

I/O variables not updating

Problem

I/O Variables mapped from an I/O device do not change value.

Before SP17

values are greyed

General

Modbus Slave Channel

Modbus Slave Init

ModbusTCPSlave Parameters

ModbusTCPSlave I/O Mapping

ModbusTCPSlave IEC Objects

Status

Information

The bus is not running. The shown values are perhaps not actual

Find

Filter

Show all

+

Add FB for IO Channel...

→

Go to Instance

Variable	Mapping	Channel	Address	Type	Cur...	Prepar...	Unit	Description
		Channel 0	%QB0	ARRAY [0..0] OF BYTE				Write Single Coil
		Channel 0[0]	%QB0	BYTE				Write Single Coil
Application.GVL...		Bit0	%QX0.0	BOOL	FALSE			0x003E

Reset Mapping

Always update variables

Use parent device setting

+

 = Create new variable

→

 = Map to existing variable

From SP17

Since SP17, some clearer hints are given:

- the value is shown as "not updated"
- a tooltip explains why

Device

GPIOs Parameters

GPIOs I/O Mapping

GPIOs IEC Objects

Status

Information

digital inputs (...)

%ID0

DWORD

Not updated

Bit4

%IX0.4

BOOL

Not updated

Bit5

%IX0.5

BOOL

Not updated

Bit6

%IX0.6

BOOL

Not updated

Bit12

%IX1.4

BOOL

Not updated

Bit13

%IX1.5

BOOL

Not updated

Bit16

%IX2.0

BOOL

Not updated

Bit17

%IX2.1

BOOL

Not updated

Bit18

%IX2.2

BOOL

Not updated

Bit19

%IX2.3

BOOL

Not updated

Bit20

%IX2.4

BOOL

Not updated

Bit21

%IX2.5

BOOL

Not updated

Reset Mapping

Always update variables

Use parent device setting

+

 = Create new variable

→

 = Map to existing variable

Bus Cycle Options

Bus cycle task

Use parent bus cycle setting

Recreate required tasks

Solution

By default, a variable is shown with the actual value only if the variable is used in a task.

Your options are either:

- use in your code, those IO variables you are interested in
- Set the "Always update variables" setting for this IO to "Enabled 1 (use bus cycle if not used in any task)"
- Set the "Always update variables" setting for this IO to Use parent device setting, and set "Enabled 1 (use bus cycle if not used in any task)" in a parent device.



Note

The "Always update variables" setting is on the "<Name> I/O Mapping" tab for most devices.

For the PLC Controller devices, it is on the "PLC Settings" tab.

Device

Communication Settings
Applications
Backup and Restore
Files
Log
PLC Settings

Application for I/O handling

Application

PLC Settings

☐ Update IO while in stop

Behavior for outputs in stop

Keep current values

Always update variables

Enabled 1 (use bus cycle task if not used in any task)

Bus Cycle Options

Bus cycle task

<unspecified>

Additional Settings

Result

GPIOs

GPIOs Parameters
GPIOs I/O Mapping
GPIOs IEC Objects
Status
Information

Find

Filter

Show all

+

Add FB for IO Channel...

Variable	Mapping	Channel	Address	Type	Current Value	Prepared Value
		digital inputs (GPIO0..GPIO31)	%ID0	DWORD	268468719	
		Bit4	%IX0.4	BOOL	FALSE	
		Bit5	%IX0.5	BOOL	TRUE	
		Bit6	%IX0.6	BOOL	TRUE	
		Bit12	%IX1.4	BOOL	FALSE	
		Bit13	%IX1.5	BOOL	FALSE	
		Bit16	%IX2.0	BOOL	FALSE	
		Bit17	%IX2.1	BOOL	FALSE	
		Bit18	%IX2.2	BOOL	FALSE	
		Bit19	%IX2.3	BOOL	FALSE	

Reset Mapping

Always update variables

Enabled 1 (use bus cycle task if not used in any task)

= Create new variable
 = Map to existing variable

Bus Cycle Options

Bus cycle task

Use parent bus cycle setting

Recreate required tasks

Related articles

- [How to analyzing errors in Codesys projects with 'Core Dump'](#)
- [Installation 4.1.0.0 fails for Control for Linux SL](#)
- [Difference of fEditor and fTable in SMC_CAMTable* \(SM3_Basic Library\)](#)
- [How to open an Example Project](#)
- [Codesys Taskkonfiguration - FAQ](#)