2DCR -401	Execute Read: _2DCR401_ExecRead

Basic function	Executes one read for a 2D Code Reader.
Symbol	
File name	Lib\FBL\omronlib\Barcode Scanner\2DCR_2DCR401_ExecRead10.cxf
Applicable models	2D Code Reader V530-R2000 Series, V530-R160 Series, and V530-R150V3 Series

Applicable models	2D Code Reader	V530-R2000 Series, V530-R160 Series, and V530-R150V3 Series
	CPU Unit	CS1*-CPU**H Unit version 3.0 or higher CJ1*-CPU**H Unit version 3.0 or higher CJ1M-CPU** Unit version 3.0 or higher CP1H CP1L (except 10 points CPU)
	Serial Communications Units/Boards	CS1W-SCU21-V1, CJ1W-SCU21-V1, CJ1W-SCU41-V1 Unit Version 1.2 or higher CS1W-SCB21-V1 and CS1W-SCB41-V1 Unit Version 1.2 or higher
	CX-Programmer	Version 5.0 or higher

Conditions for usage	External Connections
	• Can be used only for 1:1 connections.
	• Communications must be within one network and cannot cross to another network.
	• This FB is invalid when the serial port error is happend.
	• Multiple FBs cannot simultaneously perform processing for one Code Reader.
	• When the PLC system is turned ON, the serial port may receive unexpected data, resulting in a communication error.
	  It is recommended to restart the serial port one time after starting up the PLC system.
	Communications Settings
	  The communications settings(No-protocol Mode) of the serial port must be the same as those of the 2D Code Reader.
	• The communications settings of the specified serial port can be set to the default 2D Code Reader settings using the Set Communications Port (_2DCR600_SetComm) function block, and the other 2D Code Reader settings using the Set No-protocol Mode (_SCx603_SetPortNOPRTCL) function block.
	Shared Resources
	• When a Serial Communications Unit is specified: Communications ports (internal logical ports)
	Code Reader Settings
	• Always set the 2D Code Reader scene number before using this FB.
	• This FB can be used only when the trigger input mode is set to the one-shot mode or the level mode.

Function description	When the Start Trigger turns ON, one read is executed and the specified number of read data reception bytes are stored in the measurement results storage words for the 2D Code Reader connected to the specified serial port for the specified Unit Selection and serial port number. The word designation for storing the measurement results is specified using the area type and beginning word address. For example, for D1000, the area type is set to P_DM and the beginning word address is set to &1000.
FB precautions	• The FB is processed over multiple cycles. The BUSY output variable can be used to check whether the FB is being processed. • OK or NB will be turned ON for one cycle only after processing is completed. Use these flags to detect the end of FB processing.

EN input condition	Connect EN to an OR between an upwardly differentiated condition for the start trigger and the BUSY output from the FB.
Restrictions Input variables	• Always use an upwardly differentiated condition for EN. • If the input variables are out of range, the ENO Flag will turn OFF and the FB will not be processed. • Up to 256 read data reception bytes can be read.
Output variables	• This FB requires multiple cycles to process. Always connect an OR including the BUSY output variable to the EN input variable to ensure that the FB is processed to completion (see *Symbol*). • Do not turn the BUSY output variable ON or OFF outside the FB.
Application example	A 2D Code Reader is connected 1:1 to serial port 1 on a Serial Communications Board (SCB). When bit A turns ON, one read is executed by the 2D Code Reader. When the read has been completed, 128 bytes of read data is received at serial port 1 of the Serial Communications Board and stored in D1000.

Related manuals	2D Code Reader V530-R2000 User's Manual (Q134)
	    Section 7 Host Communications, Serial Interface
	2D Code Reader V530-R160E/V530-R160EP User's Manual (Z169)
	    Section 8 Communications with the Host, Serial Interface (Normal)
	V530-R150E-3, V530-R150EP-3 2-Dimensional Code Reader (Fixed Type) Operation Manual (Z155)
	    Section 4 RS-232C

■ **Variable Tables**
Input Variables

Name	Variable name	Data type	Default	Range	Description
EN	EN	BOOL			1 (ON): FB started. 0 (OFF): FB not started.
Unit selection	UnitSelect	INT	&0	At right.	Specify the Unit and the serial port.
Serial Port No.	PortNo	INT	&1	&1 to &2	Only serial port 2 of CP1H/CP1L M-type CPU unit is possible to use this FB. ■ Connected to CPU Unit Unit selection　　　#FFFF Serial port No.　　　Not accessed. (CP1H/CP1L-M: Serial Port2 CP1L-L14/20: Serial Port1) ■ Connected to Serial Communication Board(SCB) Unit selection　　　#BBBB Serial port No.　　　&1: Serial Port 1 　　　　　　　　　　&2: Serial Port 2 ■ Connected to Serial Communication Unit(SCU) Unit selection　　　SCU Unit No. (&0 to &15) Serial port No.　　　&1: Serial Port 1 　　　　　　　　　　&2: Serial Port 2
Storage order designation	BytesOrder	INT	&0	&0 to &1	Storage order for read data &0: Upper byte to lower byte &1: Lower byte to upper byte 0: Upper to lower Address　Read data　CPU Unit memory 0010　01　01 02 0011　02 ←→ 03 04 0012　03 0013　04 1: Lower to upper Address　Read data　CPU Unit memory 0010　01　02 01 0011　02 ←→ 04 03 0012　03 0013　04
Area for read results	RecvAreaID	WORD	#0082	At left.	P_CIO (#00B0): CIO Area P_WR (#00B1): Work Area P_HR (#00B2): Holding Area P_DM (#0082): DM Area P_EM0 (#0050) to P_EMC (#005C): EM Area bank 0 to C
Beginning word for read results	RecvAreaNo	INT	&0		
No. of read results bytes to receive	RecvBytes	INT	&0	&0 to &256	
Response monitor time	TimeOut	INT	&0	&0 to &990	Specify the response monitor time (unit: 100 ms). &0: Default (99 seconds)

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		Automatically turns OFF when processing is completed.
Normal end	OK	BOOL		Turns ON for one cycle when processing ends normally.
Error end	NG	BOOL		Turns ON for one cycle when processing ends in an error.

Version History

Version	Date	Contents
1.00	2004.6.	Original production

Note

This manual is a reference that explains the function block functions.

It does not explain the operational limitations of Units, components, or combinations of Units and components. Always read and understand the Operation Manuals for the system's Units and other components before using them.