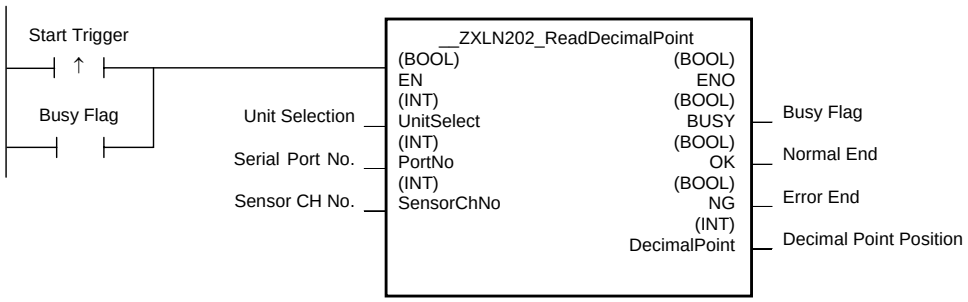
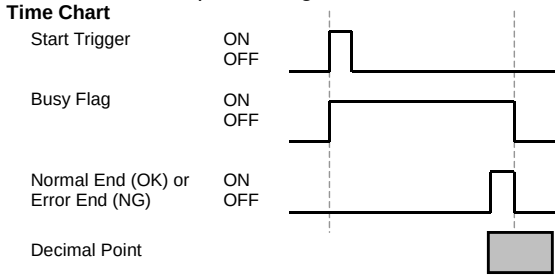
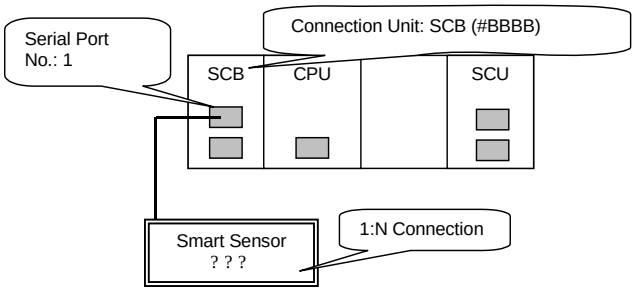
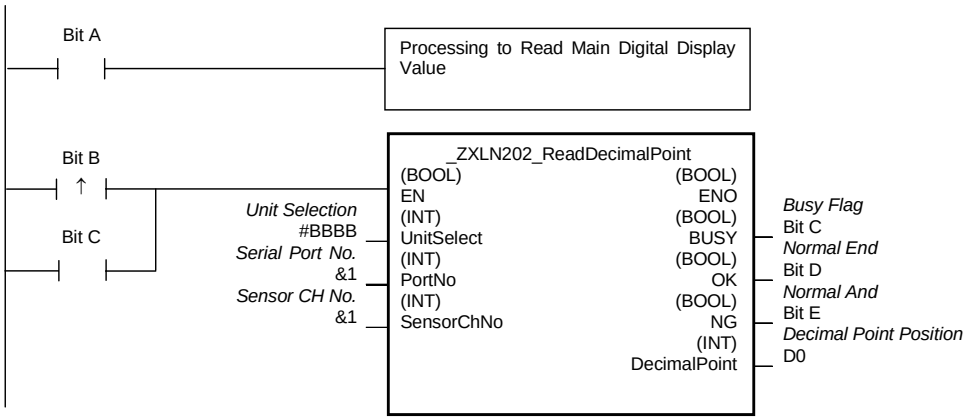
ZXLN 202	Read Decimal Point: _ZXLN202_ReadDecimalPoint

Basic function	Reads the decimal point position set for the main digital display of a Smart Sensor.	
Symbol		
File name	Lib\FBL\omronlib\LaserSensor\ZXLN_ZXLN202_ReadDecimalPoint10.cxf	
Applicable models	Smart Sensor	ZX-LDA-N
	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 for 1:N connections in the controller configuration of the sensor side. •Communications must be within one network and cannot cross to another network. ■Communication Settings The communication settings of the serial port (Serial Gateway) must be the same as those of the Smart Sensor. •The communications settings of the specified serial port can be set to the default Smart Sensor settings (the factory shipment value) using the *Set Communications Port* (_ZXL600_SetComm) function block, and the other Smart Sensor settings using the *Set Serial Gateway Mode* (_SCx604_SetPortGATEWAY) function block. ■CPU Unit Settings PC System Setup: *Shared Settings for Communications Instructions in FBs* CPU •Communications Instruction Response Timeout Time (default: 2 s), 5 s or more is recommended. •Number of retries (default: 0) ■Shared Resources •Communications ports (Internal logical ports) ■Related FBs •This function block can be used when handling the following function blocks. -Read Main Digital Display Value -Read Resolution -Read Flow Data (Data element) -Read/Write High/Low Threshold Data -Read/Write Hysteresis Width -Read/Write Self-trigger Level -Read/Write Self-trigger Hysteresis Width (When the intensity mode is OFF.)	
Function description	When the *Start Trigger* turns ON, the decimal point position of the main digital display is read for the Smart Sensor connected to the Serial Port specified by the *Connection unit*, *Serial port No* and *Sensor CH No.* This FB reads only the decimal point position of the main digital display.	

<table>
<tr><td>FB precautions</td><td>
•This FB is processed over multiple cycles. The BUSY output variable can be used to check whether the FB is being processed.
•OK or NG will be turned ON only for one cycle after processing is completed. Use these flags to detect the end of the FB processing.
Time Chart


•When this FB is started, the output parameters are cleared.
See the output parameters when the OK flag turns ON.
</td></tr>
<tr><td>EN input condition</td><td>Connect EN to an OR between an upwardly differentiated condition for the Start Trigger and the BUSY output from the FB as above.</td></tr>
<tr><td>Restrictions
Input variables</td><td>
•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.
</td></tr>
<tr><td>Output variables</td><td>
•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 a completion (see Symbol).
• Do not turn the BUSY output variable ON or OFF outside the FB.
</td></tr>
<tr><td>Other</td><td>
• 3 seconds or more may be required for this FB to be completed (i.e., from EN turning ON until the OK or NG Flag turns ON).
</td></tr>
<tr><td>Application example</td><td>
A Smart Sensor is connected 1:N to the Serial Port 1 on the Serial Communications Board (SCB).
When bit B turns ON, the decimal point position is stored in D0.
For example, if the data read by the Read Main Digital Display Data function block (_ZXLN201_ReadMainDisplay) is &30000 and the data read by the Read Decimal Point function block (_ZXLN202_ReadDecimalPoint) is 1, the value displayed on the main digital display is 3.0000.




</td></tr>
<tr><td>Related manuals</td><td>ZX-L-N Series Smart Sensor Laser Type User's Manual (SCHE-703)
ZX Series Smart Sensor Operation Manual (SCEA-801)</td></tr>
</table>

■ **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	As right	Specify the Unit and the serial port. 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
Serial Port No.	PortNo	INT	&1	&1 to &2	
Sensor CH No.	SensorChNo	INT	&1	&1 to &5	Specify the CH No. of the connecting sensor. Ex: &2 in the case of CH2.

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.
Decimal point position	DecimalPoint	INT		Outputs the decimal point position of the value displayed on the main digital display. &0: No decimal point displayed &1: Leftmost position &2: 2nd digit from left &3: 3rd digit from left &4: 4th digit from left

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
Error code	ErrorCode	WORD		The results information from the Smart Sensor is output to the Error Code.

Error Code Details

Code	Contents	Meaning
#0000	Normal end	
#2203	Operation error	The value displayed on the main digital display is read when such as an incident level error occurs.
#2204	Operation error	The sensor's operation mode is not in the RUN mode.

Version History

Version	Date	Contents
1.00	2005.12.	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.