Remote I/O R7 Series

LNS PLUG-IN SOFTWARE
Model: R7LX2PLG

Users Manual

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1. GENERAL

This document explains how to use LNS Plug-in Software model R7LX2PLG, which is usable on Echelon LonMaker Integration Tool.

Please refer also to manuals provided with LonMaker when you need to know its detailed functions.

1.1 R7L REMOTE I/O FEATURES

The R7L, interfacing with LONWORKS network, can send local contact I/O and analog I/O signal status to other devices on the network. Furthermore, various functions as listed below can be programmed using LonMaker.

- Accumulating ON/OFF counts and ON/OFF time
- Comparing two discrete inputs
- One-shot output
- Four-input, single-output encoder
- Simple timer function, generating cyclic pulse signals
- Alarm output

1.2 R7LX2PLG SOFTWARE

The R7LX2PLG, plug-in software used on LonMaker, helps you easily program various functional blocks.

1.3 HARDWARE REQUIREMENTS

- LonMaker Turbo Edition Ver.3.2 or higher + LonMaker Turbo Service Pack 4.0 or higher
- LonMark Resource File Ver.13 or higher
- PC/AT compatible personal computer with specifications required by LonMaker (It may not cover all required conditions.)
- LONWORKS interface (compatible to FTT-10A) compatible with the above PC

1.4 INSTALLING & DELETING THE PROGRAM

The program, provided as compressed archive, can be downloaded at our web site. Decompress the archive first.

■ INSTALL

The plug-in software must be registered on LonMaker during its installation procedure. Once registered, LonMaker executes a procedure to register the R7LX2PLG as the R7L's Device Template every time it creates new Network. (Except when the R7LX2PLG is disabled on LonMaker.)

Installing the R7LX2PLG

This procedure is necessary only once when you start using the R7LX2PLG.

Decompress the archive and execute 'setup.exe' to start up the R7LX2PLG installer program. Follow instructions on the Windows.

CAUTION !
Do not attempt installing the R7LX2PLG while LNS software programs such as LonMaker, LNS DDE Server, are running.

CAUTION !
If you have already the program installed in your PC, remove it before installing a new one.

Registering the necessary DLL file to the PC

(This procedure is necessary when the OS is Windows 7 32-bit and 'msstdfmt.dll' is not installed in C:\Windows\system32.)

(1) Locate the DLL file in the folder decompressed with the above procedure. Copy 'msstdfmt.dll' to C:\Windows\system32. (It is necessary to log on as a administrator.)

(2) Click <Start> button and then click [accessories]. Right click [Command Prompt] then select 'Run as administrator.'

(3) Enter 'regsvr32 C:\windows\system32\msstdfmt.dll' and execute with Enter key.

Registering the R7LX2PLG on a new Network created by LonMaker

Locate the XIF file for the R7L device and choose one of the files. Other XIF files on the same directory are automatically registered when choosing one.

If an error occurs, delete all Device Templates on the Network before trying to install them again.

CAUTION !
XIF files must be in the same directory as for the R7LX2PLG in order to register all of them at once with the R7LX-2PLG on new Network.

■ DELETE

Open [Control Panel > Add/Remove Programs]. Select [R7LX2PLG] from the program list and click <Delete> button.

CAUTION !
Do not attempt deleting the R7LX2PLG while LNS software programs such as LonMaker, LNS DDE Server, are running.

■ UPDATE

Remove the old version before you install an updated version of the program.

2. BASIC OPERATIONS

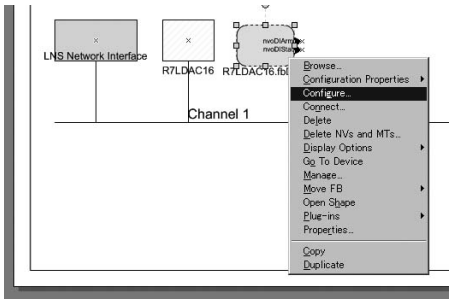
2.1 STARTING / QUITTING THE R7LX2PLG

Display images shown in this manual may change in detail when the software version is updated.

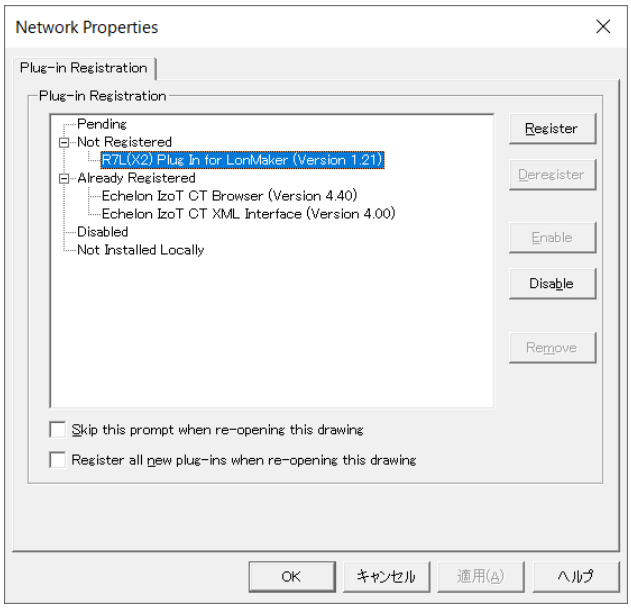
■ STARTING THE R7LX2PLG

Choose the R7L device's Functional Block on LonMaker (Microsoft VISIO). Click the right mouse button and choose 'Configure' to open the R7L Plug In for LonMaker.

Choosing Configure



R7LX2PLG view

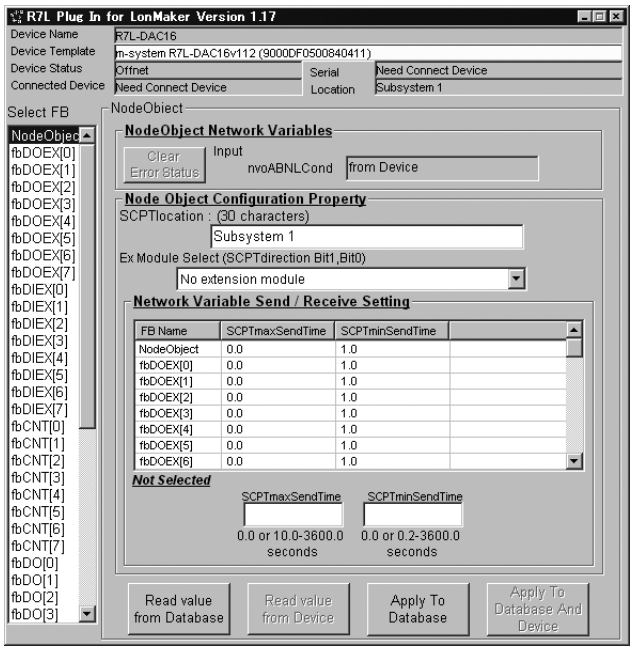


■ QUITTING THE R7LX2PLG

Choose [X] at the right end of the title bar to quit the program.

2.2 VIEW COMPONENTS AND FUNCTIONS

The R7LX2PLG view is composed of the device information on the top, Functional Block list at the left, and the Functional Block configuration at the right.



View Components

Components	Function
Device Name	Identification of the device currently called up on the window.
Device Template	Device template of the device currently called up on the window. LONWORKS program ID shown in ( )
Device Status	Status of the device currently called up on the window. Not Commissioned Yet Cnfg Bypass: Offline Cnfg Online: Online
Connected Device	Device ID acquired from the connected device
Serial	Serial number acquired from the connected device
Location	Location information acquired from the connected device (Not identical to the information stored in NeuronChip)
Select FB	Selection list to show Functional Block on the FB configuration window to the right.

Buttons

<Read value from Database>	Used to read setting from the Database on the Network
<Read value from Device>	Used to read setting from the connected Device
<Apply to Database>	Used to apply the setting to the Database on the Network
<Apply to Database And Device>	Used to apply the setting to the Database on the Network and the connected Device

2.3 HOW TO SET UP PARAMETERS

(1) Choose Functional Block from the list on the left side to call up the parameters on the FB configuration window on the right.

(2) Click <Read value from Database> or <Read value from Device> to call up the current setting.

(3) Modify values as needed.

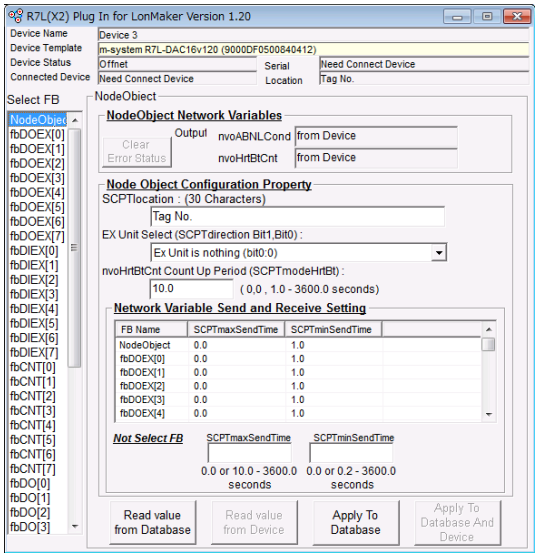
(4) Click <Apply to Database> or <Apply to Database And Device> to store the new setting.

LonMaker Network Database retains Configuration Property of each LONWORKS Device even when the information is not saved in the Device. When the Device is connected, the new information is applied to it.

<Read value from Database> and <Apply to Database> buttons are available when the Device is not connected, while <Read value from Device> and <Apply to Database And Device> buttons are available when it is.

3. FUNCTIONAL BLOCK CONFIGURATION PROPERTY

3.1 NodeObject



Parameter	Function
nvoABNLCond	Shows the device status (All 0s in normal conditions). Bit 0 through Bit 3 : Input overrange error (≤-15% or ≥115%) or burnout with Input 0...3 Bit 4 through Bit 7 : ADC error with Input 0...3 Bit 10 : E²PROM Configuration Property check sum error Bit 11 : E²PROM Count data check sum error (Bit 10 and Bit 11 can be reset to 0 by pressing <Clear Error Status> button.) Bit 8, 9, 12 through Bit 15 : Invalid
SCPTlocation	Used to write Tag No. (name); up to 30 characters
Ex Module Select	Setting the extension module (SCPTdirection Bit 0, Bit 1) Power supply must be reset when this configuration property is changed. Set this property before an extension module is connected. No extension module : Without extension module Input Ex module : Discrete input (fb and other settings assigned to the 9th and following points are invalid with 8-point input module.) Output Ex module : Discrete output (fb and other settings assigned to the 9th and following points are invalid with 8-point output module.)
nvoHrtBtCnt Count Up Period (SCPT,pdeHrtBt)	Set the count up period. 0.0 : no count up 1.0 - 3600.0: period to perform count up
Network Variable Send/ Receive Setting	Setting SCPTmaxSendTime (maximum time interval to send network variables) and SCPTminSendTime (minimum time interval to send network variables) per fb. Power supply must be reset when this configuration property is changed. Network variables are sent out in the specified intervals. No sending with 0.0 or when a value less than the minimum value is set. SCPTmaxSendTime is selectable within 0.0 or 10.0...3600.0 seconds. SCPTminSendTime is selectable within 0.0 or 0.2...3600.0 seconds.
<Clear Error Status>	Used to reset E²PROM Error Status (nvoABNLCond Bit 10 or Bit 11 = 1).

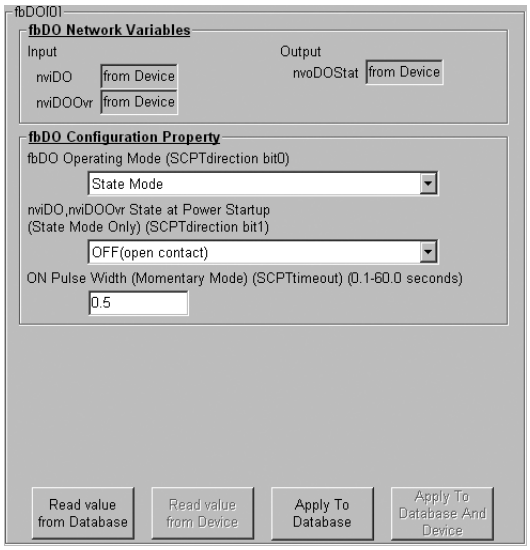
How To Set Network Variables Send/Receive Setting

(1) Choose Functional Block that you want to modify.

(2) Enter SCPTmaxSendTime (left) and SCPTminSendTime (right) below the FB list.

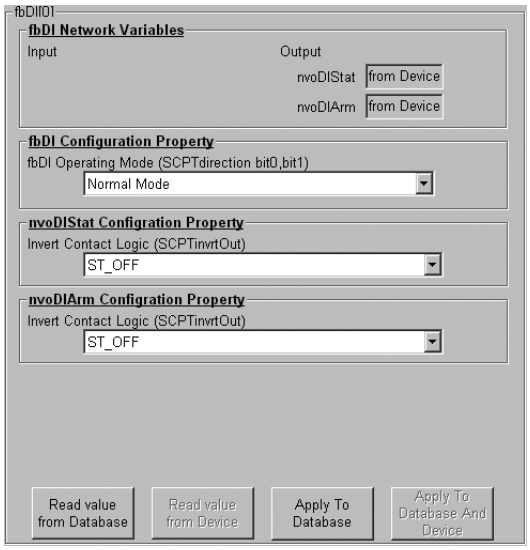
(3) Press <Apply To Database> or <Apply To Database And Device> button to save new settings.

3.2 fbDO[0...7]



Parameter	Function
nviDO nviDOOvr nvoDOStat	Indicates status of nviDO, nviDOOvr and nvoDOStat. Read-in values may not match actual field values. • State Mode nviDO : Turns ON (100.0 1) or OFF (0.0) Y0, Y2, Y4, Y6, Y8, YA, YC, YE depending upon this input. nviDOOvr : Turns ON (100.0 1) or OFF (0.0) Y1, Y3, Y5, Y7, Y9, YB, YD, YF depending upon this input. nvoDOStat : Invalid • Momentary Mode 1 or 2 nviDO, nviDOOvr Y0, Y2, Y4, Y6, Y8, YA, YC, YE : One-shot output when the input is ON (100.0 1). Y1, Y3, Y5, Y7, Y9, YB, YD, YF : One-shot output when the input is OFF (0.0). nviDO status is invalid when nviDOOvr is other than 'Invalid.' One-shot output is provided at either Y0 or Y1 depending upon nviDOOvr value. nvoDOStat : Outputs last one-shot output status.
fbDO Operating Mode	fbDO operating mode (SCPTdirection Bit 0) State Mode : ON/OFF status of nviDO, nviDOOvr is output. Momentary Mode 1 or 2 : One-shot output depending upon the ON/OFF status of nviDO, nviDOOvr.
nviDo, nviDOOvr State at Power Startup	Output held or not at power off in State Mode (SCPTdirection Bit 1) OFF (open contact) : OFF at the power startup Restore state before power turned off : Outputs the held status at the power startup
ON Pulse Width	Pulse width of the one-shot output in Momentary Mode 1 or 2 (SCPTtimeout) 0.1...60.0 seconds.

3.3 fbDI[0...7]

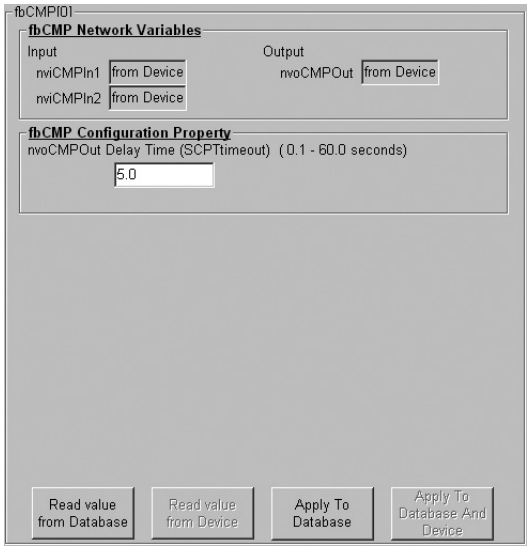


Parameter	Function
nvoDIStat nvoDIArm	Indicates status of nvoDIStat, nvoDIArm. Read-in values may not match actual field values. • Normal Mode nvoDIStat : Outputs X0 (X2, X4, X6, X8, XA, XC, XE) status. nvoDIArm : Outputs X1 (X3, X5, X7, X9, XB, XD, XF) status. • RS-Flip Flop Mode X0 (X2, X4, X6, X8, XA, XC, XE) : Set signal X1 (X3, X5, X7, X9, XB, XD, XF) : Reset signal When X0 or X1 receives an one-shot signal, fbDI data is set or reset respectively. nvoDIStat outputs ON signal at Set. nvoDIArm outputs ON signal at Reset. • Combination Mode

X0 X2 X4 X6 X8 XA XC XE	X1 X3 X5 X7 X9 XB XD XF	nvoDIStat	nvoDIArm
OFF	OFF	0.0 0 (OFF)	Invalid
ON	OFF	100.0 1 (ON)	Invalid
OFF	ON	0.0 0 (OFF)	0.0 0 (OFF)
ON	ON	100.0 1 (ON)	100.0 1 (ON)

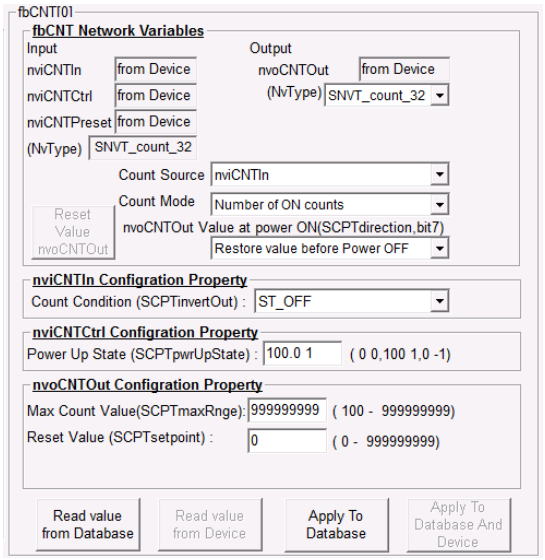
fbDI Operating Mode	fbDI operating mode (SCPTdirection Bit 0, Bit 1) Normal Mode: ON/OFF status of contact input is output at nvoDIStat and nvoDIArm. RS-Flip Flop Mode : RS-Flip Flop operation using the combination of two contact inputs. Combination Mode : nvoDIStat and nvoDIArm status determined by the combination of two contact inputs
Invert Contact Logic (nvoDIStat)	nvoDIStat Output (SCPTinvrtOut) ST_OFF : OFF at open contact, ON at closed contact ST_ON : ON at open contact, OFF at closed contact
Invert Contact Logic (nvoDIArm)	nvoDIArm Output (SCPTinvrtOut) ST_OFF : OFF at open contact, ON at closed contact ST_ON : ON at open contact, OFF at closed contact

3.4 fbCMP[0...7]



Parameter	Function
nviCMPIn1	Indicates status of nviCMPIn1 to be compared Read-in values may not match actual field values.
nviCMPIn2	Indicates status of nviCMPIN2 to be compared Read-in values may not match actual field values.
nvoCMPOut	nviCMPIn1 and nviCMPIn2 are compared. OFF is output when both values are equivalent, ON or 'Invalid' is output when they are not. '100.0 1' (ON) is output when nviCMPIn1 status change caused the discrepancy. '0.0 -1' (Invalid) is output when nviCMPIn2 status change caused it. '0.0 0' (OFF) is output when nviCMPIn1 and/or nviCMPIn2 is 'Invalid,' regardless of the values of both.
nvoCMPOut Delay Time	Delay time before ON or 'Invalid' is output when a discrepancy occurs between nviCMPIn1 and nviCMPIn2. (SCPTtimeout) Selectable within 0.1...60.0 seconds. OFF is immediately output when nviCMPIn1 and nviCMPIn2 states match, regardless of this setting.

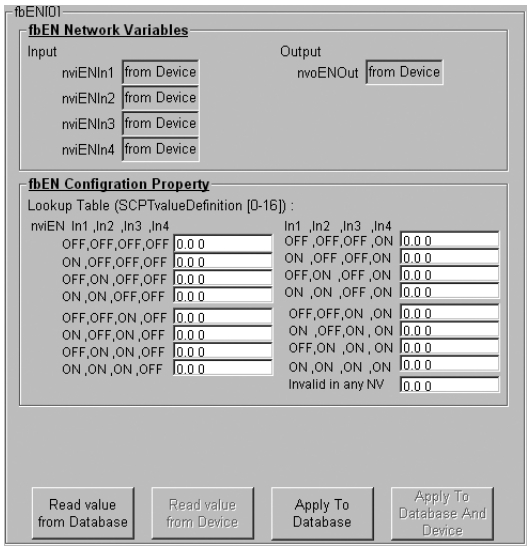
3.5 fbCNT[0...7]



Parameter	Function
nviCNTIn	Indicates status of nviCNTIn Read-in values may not match actual field values.
nviCNTCtrl	Indicates status of nviCNTCtrl Read-in values may not match actual field values.
nvoCNTOut	Indicates status of nvoCNTOut Read-in values may not match actual field values.
(NvType)	Setting Network Variable type for nvoCNTOut SNVT_count_32 (Max 999 999 999) SNVT_count_f (Max. 999 999) When Network Variable type is changed, Configuration Properties are reset to the default values (Max. Count Value to the maximum possible value, Reset Value to 0)
nviCNTPreset	When the value is received, set the value to nvoCNTOut.
(NvType)	Setting Network Variable type for nviCNTPreset (Same type with nvType of nvoCNTOut)
Count Source	(SCPTdirection Bit 0...Bit 5) nviCNTIn: Counts nviCNTIn status X0...XF : Counts the R7L input signals ExX0...ExXF : Counts the R7L extension module's input signals
Count Mode	(SCPTdirection Bit 6) Number of ON counts: Number of status changes from OFF to ON Accumulated time of ON status
nvoCNTOut Value at Power ON (SCPTdirection Bit 7)	Memory storage at the non-volatile memory 0 Start : Count always reset to 0 Restore Value before Power OFF : Count retained in the memory and preset at the startup
Count Condition	Count logic is inverted at nviCNTIn. (SCPTinvrtOut) ST_OFF : Count with nviCNTIn = ON ST_ON : Count with nviCNTIn = OFF
Power Up State	Set value applied at nviCNTCtrl when the power supply is turned on. (SCPTpwrUpState) 0.0 0 : Stop counting 100.0 1 : Start counting 0.0 -1 : Reset count value
Max Count Value	Maximum count value for nvoCNTOut. (SCPTmaxRnge) Count reset to 0 and restarted at overflow. 100 at the minimum, up to the maximum possible count
Reset Value	Preset count to be applied when nvoCNTOut is reset. (SCPTsetpoint) 0 at the minimum, up to the maximum possible count.

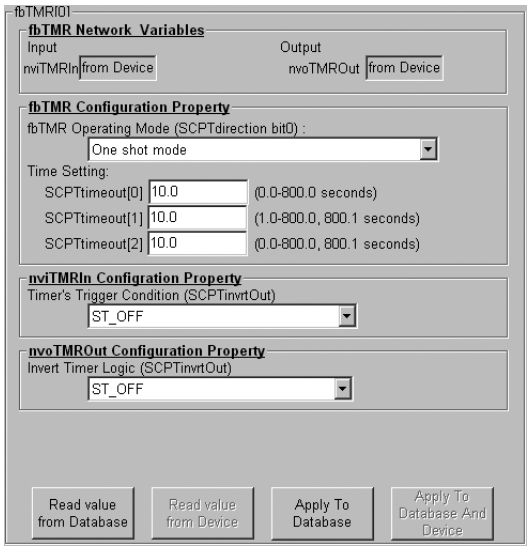
<Reset Value nvoCNTOut> Used to manually reset the count values.

3.6 fbEN[0...3]



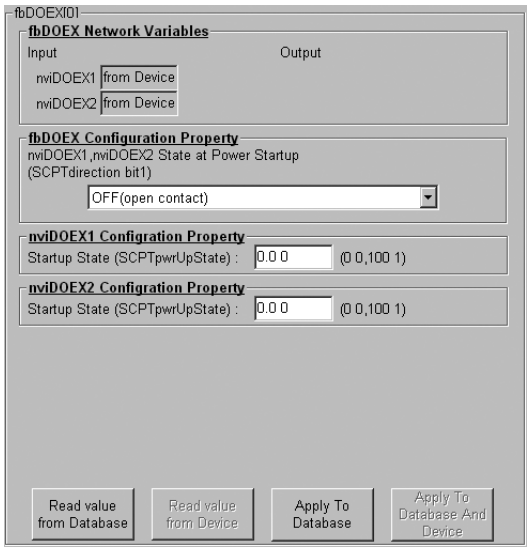
Parameter	Function
nviENIn1...nviENIn4	Indicates status of nviENIn1 through nviENIn4 Read-in values may not match actual field values.
nvoENOut	Indicates status of nvoENOut Read-in values may not match actual field values.
Lookup Table	Table that defines output values against each input status

3.7 fbTMR[0,1]



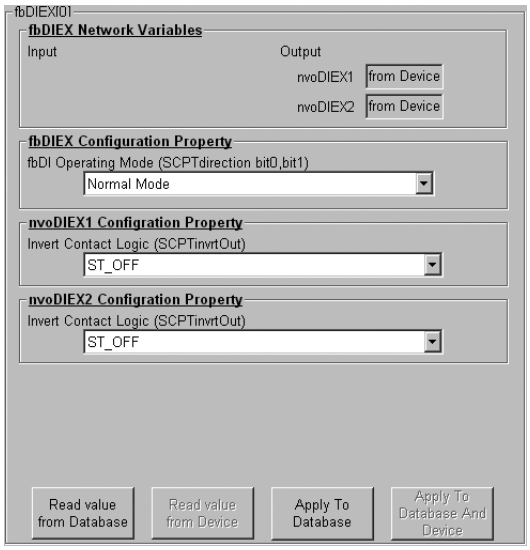
Parameter	Function
nviTMRIn	Indicates status of nviTMRIn Read-in values may not match actual field values.
nvoTMROut	Indicates status of nvoTMROut Read-in values may not match actual field values.
fbTMR Operating Mode	fbTMR operating mode (SCPTdirection Bit 0) One shot mode Cyclic mode
Time Setting	Time parameters • One shot mode SCPTtimeout[0] : Delay time before nvoTMROut is turned on after nviTMRIn has been turned on. Selectable within 0...800.0 seconds SCPTtimeout[1] : Time to maintain ON status of nvoTMROut after it has been turned on. Selectable within 1.0...800.0 seconds, 800.1(=Latching; No turning off) SCPTtimeout[2] : Delay time before nvoTMROut is turned off after nviTMRIn has been turned off. Selectable within 0.0...800.0 seconds, 800.1(=Latching; No turning off) (With SCPTtimeout[1] also set to '800.1,' nvoTMROut remains on. Set 'Invalid' at nviTMRIn to turn nvoTMROut off.) • Cyclic mode SCPTtimeout[0] : Invalid SCPTtimeout[1] : Defines ON-OFF time period. ON and OFF times are equal. One pulse cycle equals twice as long as the set value. SCPTtimeout[2] : Invalid
Timer's Trigger Condition	(SCPTinvrtOut) ST_OFF : Start with nviTMRIn = ON, Stop at OFF ST_ON : Start with nviTMRIn = OFF, Stop at ON
Invert Timer Logic	Inverting the timer output logic (SCPTinvrtOut) ST_OFF : nvoTMROut = ON with the timer functioning and ON, nvoTMROut = OFF in any other conditions. ST_ON : nvoTMROut = OFF with the timer functioning and ON, nvoTMROut = ON in any other conditions.

3.8 fbDOEX[0...7]



Parameter	Function
nviDOEX1	Indicates status of nviDOEX1. Read-in values may not match actual field values. Turns ON (100.0 1) or OFF (0.0) Y0, Y2, Y4, Y6, Y8, YA, YC, YE of the extension module depending upon this input.
nviDOEX2	Indicates status of nviDOEX2. Read-in values may not match actual field values. Turns ON (100.0 1) or OFF (0.0) Y1, Y3, Y5, Y7, Y9, YB, YD, YF of the extension module depending upon this input.
nviDOEX1, nviDOEX2 State at Power Startup	Output held or not at power off (SCPTdirection Bit 1) OFF (open contact) : OFF at the power startup Restore state before power turned off : Outputs the held status at the power startup
Startup State (nviDOEX1)	Setting value applied at nviDOEX1 when the power supply is turned on. (SCPTpwrUpState) Turns ON (100.0 1) or OFF (0.0) Y0, Y2, Y4, Y6, Y8, YA, YC, YE of the extension module depending upon this setting.
Startup State (nviDOEX2)	Setting value applied at nviDOEX2 when the power supply is turned on. (SCPTpwrUpState) Turns ON (100.0 1) or OFF (0.0) Y1, Y3, Y5, Y7, Y9, YB, YD, YF of the extension module depending upon this setting.

3.9 fbDIEX[0...7]

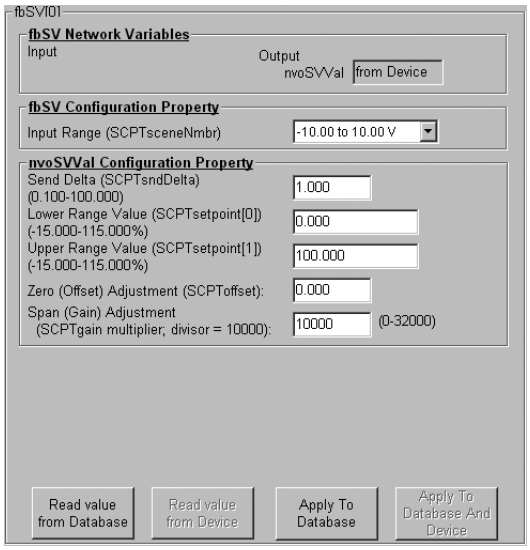


Parameter	Function
nvoDIEX1 nvoDIEX2	Indicates status of nvoDIEX1, nvoDIEX2. Read-in values may not match actual field values. • Normal Mode nvoDIEX1 : Outputs X0 (X2, X4, X6, X8, XA, XC, XE) status. nvoDIEX2 : Outputs X1 (X3, X5, X7, X9, XB, XD, XF) status. • Combination Mode nvoDIEX1, nvoDIEX2 status output depending upon the combined X0 (X2, X4, X6, X8, XA, XC, XE) and X1 (X3, X5, X7, X9, XB, XD, XF) status.

X0 X2 X4 X6 X8 XA XC XE	X1 X3 X5 X7 X9 XB XD XF	nvoDIEX1	nvoDIEX2
OFF	OFF	0.0 0 (OFF)	Invalid
ON	OFF	100.0 1 (ON)	Invalid
OFF	ON	0.0 0 (OFF)	0.0 0 (OFF)
ON	ON	100.0 1 (ON)	100.0 1 (ON)

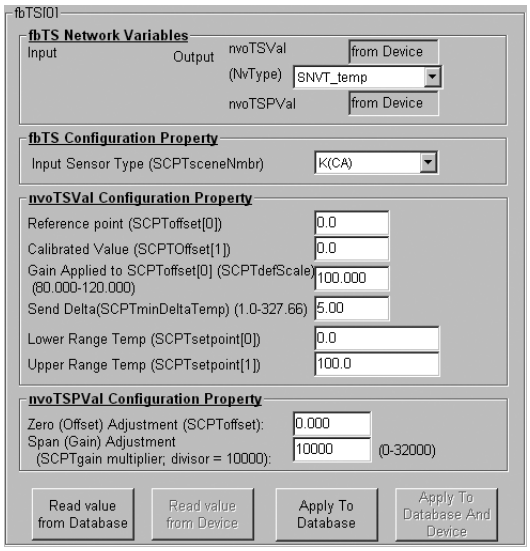
fbDI Operating Mode	fbDI operating mode (SCPTdirection Bit 0, Bit 1) Normal Mode: ON/OFF status of contact input is output at nvoDIEX1 and nvoDIEX2. Combination Mode : nvoDIEX1 and nvoDIEX2 status determined by the combination of two contact inputs
Invert Contact Logic (nvoDIEX1)	nvoDIEX1 Output (SCPTinvrtOut) ST_OFF : OFF at open contact, ON at closed contact ST_ON : ON at open contact, OFF at closed contact
Invert Contact Logic (nvoDIEX2)	nvoDIEX2 Output (SCPTinvrtOut) ST_OFF : OFF at open contact, ON at closed contact ST_ON : ON at open contact, OFF at closed contact

3.10 fbSV[0...3]



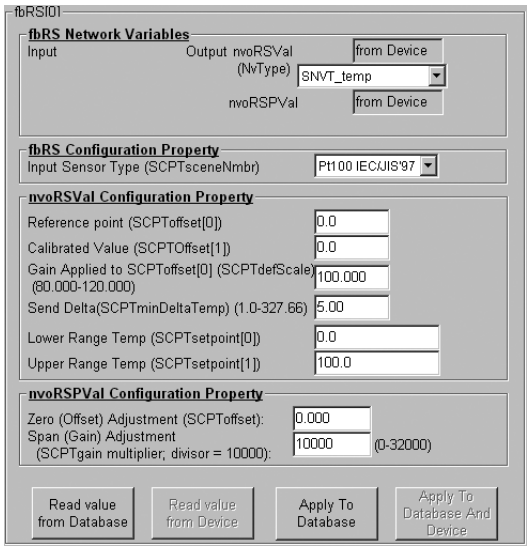
Parameter	Function
nvoSVVal	Indicates nvoSVVal value in % of the selected range. Read-in values may not match actual field values.
Input Range	Input range for Input 0 through 3 (SCPTsceneNmbr) 0 : -10.00 to 10.00 V 1 : -5.00 to 5.00 V 2 : -1.00 to 1.00 V 3 : 0.00 to 10.00 V 4 : 0.00 to 5.00 V 5 : 1.00 to 5.00 V 6 : 0.00 to 1.00 V 7 : -0.500 to 0.500 V 8 : 0.000 to 0.500 V 9 : -20.00 to 20.00 mA 10 : 4.00 to 20.00 mA 11 : 0.00 to 20.00 mA
Send Delta	Minimum deviation required to send out the network variable (SCPTsndDelta) Selectable within 0.100...100.000
Lower Range Value	nvoSVVal lower range voltage/current in % of the input range (SCPTsetpoint[0]) Selectable within -15.000...115.000%. SCPTsetpoint[0] < SCPTsetpoint[1]
Upper Range Value	nvoSVVal upper range voltage/current in % of the input range (SCPTsetpoint[1]) Selectable within -15.000...115.000%. SCPTsetpoint[0] < SCPTsetpoint[1]
Zero (Offset) Adjustment	nvoSVVal zero (offset) adjustment (SCPToffset) Added to the calculation result with SCPTsetpoint[0,1] and SCPTgain. Selectable within -163.840...163.835%
Span (Gain) Adjustment	nvoSVVal span (gain) adjustment (SCPTgain) Gain = Multiplier / 10000 (Divisor is fixed at 10000.), applied to SCPTsetpoint[0,1]. Selectable within 0...32000

3.11 fbTS[0...3]



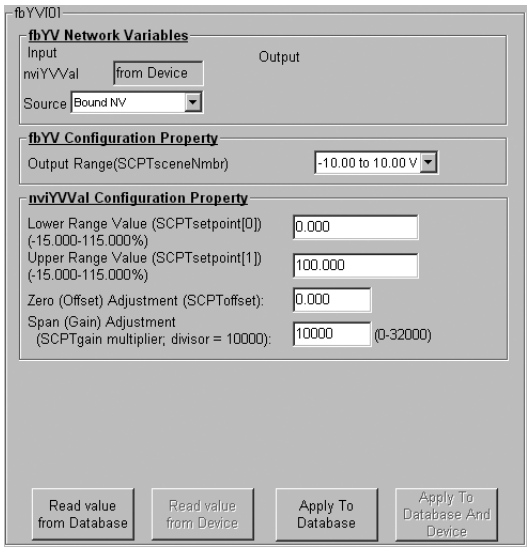
Parameter	Function
nvoTSVal	Indicates nvoTSVal value in engineering unit. Read-in values may not match actual field values.
(NvType)	Setting Network Variable type for nvoTSVal SNVT_temp SNVT_temp_p
nvoTSPVal	Indicates status of nvoTSPVal in % of the selected input range. Read-in values may not match actual field values.
Input Sensor Type	Input sensor type for Input 0 through 3 (SCPTsceneNmbr) 0 : K (CA) 7 : C (WRe 5-26) 1 : E (CRC) 8 : N 2 : J (IC) 9 : U 3 : T (CC) 10 : L 4 : B (RH) 11 : P (Platinel II) 5 : R 12 : (PR) 6 : S
Reference Point	nvoTSVal reference temperature point to adjust the offset (SCPToffset[0]) Selectable within -274.0...6279.5°C
Calibrated Value	nvoTSVal temperature value to output when the reference temperature set at SCPT-offset[0] is input. (SCPToffset[1]) Offset = SCPToffset[1] – SCPToffset[0] Selectable within -274.0...6279.5°C
Gain Applied to SCPToffset[0]	nvoTSVal gain applied to SCPToffset[0] (SCPTdefScale) Selectable within 80.000...120.000%
Send Delta	Minimum deviation required to send out the network variable (SCPTminDeltaTemp) Selectable within 1.0...327.66
Lower Range Temp	nvoTSVal lower range temperature (SCPTsetpoint[0]) SCPTsetpoint[0] < SCPTsetpoint[1]
Upper Range Temp	nvoTSVal upper range temperature (SCPTsetpoint[1]) SCPTsetpoint[0] < SCPTsetpoint[1]
Zero (Offset) Adjustment	nvoTSPVal zero (offset) adjustment (SCPToffset) Added to the calculation result with SCPTsetpoint[0,1] and SCPTgain. Selectable within -163.840...163.835%
Span (Gain) Adjustment	nvoTSPVal span (gain) adjustment (SCPTgain) Gain = Multiplier / 10000 (Divisor is fixed at 10000.), applied to SCPTsetpoint[0,1]. Selectable within 0...32000

3.12 fbRS[0...3]



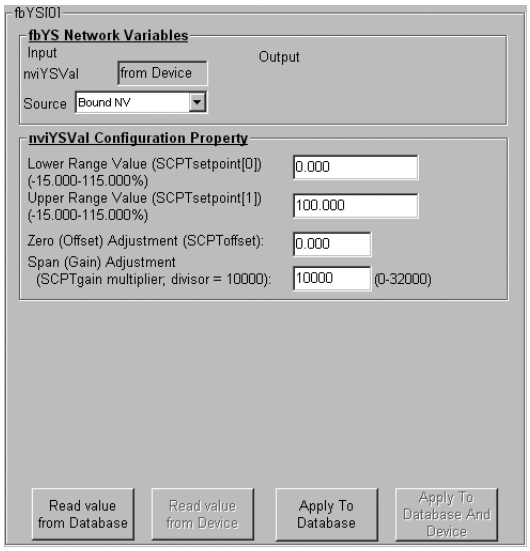
Parameter	Function
nvoRSVal	Indicates nvoRSVal value in engineering unit. Read-in values may not match actual field values.
(NvType)	Setting Network Variable type for nvoRSVal SNVT_temp SNVT_temp_p
nvoRSPVal	Indicates status of nvoRSPVal in % of the selected input range. Read-in values may not match actual field values.
Input Sensor Type	Input sensor type for Input 0 through 3 (SCPTsceneNmbr) 0 : Pt 100 (JIS '97, IEC) 1 : Pt 100 (JIS '89) 2 : JPt 100 (JIS '89) 3 : Pt 50 (JIS '81) 4 : Ni 100 5 : Cu 10 6 : Cu 50
Reference Point	nvoRSVal reference temperature point to adjust the offset (SCPToffset[0]) Selectable within -274.0...6279.5°C
Calibrated Value	nvoRSVal temperature value to output when the reference temperature set at SCPT-offset[0] is input. (SCPToffset[1]) Offset = SCPToffset[1] – SCPToffset[0] Selectable within -274.0...6279.5°C
Gain Applied to SCPToffset[0]	nvoRSVal gain applied to SCPToffset[0] (SCPTdefScale) Selectable within 80.000...120.000%
Send Delta	Minimum deviation required to send out the network variable (SCPTminDeltaTemp) Selectable within 1.0...327.66
Lower Range Temp	nvoRSVal lower range temperature (SCPTsetpoint[0]) SCPTsetpoint[0] < SCPTsetpoint[1]
Upper Range Temp	nvoRSVal upper range temperature (SCPTsetpoint[1]) SCPTsetpoint[0] < SCPTsetpoint[1]
Zero (Offset) Adjustment	nvoRSPVal zero (offset) adjustment (SCPToffset) Added to the calculation result with SCPTsetpoint[0,1] and SCPTgain. Selectable within -163.840...163.835%
Span (Gain) Adjustment	nvoRSPVal span (gain) adjustment (SCPTgain) Gain = Multiplier / 10000 (Divisor is fixed at 10000.), applied to SCPTsetpoint[0,1]. Selectable within 0...32000

3.13 fbYV[0,1]



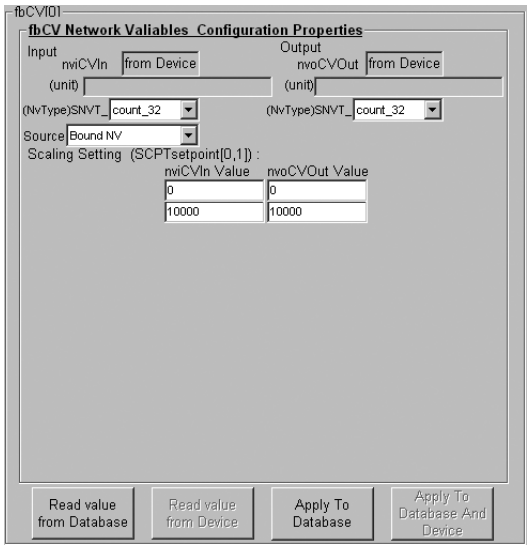
Parameter	Function
nviYVVal	Indicates nviYVVal value in % of the selected range. Read-in values may not match actual field values.
Source	Network variable connected to nviYVVal Bound NV : Other than listed below fbCV[0] : nvoCVOut fbCV[1] : nvoCVOut
Output Range	Output range for Output 0 and 1 (SCPTsceneNmbr) 0 : -10.00 to 10.00 V 1 : -5.00 to 5.00 V 2 : -1.00 to 1.00 V 3 : 0.00 to 10.00 V 4 : 0.00 to 5.00 V 5 : 1.00 to 5.00 V 6 : 0.00 to 1.00 V 7 : -0.500 to 0.500 V 8 : 0.000 to 0.500 V
Lower Range Value	nviYVVal lower range voltage in % of the output range (SCPTsetpoint[0]) Selectable within -15.000...115.000%. SCPTsetpoint[0] < SCPTsetpoint[1]
Upper Range Value	nviYVVal upper range voltage in % of the output range (SCPTsetpoint[1]) Selectable within -15.000...115.000%. SCPTsetpoint[0] < SCPTsetpoint[1]
Zero (Offset) Adjustment	nviYVVal zero (offset) adjustment (SCPToffset) Added to the calculation result with SCPTsetpoint[0,1] and SCPTgain. Selectable within -15.000...115.000%
Span (Gain) Adjustment	nviYVVal span (gain) adjustment (SCPTgain) Gain = Multiplier / 10000 (Divisor is fixed at 10000.), applied to SCPTsetpoint[0,1]. Selectable within 0...32000

3.14 fbYS[0,1]



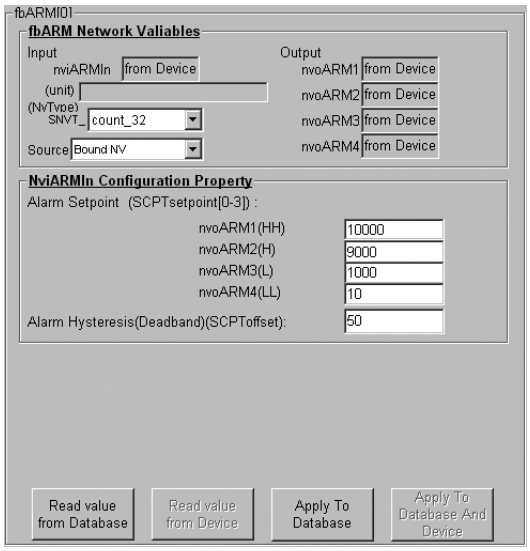
Parameter	Function
nviYSVal	Indicates nviYSVal value in % of the selected range. Read-in values may not match actual field values.
Source	Network variable connected to nviYSVal Bound NV : Other than listed below fbCV[0] : nvoCVOut fbCV[1] : nvoCVOut
Lower Range Value	nviYSVal lower range current in % of the output range (SCPTsetpoint[0]) Selectable within -15.000...115.000%. SCPTsetpoint[0] < SCPTsetpoint[1]
Upper Range Value	nviYSVal upper range current in % of the output range (SCPTsetpoint[1]) Selectable within -15.000...115.000%. SCPTsetpoint[0] < SCPTsetpoint[1]
Zero (Offset) Adjustment	nviYSVal zero (offset) adjustment (SCPToffset) Added to the calculation result with SCPTsetpoint[0,1] and SCPTgain. Selectable within -15.000...115.000%
Span (Gain) Adjustment	nviYSVal span (gain) adjustment (SCPTgain) Gain = Multiplier / 10000 (Divisor is fixed at 10000.), applied to SCPTsetpoint[0,1]. Selectable within 0...32000

3.15 fbCV[0...3]



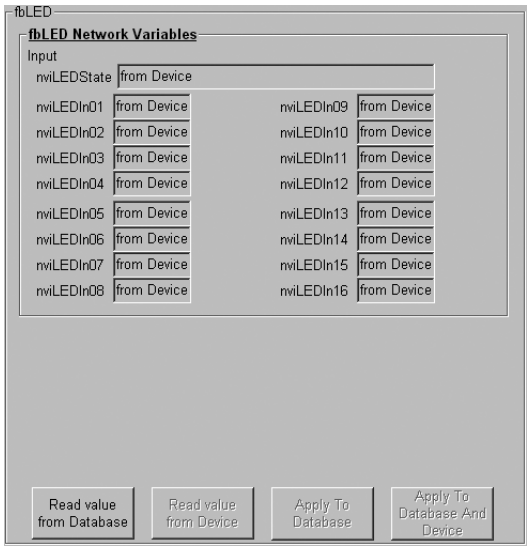
Parameter	Function
nviCVIn	Indicates nviCVIn value. Read-in values may not match actual field values.
(NvType)	Setting Network Variable type for nviCVIn (Do not set any types other than those listed below.) SNVT_lev_percent SNVT_temp SNVT_temp_p SNVT_count_32
Source	Network variable connected to nviCVIn Bound NV : Other than listed below fb*X*[0] : nvo*X*Val fb*X*[1] : nvo*X*Val fb*X*[2] : nvo*X*Val fb*X*[3] : nvo*X*Val *X* = Analog input functional block (e.g. fbSV)
nvoCVOut	Indicates nvoCVOut value. Read-in values may not match actual field values.
(NvType)	Setting Network Variable type for nvoCVOut SNVT_lev_percent SNVT_temp SNVT_temp_p SNVT_count_32
Scaling Setting nviCVIn Value	nviCVIn 0% and 100% input value setting (SCPTsetpoint[0,1]) Upper edit field for 0%; lower edit field for 100% Selectable value/range depends upon the connected fb type.
Scaling Setting nvoCVOut Value	nvoCVOut 0% and 100% output value setting (SCPTsetpoint[0,1]) Upper edit field for 0%; lower edit field for 100% Selectable value/range depends upon the connected fb type.

3.16 fbARM[0...3]



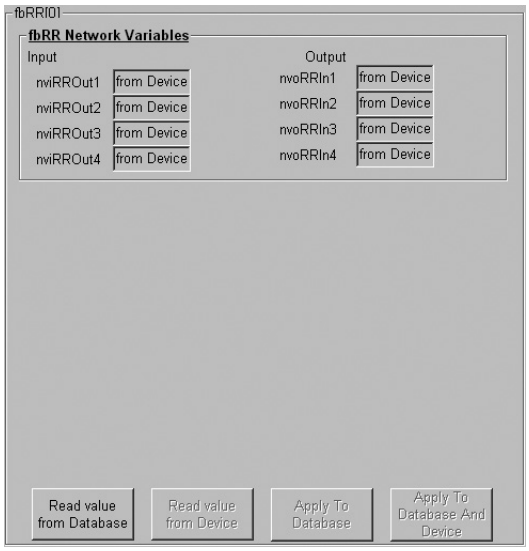
Parameter	Function
nviARMIn	Indicates nviARMIn value. Read-in values may not match actual field values.
(NvType)	Setting Network Variable type for nviARMIn (Do not set any types other than those listed below.) SNVT_lev_percent SNVT_temp SNVT_temp_p SNVT_count_32
Source	Network variable connected to nviARMIn Bound NV : Other than listed below fb*X*[0] : nvo*X*Val fb*X*[1] : nvo*X*Val fb*X*[2] : nvo*X*Val fb*X*[3] : nvo*X*Val *X* = Analog input functional block (e.g. fbSV)
nvoARM	Indicates nvoARM1, nvoARM2, nvoARM3 and nvoARM4 values. Read-in values may not match actual field values.
Alarm Setpoint	Setting threshold values for nvoARM1, nvoARM2, nvoARM3 and nvoARM4 nvoARM1 (HH) : Alarm 1 (HH) setpoint nvoARM2 (H) : Alarm 2 (H) setpoint nvoARM3 (L) : Alarm 3 (L) setpoint nvoARM4 (LL) : Alarm 4 (LL) setpoint nvoARM provides 100.0 1 (ON) when the input is above HH or H setpoint. nvoARM provides 100.0 1 (ON) when the input is below L or LL setpoint.
Alarm Hysteresis (Deadband)	Setting deadband value for nvoARM (SCPToffset)

3.17 fbLED[0]



Parameter	Function
nviLEDIn01...16	Indicates nviLEDIn01...16 value. Read-in values may not match actual field values.

3.18 fbRR[0,1]



Parameter	Function
nviRROut1...4	Indicates nviRROut1...4 value. Read-in values may not match actual field values.
nvoRRIn1...4	Indicates nvoRRIn1...4 value. Read-in values may not match actual field values.