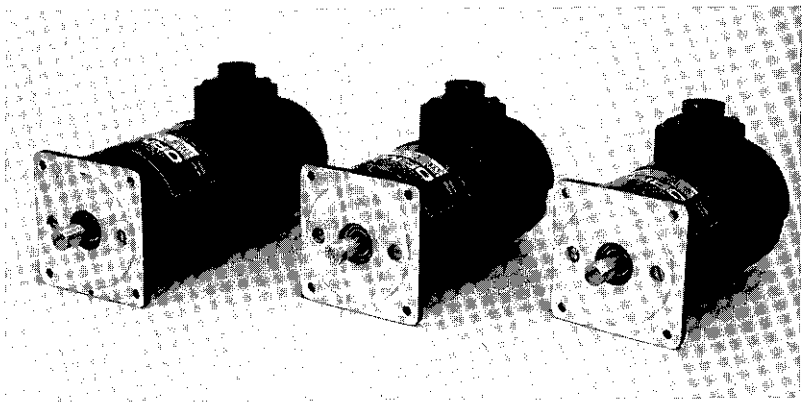
MOTOR-TACH-ENCODER
MTE-350 Series

19 Linden Park Rochester, NY 14625 (716) 385-3520

MTE-350 Series DC Servomotors are compact, low inertia motors designed for applications which demand fast, accurate response, outstanding reliability and reasonable cost.

These motors feature aluminum die-cast housings and over-sized brushes for ruggedness and long brush life, typically over 10,000 hours.

Optical incremental encoders with a zero-reference channel and linedrivers are included. All terminations are made at a single standard connector, and custom cables are available.

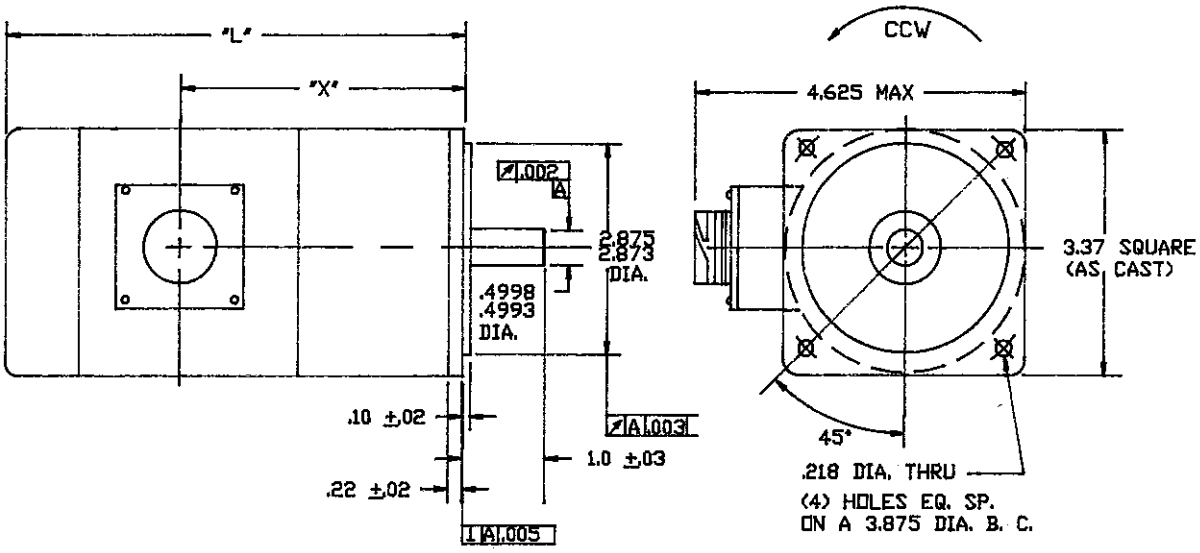


The MTE-350 Series Servomotors pictured above feature continuous torque ratings from 4.3 to 9.4 lb-in. Optical incremental encoders are available with resolutions from 50 to 1024 linecount.

Performance Specifications	Units	MTE-350	MTE-351	MTE-352
Maximum Speed	RPM	4000	4000	4000
Torque, Continuous Stall (4)	lb-in	4.3	5.7	9.4
Torque, Peak	lb-in	38	56	94
Torque/Inertia (Continuous)	rad/sec^2	6182	6310	6040
Torque Ripple	% of ave.	n/a	n/a	n/a
Ripple Frequency	cycles/rev	21	21	21
Motor-Tach Torsional Resonance	hertz	2500	2500	2500
Mechanical Specifications				
Moment of Inertia (Motor/Tach)	$lb\text{-}in\text{-}sec^2$	0.00068	0.00090	0.00156
Friction Torque, Static	lb-in	0.38	0.47	0.75
Friction Torque, Viscous	lb-in/kRPM	0.063	0.094	0.113
Weight (Motor/Tach)	lbs	4.4	5.6	8.1
Electrical Specifications				
Torque Sensitivity (2)	lb-in/amp	0.82	0.99	1.74
Back EMF Voltage Constant (2)	volts/kRPM	9.7	11.8	20.7
Armature Resistance	ohms	0.67	0.66	1.03
Armature Inductance	millihenrys	1	0.9	1.6
Maximum Terminal Voltage	volts	100	100	100
Armature Current, Continuous (2)	amps	5.2	5.8	5.4
Armature Current at Peak Torque (2)	amps	45.8	56.6	53.8
Thermal Specifications				
Thermal Resistance, Mounted (4)	deg C/watt	3.7	3.1	2.3
Thermal Time Constant (4)	minutes	15	20	25
Maximum Armature Temperature	deg C	155	155	155
Normally Closed Thermal Protector	deg C	n/a	n/a	n/a
Tachometer Specifications				
Tachometer Sensitivity (2)	volts/kRPM	7	7	7
Tachometer Resistance (3)	ohms	100	100	100
Tachometer Ripple Volts	% of ave.	1.5	1.5	1.5
Tachometer Ripple Frequency	cycles/rev	21	21	21
Encoder Specifications				
Encoder Resolution	linecount	50-2500	50-2500	50-2500
Operating Temperature	deg C	0-70	0-70	0-70

(1) All values at 25 degrees C unless otherwise noted.
(2) ±10% parameter variability
(3) ±15% parameter variability
(4) Mounted to 10"x10"x1/4" aluminum plate
(5) Brush life: 8000 hours @ 1000 RPM minimum
(6) Motor Style: Totally Enclosed Non-Ventilated (TENV)

MOTOR OUTLINE DRAWING



NOTE: *For counterclockwise rotation when facing the motor shaft, the armature lead (Pin 6) will be positive with respect to Pin 14 and the tach lead (Pin 1) will be positive with respect to Pin 2.*

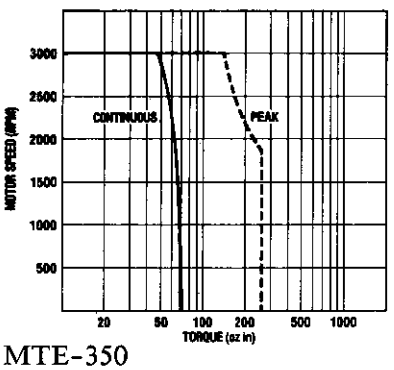
MTE CONNECTOR PINOUT

PIN	CONNECTOR	PIN	CONNECTION
6	Armature Red	3	+5VDC
14	Armature Black	4	DC COM
10	Case Ground	7	ENCA
1	Tach Red	8	ENCA'
2	Tach Black	11	ENCB
5	Shield	12	ENCB'
		15	ENCR
		16	ENCR'

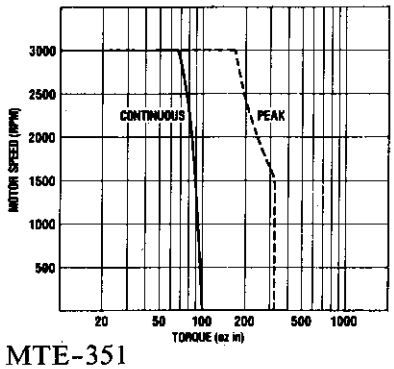
TABULATION

Model No.	"L" Dim.	"X" Dim.
MTE-350	6.3 ±.1	3.9 ±.1
MTA-350	"	"
MTE-351	7.0 ±.1	4.7 ±.1
MTA-351	"	"
MTE-352	8.3 ±.1	5.9 ±.1
MTA-352	"	"

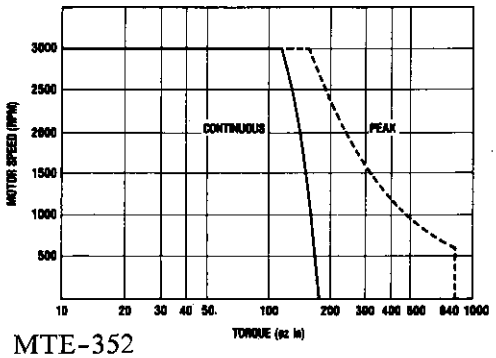
OPERATING ENVELOPES:



MTE-350



MTE-351



MTE-352

MTE-350 SERIES ORDERING GUIDE

MTE-350/xxxx - Motor-Tach-Encoder
Maximum Speed: 4,000 RPM
Continuous Stall Torque: 4.3 lb-in
Recommended Servo-Module: SLM-455A
MTA-350 - Motor-Tach only

MTE-351/xxxx - Motor-Tach-Encoder
Maximum Speed: 4,000 RPM
Continuous Stall Torque: 5.7 lb-in
Recommended Servo-Module: SLM-455A or SPM-651A
MTA-351 - Motor-Tach only

MTE-352/xxxx - Motor-Tach-Encoder
Maximum Speed: 4,000 RPM
Continuous Stall Torque: 9.4 lb-in
Recommended Servo-Module: SLM-455A or SPM-651A
MTA-352 - Motor-Tach only

In the part number, "xxxx" specifies the encoder linecount. ORMEC maintains a stock of 500 and 1,000 linecount units. For other resolutions from 50 to 2,500, call ORMEC. Example: to specify an MTE-351 with a 500 linecount encoder, the part # is MTE-351/0500.