

SX_Operation Status	SX inverter: View Operation/Status (700)						
Basic function	CP1 Function Block for RS485 communication with a SX inverter.						
Symbol	<p>The diagram illustrates the SX_OperationStatus function block. It features an input 'P_On' which is connected to a normally open contact labeled 'CF113' (Always ON Flag) and the 'EN' (Enable) input. The 'ENO' (Enable Out) output is connected to a normally open contact labeled 'OEE-Tsunagi Lab'. The function block has several other outputs: 'SX_Status' (Busy flag), 'CP1_PortNo' (Parameter re...), 'CP1_Model' (Parameter V...), 'SX_NodeNo' (Error), and 'SX_ParNo' (Error code). Each output is accompanied by its data type in parentheses: (BOOL) for EN, SX_Status, and ENO; (INT) for CP1_PortNo, CP1_Model, and SX_NodeNo; (REAL) for Value; and (WORD) for ErrorID.</p>						
Authors	OEE-N RE, OEE-HQ HvB						
File name	SX_OperationStatus.cxf						
Applicable models	CP1L-M, CP1H or CP1L-L						
Conditions for usage	<u>Communication with CP1W-CIF11 or CP1W-CIF12:</u> PLC port settings Custom (default SX): Baud 9600, format 8,1,N, Serial Gateway. CIF settings: SW1=ON, SW2=ON, SW3=ON, SW4=OFF, SW5=ON, SW6=ON						
Function description	Function Block with parameter Input for viewing all actual operational data, such as actual speed, Torque, Power, Current, Voltage, Frequency and Heat sink temperature.						
FB precautions	The SX_OperationStatus function block is offered 'as is' and may serve as a basis for development. Users should previously test its adequacy to the final application. Omron can not be held responsible in case of malfunction						
EN input condition	<ul style="list-style-type: none"> Connect EN to condition for the FB to Work. Start Command send the Request command to the SX and Value output is presented in Floating point format. 						
Restrictions Input variables	<ul style="list-style-type: none"> CP1 Port number is 1 or 2 CP1 Model is 0 (CP1L-M / CP1H) or 1 (CP1L-L) SX Inverter Node number 1-247 						
Output variables	<ul style="list-style-type: none"> Parameter Output Value in Floating point format. Error flag for false Input Variable and Modbus Errors. Modbus Error code in hex. 						
PLC	CP1W-CIF11 or CP1W-CIF12						
SX	Isolated RS232/485 Option board						
Wiring	<table border="0" style="width: 100%;"> <tr> <td style="text-align: left;"><u>CP1W-CIF11/CIF12</u></td> <td style="text-align: right;"><u>SX-Terminal X1</u></td> </tr> <tr> <td style="text-align: center;">SDB+ -----</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">SDA- -----</td> <td style="text-align: center;">3</td> </tr> </table>	<u>CP1W-CIF11/CIF12</u>	<u>SX-Terminal X1</u>	SDB+ -----	2	SDA- -----	3
<u>CP1W-CIF11/CIF12</u>	<u>SX-Terminal X1</u>						
SDB+ -----	2						
SDA- -----	3						

■ Variable Tables
Input Variables

Name	Variable name	Data type	Default	Range	Description
EN	EN	BOOL			1 (ON): FB ON. 0 (OFF): FB OFF.
Start Command	SX_Status	BOOL			Start Command
CP1 Port Number	CP1_PortNo	INT	&1	&1 to &2	Specify the serial port number
CP1 Model	CP1_Model	INT	&0	&0 to &1	CP1 Model: CP1L-M or CP1H = 0 CP1L-L = 1
Inverter No.	SX_NodeNo	INT	&1	&1 to &247	Specify the Node number of the SX
Parameter No.	SX_ParNo	INT		#0712 to #071A	Parameter Input: Speed (712) Displays the actual shaft speed Torque (713) Displays the actual shaft torque Shaft power (714) Displays the actual shaft power Electrical Power (715) Displays the actual electrical output power Current (716) Displays the actual output current Output Voltage (717) Displays the actual output voltage Frequency (718) Displays the actual output frequency DC Link Voltage (719) Displays the actual DC link voltage Heatsink Temp (71A) Displays the actual Heatsink temperature

Output Variables

Name	Variable name	Data type	Range	Description
ENO (May be omitted.)	ENO	BOOL		1 (ON): FB processed normally. 0 (OFF): FB not processed or ended in an error.
Busy flag	Busy	BOOL		Function Block is processing the Command
Parameter Read Completed	Done	BOOL		Parameter Value Request is completed
Parameter Value	Value	REAL		Actual Parameter Value in Floating point format
Error flag	Error	BOOL		Communication or Variable Input Error
Error code	ErrorID	WORD		<p>Modbus Error Codes:</p> <p>0x00: Normal end Not an error.</p> <p>0x01: Illegal address. The slave address specified in the parameter is illegal (248 or higher).</p> <p>0x02: Illegal function code. The function code specified in the parameter is illegal.</p> <p>0x03: Data length overflow. There are more than 94 data bytes.</p> <p>0x04: Serial communications mode error. The Modbus-RTU Easy Master function was executed when the serial communications mode was not the Serial Gateway Mode.</p> <p>0x80: Response timeout. A response was not received from the Servo.</p> <p>0x81: Parity error A parity error occurred.</p> <p>0x82: Framing error A framing error occurred.</p> <p>0x83: Overrun error An overrun error occurred.</p> <p>0x84: CRC error A CRC error occurred.</p> <p>0x85: Incorrect confirmation address. The slave address in the response is difference from the one in the request.</p> <p>0x86: Incorrect confirmation function code. The function code in the response is difference from the one in the request.</p> <p>0x87: Response size overflow. The response frame is larger than the storage area (92 bytes).</p> <p>0x88: Exception response. An exception response was received from the slave.</p> <p>0x89: Service being executed. A service is already being executed (reception traffic congestion).</p> <p>0x8A: Execution canceled. Executing the service has been canceled.</p> <p>0x8F: Other error. Other FINS response code was received.</p>

■ Version History

Version	Date	Contents
1.00	13-02-2012	Original production