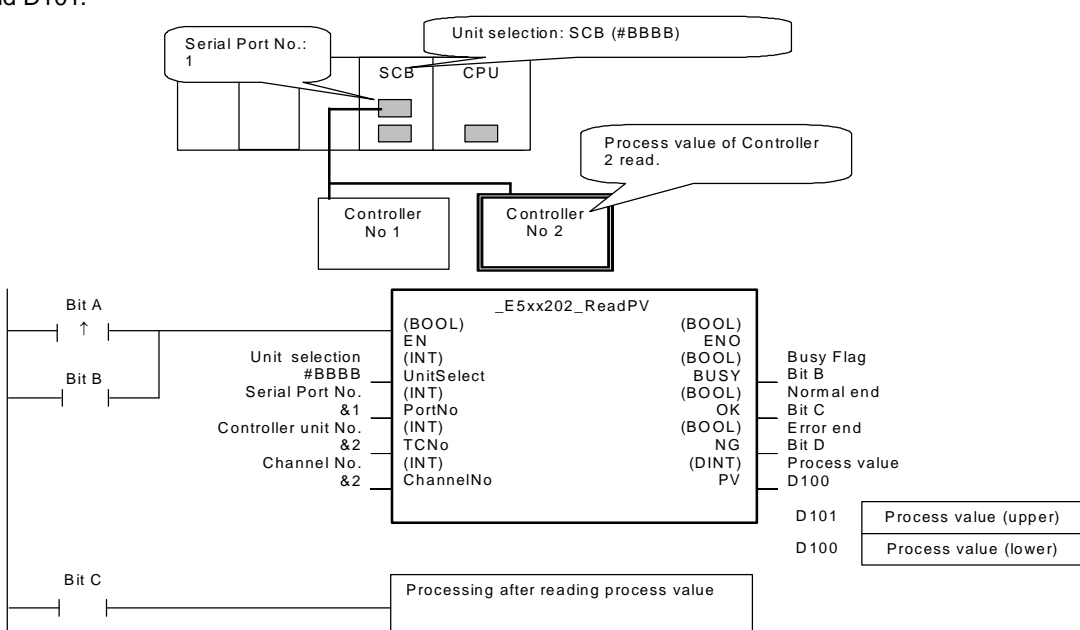


E5xx 202	Read Process Value: _E5xx202_ReadPV	
Basic function	Reads the process value of the specified channel of the specified Controller.	
Symbol		
File name	Lib\FBL\omronlib\TemperatureController\E5[R]\Serial\_E5xx202_ReadPV10.cxf Lib\FBL\omronlib\TemperatureController\E5ZN\Serial\_E5xx202_ReadPV10.cxf Lib\FBL\omronlib\TemperatureController\E5CN\Serial\_E5xx202_ReadPV10.cxf	
Applicable models	Temperature Controller	E5AR(-T)/E5ER(-T)/E5ZN/E5CN(-H)/E5AN(-H)/E5EN(-H)/E5GN
	Serial Communications Units/Boards	CS1W-SCU21-V1, CJ1W-SCU21-V1, CJ1W-SCU41-V1 Unit Version 1.2 or higher CS1W-SCB21-V1, CS1W-SCB41-V1 Unit Version 1.2 or higher
	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 for 10-point I/O Units)
	CX-Programmer	Version 5.0 or higher
Conditions for usage	<p><b>External Connections</b></p> <ul style="list-style-type: none"> <li>1:N connection is possible.</li> </ul> <p><b>Communications Settings</b></p> <p>The communications settings (Serial Gateway) of the serial port must be the same as those of the Temperature Controller.</p> <ul style="list-style-type: none"> <li>The communications settings of the specified serial port can be set to the default the Temperature Controller settings using the Set Communications Port (_E5xx600_SetComm) function block, and the other Temperature Controller settings using the Set Serial Gateway Mode (_SCx604_SetPortGATEWAY) function block.</li> </ul> <p><b>CPU Unit Settings</b></p> <p>PLC Setup: Shared Settings for Communications Instructions in FBs</p> <ul style="list-style-type: none"> <li>Communications Instruction Response Timeout Time (default: 2 s) 5 s recommended.</li> <li>Number of retries (default: 0)</li> </ul> <p><b>Shared Resources</b></p> <ul style="list-style-type: none"> <li>Communications ports (internal logical ports)</li> </ul>	
Function description	When the start trigger turns ON, the process value of the specified channel of a Controller is read.	
FB precautions	<ul style="list-style-type: none"> <li>The FB is processed over multiple cycles. The BUSY output variable can be used to check whether the FB is being processed.</li> <li>OK or NG will be turned ON for one cycle only after processing is completed. Use these flags to detect the end of FB processing.</li> </ul> <p><b>Time chart</b></p> <ul style="list-style-type: none"> <li>When this FB is started, the output parameters are cleared. See the output parameters when the OK flag turns ON.</li> </ul>	
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	<ul style="list-style-type: none"> <li>Always use an upwardly differentiated condition for EN.</li> <li>The applicable ranges for input variables depend on the Controller being used. Set values that are appropriate for the Controller.</li> </ul>	
Output variables	<ul style="list-style-type: none"> <li>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).</li> <li>Do not turn the BUSY output variable ON or OFF outside the FB.</li> </ul>	

<p>Application example</p>	<p>A Controller is connected 1:N to serial port 1 on a Serial Communications Board (SCB). When bit A turns ON, the process value of channel 2 of the Controller with unit number 2 is stored in D100 and D101.</p>  <p>The diagram illustrates the hardware and software configuration for reading a process value. A Serial Communications Board (SCB) is connected to a CPU and two controllers (No 1 and No 2). The SCB is connected to serial port 1. The CPU is connected to the SCB. The process value of Controller No 2 is read. The instruction <code>_E5xx202_ReadPV</code> is executed. The instruction has the following inputs and outputs:</p> <ul style="list-style-type: none"> <li>Inputs: <ul style="list-style-type: none"> <li>Unit selection #BBBB (INT)</li> <li>Serial Port No. &amp;1 (INT)</li> <li>Controller unit No. &amp;2 (INT)</li> <li>Channel No. &amp;2 (INT)</li> </ul> </li> <li>Outputs: <ul style="list-style-type: none"> <li>Busy Flag (BOOL)</li> <li>Bit B (BOOL)</li> <li>Normal end (BOOL)</li> <li>Bit C (BOOL)</li> <li>Error end (BOOL)</li> <li>Bit D (BOOL)</li> <li>Process value (DINT)</li> <li>PV (DINT)</li> </ul> </li> </ul> <p>The process value is stored in D100 and D101. The process value (upper) is stored in D101 and the process value (lower) is stored in D100. The instruction is executed after reading the process value.</p>
<p>Related manuals</p>	<ul style="list-style-type: none"> <li>■ E5AR/E5ER E5AR/E5ER Digital Controller User's Manual (Z182) 6.5 Reading the Variable Area Appendix Setting List</li> <li>■ E5AR-T/E5ER-T E5AR-T/E5ER-T Programmable Digital Controller User's Manual (H201) 6.5 Read from Variable Area Appendix Setting List</li> <li>■ E5ZN E5ZN Temperature Controller Operation Manual (H113) 5.5 Read from Variable Area 5.10 Variable Area Map</li> <li>■ E5CN/E5AN/E5EN/E5GN E5CN/E5AN/E5EN/E5GN Digital Temperature Controllers Communications Manual Basic Type (H158) 2.3 Detailed Description of the Services, Read Variable Area 3.1 Variable Area (Setting Range) List</li> <li>■ E5CN-H/E5AN-H/E5EN-H E5CN-H/E5AN-H/E5EN-H Digital Controllers Communications Manual Advanced Type (H159) 2.3 Detailed Description of the Services, Read Variable Area 3.1 Variable Area (Setting Range) List</li> <li>CS/CJ/CP, SYSMAC One NSJ Series Communications Commands Reference Manual (W342) 5.1.1 FINS Commands</li> </ul>

### ■ 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. Only serial port 2 of CP1H/CP1L-M CPU units is possible to use this FB. <ul style="list-style-type: none"> <li>Connected to CPU Unit Unit selection #FFFF Serial port No. Not accessed. (Serial Port2 for CP1H/CP1L-M Serial Port1 for CP1L-L14/20)</li> <li>Connected to Serial Communication Board (SCB) Unit selection #BBBB Serial port No. &amp;1: Serial Port 1 &amp;2: Serial Port 2</li> <li>Connected to Serial Communication Unit (SCU) Unit selection SCU Unit No. (&amp;0 to &amp;15) Serial port No. &amp;1: Serial Port 1 &amp;2: Serial Port 2</li> </ul>
Serial Port No.	PortNo	INT	&1	&1 to &2	
Controller unit No.	TCNo	INT	&0	At right.	Specify the unit number of the Controller. <ul style="list-style-type: none"> <li>■ E5AR(-T)/E5ER(-T) &amp;0 to &amp;99</li> <li>■ E5ZN &amp;0 to &amp;15 (#0 to #F)</li> <li>■ E5CN(-H)/E5AN(-H)/E5EN(-H) &amp;0 to &amp;99</li> <li>■ E5GN &amp;0 to &amp;99</li> </ul>
Channel No.	ChannelNo	INT	&1	At right.	<ul style="list-style-type: none"> <li>■ E5AR(-T)/E5ER(-T) Specify the channel number. &amp;1: Channel 1 Etc. &amp;4: Channel 4</li> <li>■ E5ZN Specify the channel number. &amp;1: Channel 1 &amp;2: Channel 2</li> <li>■ E5CN(-H)/E5AN(-H)/E5EN(-H) Always &amp;1</li> <li>■ E5GN Always &amp;1</li> </ul>

#### 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.
Process Value	PV	DINT		The unit depends on the Controller and the input type.

#### Internal Variables

Internal variables are not output from the FB.

If the NG Flag from the FB turns ON, the following internal variables can be monitored to obtain information on the error.

Name	Variable name	Data type	Range	Description
FINS error code	FINS_ErrorCode	WORD		Outputs the FINS error code. A code of #0000 output for a normal end. Refer to the Related Manuals for details on the error codes.
Compoway/F error code	CompowayF_ErrorCode	WORD		Outputs the explicit message error code. A code of #0000 is output for a normal end. See below for details.

#### ■ Error Code Details

Code	Contents	Meaning
0000	Normal end	
2203	Operation error	<ul style="list-style-type: none"> <li>Unit error, unit change, display unit error, or internal non-volatile memory error</li> </ul>

## ■ Version History

Version	Date	Contents
1.00	2004.6.	Original production
1.01	2008.7.	The temperature controller E5CN(-H)/E5AN(-H)/E5EN(-H)/E5GN are added as applicable models.
1.02	2009.8.	As the introduction of E5GN(Basic type),relevant parts of manual descriptions are changed.