

## Section 4— Operation

### **⚠ DANGER**

#### **HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Read and understand the precautions in “Before You Begin” starting on page 8 before performing the procedures in this section.

**Failure to follow these instructions will result in death or serious injury.**

### **⚠ DANGER**

#### **UNINTENDED EQUIPMENT OPERATION**

Before operating the S-Flex enclosed drives:

- Read and understand instruction bulletins S1A53832 and S1A53838 before changing any parameters from the factory defaults. See page 7 for list of instruction bulletins and information for obtaining them.
- Refer to Table 18 on page 88 for parameter setting sequence.
- If the power converter is re-initialized using the total or partial factory setting function, it must be reprogrammed to the values listed in Table 18 on page 88.
- If the power converter or the main control board of the power converter is replaced, the power converter must be reprogrammed according to the programming instructions in Table 18 on page 88.

**Failure to follow these instructions will result in death or serious injury.**

### **Programming the Power Converter**

The Altivar 212 power converters are factory configured as shown in Table 18. Be sure to configure the power converter’s motor full-load current as shown on the motor nameplate. For additional programming information, see the *Altivar 212 Programming and Operation Guide*, S1A53838, supplied with drive.

### **⚠ WARNING**

#### **LOSS OF CONTROL**

Changes to factory set parameters must be completed in the sequence of appearance in Table 18 on page 88.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

Changes to factory settings must be completed in the sequence of appearance in Table 18.

**Table 18 – Power Converter Factory Configuration (*change factory set parameters according to table sequence*)**

Parameter	Name	Unit	Description	Factory Setting	Customer Setting
<i>E Y P</i>	Parameter reset type	—	60 Hz	2	
<i>A U 1</i>	Auto ramp adaptation	—	Disable auto ramp	0	
<i>A C C</i>	Acceleration time 1	second s	Acceleration time	60	
<i>d E C</i>	Deceleration time 1	second s	Deceleration time	60	
<i>U L</i>	High speed	Hz	High speed	60	
<i>L L</i>	Low speed	Hz	Low speed	15	
<i>u L u</i>	Motor rated voltage	V	230/208 V models 460 V models	230/208 460	
<i>P t</i>	Motor control mode	—	Variable torque	1	
<i>t H r</i>	Motor rated current overload	A	Overload setting	100% of the drive's output rating	
<i>A U 4</i>	Macro programming See <i>Macro Programming</i> in the <i>Altivar 212 Programming and Operation Guide</i> , S1A53838.	—	Run permissive	1	
<i>F 1 3 0</i>	RC/RYC – RY/RYA relay primary function, Terminals 11 and 12 See <i>Relay Output Function</i> in the <i>Altivar 212 Programming and Operation Guide</i> , S1A53838.	—	Drive running	14	
<i>F 1 3 2</i>	FL relay function, Terminals 15 and 16 See <i>Relay Output Function</i> in the <i>Altivar 212 Programming and Operation Guide</i> , S1A53838.	—	Inversion of relay	11	
<i>F 2 0 1</i>	VIA speed reference level	%	4 mA minimum	20	
<i>F 6 0 5</i>	Output phase failure detection	—	Disabled	0	
<i>F 6 9 2</i>	Analog output bias	%	4 mA minimum	20	
<i>F 1 1 3</i>	LI Res Selection	—	SPEED REF	38	
<i>F 2 0 7</i>	Remote Speed Reference 2	—	HMI	3	

**Additional Factory Programming Configuration for Options A06, B06, C06, and D06**

Parameter	Name	Unit	Description	Factory Setting	Customer Setting
<i>F B 2 9</i>	Protocol	—	Modbus RTU	1	
			Metasys N2 (C06)	2	
			Apogee P1 (D06)	3	
			BACnet (A06)	4	
			LonWorks (B06)	5	
<i>C P 0 d</i>	Remote mode start/stop control source	—	Serial Communication	2	
<i>F P 0 d</i>	Remote mode primary speed reference source	—	Serial Communication	4	

**Adjustments to the Factory Programming Configuration to Allow Serial Communication Control Through the Modbus RJ-45 port**

<i>C P 0 d</i>	Remote mode start/stop control source	—	Serial Communication	2	
----------------	---------------------------------------	---	----------------------	---	--

**Table 18 – Power Converter Factory Configuration (change factory set parameters according to table sequence)**

Parameter	Name	Unit	Description	Factory Setting	Customer Setting
<i>F P D d</i>	Remote mode primary speed reference source	—	Serial Communication	4	
<i>F B 2 9</i>	Protocol	—	Modbus	1	

**Adjustments to the Factory Programming Configuration to Allow Monitoring Only Through Options A06, B06, C06, D06**

Parameter	Name	Unit	Description	Factory Setting	Customer Setting
<i>C P D d</i>	Remote mode start/stop control source	—	Terminals	0	
<i>F P D d</i>	Remote mode primary speed reference source	—	VIB	2	
<i>F I D B</i>	Always active logic function	—	Forced local	48	