

SigmaLogic7 Compact™

Sigma-7 SERVOPACK Option



Motion Sequencing with Add On Instructions (AOIs) for Rockwell ControlLogix and CompactLogix PLCs

SigmaLogic7 Compact makes it possible to add the superior performance and unmatched reliability of a Yaskawa servo system to your machine, without leaving the familiar format of an existing programmable logic controller.

Users can now utilize Yaskawa written, Yaskawa tested Add On Instructions in RSLogix5000 software, with a ControlLogix or CompactLogix PLC. No other Yaskawa programming software is required. This opens up a range of automation improvements:

- Perform functions including point-to-point and blended space moves, as well as jogging and homing
- Use direct commands or a 200-point configurable sequence table
- Utilize the extra 7 inputs and 3 outputs on the SigmaLogic7 Compact servo system in an indexing sequence table, or in your PLC application
- The LogicWorks™ v2 software utility may be used to download sequence and configuration data
- Contains all the features of a Sigma-7 servo system:
 - Tuningless mode automatically adjusts for load-to-rotor inertia mismatches up to 30:1, allowing for the use of smaller motors and reduced gearing
 - Vibration suppression reduces noise during operation, improving tracking and settling time to yield machined parts with very smooth edges
 - 24-bit absolute encoders
 - 50W to 15kW. 100 or 230 VAC input
 - UL/CE/RoHS
 - Integrated safety (Safe Torque Off)



EtherNet/IP™

Yaskawa-written, Yaskawa tested AOIs

- Configurable sequence table
- Extension of Sigma-7 servo family

Sequence Table with



- Software utility to create individual move profiles and sequencing for the application
- Upload/download sequence table and configuration data to/from LogicWorks™
- Embedded monitoring and test functions

Add On Instructions (AOI)

- Yaskawa AOIs were created for full compatibility with all CompactLogix and ControlLogix PLCs using RSLogix5000 software v17 and above
- AOIs are named to be familiar to Rockwell users
- Right-click instruction help is available for all instructions when in the PLC programming environment
- Sample program in RSLogix5000 is available

AOI Names	AOI Descriptions	Home Types	Move Types
MCFG_Yaskawa	Motion Axis Configuration	Set Position Directly	Absolute Move
MSO_Yaskawa	Motion Axis Servo On	Home in Positive Direction to Hard Stop	Absolute Move with Registration
MSF_Yaskawa	Motion Axis Servo Off	Home in Negative Direction to Hard Stop	Relative Move
MAS_Yaskawa	Motion Axis Stop	Home in Positive Direction to Limit w/o C-Pulse	Relative Move with Registration
MAFR_Yaskawa	Motion Axis Fault Reset	Home in Negative Direction to Limit w/o C-Pulse	Blended Move
MAM_Yaskawa	Motion Axis Move	Home in Positive Direction to Limit w/C-Pulse	Jog
MAJ_Yaskawa	Motion Axis Jog	Home in Negative Direction to Limit w/C-Pulse	Jog with Registration
MAHSP_Yaskawa	Motion Axis Home Set Position	Home in Positive Direction to Input w/o C-Pulse	Gear On
MAH_Yaskawa	Motion Axis Homing	Home in Negative Direction to Input w/o C-Pulse	Gear Off
MAG_Yaskawa	Motion Axis "Gearing" Move	Home in Positive Direction to Input w/C-Pulse	Superimpose Move on Gear
MAB_Yaskawa	Motion Axis "Blend" Move	Home in Negative Direction to Input w/C-Pulse	Torque Move
MSQR_Yaskawa	Motion Axis Index Run Sequencer	Home in Positive Direction to Hard Stop w/C-Pulse	High Speed Index
MSQE_Yaskawa	Motion Axis Index Step Edit	Home in Negative Direction to Hard Stop w/C-Pulse	Rotary Absolute Move with Shortest Path
MHSI_Yaskawa	Motion Axis High Speed Index		
MTRQ_Yaskawa	Motion Axis Torque Control		
MCLK_Yaskawa	Motion Axis Set Clock		
MPLS_Yaskawa	Motion Axis Programmable Limit Switch		
MRSE_Yaskawa	Motion Report Servo Error		

Model Number Designation

SGD7S

2R8

A

QO

A

000

F51

Sigma-7 Series SERVOPACK

1st+2nd+3rd digits

4th digit

5th+6th digits

7th digit

8th+9th+10th digits

11th+12th+13th digits

1st+2nd+3rd digits

Maximum Applicable Motor Capacity

4th digit

Voltage

8th+9th+10th digits

Hardware Options Specification

11th+12th+13th digits

FT/EX Specification

Voltage	Code	Specification
Three phase, 200 VAC	R70	0.05 kW
	R90	0.1 kW
	1R6	0.2 kW
	2R8	0.4 kW
	3R8	0.5 kW
	5R5	0.75 kW
	7R6	1.0 kW
	120	1.5 kW
	180	2.0 kW
	200	3.0 kW
	330	5.0 kW
	470	6.0 kW
	550	7.5 kW
	590	11 kW
	780	15 kW
	Single phase 100 VAC	R70
R90		0.1 kW
2R1		0.2 kW
2R8		0.4 kW

Code	Specification
A	200 VAC
F	100 VAC

Code	Specification
QO	SigmaLogic7Compact (Ethernet/IP Indexer)

Code	Specification	Applicable Models
000	Without options	All Models

Code	Specification
F51	Application function for SigmaLogic7 Compact

5th+6th digits

Interface

7th digit

Design Revision Order

A: Global design revision