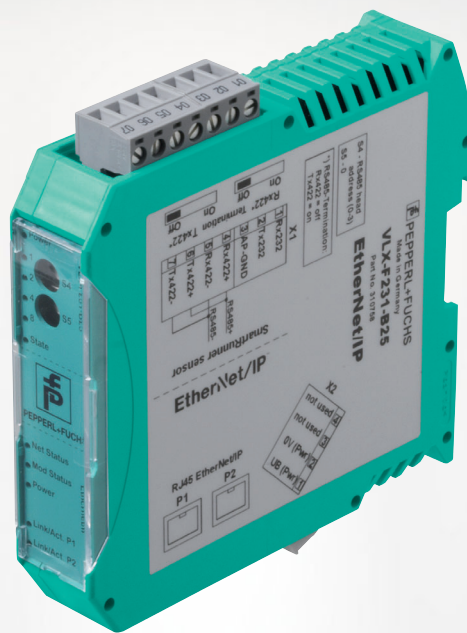# VLX-F231-B25

Function Block - Integration into RSLogix 5000

Manual

EtherNet/IP™

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With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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1 Introduction

This configuration instruction guide you through the steps required to view the result data of the SmartRunner device and trigger various functions.

1.1 Scope

This configuration instructiosn only apply for the following VLX interface modules with Ether-Net/IP interface in conjunction with a SmartRunner Matcher:

- Interface modul: VLX-F231-B25
- SmartRunner Matcher: VLM350-F280-R4* and VLM700-F280-R4-1102

The device is identified by the affixed nameplate.

In addition to the configuration instructions, the following documents apply. Observe the instructions contained therein:

- VLX-F231-B25 manual
- VLM350-F280-R4* or VLM700-F280-R4-1102 manual
- Plant-specific operator's documentation

Note on Figures in the Documentation

The figures in this documentation are provided for basic understanding and may deviate from the actual design.

1.2 Registered Trademarks

RSLogix 5000®: Trademark of the Rockwell Automation.

1.3 Symbols used

This document contains information that you must observe to prevent interference.

Warnings

Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Information messages

Note

This symbol brings important information to your attention.

Action

This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

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2 Function Block

2.1 Input/output variables

Values for "INPUT Size" and "OUTPUT Size"

Number of sensors	INPUT/ OUTPUT	Data size [bytes]	Data type
1 SmartRunner	INPUT	24	SINT
	OUTPUT	6	SINT
2 SmartRunners	INPUT	48	SINT
	OUTPUT	12	SINT
3 SmartRunners	INPUT	72	SINT
	OUTPUT	18	SINT
4 SmartRunners	INPUT	96	SINT
	OUTPUT	24	SINT

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2.2 Single SmartRunner Sensor

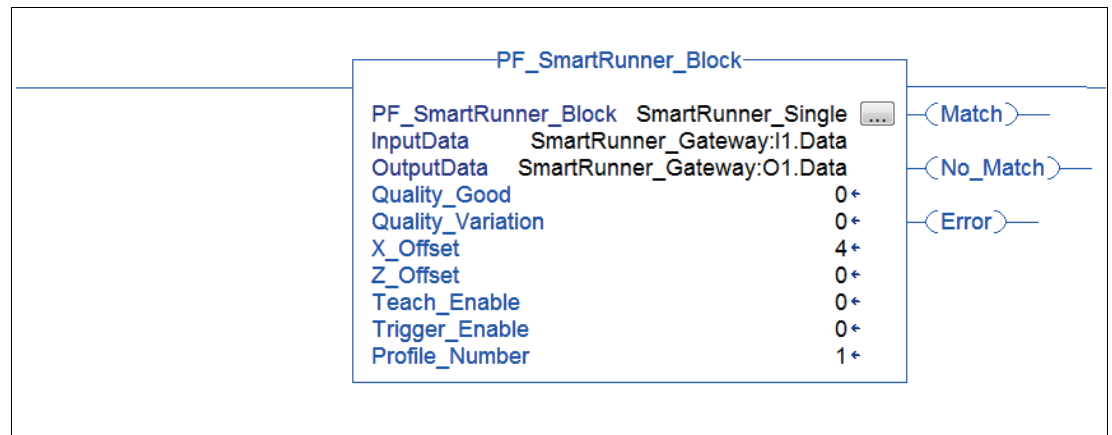The following figure shows the structure of the function block and the variables to be parameterized.

Figure 2.1   Function Block

Parameter descriptions

Name	Description
Quality_Good	Quality value: 0 = no object found 100 = perfect match
Quality_Variante	Average deviation of the taught in profile
X_Offset	Profile offset in the X direction
Z_Offset	Profile offset in the Z direction
Teach_Enable	Teach trigger: 1 = teach enable 0 = teach disable
Trigger_Enable	Manual trigger: 1 = trigger enable 0 = trigger disable
Profile_Number	Selected profile (1 ... 32)
Match	Good: profile does match the taught in profile
No_Match	Bad: profile does not match the taught in profile
Error	System error or evaluation error

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2.3   Multiple SmartRunner Sensors

The following figure shows the structure of the function block for several sensors and the variables to be parameterized.
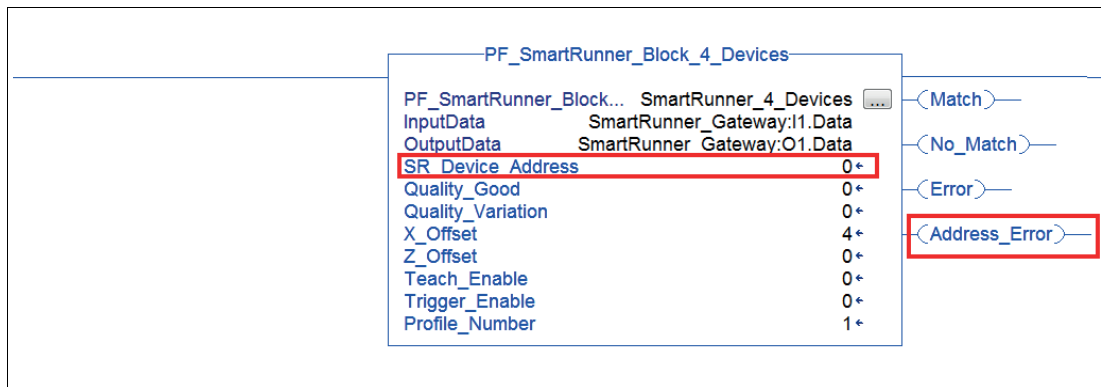

PF_SmartRunner_Block_4_Devices

PF_SmartRunner_Block...	SmartRunner_4_Devices	...	─(Match)─
InputData	SmartRunner_Gateway:I1.Data		
OutputData	SmartRunner_Gateway:O1.Data		─(No_Match)─
SR_Device_Address	0		
Quality_Good	0		─(Error)─
Quality_Variation	0		
X_Offset	4		─(Address_Error)─
Z_Offset	0		
Teach_Enable	0		
Trigger_Enable	0		
Profile_Number	1		

Figure 2.2   Function Block

Parameter descriptions

Name	Description
SR_Device_Address	RS-485 head address 0…3
Quality_Good	Quality value: 0 = no object found 100 = perfect match
Quality_Variante	Average deviation of the taught in profile
X_Offset	Profile offset in the X direction
Z_Offset	Profile offset in the Z direction
Teach_Enable	Teach trigger: 1 = teach enable 0 = teach disable
Trigger_Enable	Manual trigger: 1 = trigger enable 0 = trigger disable
Profile_Number	Selected profile (1 ... 32)
Match	Good: profile does match the taught in profile
No_Match	Bad: profile does not match the taught in profile
Error	System error or evaluation error
Address_Error	Invalid RS-485 head address

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2.4 Example

The following figure shows the structure of the function block for several sensors and the variables to be parameterized.
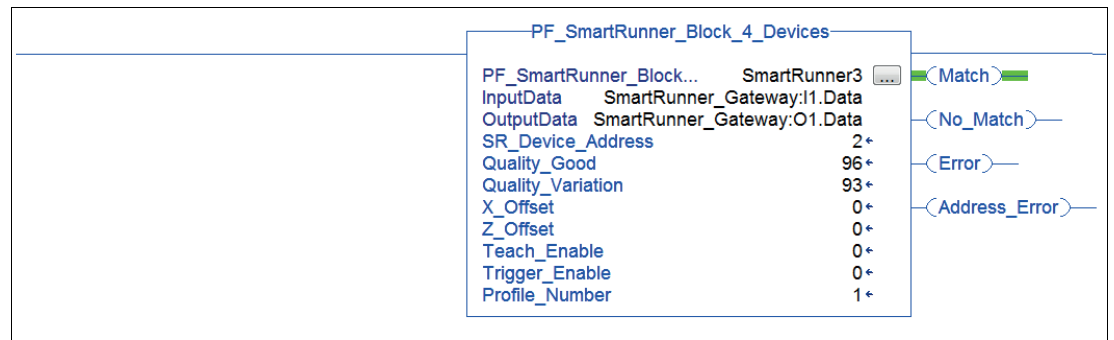

Figure 2.3   Function Block Example

- Block name: SmartRunner3, device 3 out of 4

- INPUT Data: Established by the title used within the EDS file configuration, input table

- OUTPUT Data: Established by the title used within the EDS file configuration, output table
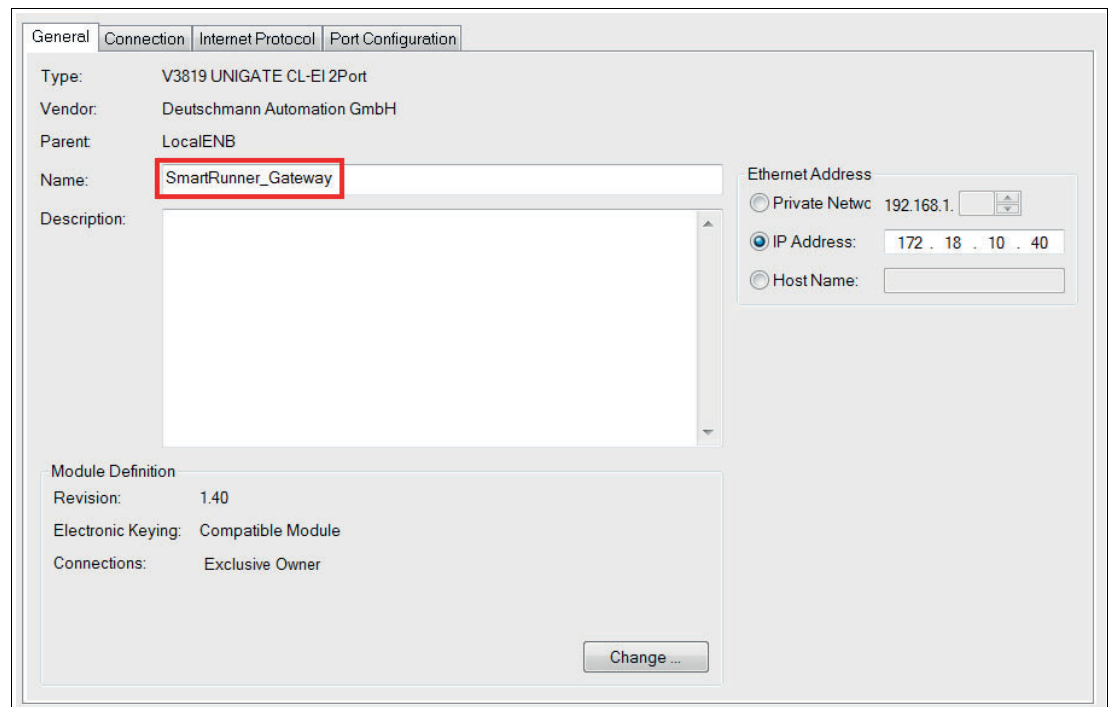

Figure 2.4   Input mask RSLogix 5000

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Parameter descriptions - Example

Name	Description
SR_Device_Address	RS-485 address 2 is the third SmartRunner device (0…3)
Quality_Good	96% match of the taught in profile
Quality_Variante	93% of the points match the taught in profile
X_Offset	0 mm deviation on the X axis of the taught in profile (target position)
Z_Offset	0 mm deviation on the Z axis of the taught in profile (target height)
Teach_Enable	Manual teach is not set, enter 1 to teach new profile
Trigger_Enable	Manual trigger is not set, device default is to auto-trigger
Profile_Number	SmartRunner is looking for taught in profile 1 out of 32 possible
Match	Default is 80%, any Quality Good value over 80% is a Match (96% current)
No_Match	Default is 80%, any Quality Good value under 80% is No_Match
Error	No system or configuration errors detected
Address_Error	RS485 address is valid (2), 0…3 is an acceptable value

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