

Pluto Gateway Mitsubishi Q Integration Manual



Table of contents:

1	General	4
2	Hardware	5
2.1	Casing	. 5
2.2	Pluto bus	. 7
2.2.1	Connecting the Pluto bus	. 7
2.2.2	Baud rate detection	. 7
2.2.3	Status LED for Pluto bus	. 7
2.2.4	Gateway Address Pluto bus settings	. 8
2.3	Profibus	9
231	Connecting the Profibus	9
232	Baud rate Profibus	10
233	Status I ED for Profibus	10
234	Gateway Address Profibus setting	11
3	Setun in Pluto Manager	12
31	Selecting the function library	12
3.2	Transmitting from Pluto to Mitsubishi PLC	13
321	Transmit global data from Pluto	13
322	Transmit other data from Pluto	14
3221	ToGateway User A	15
3222	ToGateway User B	15
3223	ToGateway_User_C	16
3224	ToGateway_Osci_O	16
3225	ToGateway_Enorodic	17
33	Transmitting from the Mitsubishi PLC to Pluto	18
331	Setup External Communication in Pluto Manager	18
332	Receive Data in Pluto	10
3321	Evt Sin	10
3322	Ext_Oig	10
3323	Ext/arBlock	20
4	Setup in GX Configurator DP	21
ч 4 1	Setup the HW Config	21
4.1 1	GSD-file selection and installation	21
4.1.1 // 1.2	Gateway selection and connection	21
1121	Configuration ontions	22
1121	Reg/Resp of local data	25
1122	Additional Data 0-31	25
4.1.2.5	lokab function block library	20
ч. <u>с</u> 4 2 1	Installation	26
4.2.1		26
4.2.2	Description of function blocks	20
4231	Function block - Global data from Pluto (read)	27
4232	Function block - Global data from Pluto (read)	28
4233	Function block - Global data from Pluto R42 ASi (read)	20
4234	Function block - Olobal data from Fluto D+2 AOI (read)	20
4235	Function block – Additional data – USER A (read)	31
4236	Function block – Additional data – USER B (read)	32
4237	Function block – Additional data – USER C (read)	33
4238	Function block – Additional data – Error code (read)	34
4239	Function block – Additional data – B46 I20-I47 (read)	35
4 2 3 10) Function block – Additional data – ASi 16-31 safe (read)	36
42311	Function block – Additional data – ASi 1-3 non safe (read)	37
4.2.3 12	P Function block – Additional data – ASi 4-7 non safe (read)	38
4.2.3.13	Function block – Additional data – ASi 8-11 non safe (read)	39



4.2.3.14 Function block	– Additional data – A	ASi 12-15 non safe	(read) 40
4.2.3.15 Function block	– Additional data –	ASi 16-19 non safe	(read)
4.2.3.16 Function block	– Additional data –	ASi 20-23 non safe	(read)
4.2.3.17 Function block	– Additional data –	ASi 24-27 non safe	(read) 43
4.2.3.18 Function block	– Additional data –	ASi 28-31 non safe	(read)

1 General

The Profibus Gateway is a unit used to transfer data between Profibus and Pluto bus. Communication both ways is possible.

This document describes how to setup and work with the Pluto gateway Gate-P2 in Pluto Manager and Mitsubishi GX Configurator-DP/GX IEC Developer. It also brings up how to use a number of sample function blocks for the Mitsubishi Q CPU family for complete communication back and forth between a Pluto unit and a Mitsubishi PLC, through the gateway. All functions are samples and are to be used "as is".

2 Hardware

2.1 Casing

Below are pictures describing the Pluto GATE-P2.



Figure 1



Figure 2



Figure 3



2.2 Pluto bus

The Pluto bus is a CAN bus which means the connection shall follow the common rules for all CAN buses.

2.2.1 Connecting the Pluto bus

The connector for the Pluto bus is located on the upper side.

If the gateway is placed first or at the end of the bus a 120Ω end terminating resistor must be mounted.

PIN	Label	Description
1	1 CL Pluto CAN-	
2	SE	Pluto CAN bus
		shield
3	CH	Pluto CAN-H

2.2.2 Baud rate detection

The gateway will automatically detect the baud rate on the Pluto bus when there is traffic on it.

2.2.3 Status LED for Pluto bus

LED – Pluto bus	Description	Remark
Flashing	Pluto bus baud rate search.	When bus is not connected
GREEN/RED		or no traffic on the bus.
GREEN	Pluto unit detected and baud	
short off flash	rate is set.	
	In bridge function mode: Full operation.	
Flashing GREEN	Gateway in full operation.	
40 /60 (on/off)	Pluto bus is running and	
	receiving	
	SYNC/POLL/OUTPUT on	
	the field bus.	
	(Not for bridge function	
	mode)	
Continuously	Fatal error detected.	
RED		



2.2.4 Gateway Address Pluto bus settings

The gateway has an address switch for giving it an address on the Pluto bus, switch "SW2". The address makes it possible to receive data on the Pluto bus in the Pluto unit from up to four different gateways.

It is not necessary to set an address if the gateway is only used to send data to the Profibus. It is however encouraged to set an address if you use several gateways. This is because there will be trouble for the "Bus Status"- function in the Pluto Manager tool if there are gateways using the same address.



Pluto bus address	DIP – SW2.3	DIP – SW2.4
1	0	0
2	0	1
3	1	0
4	1	1

2.3 Profibus

The Profibus is implemented in the Gateway as a DP Slave using the DP-V0 protocol. The DP-V0 protocol is fully compatible with the DPV1 and DPV2 protocols.

2.3.1 Connecting the Profibus

The gateway uses the standard Profibus connector (D-sub 9-poles).

Pin	Signal	Description
1	Shield	Shield/functional ground
2	-	-
3	RxD/TxD-P	Receive/Transmit data – plus (B wire – red)
4	CNTR-P	Repeater control signal (direction control), RTS
		signal
5	DGND	Data ground (reference potential for VP)
6	VP	Supply voltage – plus (P5V)
7	-	-
8	RxD/TxD-N	Receive/Transmit data – minus (A wire – green)
9	-	-

The PROFIBUS cable must have a termination in each end of the bus.



2.3.2 Baud rate Profibus

The PROFIBUS speed is automatically detected. Supported speeds are:

9.6 kbits/s, 19.2 kbits/s, 93.75 kbits/s, 187.5 kbits/s, 500 kbits/s, 1.5 Mbit/s, 3 Mbit/s, 6 Mbit/s and 12 Mbit/s

2.3.3	Status	LED for	Profibus
-------	--------	---------	----------

LED	Description	Remark
Fast flashing	Baud Search	Trying to find and set the
red/green		correct baud rate
Fast flashing	Waiting Parameter	Discovered a working/live
green		Profibus, waiting for the
		Master to contact the slave
		(Gateway)
Slow flashing	Waiting Configuration	The Master has discovered
green		the slave (Gateway) and the
		Gateway is now receiving
		the setup configuration
Fixed	Data exchange state	Profibus up and running
green		
Fixed	Error detected	Bad address setting.
red		Internal error.

2.3.4 Gateway Address Profibus setting

The PROFIBUS address is set by DIP-switch "SW1" in the range 00 – 99 with BCD code setting. The singles are set on SW1:5-8 and the tens on SW1:1-4 according to the table below. If any of the address switches is using the "not used" setting then the PROFIBUS LED will light steady red.



Switch row 2 SW 2 - Pluto bus

Ŷ				
ΟŇ	1	2	3	4

Address 10 x	DIP – SW1.1	DIP – SW1.2	DIP – SW1.3	DIP – SW1.4
Address 1 x	DIP – SW1.5	DIP – SW1.6	DIP – SW1.7	DIP – SW1.8
1	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
Not used	1	0	1	0
Not used	1	0	1	1
Not used	1	1	0	0
Not used	1	1	0	1
Not used	1	1	1	0
Not used	1	1	1	1

Example: Address 25

SW 1.5 - SW1.8 = 0101 SW 1.1 - SW1.4 = 0010

3 Setup in Pluto Manager

All global data from the Pluto units (max. 32) connected to the Pluto bus is sent constantly, cyclically. In order to receive the global data in the Mitsubishi PLC, no function library must be setup in Pluto Manager.

In order to send data other than the global data, and to receive data from the Mitsubishi PLC, a function library must be setup.

3.1 Selecting the function library

- 1. Click on the user project
- 2. Click on the "Change" button
- 3. Click on "Add Standard Library"
- 4. Click and select "Ext01.fps", then click on Open

After this procedure the "Function Libraries" window should show (func05.fps is added by default):

Function Libraries	
<ext01.fps> <func05.fps></func05.fps></ext01.fps>	Change



3.2 Transmitting from Pluto to Mitsubishi PLC

This chapter describes how to transmit data on the Pluto bus, through the gateway and onwards to the super ordinate system.

Be careful to not cause unnecessary bus load on the Pluto bus. A Pluto unit can only send four telegrams every PLC cycle. In a big network of Pluto units where every unit transmits every cycle the load on the bus will quickly become high. For examples on how to program see the "Pluto Gateway Manual".

3.2.1 Transmit global data from Pluto

The global data of each Pluto unit is constantly available on the Pluto CAN bus, with or without a connected gateway. The Pluto unit therefore does not need to be setup with any special transmission components for sending the global data.

The global data consists of the following components:

Global inputs:	Ix.0 to Ix.7
	lx.10 to lx.17
Global Memories:	GMx.0 to GMx.11
Global outputs:	Qx.0 to Qx.3

Where "x" is the number of the Pluto unit.

Further setup in Pluto Manager for global data is not necessary!

Note: In Pluto B46-6 not all of the safety inputs are available as global data. The outputs Qx.4 and Qx.5 are not sent in the global data.

In order to send these extra inputs on the Pluto bus a special function (ToGateway_B46_I20_I47) from the "ext01.fps" library must be used. For Qx.4 and Qx.5 the function "ToGateway_User_B" could be used to send them as bits for example.

The global data for Pluto-AS-i varies from the other Pluto members. See the Pluto Gateway manual.

3.2.2 Transmit other data from Pluto

In order to transmit other data (registers, bits, inputs and outputs) in addition to the global data on the Pluto bus, functions from the "ext01.fps" must be used. These were added under "Selecting the function Library".

23 Function Guide Ext01.fps Ð . Ext_Sig Ext_Val ക Non safe variables from external devices such as gateways, displays etc. connected to the Pluto bus or the programming port. ExtVarBlock ToGateway_User_A ഹ Pluto Operating system ver 2.4 or later needed. ToGateway_User_B ക For gateway communication 2.8 or later is needed ക ToGateway_User_C \odot ToGateway_ErrorCode 2008-02-21 ToGateway_B46_I20_I47 ഗ 0 ToGateway_B42_I20_I47 (i) (i) ToGateway_ASi_1_15_Safe Ξ ToGateway_ASi_16_31_Safe ToGateway_ASi_1_3_NonSafe_In ToGateway_ASi_4_7_NonSafe_In ToGateway_ASi_8_11_NonSafe_In ToGateway_ASi_12_15_NonSafe_In တ ToGateway_ASi_16_19_NonSafe_In ക ToGateway_ASi_20_23_NonSafe_In ToGateway_ASi_24_27_NonSafe_In တ 0 ToGateway_ASi_28_31_NonSafe_In Ē func05.fps TC1S TC1T TC1RTI TC1SIM Start StartT ResetT HT2 HT3 PreReset1 n n 📣 These functions can be combined with Jump instructions in same sequence step 🗙 Cancel N Ok is3 These functions require instruction set 3

Components of the Function library "ext01.fps":

Block description:

The following text describes the function blocks used to transmit data to the super ordinate system from the Pluto bus, through the gateway, on the Profibus and to the Mitsubishi PLC.

3.2.2.1 ToGateway_User_A:



3.2.2.2 ToGateway_User_B:



3.2.2.3 ToGateway_User_C:

_	ToGateway_User_C NonSafe Send Q -	Render it possible to send sixteen freely chosen bits and one freely chosen register.		
-	No	Send: When "1" data is transmitted. No: Number used in the "GX configurator", slave user parameters, (ToGateway_UserNumber_X, X=1-99) to identify the data received. It must be unique and used only once by any "ToGateway" block in the Pluto using the "No" pin, where "No" is a number ranging from 1-99.		
0. 	Bit_O	Bit_0 to Bit_15: Addressing of up to sixteen bit variables (I, Q, M, SM) to be transmitted. Reg_0: Addressing if the 1 st register (R or SR register) to be transmitted.		
		Output variables:		
	Í	Q: Output is "1" during transmission.		
	Bit_15	Inputs in the Mitsubishi PLC:		
		Byte0 = Reg_0 low byte Byte2 = Bit_7, Bit_6, Bit_5, Bit_4, Bit_3, Bit_2, Bit_1, Bit_0 Byte1 = Bog_0 bigb byte		
-	Reg_0	Byte1 = Reg_0 right byte Byte3 = Bit_15, Bit_14, Bit_13, Bit_12, Bit_11, Bit_10, Bit_9, Bit_8.		

3.2.2.4 ToGateway_ErrorCode:





Render it possible to send the inputs not included in the global data from the B46-6.

Only used when needed when working with the B46-6!

Input variables:

Send: When "1" data is transmitted.

No: In GX configurator, slave user parameters, use "ToGateway_B46_I20_I47.

Output variables:

Q: Output is "1" during transmission.

Inputs in the Mitsubishi PLC:

Byte0 = Ix.27, Ix.26, Ix.25, Ix.24, Ix.23, Ix.27, Ix.21, Ix.20, Byte1 = Ix.37, Ix.36, Ix.35, Ix.34, Ix.33, Ix.37, Ix.31, Ix.30, Byte2 = Ix.47, Ix.46, Ix.45, Ix.44, Ix.43, Ix.42, Ix.41, Ix.40, Byte3 = Error Code



3.3 Transmitting from the Mitsubishi PLC to Pluto

3.3.1 Setup External Communication in Pluto Manager

In a Pluto network the maximum number of Pluto safety PLC units possible to connect is 32. Added to that is up to four gateways. Each gateway can transmit 24 bytes of data divided into four packets of six bytes in each. A packet that the gateway receives from the super ordinate system is transmitted on to the Pluto bus. The Pluto that wishes to receive a certain packet must be configured so that packet ends up in an "External Comm Block".

The following pictures explain how to setup the Pluto unit to receive data from the super ordinate PLC unit through the gateway.

Selecting the gateway:

🚪 Pluto Manager - [Manual Profibu	sgateway - Pluto 0]
📕 File Search Tools Window	r Help
🖆 🔚 进 🚽 💷 🛄 Open Save Print Comp.Down Online	Start Bus St AS-1St
Preferences Projects Projects Project Manual Profibusç Voltables Variables Plc Code	Hamily = A20 Model = A20 v2 Instruction set 3 All other Plutos in the project must have OS 2.50+ DEPK Number (12 hex digits) Puto Description External Communication (Receive data) Puto Description External Comm Block 0 (Reg 0-1, Signal 0-15) Timeout Disabled <

Selecting the packet:

External Communication (Receive data)	Selecting the gateway and packets received from it.
External Comm Block 0 [Reg 0-1, Signal 0-15] Gateway 0 Packet 0 0.00s External Comm Block 1 [Reg 2-3, Sig Packet 1 Disabled Packet 2 External Comm Block 2 [Reg 4-5, Signarse arg Disabled 0.00s External Comm Block 2 [Reg 4-5, Signarse arg Disabled 0.00s	In order to setup the Pluto PLC to receive data from a gateway the gateway's address must be set. Which packet from the chosen gateway to be received must also be chosen and mapped to the Comm Block the user wish it to end up in. It is possible to choose between up to four gateways, 0-3. Each gateway can send up to four packets.
External Comm Block 3 [Reg 6-7, Signal 48-63]	It is therefore possible to differentiate the gateways and the packets.
↓ Ok ★ Cancel	After this setup no further configuration is necessary in the Pluto to receive external data.



3.3.2 Receive Data in Pluto

Below is described which blocks can be used to receive data from the super ordinate system, via the Profibus, through the gateway and over the Pluto Bus.

Data transmitted to the Pluto unit is split into four External Comm Blocks, each Comm Block containing 16 data bits and two 16 bit registers. Comm Block zero contains bits 0-15 and registers 0 and 1, Comm Block one contains bits 16-31 and registers 2 and 3, Comm Block two contains bits 32-47 and registers 4 and 5, Comm Block three contains bits 48-63 and registers 6 and 7.

Block description:

3.3.2.1 Ext_Sig:



3.3.2.2 Ext_Val:



The block reads 16 bits from the Profibus gateway, written to the gateway by the super ordinate system. Input variables: VarNo: A number between 0-7, note which register number belongs to which "External Comm Block" and also which packet was configured to end up in this Block. PostClear: PostClear sets the output "Value" to 0 in the next PLC cycle. If it is unconditionally set "Value" will follow what the external device write to VarNo. Output variables:

Dummy Bit which is normally "1". It must be connected to an M, GM or Q.

Value is the output received from the external device and must be connected to a Register R.



ок

Value

3.3.2.3 ExtVarBlock:





4 Setup in GX Configurator DP

This chapter will describe how to setup and use the GSD file in GX Configurator DP. The GSD-file for the gateway is located on the disc enclosed in the package with the gateway. GSD revision 3 version 2 should do for most applications. For further information about the different versions, see the disc.

4.1 Setup the HW Config

4.1.1 GSD-file selection and installation

Click "Add GSD file", then browse to where the GSD file is located.



4.1.2 Gateway selection and connection

The GSD file should be installed in the gateway folder, just drag and drop.



4.1.2.1 Configuration options

When the GSD device is "dropped" this window should appear. Here you give the gateway a name and a node address (FDL Adress).

Note: if you mark "Swap I/O Bytes in Master" the function blocks for GX IEC Developer will produce faulty data.

MELSOFT GX Configurator-DP - [profibus.dp2]	
Project Iools View Window Help	_ & ×
i 🛅 😂 🖬 🚛 🎀 🖓 🦦 🦻 💓 🎯	
PROFIBUS Configurator Tasks PROFIBUS Network	Project GSD data ×
Online Tasks	GSD Database
🙀 Transfer Setup	General
Download to Module DP Slave Parameters Wizard - Slave Settings	Drives
Upload Configuration Image Download Configuration Ima Model Jokab Safety GATE-P1 Bevision	Switches
Verify Verder Jokab Safety AB V3.00	1/0
Set Slave Address	P Values
Name Slave_Nr_001	Valves
Setup Tasks FDL Address 1 [0 - 125]	Controls
Master Settings min T_sdr [1 - 255]	р нмі
Change Master Type Group identification number Grp 1 Grp 2 Grp 3 Grp 4	Encoder
I Grp 5 □ Grp 6 □ Grp 7 □ Grp 8	
VO Mapper	inc/nc
Devices for Slave-Specific Tra	Gateway
	Jokab Safety GATE-P1
Export Tasks	PLC
POU for GX IEC Developer	P Handaurian
Configuration Image	Identsystem
	PA
Import Tasks	
Add GSD File Cancel Back Next Default	
Documentation	
Project Documentation	
Documentation of I/O-Mapping	Project GCD data Global GCD data
Online Status: not connected DefaultConnection 0001	Hojeet 030 data Giobai 030 data
Ready	CAP NUM SCRI

Click next.





4.1.2.2 Req/Resp of local data

This requires a special procedure to be used described more thoroughly in the Gateway Manual.

4.1.2.3 Additional Data 0-31

There are 32 available slots for Addition Data that the super ordinate system can use to receive data from the different Pluto units on the Pluto bus through the gateway. The numbers 0-31 does not correspond to the Pluto unit's number; it is unique and should be used only once.

It can be set to receive different types of data from the different Pluto units on the Pluto bus. It must be specified which Pluto unit it is that is sending and what type of data.

The type can be:

- The Error code currently in the Pluto unit.
- The inputs not included in the global data transmitted on the Pluto bus inside a Pluto B46.
- A number of safe and non safe inputs from an AS-i Pluto.
- A user defined additional data block with a unique number ranging from 0-99. This number is also used in the Pluto unit so that each system can identify the data. Note that only 32 additional data blocks are available but they can be numbered 0-99.

D	Slave Parameters Wizard -	- Slave User Parameters	0-		×	ĺ	
	Select module:	0: Additional Data 00		•	Edit Hex		Pluto unit
	Module Parameters						number
	Additional Data from F	Pluto	PLUTO 00			-	
	Additional Data IO typ	e	ToGateway_UserNumber_1	•	•	-	Data Type
	Additional Data IO type						
	C	ancel Ba	ick Finish	Default			

4.2 Jokab function block library

Included on the disc provided with the Gateway there is a function library called "ABB_Jokab_Safety.sul". It is open and fully modifiable and provided for free. They are to be used "as is".

4.2.1 Installation

In GX IEC Developer project tree, mark "Library_Pool" and "right click" choose

"Install/Create user libray". Click "Browse Lib", select the file "ABB_Jokab_Safety.sul" and click "OK".

The library "ABB_Jokab_Safety" can now be viewed in the "Library_Pool".

🙀 funktionsblock Mitsubishi - GX IEC Developer	Contract states			
Project Object Edit Tools Online Debug View Extras Window Help				
🔁 🖬 🎒 🔕 🐰 🖻 💼 🗠 🗠 😭 👩	🔃 🇇 🖽 🐚 🎬 🕒 🖧 🏪 🛄 🎟 📼	I TSN (ACT		
funktionsblock Mitsubishi				
Project [C:\Projekt\funktionsblock Mitsubishi]				
E				
ABB_Jokab_Safety [Installed]	Install/Create User Library			
BUT_Pool				
	Library Path: C:\Projekt\funktionsblock Mitsubishi\AE			
E Fb ASi 12 15 NonSafe In [FB]		Cancel		
	Associated Information	Browse BI		
⊞… 1[*] Fb_ASi_16_31_Safe [FB]				
🕀 🖓 🕂 🗗 Fb_ASi_1_3_NonSafe_In [FB]	Library Name: ABB_Jokab_Safety	Browse Lib		
	Help Path:	Browse Help		
FD_ASI_24_27_NonSafe_In [FD]		View Help		
Fb_ASi_4_7_NonSafe_In [FB]				
🕀 🖓 🕂 🗗 🕂 Fb_ASi_8_11_NonSafe_In [FB]	=			
⊞ □* Fb_B46_I20_I47 [FB]	=			
E. Fb_ErrorCode [FB]				
E Disto CD [EB]				
Fb Pluto GD ASi [FB]				
🖽 🕂 Fb_User_A [FB]				
E. Fb_User_C [FB]				
Manufacturer_Lib				
The Standard Lib				
🕀 🚰 Parameter				
Task_Pool				
main (Prio = 31, Event = TRUE)				
TASK_PROFIBUS (Prio = 31, Event = TRUE)				
Global Vars	•			
Project 🖳 Calltree 🖳 Used by				
Ready		O8:57 Q00J		

4.2.2 Use

The blocks will now be available in the program editor.



4.2.3 Description of function blocks

Below follows a description of the function blocks available in the library.

4.2.3.1 Function block - Global data from Pluto (read)

This block is used with non AS-i plutos.

	· · · · Instance ·	
·	Fb Pluto GD	
_	EN – –	ENO -
_	Start_Adress	lx_0
·		lx_1
·		lx_2 —
·		lx_3 —
·		lx_4
·		lx_5 —
·		lx_6
·		lx_7
·		lx_10 -
·		lx_11 -
·		Ix_12 -
·		Ix_13 —
·		IX_14 -
·		IX_15 -
·		IX_16 -
·		IX_1/ -
·		
·		Qx_1 =
•		Qx_2 =
·		
•		GIVIX_0
Ċ		GMx 2
		GMx 3
		GMx 4
		GMx 5
		GMx 6
		GMx 7 -
		GMx 8 -
		GMx 9 -
	(GMx 10 -
	(GMx 11 -

Input	
EN:	Enables or disables the complete block.
Start_Adress:	Start address for inputs from the hardware configuration in GX configurator DP. Array of 32 bool.
Output	
lx_0 To lx_17:	Inputs from Pluto, x= Pluto node nr (Boolean).
Qx_0 To Qx_3:	Safety outputs from Pluto, x= Pluto node nr (Boolean).
GMx_0 To GMx_11:	Global memories from Pluto, x= Pluto node nr (Boolean).
ENO:	Enable output from FB (Boolean).



4.2.3.2 Function block - Global data from Pluto ASi (read)

This block is used with the pluto AS-i. No corresponding programming is needed in Pluto.

·	····· Instance	
·	Fb Pluto GD	ASi
_	EN	ENO -
_	Start_Adress	lx_0 —
·		ASix_1 -
·		ASix_2 -
·		ASix_3 -
·		ASix_4 -
·		ASix_5 -
·		ASix_6 -
·		ASix_7 -
·		ASix_8 -
·		ASix_9 -
·		ASix_10 -
·		ASix_11 -
·		ASix_12 -
·		ASix_13 -
·		ASix_14 -
		ASix_15 -
		Qx_0
·		Qx_1
·		Qx_2
·		Qx_3
·		GMx_0 -
·		GMx_1 -
·		GMx_2 -
·		GMx_3 -
·		GMx_4
·		GMx_5 -
·		GMx_6
·		GMx_7
·		GMx_8
·		GMx_9
·		GMx_10 -
		GMx_11

Input	
EN:	Enables or disables the complete block.
Start_Adress:	Start address for outputs from the hardware configuration in GX configurator DP. Array of 32 bool.
Output	
lx_0:	Input from Pluto, x= Pluto node nr (Boolean).
ASix_1 – ASix_15:	Pluto AS-i local safety AS-i slave. x= Pluto node nr (Boolean).
Qx_0 - Qx_3:	Safety outputs from Pluto, x= Pluto node nr (Boolean).
GMx_0 - GMx_11:	Global memories from Pluto, x= Pluto node nr (Boolean).
ENO:	Enable output from FB (Boolean).



4.2.3.3 Function block - Global data from Pluto B42 ASi (read)

This block is used with the pluto B42 AS-i. No corresponding programming is needed in Pluto.

·	· · · · · · Instance · ·	
•	Fb Pluto GD B42 A	Si
-	EN	ENO -
-	Start_Adress	lx_0 —
•		lx_1
•		lx_2 -
•		lx_3 -
•		GMx_0 -
•		GMx_1 -
•		GMx_2 -
•		GMx_3 –
•		GMx_4 –
•		GMx_5 –
•		GMx_6 –
•		GMx_7 –
•		GMx_8 –
•		GMx_9 -
•		GMx_10 -
•		GMx_11 -
•		GMx_12 -
•		GMx_13 -
•		GMx_14 -
·		GMx_15 -
·		GMx_16 -
·		GMx_17 -
·		GMx_18 -
·		GMx_19 -
·		GMx_20 -
·		GMx_21 -
·		GMx_22
·		GMx_23 -
·		GMx_24
·		GMx_25 -
·		GMx_26 -
·		GMx_27 -

Input	
EN:	Enables or disables the complete block.
Start_Adress:	Start address for outputs from the hardware configuration in GX configurator DP. Array of 32 bool.
Output	
lx_0 – lx_3:	Inputs from Pluto, x= Pluto node nr (Boolean).
GMx_0 - GMx_27:	Global memories from Pluto, x= Pluto node nr (Boolean).
ENO:	Enable output from FB (Boolean).



4.2.3.4 Function block - Data to Pluto (write)

Corresponding programming is needed in Pluto. See "Transmitting from the Mitsubishi PLC to the Pluto".

Fb_ExtVarBlock Bit_0 Bit_0 Start_Adress Bit_1 Bit_2 Bit_3 Bit_4 Bit_5 Bit_6 Bit_7 Bit_8 Bit_9 Bit_10 Bit_11 Bit_12 Bit_14 Bit_15 Bit_10 Bit_11 Bit_12 Bit_11 Bit_12 Bit_11 Bit_12 Bit_11 Bit_12 Bit_13 Bit_14 Bit_15 Reg_0 Reg_1	•		•	Insta	nce	•		•	•	I	
- EN - - Bit_0 Start_Adress - - Bit_1 - - - Bit_2 - - - Bit_2 - - - Bit_3 - - - Bit_3 - - - Bit_5 - - - Bit_5 - - - Bit_6 - - - Bit_7 - - - Bit_8 - - - Bit_10 - - - Bit_11 - - - Bit_12 - - - Bit_13 - - - Reg_0 - - - Reg_1 - -	•		Fb	ExtV	arBlo	ck					l.
Bit_0 Start_Adress Bit_1 . Bit_2 . Bit_3 . Bit_5 . Bit_6 . Bit_7 . Bit_9 . Bit_10 . Bit_12 . Bit_14 . Bit_15 . Bit_10 . Bit_11 . Bit_12 . Bit_13 . Bit_15 . Reg_0 . Reg_1 .	_	EN	-	-			EN	o ¦	_		In
- Bit_1 - Bit_2 - Bit_3 - Bit_4 - Bit_5 - Bit_6 - Bit_7 - Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_15 - Reg_0 - Reg_1	_	Bit_0			Sta	art_A	dres	s	_		-
- Bit_2 - Bit_3 - Bit_4 - Bit_5 - Bit_6 - Bit_7 - Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_1							•		E
- Bit_3 - Bit_4 - Bit_5 - Bit_6 - Bit_7 - Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_2							·		
- Bit_4 - Bit_5 - Bit_6 - Bit_7 - Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_3									В
- Bit_5 - Bit_6 - Bit_7 - Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_4									
- Bit_6 - Bit_7 - Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_5									
- Bit_7 - Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_6									
- Bit_8 - Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_7									R
- Bit_9 - Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_8									R
- Bit_10 - Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_9									
- Bit_11 - Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_10									
- Bit_12 - Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_11							•		0
- Bit_13 - Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_12							•		U
- Bit_14 - Bit_15 - Reg_0 - Reg_1	_	Bit_13							•		6
- Bit_15 - Reg_0 - Reg_1	_	Bit_14							•		3
- Reg_0 - Reg_1	_	Bit_15							•		
- Reg_1	_	Reg_0									
	_	Reg_1									
	•		•								E

Input	
EN:	Enables or disables the complete block.
Bit_0 to Bit_15:.	Connect to a Boolean variable and send to Pluto. If not connected to a variable 0 (False) is default value (Boolean)
Reg_0 and Reg_1:.	Connect to a integer variable and send to Pluto. If not connected to a variable 0 is default value (Integer).
Output	
Start_Adress:	Start address for outputs from the hardware configuration in GX configurator DP. Array of 48 bool.
ENO:	Enable output from FB (Boolean).

•	· · · · Instance	
·	Fb_User_A	
_	EN	ENO -
_	Start_Adress	Bit_0 -
·		Bit_1 –
·		Bit_2
·		Bit_3
·		Bit_4
·		Bit_5
·		Bit_6
·		Bit_7 –
·		Bit_8
·		Bit_9
·		Bit_10 -
·		Bit_11
·		Bit_12 -
·		Bit_13 -
·		Bit_14
·		Bit_15 -
·		Bit_16 -
·		Bit_17 -
·		Bit_18 -
·		Bit_19
·		Bit_20 -
·		Bit_21
·		Bit_22 -
·		Bit_23 -
·		Bit_24
·		Bit_25 -
·		Bit_26 -
·		Bit_27 -
·		Bit_28 -
·		Bit_29
·		Bit_30 -
·		Bit_31 -
·		Reg_0
·		Reg_1 -

This block will receive user defined 32 bit value from Pluto. The variables can be used either as 32 bits or two 16 bits register. Bits 0-15 are the same as in Reg_0, bits 16-31 are the same as in Reg_1.

Input	
EN:	Enables or disables the complete block.
Start_Adress:	Start address for inputs from the hardware configuration in GX configurator DP. Array of 32 bool.
Output	
Bit0 – Bit31	32 bits user defined data from Pluto (Boolean).
Reg0, Reg1	16 bits user defined data from Pluto (integer).
ENO:	Enable output from FB (Boolean).



4.2.3.6 Function block – Additional data – USER B (read)

·	· · · Instance	
·	Fb User B	
_	EN	ENO -
_	Start_Adress	Bit_0
	-	Bit_1 -
		Bit 2
		Bit 3 -
		Bit 4 -
		Bit 5 -
		Bit 6
		Bit 7 -
		Reg 0
	E	ErrorCode –

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive user defined 8 bit value, 16 bits register and error code from Pluto.

Input	
EN:	Enables or disables the complete block.
Start_Adress:	Start address for inputs from the hardware configuration in GX configurator DP. Array of 32 bool.
Output	
Bit0 – Bit7	8 bits user defined data from Pluto (Boolean).
Reg_0	16 bits user defined register data from Pluto (Integer).
ErrorCode	Pluto error code value (Byte).
ENO:	Enable output from FB (Boolean).



4.2.3.7 Function block – Additional data – USER C (read)

·	· · · · Instance	· · · · ·
•	Fb User C	
_	EN	ENO -
_	Start Adress	Bit 0 -
	-	Bit 1
		Bit 2
		Bit 3
		Bit 4
		Bit 5
		Bit 6
		Bit 7
		Bit 8
		Bit 9 -
		Bit 10 -
		Bit 11 -
		Bit 12 -
		Bit 13 -
		Bit 14 -
		Bit 15 -
		Reg 0

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive user defined 16 bits value and 16 bits register from Pluto.

Input	
EN:	Enables or disables the complete block.
Start_Adress:	Start address for inputs from the
	hardware configuration in GX
	configurator DP. Array of 32 bool.
Output	
Bit0 – Bit15	16 bits user defined data from Pluto
	(Boolean).
Reg_0	16 bits user defined register data from Pluto (Integer).
ENO:	Enable output from FB (Boolean).

4.2.3.8 Function block – Additional data – Error code (read)

		·	·	·	·	•	Ins	tar	ice	•	•	•			·
·	Fb ErrorCode												·		
_	Е	N					-						ΕN	0	<u> </u>
_	- Start_Adress ErrorCode									ŀ					

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive error code from Pluto.

Input	
EN:	Enables or disables the complete block.
Start_Adress:	Start address for inputs from the hardware configuration in GX configurator DP. Array of 32 bool.
Output	
Error_code	Pluto error code value (Byte).
ENO:	Enable output from FB (Boolean).

Fb_B46_l20_l47 Start_Adress Ix_20 Ix_21 Ix_22 Ix_23 Ix_24 Ix_25 Ix_26 Ix_30 Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_40 Ix_41 Ix_41 Ix_41 Ix_43 Ix_44 Ix_45 Ix_46	·	· · · Instance		•
- EN ENO Start_Adress x_20 x_21 x_22 x_23 - x_24 - x_25 x_26 - x_27 - x_30 - x_31 - x_32 - x_33 - x_34 - x_35 - x_36 - x_37 - x_36 - x_37 - x_40 - x_41 - x_42 - x_43 - x_44 - x_45 - x_44 - x_45 - x_47 - x_46 - x_47	•	Fb B46 I20 I47		.
- Start_Adress x_20 - x_21 - x_22 - x_23 - x_24 - x_25 - x_26 - x_27 - x_30 - x_31 - x_32 - x_33 - x_34 - x_35 - x_36 - x_37 - x_40 - x_41 - x_42 - x_43 - x_44 - x_45 - x_47 - x_46 - x_47 - x_46 - x_47 -	_	EN	ENO	L-
Ix_21 Ix_22 Ix_23 Ix_24 Ix_25 Ix_26 Ix_30 Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_44 Ix_45 Ix_47	_	Start_Adress	lx_20	L-
Ix_22 Ix_23 Ix_24 Ix_25 Ix_26 Ix_27 Ix_30 Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_40 Ix_41 Ix_42 Ix_43 Ix_44 Ix_45 Ix_47		_	lx_21	L-
Ix_23 Ix_24 Ix_25 Ix_26 Ix_27 Ix_30 Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_40 Ix_41 Ix_42 Ix_43 Ix_44 Ix_45 Ix_46			lx_22	L-
 ix_24 ix_25 ix_26 ix_27 ix_30 ix_31 ix_31 ix_32 ix_33 ix_34 ix_35 ix_36 ix_40 ix_41 ix_42 ix_43 ix_44 ix_45 ix_46 			lx_23	L.
Ix_25 Ix_26 Ix_27 Ix_30 Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_44 Ix_45 Ix_46			lx_24	L.
 ix_26 ix_27 ix_30 ix_31 ix_32 ix_33 ix_34 ix_35 ix_36 ix_37 ix_40 ix_41 ix_42 ix_43 ix_44 ix_45 ix_47 			lx_25	L.
Ix_27 Ix_30 Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_44 Ix_45 Ix_46 Ix_47			lx_26	L.
Ix_30 Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_43 Ix_44 Ix_45 Ix_46 Ix_47			lx_27	L.
Ix_31 Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_43 Ix_44 Ix_45 Ix_46 Ix_47	•		lx_30	L-
Ix_32 Ix_33 Ix_34 Ix_35 Ix_36 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_43 Ix_44 Ix_45 Ix_46 Ix_47	•		lx_31	Ŀ.
Ix_33 Ix_34 Ix_34 Ix_35 Ix_36 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_43 Ix_44 Ix_45 Ix_46 Ix_47	•		lx_32	Ŀ.
 Ix_34 Ix_35 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_44 Ix_45 Ix_46 	•		lx_33	Ŀ.
 Ix_35 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_43 Ix_44 Ix_45 Ix_46 Ix_47 	•		lx_34	Ŀ.
 Ix_36 Ix_37 Ix_40 Ix_41 Ix_42 Ix_43 Ix_43 Ix_44 Ix_45 Ix_46 Ix_47 	•		lx_35	Ŀ.
 ix_37 ix_40 ix_41 ix_42 ix_43 ix_44 ix_45 ix_46 ix_47 	•		lx_36	\vdash
 ix_40 ix_41 ix_42 ix_43 ix_44 ix_45 ix_46 ix_47 	•		lx_37	\vdash
· x_41 x_42 x_43 x_44 x_45 x_46 x_47	•		lx_40	\vdash
- x_42 - x_43 - x_44 - x_45 - x_46 - x_47 - x_4	·		lx_41	F-
· Ix_43 Ix_44 Ix_45 Ix_46 Ix_47	·		lx_42	\vdash
- Ix_44 Ix_45 Ix_46 Ix_47	·		lx_43	F-
· Ix_45 · Ix_46 · Ix_47	·		lx_44	F-
· Ix_46 Ix_47	•		lx_45	\vdash
· Ix_47	·		lx_46	\vdash
E O I	·		lx_47	\vdash
ErrorCode –	·	Err	orCode	\vdash

This block will receive Pluto B46 local data $\ensuremath{\text{I20}}\xspace - \ensuremath{\text{I47}}\xspace$ and error code from Pluto.

Input				
EN:	Enables or disables the complete block.			
Start_Adress:	Start address for inputs from the			
	hardware configuration in GX			
	configurator DP. Array of 32 bool.			
Output				
lx_20 – lx47	Pluto B46 local inputs I20 –			
	I47(Boolean),			
	x= Pluto node nr.			
Error_code	Pluto error code value (Byte).			
ENO:	Enable output from FB (Boolean).			

4.2.3.10 Function block – Additional data – ASi 16-31 safe (read)

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive Pluto AS-i local inputs 1 – 13, AS-i safety slave 16 – 31 and Pluto error code.

·	· · · · · Instance · · · · ·	•
·	Fb ASi 16 31 Safe	•
_	EN ENO	-
_	Start_Adress Ix_1	-
·	lx_2	-
·	lx_3	-
·	lx_10	-
·	lx_11	-
·	lx_12	-
·	lx_13	-
·	ASix_16	-
·	ASix_17	-
·	ASix_18	-
·	ASix_19	-
·	ASix_20	-
·	ASix_21	-
·	ASix_22	-
·	ASix_23	-
·	ASix_24	-
·	ASix_25	-
·	ASix_26	-
·	ASix_27	-
·	ASix_28	-
·	ASix_29	-
·	ASix_30	-
·	ASix_31	-
·	ErrorCode	-

Input				
EN:	Enables or disables the complete block.			
Start_Adress:	tart_Adress: Start address for inputs from the			
	hardware configuration in GX configurator			
	DP. Array of 32 bool.			
Output				
lx1 – lx13	Pluto AS-i local inputs.			
	x= Pluto node nr (Boolean).			
ASix_16 –	Pluto AS-i local safety AS-i slave.			
ASix_31	x= Pluto node nr (Boolean).			
Error_code	Pluto error code value (Byte).			
ENO:	Enable output from FB (Boolean).			



4.2.3.11 Function block – Additional data – ASi 1-3 non safe (read)

Г

•	· · · · · · Instance	
•	Fb_ASi_1_3_NonS	afe_In
_	EN	ENO -
_	Start_Adress	ASix_1A1 -
		ASix_1A2 -
		ASix_1A3 -
		ASix 1A4 -
		ASix 1B1 -
		ASix 1B2 -
		ASix 1B3 -
		ASix_1B4 -
		ASix_2A1 -
		ASix_2A2
		ASix_2A3 -
		ASix_2A4 -
		ASix_2B1 -
		ASix_2B2 -
		ASix_2B3 -
		ASix_2B4 -
		ASix_3A1
•		ASix_3A2 -
•		ASix_3A3 -
•		ASix_3A4 -
•		ASix_3B1
•		ASix_3B2
		ASix_3B3
		ASix_3B4
•	· · · · · · · · · · ·	

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive data from Pluto AS-i local non safe AS-i slave address 1 - 3.

Input		
EN:	Enables or disables the complete block.	
Start_Adress:	Start address for inputs from the hardware configuration in GX configurator DP. Array of 32 bool.	
Output		
ASix_1A1 – ASix_3A4	Pluto AS-i local non safe AS-i standard and extended A slave (Boolean). x= Pluto node nr.	
ASix_1B1 – ASix_3B4	Pluto AS-i local non safe AS-i extended B slave (Boolean). x= Pluto node nr.	
ENO:	Enable output from FB (Boolean).	

•	· · · · · · Instance	
·	Fb_ASi_4_7_Non	Safe_In
-	EN	ENO -
_	Start_Adress	ASix_4A1 -
·		ASix_4A2
·		ASix_4A3
·		ASix_4A4
·		ASix_4B1 -
·		ASix_4B2
·		ASix_4B3
·		ASix_4B4
·		ASix_5A1 -
·		ASix_5A2
·		ASix_5A3
·		ASix_5A4
·		ASix_5B1 -
·		ASix_5B2
·		ASix_5B3
·		ASix_5B4 -
·		ASix_6A1 -
·		ASix_6A2
•		ASix_6A3
•		ASix_6A4
•		ASix_6B1 -
·		ASix_6B2
·		ASix_6B3 -
·		ASix_6B4 -
·		ASix_7A1 -
·		ASix_7A2
·		ASix_7A3
•		ASix_7A4
·		ASix_7B1
·		ASix_7B2
•		ASix_7B3
•		ASix_7B4
•		

This block will receive data from Pluto AS-i local non safe AS-i slave address 4 - 7.

Input

EN:	Enables or disables the complete block.	
Start_Adress:	Start address for inputs from the	
	hardware configuration in GX	
	configurator DP. Array of 32 bool.	
Output		
-		
ASix_4A1 –	4A1 – Pluto AS-i local non safe AS-i standard	
ASix_7A4	and extended A slave (Boolean).	
_	x= Pluto node nr.	
ASix_4B1 -	Pluto AS-i local non safe AS-i extended	
ASix_7B4	x 7B4 B slave (Boolean).	
	x= Pluto node nr.	
ENO:	Enable output from FB (Boolean).	

•	· · · · · · · Instance ·	· · · · · · · ·
·	Fb_ASi_8_11_NonSi	afe_In
_	EN	ENO -
_	Start_Adress	ASix_8A1 -
•		ASix_8A2 -
•		ASix_8A3 —
•		ASix_8A4 -
·		ASix_8B1 -
•		ASix_8B2 -
•		ASix_8B3 -
•		ASix_8B4 -
•		ASix_9A1 -
•		ASix_9A2 -
•		ASix_9A3 —
•		ASix_9A4 -
•		ASix_9B1 -
•		ASix_9B2 -
•		ASix_9B3 –
•		ASix_9B4 –
•		ASix_10A1 -
•		ASix_10A2 -
•		ASix_10A3 -
•		ASix_10A4
•		ASix_10B1 -
•		ASix_10B2
•		ASix_10B3 -
•		ASix_10B4 -
•		ASix_11A1 -
•		ASix_11A2 -
•		ASix_11A3 -
•		ASix_11A4
•		ASix_11B1
•		ASix_11B2
•		ASix_11B3
·		ASix_11B4 -
•		

This block will receive data from Pluto AS-i local non safe AS-i slave address 8 - 11.

Input		
EN:	Enables or disables the complete block.	
Start_Adress:	Start address for inputs from the hardware configuration in GX configurator DP. Array of 32 bool.	
Output		
ASix_8A1 –	Pluto AS-i local non safe AS-i standard	
ASix_11A4	and extended A slave (Boolean).	
	x= Pluto node nr.	
ASix_8B1 –	Pluto AS-i local non safe AS-i extended	
ASix_11B4	B slave (Boolean).	
	x= Pluto node nr.	
ENO:	Enable output from FB (Boolean).	

•	· · · · · · · Instanc	е
·	Fb_ASi_12_15_N	VonSafe_In
_	EN	ENO -
_	Start_Adress	ASix_12A1 -
·		ASix_12A2 -
·		ASix_12A3 -
·		ASix_12A4 -
·		ASix_12B1 -
·		ASix_12B2
·		ASix_12B3 -
•		ASix_12B4 -
•		ASix_13A1 -
•		ASix_13A2 -
•		ASix_13A3 -
•		ASix_13A4 -
•		ASix_13B1 -
•		ASix_13B2 -
•		ASix_13B3 -
•		ASix_13B4 -
•		ASix_14A1 -
•		ASix_14A2 -
•		ASix_14A3 -
•		ASix_14A4 -
•		ASix_14B1 -
•		ASix_14B2 -
•		ASix_14B3 -
•		ASix_14B4 -
•		ASix_15A1 -
•		ASix_15A2 -
•		ASix_15A3 -
•		ASix_15A4
•		ASix_15B1
•		ASix_15B2
•		ASix_15B3
•		ASix_15B4
•		

This block will receive data from Pluto AS-i local non safe AS-i slave address 12 - 15.

Input	
EN:	Enables or disables the complete block.
Start_Adress: Start address for inputs from the	
	hardware configuration in GX
	configurator DP. Array of 32 bool.
Output	
ASix_12A1 -	Pluto AS-i local non safe AS-i standard
ASix_15A4	and extended A slave (Boolean).
	x= Pluto node nr.
ASix_12B1 -	Pluto AS-i local non safe AS-i extended
ASix_15B4	B slave (Boolean).
—	x= Pluto node nr.
ENO:	Enable output from FB (Boolean).
	· · ·

4.2.3.15 Function block – Additional data – ASi 16-19 non safe (read)

·	· · · · · · · Instance · ·	· · · · · · · ·
·	Fb_ASi_16_19_NonSa	afe_In
_	EN	ENO -
_	Start_Adress	ASix_16A1
·		ASix_16A2 -
·		ASix_16A3 -
·		ASix_16A4
·		ASix_16B1 -
·		ASix_16B2 -
·		ASix_16B3 -
·		ASix_16B4
·		ASix_17A1
·		ASix_17A2
·		ASix_17A3 -
·		ASix_17A4
·		ASix_17B1 -
·		ASix_17B2
		ASix_17B3 -
		ASix_17B4
		ASix_18A1
		ASix_18A2
		ASix_18A3
•		ASix_18A4
•		ASix_18B1
		ASix_18B2
•		ASix_18B3 -
·		ASix_18B4
·		ASix_19A1 -
•		ASix_19A2
		ASix_19A3
		ASix_19A4
		ASix_19B1
		ASix_19B2 -
		ASix_19B3 -
		ASix_19B4 -

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive data from Pluto AS-i local non safe AS-i slave address 16 - 19.

Input			
EN:	Enables or disables the complete block.		
Start_Adress:	s: Start address for inputs from the		
	hardware configuration in GX		
	configurator DP. Array of 32 bool.		
Output			
ASix_16A1 –	Pluto AS-i local non safe AS-i standard		
ASix_19A4	and extended A slave (Boolean).		
	x= Pluto node nr.		
ASix_16B1 –	Pluto AS-i local non safe AS-i extended		
ASix_19B4	B slave (Boolean).		
	x= Pluto node nr.		
ENO:	Enable output from FB (Boolean).		

4.2.3.16 Function block – Additional data – ASi 20-23 non safe (read)

	· · · · · · · Instance ·					
·	Fb_ASi_20_23_NonS	afe_In				
_	EN		ENO	_		
_	Start_Adress	ASix	_20A1	_		
·		ASix	_20A2	_	O II	
·		ASix	_20A3	_	Corresponding	program
·		ASix	_20A4	_	See "Transmit o	other data
·		ASix	_20B1	_	Gateway chapte	er "Additi
·		ASix	_20B2	_		
·		ASix	_20B3	_	This block will re	eceive da
·		ASix	_20B4	_	AS-i slave addr	ess 20 –
·		ASix	_21A1	_		
·		ASix	_21A2	-		
·		ASix	21A3	_	Input	
·		ASix	21A4	_	•	
·		ASix	_21B1	-	EN:	Fnable
·		ASix	_21B2	- 1	Start Adress	Start ac
·		ASix	_21B3	_		hardwa
·		ASix	_21B4	_		configu
·		ASix	_22A1			conngu
·		ASix	_22A2	_	0	
·		ASix	_22A3	_	Output	
·		ASix	_22A4	-		
·		ASix	_22B1	_	ASix_20A1 -	Pluto A
·		ASix	_22B2	_	ASix_23A4	and ext
·		ASix	_22B3	_		x= Plute
·		ASix	_22B4	_	ASix_20B1 –	Pluto A
·		ASix	_23A1	_	ASix_23B4	B slave
·		ASix	_23A2	_		x= Plute
·		ASix	_23A3	- 1	ENO:	Enable
·		ASix	_23A4			
·		ASix	_23B1	_		
•		ASix	_23B2	_		
·		ASix	_23B3	_		
•		ASix	23B4	_		

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive data from Pluto AS-i local non safe AS-i slave address 20 - 23.

Input		
EN:	Enables or disables the complete block.	
Start_Adress:	Start address for inputs from the hardware configuration in GX configurator DP. Array of 32 bool.	
Output		
ASix_20A1 – ASix_23A4	Pluto AS-i local non safe AS-i standard and extended A slave (Boolean). x= Pluto node nr.	
ASix_20B1 – ASix_23B4	Pluto AS-i local non safe AS-i extended B slave (Boolean). x= Pluto node nr.	
ENO:	Enable output from FB (Boolean).	

4.2.3.17 Function block – Additional data – ASi 24-27 non safe (read)

	· · · · · · · Instance	be sins a sins sign	
·	Fb_ASi_24_27_	NonSafe_In	
-	EN	ENO -	
-	Start_Adress	ASix_24A1 —	
·		ASix_24A2 —	•
·		ASix_24A3 -	Correspond
·		ASix_24A4 -	See "Trans
·		ASix_24B1	Gateway ch
·		ASix_24B2	
·		ASix_24B3 -	This block
·		ASix_24B4	AS-i slave a
·		ASix_25A1 -	
·		ASix_25A2 -	
·		ASix_25A3 -	Input
·		ASix_25A4 -	
·		ASix_25B1 -	EN·
·		ASix_25B2 -	LIN. Stort Adro
•		ASix_25B3 -	Start_Aure
		ASix_25B4 -	
·		ASix_26A1	
		ASix_26A2 -	
		ASix_26A3	Output
		ASix_26A4	
		ASix_26B1	ASix_24A1
		ASix_26B2	ASix_27A4
		ASix_26B3 -	_
		ASix_26B4	ASix 24B1
		ASix_27A1	ASix 27B4
		ASix_27A2	
		ASix_27A3	
		ASix 27A4 -	LNO.
		ASix_27B1	
		ASix_27B2	
		ASix_27B3	
		ASix_27B4	

Corresponding programming is needed in Pluto. See "Transmit other data from the Pluto" or Manual Pluto Gateway chapter "Additional data".

This block will receive data from Pluto AS-i local non safe AS-i slave address 24 – 27.

Input			
EN:	Enables or disables the complete block.		
Start_Adress:	ess: Start address for inputs from the		
	hardware configuration in GX		
	configurator DP. Array of 32 bool.		
Output			
ASix_24A1 –	Pluto AS-i local non safe AS-i standard		
ASix_27A4	and extended A slave (Boolean).		
	x= Pluto node nr.		
ASix_24B1 -	Pluto AS-i local non safe AS-i extended		
ASix_27B4	'B4 B slave (Boolean).		
	x= Pluto node nr.		
ENO:	Enable output from FB (Boolean).		

4.2.3.18 Function block – Additional data – ASi 28-31 non safe (read)

·	· · · · · · · · Instance · · · · · · · ·				
·	Fb ASi 28 31 NonSafe In	<u>۱</u> ۰			
-	EN ENO	Ŀ.			
-	Start_Adress ASix_28A1	Ŀ.			
·	ASix_28A2	Ŀ.			
·	ASix 28A3	Ŀ.	Corresponding	programming is needed in Pluto.	
·	ASix 28A4	Ŀ.	See "Transmit o	other data from the Pluto" or Manual Pluto	
·	ASix 28B1	Ŀ.	Gateway chapte	er "Additional data".	
	ASix 28B2	Ŀ.			
	ASix 28B3	Ŀ.	This block will receive data from Pluto AS-i local non safe		
	ASix 28B4	Ŀ.	AS-i slave address 28 – 31		
	ASix 29A1	Ŀ.			
	ASix 29A2	Ŀ.,			
	ASix 29A3	Ŀ.	Input		
	ASix 29A4	Ŀ.	input		
	ASix 29B1	Ŀ.		Enchles on dischles the semalate black	
	ASix 29B2	Ŀ.	EN:	Enables of disables the complete block.	
	ASix 29B3	Ŀ.	Start_Adress:	Start address for inputs from the	
	ASix 29B4	Ŀ.		hardware configuration in GX	
	ASix 30A1	Ŀ.		configurator DP. Array of 32 bool.	
	ASix 30A2	Ŀ.			
	ASix 30A3	Ŀ.	Output		
	ASix 30A4	Ŀ.			
	ASix 30B1	Ŀ.	ASix_28A1 -	Pluto AS-i local non safe AS-i standard	
	ASix 30B2	Ŀ.	ASix 31A4	and extended A slave (Boolean).	
	ASix 30B3	Ŀ.	_	x= Pluto node nr.	
	ASix 30B4	Ŀ.	ASix 28B1 -	Pluto AS-i local non safe AS-i extended	
·	ASix_31A1	Ŀ.	ASix 31B4	B slave (Boolean)	
·	ASix_31A2	Ŀ.		x = Pluto node nr	
·	ASix_31A3	Ŀ.		Enable output from EB (Boolean)	
·	ASix_31A4	Ŀ.	LINO.		
·	ASix 31B1	F.			
·	ASix 31B2	F.			
·	ASix 31B3	F.			
·	ASix 31B4	F.			
. '	· · · · · · · · · · · · · · · · · · ·				