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Find the *Yaskawa SGDF-A1CP* at our website: ***Click HERE***

Sigma Mini Servo System SGMM/SGDF

YASKAWA
A World of Automation Solutions™

Sigma Mini AC Servo Motors & Amplifiers are the world s smallest in size, but BIG on performance! This makes them ideal for space confining applications, i.e. chip mounters, semiconductor manufacturing, and anywhere space is at a premium.

Two sizes are available, 10W and 20W, with rated torques of 4.5 and 9.02 oz-in, respectively. The 10W model is an amazing 1 x 1 x 2 !

Sigma stator design technology incorporates an innovative construction, which minimizes vibration and increases the overall heat transfer rate. This assures internal concentricity, permitting minimal air gap, reduced magnetic loss, and reduced motor volume required for a given continuous torque rating. This extremely compact design produces a high torque to inertia ratio thus maximizing torque, velocity and positioning performance.

A single, direct-coupled 2048ppr high resolution encoder (8192ppr after quadrature) provides the necessary commutation, velocity and position feedback without response delay caused by play/ distortion of coupling gears.

This is what Yaskawa's Sigma Mini servo performance is all about - *compact size, reliability, high speed, and precision.*

Using the Sigma Mini SGMM servo motor with the new SGDF servo amplifier creates a matched package for optimum performance.



SGDF Amplifier Features

- Manual and auto-tuning functions
- Analog speed or torque command input or pulse and direction input
- MOSFET-PWM power circuits
- Optically isolated inputs/outputs
- Soft start function
- Overload, overcurrent, and overspeed protective functions
- Velocity loop frequency response = 250Hz
- Sinusoidal commutation
- CE Compliant

Amplifier Options

- Connector kits
- Interconnection cables
- Pocket-size, digital operator panel
- Sigma Win™ configuration and monitoring software

Amplifier Specifications

- Ambient operating temperature: 0 to 50ºC
- Ambient storage temperature: -20 to 85ºC
- Humidity: up to 90% (non-condensing)
- Vibration resistance: 9.8m/s^2 (1G)
- 24VDC input voltage

SGMM Motor Features

- World's smallest AC servo motor
- Maximum speed of 5000rpm
- 2048ppr high resolution incremental encoder
- Neodymium-iron-boron magnets
- Resin-impregnated high density windings
- Direct drive
- Flange mounting
- CE Compliant

Motor Options

- 24VDC holding brake

Motor Specifications

- Insulation Class: B
- Ambient operating temperature: 0 to 40ºC
- Ambient humidity: 20 to 80% (non-condensing)
- Vibration resistance: 49m/s^2 (5G)
- Enclosure: totally enclosed, self-cooled, IP55 (excluding shaft)
- 24VDC input voltage

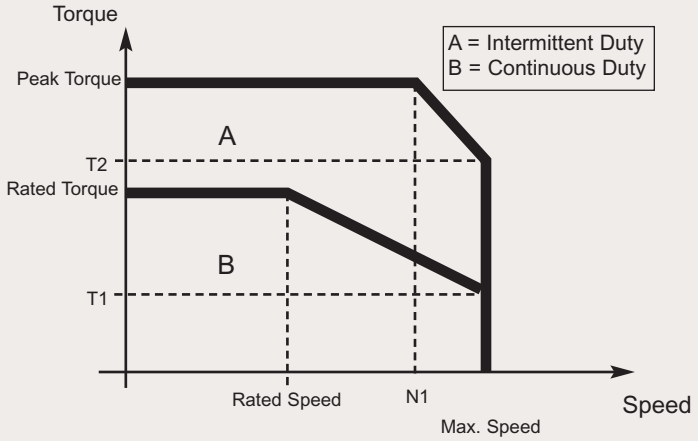
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YASKAWA
A World of Automation Solutions™

Ratings and Performance Specifications

Motor Type SGMM	Rated Power [W]	Rated Torque [oz-in]	Peak Torque [oz-in]	Rated Speed [rpm]	Max. Speed [rpm]	Speed N1* [rpm]	Torque T1* [oz-in]	Torque T2* [oz-in]	Power Rate [kW/s]
A1	10	4.5	13.5	3000	5000	5000	2.55	13.5	2.9
A2	20	9.02	27.1	3000	5000	1850	6.86	14.1	7.4

* Refer to speed-torque curve below



SGMM Motor Dimensions

	Moment of Inertia [oz-in-s^2]		Motor Length in inches (mm)		
Motor Type SGMM	Incremental Encoder w/o brake	Incremental Encoder w/ brake	Incremental Encoder w/o brake	Incremental Encoder w/ brake	Square Mounting Flange in inches (mm)
A1	0.0501×10^{-3}	0.0690×10^{-3}	2.13 (54)	3.09 (78.5)	0.98 (25)
A2	0.0776×10^{-3}	0.0968×10^{-3}	2.52 (64)	3.64 (92.5)	0.98 (25)

SGDF Amplifier Dimensions (10W & 20W models)

Height	Width	Depth
3.94in (100mm)	1.38in (35mm)	3.15in (80mm)

Yaskawa... *A World of Automation Solutions*

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