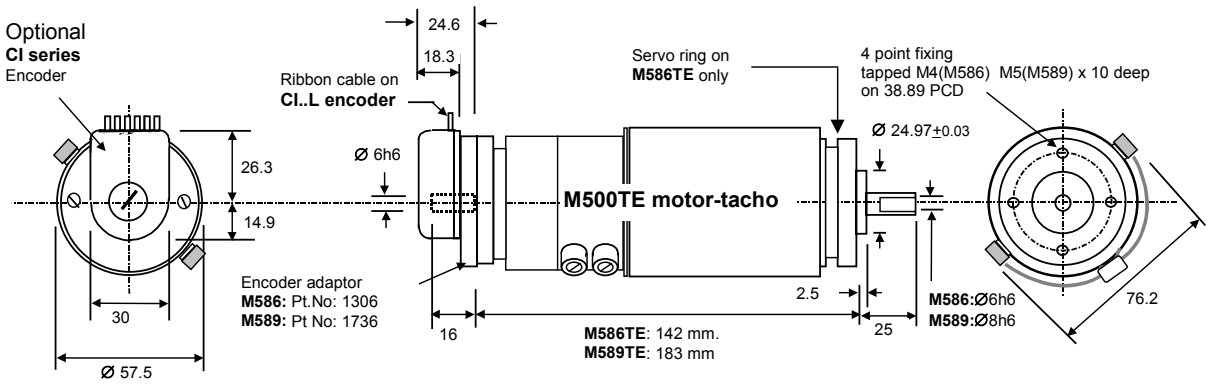
The robust low inertia construction, which utilises a skewed rotor for smooth running, ensures reliable operation in industrial environments. Options include a dc tachogenerator to provide accurate velocity control using analogue control techniques and / or a choice of dual track encoders when digital control is required.

Dimension: mm

dc servo motor with optional encoder



dc servo motor-tacho with optional encoder



typical performance

dc servo motors	No-load Speed (rpm)	Rated Speed (rpm)	Rated Torque (Nm)	Rated Current (Amps)	Peak Torque (Nm)	using Servo Amplifier	DC Supply (Vdc)	Power Supply for AC operation (110-240 Vac)
M540E 0741	3,200	2,500	0.20	3.5	1.05	**MSE810**	24	MSE172 (Single axis)
M543E 1270	2,700	2,200	0.40	3.5	1.44	**MSE810**	35	MSE562 (Single axis)
M543E 1270	3,700	3,000	0.35	3.5	1.44	**MSE810**	48	MSE174 (up to 2 axes)
dc servo motor-tacho units								
M586TE 0585	4,000	3,200	0.20	4.0	1.05	**MSE810**	24	MSE172 (Single axis)
M589TE 1270	2,700	2,200	0.40	3.5	1.44	**MSE810**	35	MSE562 (Single axis)
M589TE 1270	3,700	3,000	0.35	3.5	1.44	**MSE810**	48	MSE174 (up to 2 axes)

0.05-0.1 kW industrial dc servo motor M500 series

Specification: dc servo motor M500 series

Specification	Units	Servo motors M540E 0741	Servo motors M543E 1270	Motor-tacho M586TE 0585	Motor-tacho M589TE 1270
Maximum Voltage	Vdc	40	60	36	60
Typical Voltage	Vdc	24	36	24	36
Maximum Continuous Output Power	Watts	52	94	60	94
Maximum No-load speed	rpm	6000	4700	6000	4700
Typical speed @ rated torque	rpm	2500	2250	3250	2250
Rated Torque	Nm	0.2	0.4	0.2	0.40
Maximum Peak Torque	Nm	1.1	1.44	1.05	1.44
Typical . No load current	Amps	0.5	0.30	0.5	0.3
Rotor Inertia	$Kgcm^2$	0.270	0.530	0.388	0.680
Mechanical time constant	milli secs	8.4	8.0	10.2	10.2
Torque Constant	Nm / A	0.071	0.121	0.056	0.12
Voltage Constant	V / 1000 rpm	7.41	12.7	5.8	12.7
Terminal Resistance	Ohms	1.55	2.2	1.15	2.2
Rotor inductance	mH	3.39	6.4	1.4	6.4
Commutation		copper -graphite			
Bearings		pre-loaded ball			
Maximum radial load		45 N			
Maximum axial load		22 N			
Tacho Specification					
Voltage constant	V/1000 rpm			14 ± 10%	
Average ripple	peak / peak			0.7 @ 1000 rpm	
Ripple frequency	Per rev.			11	
Rotor resistance	Ohms			600-800	
Max. continuous speed	rpm			4,000	

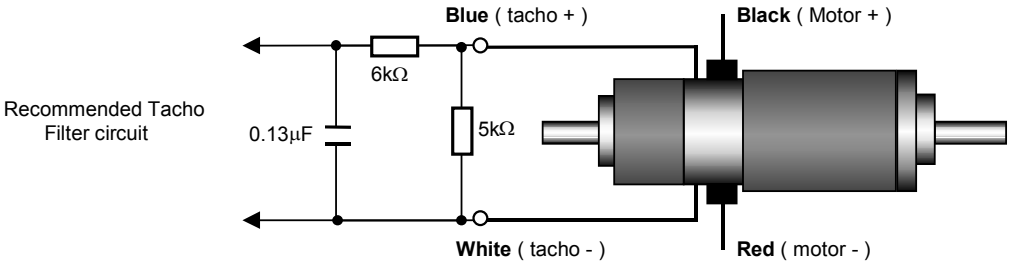
motor-encoder version M500 CI series

motor encoder types		M540 CI...T M543 CI…T	M540 CI...L M543 CI…L
motor tacho encoder types		M586TCI...T M589TCI…T	M586TCI...L M589TCI…L
Motor specification:		As above	
Encoder type		**CI...T**	**CI...L**
Supply	Vdc	5 ± 0.5	5 ± 0.5
Max. Output signal	Vdc	5	5
Signal wave form		Square	Square
Output Circuit		TTL	RS 422
Output Configuration		Dual Track Quadrature	Dual Track + Index (complementary)
Number of Lines		100 or 500	100 or 500

Typical Motor-encoder part number: M540 CI 500 L

500 line dual track encoder with Index

Connections



Please Note: The polarities shown above apply for clockwise motor shaft rotation viewed from shaft end