SigmaLogic™
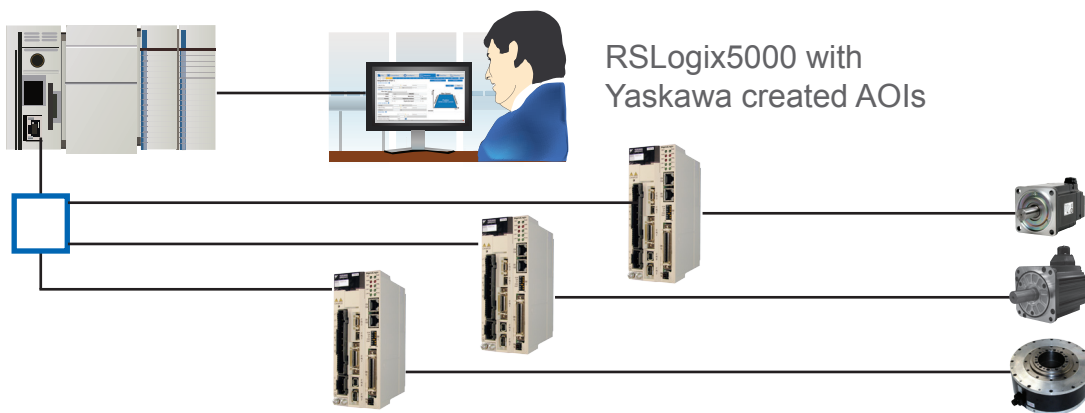## Sigma-5 SERVOPACK Option

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

RSLogix5000 with
Yaskawa created AOIs

EtherNet/IP™

- Yaskawa-written and tested AOI
- Configurable sequence table
- Extension of Sigma-5 servo family

- ● Use Yaskawa written and tested Add On Instructions in your RSlogix5000 program with a ControlLogix or CompactLogix PLC.   No other Yaskawa programming software is required.

- ● Use as many SigmaLogic(s) as you have unused connections in your PLC. Perform basic point to point moves, blended speed moves, homing, jogging and gearing to an external encoder using either direct commands or a 200 point configurable sequence table.

- ● Use the extra 8 inputs and 8 outputs on the SigmaLogic servo system in an indexing sequence table or in your PLC application.

- ● Use the LogicWorks software utility to download sequence and configuration data for the SigmaLogic.

- ● Contains all the features of the Sigma-5 Servo System;
    - • Tuningless mode automatically adjusts for up to 20:1 in load to rotor inertia mismatch allowing smaller motor and reduced gearing
    - • Vibration suppression reduces noise during operation improving tracking and settling time resulting in very smooth edges of machined parts
    - • 20 bit absolute encoders
    - • 50 watts to 15kW. 100, 230 or 480 VAC input
    - • UL/CE/RoHS
    - • Integrated safety (Safe torque off)

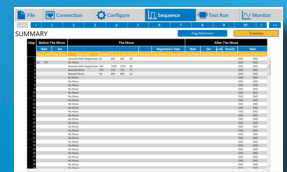### Sequence Table with

LogicWorks™

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

Add-On Instructions (AOI)

- Compatible with all CompactLogix and ControlLogix PLCs using RSLogix5000 software v17 and above
- Add-On Instructions are named to be familiar to Rockwell users
- Right-click instruction help available for all instructions when in the PLC programming environment
- Sample Program in RSLogix5000 is available

AOI Names	AOI Descriptions
MCFG_Yaskawa	Motion Axis Configuration
MSO_Yaskawa	Motion Axis Servo On
MSF_Yaskawa	Motion Axis Servo Off
MAS_Yaskawa	Motion Axis Stop
MAFR_Yaskawa	Motion Axis Fault Reset
MAM_Yaskawa	Motion Axis Move
MAJ_Yaskawa	Motion Axis Jog
MAHSP_Yaskawa	Motion Axis Home Set Position
MAH_Yaskawa	Motion Axis Homing
MAG_Yaskawa	Motion Axis "Gearing" Move
MAB_Yaskawa	Motion Axis "Blend" Move
MSQR_Yaskawa	Motion Axis Index Run Sequencer
MSQE_Yaskawa	Motion Axis Index Step Edit
MHSI_Yaskawa	Motion Axis High-Speed Index
MTRQ_Yaskawa	Motion Axis Torque Control
MCLK_Yaskawa	Motion Axis Set Clock

Home Types
1 - Set Position Directly
2 - Home in Positive Direction to Hard
3 - Home in Negative Direction to Hard
4 - Home in Positive Direction to Limit
5 - Home in Negative Direction to Limit
6 - Home in Positive Direction to Limit w/
7 - Home in Negative Direction to Limit
8 - Home in Positive Direction to Input
9 - Home in Negative Direction to Input
10 - Home in Positive Direction to Input
11 - Home in Negative Direction to Input

Move Types
1 - Absolute Move
2 - Absolute Move with Registration
3 - Relative Move
4 - Relative Move with Registration
5 - Blended Move
6 – Jog
7 - Jog with Registration
8 - Gear On
9 - Gear Off
10 - Superimpose Move on Gear
11 - Torque Mode
12 - High Speed Index

Model Number Designation

SGDV   R70   A   E   1   A   002000   B00

Σ-V Series SGDV SERVOPACK

Current

Code	100 V (Single Phase) Applicable Servomotor Max. Capacity	Code	200 V (Three Phase) Applicable Servomotor Max. Capacity kW	Code	400 V (Three Phase) Applicable Servomotor Max. Capacity kW
R70	0.05	R70*	0.05	1R9	0.5
R90	0.1	R90*	0.1	3R5	1.0
2R1	0.2	1R6*	0.2	5R4	1.5
2R8	0.4	2R8*	0.4	8R4	2.0
		3R8	0.5	120	3.0
		5R5*	0.75	170	5.0
		7R6	1.0	210	6.0
		120**	1.5	260	7.5
		180	2.0	280	11
		200	3.0	370	15
		330	5.0		
		470	6.0		
		550	7.5		
		590	11		
		780	15		

Design Revision

Code	Specifications
A	Design Revision A

Option Function

Code	Specifications
B00	SigmaLogic

Motor Type

Code	Specifications
1	Rotary Servo Motor

Options

Code	Specifications
002000	Base-mounted, varnish (standard)
008000	Single-phase, 200VAC Input (model SGDV-120AE1A008000B00)

Voltage

Code	Specifications
F	100 VAC
A	200 VAC
D	400 VAC

Interface

Code	Specifications
E	Option Command Architecture