TORQUE SYSTEMS

# MDM Stainless Steel Series Product Guide

The MDM Stainless Steel product line is based upon ITT Torque System's industry leading MDM technology, which provides energy efficient servo motors in popular industry standard frame size configurations. This new motor offering is ideal for use in food, beverage, dairy, pharmaceutical and personal care manufacturing and equipment applications.

ITT Torque System's engineers designed the MDM Stainless Steel Series to meet the needs of users and customers in need of cost effective, sterile and hygienic applications.

ITT

ENGINEERED FOR LIFE

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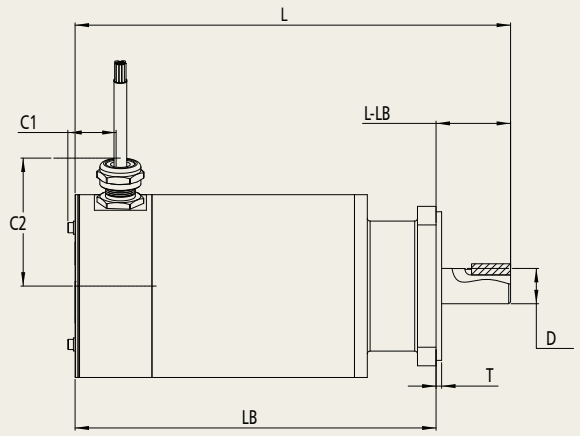
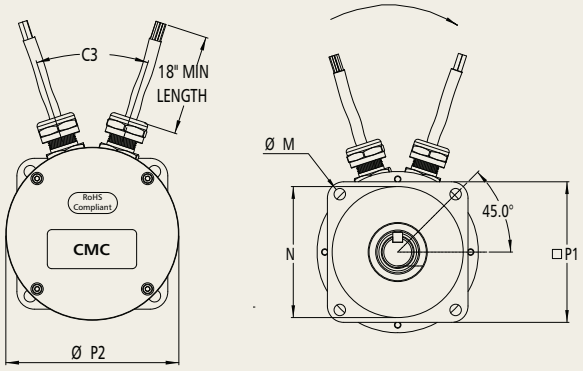
## Features:

- Factory sealed cabling to simplify installation
- Full IP 67 Compliance with shaft seals
- Complete conformance to UL/CUL and CE Standards across the entire product line
- Thermostats on motor windings is standard for all configurations
- Customized mounting and shaft option available
- Optional encoder line counts up to 5,000 ppr available for all configurations
- Optional resolver feedback available for all frame sizes

## Benefits:

- Minimizing installation and setup time
- Maintains internal integrity and corrosion resistance in washdown environments
- Required industry defined standards conformance
- Protection circuitry meets industry requirements
- Enables more flexible design options, and retrofit support
- Performance enhancement and feature convenience that allows ITT Torque System's motors to be incorporated into a broader range of applications
- Flexible feedback configurations provide more choices for demanding applications




| Platform Number | IEC Flange Number | N | M | T | Shaft | | L | LB | L-LB | C1 | C2 | C3 | P1 | P2 | CONT Stall Torque | Peak Torque |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | D | Key | | | | | | | | | Nm | Nm |
| S0601 | F75 | 60 | 4 x 5.8 @ 75 BCD | 2.5 | 14 | 5x5x16 | 140 | 110 | 30 | 21 | 56 | 43 | 68 | 75 | 0.36 | 2.3 |
| S0602 | | | | | | | 159 | 129 | | | | | | | 0.60 | 4.0 |
| S0603 | | | | | | | 178 | 148 | | | | | | | 0.83 | 5.3 |
| S0604 | | | | | | | 197 | 167 | | | | | | | 1.02 | 6.3 |
| | | | | | | | | | | | | | | | | |
| S0851 | F100 | 80 | 4 x 7 @ 100 BCD | 3 | 19 | 6x6x21 | 205.1 | 165 | 40.1 | 27.9 | 69 | 36 | 86 | 98.4 | 1.50 | 5.8 |
| S0852 | | | | | | | 234.1 | 194 | | | | | | | 2.46 | 10.5 |
| S0853 | | | | | | | 263.1 | 223 | | | | | | | 3.49 | 14.7 |
| S0854 | | | | | | | 292.1 | 252 | | | | | | | 4.32 | 18.3 |
| | | | | | | | | | | | | | | | | |
| S1101 | F130 | 110 | 4 x 10 @ 130 BCD | 3.5 | 24 | 8x7x27 | 237 | 187 | 50 | 25.9 | 81 | 32 | 114 | 123.2 | 3.57 | 10.7 |
| S1102 | | | | | | | 268 | 218 | | | | | | | 6.02 | 19.8 |
| S1103 | | | | | | | 299 | 249 | | | | | | | 7.87 | 26.8 |
| S1104 | | | | | | | 330 | 280 | | | | | | | 9.89 | 33.9 |
| | | | | | | | | | | | | | | | | |
| S1402 | F165 | 130 | 4 x 12 @ 165 BCD | 3.5 | 32 | 10x8x32 | 289.3 | 231.3 | 58 | 30 | 103 | 22 | 140 | 165 | 9.80 | 42.7 |
| S1403 | | | | | | | 314.3 | 256.3 | | | | | | | 13.10 | 53.8 |
| S1404 | | | | | | | 339.3 | 281.3 | | | | | | | 15.70 | 94.9 |
| S1405 | | | | | | | 364.3 | 306.3 | | | | | | | 19.36 | 118.5 |

NOTES:
- Standard IEC tolerances apply
- Dimensions represent motor-encoder or motor-resolver without brake
- All dimensions are in mm

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# MDM S-SERIES (STAINLESS STEEL) ORDERING GUIDE

**S XXX X XX XX X X**

FRAME SIZE
060 mm
085 mm
110 mm
140 mm

WINDING STACK HEIGHT
60 mm frame (1,2,3,4)
80 mm frame (1,2,3,4)
110 mm frame (1,2,3,4)
140 mm frame (1,2,3,4)

WINDINGS STANDARD
**To Reference "Standard Winding Guide" refer to next page.**
Consult factory for other options.

**FEEDBACK - Select 1 of 4**

(1) Incremental Encoder

| COMM | COUNT |
|---|---|
| CD | 1000 |
| CD | 1024 |
| CF | 1500 |
| **CG** | **2000 Standard** |
| CH | 2048 |
| CJ | 2500 |
| CK | 5000 |

(2) Absolute Encoder
AS - Single Turn
AM - Multi Turn
Call factory for this option

(3) Resolver- RS

(4) Hall Sensor - HA
Consult Factory for this Option

SHAFT DIAMETER MOUNTING

60 mm motor frame
G 14 mm shaft w/keyway, IEC 75

85 mm motor frame
H 19 mm shaft w/keyway, IEC 100

100 mm motor frame
J 24 mm shaft w/keyway, IEC 130

140 mm motor frame
M 32 mm shaft w/keyway, IEC 165

S Other - SPECIAL

BRAKE
N None - Standard
B Brake - 24VDC - Optional

STANDARD FEATURES:
Winding Thermostat Protected
IP67 with Shaft Seal

**Example Part Number Setup: S0853-E0-CG-B-H**

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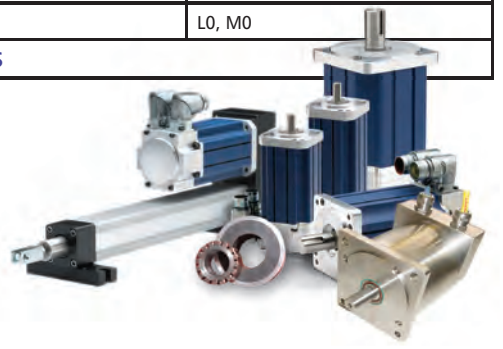
| Winding Designators: Back EMF Constant (Vpeak/Krpm) | | | | | |
|---|---|---|---|---|---|
| X0 = 7.5 | T0 = 10 | U0 = 12.5 | P0 = 15 | A0 = 20 | R0 = 25 |
| B0 = 30 | C0 = 40 | D0= 50 | E0 = 60 | F0 = 70 | G0 = 80 |
| H0 = 90 | J0 = 100 | K0 = 120 | L0 = 140 | M0 =160 | |

| MDM-S 5000 (Stainless Steel) Winding Option | | | | | |
|---|---|---|---|---|---|
| **Vac** | **Vdc** | **S0601** | **S0602** | **S0603** | **S0604** |
| 28 | 40 | X0, T0, U0, P0 | X0, T0, U0, P0, A0 | X0, T0, U0, P0, A0 | X0, T0, U0, P0, A0 |
| 56 | 80 | U0, P0, A0, R0, B0 | U0, P0, A0, R0, B0, C0 | P0, A0, R0, B0, C0 | P0, A0, R0, B8, B0, C0 |
| 115 | 160 | R0, B0, C0, D0 | R0, B0, C0, D0 | B0, C0, D0 | B0, C0, D0, E0, F0, G0 |
| 230 | 325 | D0 | D0 | E0, F0 | E0, F0, G0 |
| 400 | 560 | N/A | N/A | N/A | N/A |
| 460 | 640 | N/A | N/A | N/A | G0 |

| **Vac** | **Vdc** | **S0851** | **S0852** | **S0853** | **S0854** |
|---|---|---|---|---|---|
| 28 | 40 | X0, T0, U0, P0, A0, R0 | T0, U0, P0, A0, R0 | A0, R0, B0 | A0, R0, B0 |
| 56 | 80 | P0, A0, R0, B0, C0, D0 | P0, A0, R0, B0, C0, D0 | A0, R0, B0, C0, D0, E0 | A0, B0, C0, D0, E0 |
| 115 | 160 | B0, C6, C0, D0, E0, F0, G0 | B0, C0, D0, E0, F0, G0, J0 | B0, C0, D0, E0, F0, G0, J0, K0 | B0, C0, D0, E0, F0, G0, J0, K0 |
| 230 | 325 | E0, F0, G0, J0, K0, L0, M0 | E0, F0, G0, H0, J0, K0, L0, M0 | E0, F0, G0, J0, K0, L0, M0 | F0, G0, J0, K0, L0, M0 |
| 400 | 560 | J0, K0, L0, M0 | J0, K0, L0, M0 | K0, L0, M0 | K0, L0, M0 |
| 460 | 640 | K0, L0, M0 | K0, L0, M0 | K0, L0, M0 | K0, L0, M0 |

| **Vac** | **Vdc** | **S1101** | **S1102** | **S1103** | **S1104** |
|---|---|---|---|---|---|
| 28 | 40 | A0, R0, B0 | A0, R0, B0 | N/A | N/A |
| 56 | 80 | A0, R0, B0, C0, D0, E0 | A0, B0, C0, D0, E0 | N/A | N/A |
| 115 | 160 | B0, C6, C0, D0, E0, F0, G0, H0, J0, K0 | C0, D0, E0, F5, F0, G0, H0, J0, K0 | D0, E0, F0, G5, G0, H0, J0 | E0, F0, G5, G0, H0, J0 |
| 230 | 325 | E0, F0, G0, H0, J0, K0 | F0, G0, H0, J0, K0, L0, M0 | E0, F0, G5, G0, H0, J0, K0 | E0, F0, G5, G0, H0, J0, K0 |
| 400 | 560 | K0 | K0, L0, M0 | J0, K0, L0, M0 | J0, K0, L0, M0 |
| 460 | 640 | K0 | L0, M0 | K0, L0, M0 | K0, L0, M0 |

| **Vac** | **Vdc** | **S1402** | **S1403** | **S1404** | **S1405** |
|---|---|---|---|---|---|
| 28 | 40 | N/A | N/A | N/A | N/A |
| 56 | 80 | N/A | N/A | N/A | N/A |
| 115 | 160 | E0, F0, G5, G0, H0, J0, K0 | F0, G5, G0, H0, J0, K0 | H0, J0 | N/A |
| 230 | 325 | E0, F0, G5, G0, H0, J0, K0, L0, M0 | E0, F0, G5, G0, H0, J0, K0 | H0, J0, K0, L0, M0 | J0, K0, L0, M0 |
| 400 | 560 | J0, K0, L0, M0 | J0, K0, L0, M0 | J0, K0, L0, M0 | K0, L0, M0 |
| 460 | 640 | K0, L0, M0 | K0, L0, M0 | K0, L0, M0 | L0, M0 |
| **CONSULT FACTORY FOR OTHER OPTIONS** | | | | | |



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