X20(c)IF10D3-1

1 General information

The interface module is equipped with an EtherNet/IP adapter interface. This allows the B&R system (I/O modules, POWERLINK, etc.) to be connected to systems from other manufacturers and makes it possible to quickly and easily transfer data in both directions.

The interface module can be operated in X20 CPUs or in the expandable POWERLINK bus controller X20BC1083.

The interface is equipped with 2 RJ45 connections. Both connections result in an integrated switch. This makes it easy to implement daisy chain cabling.

- EtherNet/IP adapter (slave)
- Integrated switch for efficient cabling

1.1 Coated modules

Coated modules are X20 modules with a protective coating for the electronics component. This coating protects X20c modules from condensation and corrosive gases.

The modules' electronics are fully compatible with the corresponding X20 modules.

For simplification purposes, only images and module IDs of uncoated modules are used in this data sheet.

The coating has been certified according to the following standards:

- Condensation: BMW GS 95011-4, 2x 1 cycle
- Corrosive gas: EN 60068-2-60, method 4, exposure 21 days



1.1.1 Starting temperature

The starting temperature describes the minimum permissible ambient temperature in a voltage-free state at the time the coated module is switched on. This is permitted to be as low as -40°C. During operation, the conditions as specified in the technical data continue to apply.

Information:

It is important to absolutely ensure that there is no forced cooling by air currents in the closed control cabinet, e.g. due to the use of a fan or ventilation slots.

2 Order data

Order number	Short description	Figure
	X20 interface module communication	
X20IF10D3-1	X20 interface module, for DTM configuration, 1 EtherNet/IP adapter (slave) interface, electrically isolated	and the second sec
X20clF10D3-1	X20 interface module, coated, for DTM configuration, 1 Ether- Net/IP adapter (slave) interface, electrically isolated	

Table 1: X20IF10D3-1, X20cIF10D3-1 - Order data

Optional accessories

Model number	Short description
X20CA0E61.xxxxx	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 0.2 to 20 m
X20CA0E61.xxxx	POWERLINK/Ethernet connection cable, RJ45 to RJ45, 20 m and longer

3 Technical data

Order number	X20IF10D3-1	X20clF10D3-1					
Short description							
Communication module	EtherNet/IP A	dapter (slave)					
General information							
B&R ID code	0xA71C	0xE237					
Status indicators	Module status, networ	k status, data transfer					
Diagnostics							
Module status	Yes, using LED status	indicator and software					
Network status	Yes, using LED status	indicator and software					
Data transfer	Yes, using LED	status indicator					
Power consumption	21	W					
Additional power dissipation caused by actuators							
(resistive) [W]							
Certifications							
CE	Ye	25					
ATEX	Zone 2, II 3G Ex	nA nC IIA T5 Gc					
	IP20, Ta (see X20	0 user's manual)					
	FIZU 09 AI	IEX 0083X					
UL	cULus E	115267					
HazLoc	CUSAUS Process contr	244005 rol equipment					
	for hazardou	us locations					
	Class I, Division 2,	Groups ABCD, T5					
DNV GL	Temperature:	B (0 - 55°C)					
	Humidity: B (up to 100%)					
	Vibration	: B (4 g)					
	EMC: B (bridge	and open deck)					
	EN	V1					
KR	Ye	28					
ABS	Ye	2S					
EAC	Ye	28					
KC	Yes	-					
Interfaces							
Fieldbus	EtherNet/IP Ac	dapter (slave)					
Variant	2x shielded RJ45 (switch)						
Line length	Max. 100 m between 2 stations (segment length)						
Transfer rate	10/100	Mbit/s					
Transfer							
Physical layer	10BASE-T/1	00BASE-TX					
Half-duplex	Ye	25					
Full-duplex	Ye	25					
Autonegotiation	Ye	25					
Auto-MDI/MDIX	Ye	95					
Controller	netX	100					
Electrical properties							
Electrical isolation	PLC isolated from Ethe	erNet/IP (IF1 and IF2)					
Operating conditions							
Mounting orientation							
Horizontal	Ye	9S					
Vertical	Ye	2S					
Installation elevation above sea level							
0 to 2000 m	No lim	itation					
>2000 m	Reduction of ambient tempe	erature by 0.5°C per 100 m					
Degree of protection per EN 60529	IP2	20					
Ambient conditions							
Temperature							
Operation							
Horizontal mounting orientation	-25 to	60°C					
Vertical mounting orientation	-25 to	50°C					
Derating	-	•					
Starting temperature	- Yes, -40°C						
Storage	-40 to	85°C					
Transport	-40 to	85°C					
Relative humidity	r						
Operation	5 to 95%, non-condensing	Up to 100%, condensing					
Storage	5 to 95%, non-condensing						
Transport	5 to 95%, non-condensing						
Mechanical properties							
Slot	In the X20 CPU and expand-	In the X20c CPU and expand-					

Table 2: X20IF10D3-1, X20cIF10D3-1 - Technical data

4 Operating and connection elements



4.1 LED status indicators

Figure	LED	Color	Status	Description
	READY/RUN	Green/red	Off	No power to module
		Green	On	PCI bus communication in progress
		Red	Blinking	Boot error
			On	Communication on the PCI bus has not yet been started
	Mod status ¹⁾	Green	Blinking	Interface module not yet configured
			On	Adapter (Slave) is operational
		Red	Blinking	Recoverable hardware error
			On	Irrecoverable hardware error
		Green/red	Blinking	Initialization / Self-test
READY/RUN			Off	No power to module
Ret Status	Net status ¹⁾	Green	Blinking	No active connection
			On	Indicates at least one active connection
5		Red	Blinking	Timeout occurred on at least one connection
×			On	An IP address has been used repeatedly
		Green/red	Blinking	Initialization / Self-test
			Off	No IP address assigned or module not supplied
	L/A IF1/IF2	Green	Off	No link to remote station
			Flickering	A link to the remote station has been established. The LED blinks when Ethernet activity is taking place on the bus.
			On	A link to the remote station has been established.

1) This LED is a green/red dual LED.

4.2 Ethernet interface

For information about wiring X20 modules with an Ethernet interface, see section "Mechanical and electrical configuration - Wiring guidelines for X20 modules with Ethernet cables" in the X20 user's manual.



5 Use in the expandable X20BC1083 POWERLINK bus controller

5.1 Cyclic data

If this module is connected to the expandable POWERLINK bus controller, the amount of cyclic data is limited by the POWERLINK frame to 1488 bytes in each direction (input and output).

When using multiple X20IF10xx-1 interfaces or other X2X modules with a POWERLINK bus controller, the 1488 bytes are divided between all connected modules.

5.2 Operating netX modules

It is important to note the following in order to operate netX modules with the bus controller without problems:

- A minimum revision \geq E0 is required for the bus controller.
- netX modules can only be operated with the POWERLINK V2 setting. V1 is not permitted.
- With SDO access to POWERLINK object 0x1011/1 on the bus controller, the netX firmware and the configuration stored on the bus controller are not reset. They can only be overwritten by accessing them again. This affects objects 0x20C0 and 0x20C8, subindexes 92 to 95.

5.3 Timing characteristics

The internal data transfer results in an additional runtime shift of one cycle per direction.

Information:

For additional information about runtime behavior, see section "Runtime shift" in X20BC1083.

6 netX error codes

netX modules return an error code when an error occurs. These error codes are fieldbus-specific. A complete list of all error codes in PDF format is available in Automation Help in section "Communication / Fieldbus systems / Support with FDT/DTM / Diagnostic functions / Diagnostics on the runtime system / Master diagnostics" under item "Communication_Error".

7 Firmware

The module comes with preinstalled firmware. The firmware is part of the Automation Studio project. The module is automatically brought up to this level.

To update the firmware contained in Automation Studio, a hardware upgrade must be performed (see "Project management / Workspace / Upgrades" in Automation Help).

8 Minimum DTM version for coated modules

Information:

The minimum DTM version required for coated modules is 1.0370.140220.12186. This version is included starting with Automation Studio upgrade packs V4.0.18.x and V3.0.90.29.

9 EtherNet/IP interface

Two steps are generally necessary for connecting module X20IF10D3-1 to an external master environment.

1) Add and configure the X20 interface module in B&R's Automation Studio.

2) Add the EtherNet/IP adapter (slave) EDS device description file in the external master environment, e.g. Rockwell RSLogix 5000. The interface module must then be configured.

Information:

To ensure error-free EtherNet/IP communication between master and slave, the settings for the interface module in Automation Studio must match the settings of the EDS device description file in the master environment.

9.1 Settings in Automation Studio

The interface module can be operated in the slot of a CPU or in the slot of an expandable POWERLINK bus controller.

To do this, a new Automation Studio project is created and the suitable settings are made on the module.

9.1.1 Creating an Automation Studio project

• Create a new Automation Studio project by selecting "New project".

Fil	ile Edit	View	Open	Project	Debug	Sou
i 🛅	New F	roject			Ctrl+Shift	t+N
F 🔄	👔 Open	Project	Ŋ.		Ctrl	+0

• Assign a project name and set up the project path.

Automa In this scree	ation Studio - New Project Wizard	
	Name of the project: MyProject Path of the project	
	C:\projects/WyProject\ Note: A subfolder with the same name as the project will be created automatically.	
	Next > Cancel Help	

• Assign the hardware configuration type and configuration name.

<i>i</i>	Name of the configuration: Config1
	Hardware Configuration
	Define a new hardware configuration manually
	Identify hardware configuration online
	Reference an existing hardware configuration (*.hw).

• Select the hardware in the next step if "Define a new hardware configuration manually" was selected. In order to simplify the search, different filters can be set in the Hardware Catalog. Lastly, highlight the required hardware and create the Automation Studio project by clicking on "Finish".

Catalog Favorites Recent	Search	P - ^	
Controller		_	
System X20		~	
Name X20CP1486 X20CP1583	Description X20 CPU Celeron 650, POWERLINK, 1x IF X20 CPU ATOM, 0.3GHz, POWERLINK, 1x	∧ F 5 5	
Activate Simulation Autor	nation Runtime type: AR Embedded	∼ Hep	

9.1.2 Adding and configuring the interface module

• In this example, the interface card is connected in the slot of a CPU. Right-clicking on the slot and selecting "Add hardware module" opens the Hardware Catalog.

Physical	View					→ # ×
Name			L	Position	Version	Description
Ξ	🧬 X20	DCP1583			1.4.2.0	X20 CPU ATOM, (
	54	Serial		IF1		Communication Pc
	👍	ETH		IF2		Ethemet
	🚟	PLK		IF3		POWERLINK
	•	 USB 		IF4		Universal Serial BL
		 USB 		IF5		Universal Serial BL
	🐔	, X2X		IF6		B&R X2X Link
	- la			<u>ec1</u>		
		Ad	d Hardware	Module		
		-				

• The module is added to the project via drag-and-drop or by double-clicking on the interface card.



• Additional module settings can be made under "Device configuration". This configuration environment is opened by right-clicking on the IF interface and selecting "Device configuration".

Physical View				
8.0 8 8 8	🗟 🗟 🕷 🛷			
Name		L Position	Version	Description
🖃 🛷 X20CP	1583		1.4.2.0	X20 CPU AT
	erial	IF1		Communicatio
🚠 E1	TH	IF2		Ethemet
🎇 PL	LK	IF3		POWERLINH
🛶 US	SB	IF4		Universal Ser
	SB	IF5		Universal Ser
🐁 X2	2X	IF6		B&R X2X Linl
ė 🗞 X2	20IF10	SS1	1.1.0.0	X20 Interface
	Device Configura	ation		
	A shafat a shi Filin aa			

• General settings are made in the device configuration.

NEX IO Device: NETX Vendor: Hilsch	(100 RE/EIS her GmbH	Dev Ven
Navigation Area		Gene
Firmware Download	Description: X20IF10D3_1	
 ➡ General ➡ General Electronic Keying Connection Assembly Signal Configuration Device Settings ➡ Description Device Info 	IP Settings □ DHCP □ BootP ☑ Fixed Addresses IP Address: 192 . 168 . 10 Network mask: 255 . 255 . 255 Gateway: 0 . 0 . 0	. 1

9.1.2.1 General

The IP settings and operation modes of the ports are set here. Only one of the IP settings can be enabled on the adapter (slave).

Contains the symbolic name of the module.

Parameter	Explanation
Description	Module name of the adapter

- IP settings

The IP addresses and operation modes of the Ethernet interface are set here.

Parameter	Explanation	
DHCP	IP address determined via DHCP protocol.	
BootP	IP address determined via BootP protocol.	
Fixed addresses	The IP address is static. The IP address is defined by the following 3 parameters.	
IP address	IP address of the EtherNet/IP adapter	
Network mask	Network mask of the EtherNet/IP adapter	
Gateway address	Gateway address of the EtherNet/IP adapter	

- Port 1

Parameter	rplanation					
Operating mode	perating mode of the EtherNet/IP adapter (slave)					
MDI mode	Configure cable type					
	Auto MDI-X: Detect cable type automatically					
	MDI-X: Use crossover cable.					
	MDI: Use straight-through cable.					

- Port 2

Identical to port 1

9.1.2.2 Electronic keying

Here, it is possible to set which parameters on the device and in the master's device description file must match exactly.

A connection between the EtherNet/IP scanner and the adapter can only be established if the parameter settings for the interface module in Automation Studio defined by the keying method match those in the EDS device description file.

Method	Explanation
Exact match	When validating an EtherNet/IP adapter connected to the network, all attributes of the electronic identity must correspond
	to the attributes for an expected device.
Custom keying	When validating an EtherNet/IP adapter connected to the network, all attributes must correspond to the configured keying.
No keying	The device identity is not validated.

If "Custom keying" is selected, the following parameters can be checked.

Parameter	Explanation	
Relaxed match	Devices can verify their electronic identity in a restricted form.	
Match minor revision	Checks for compliance with the secondary revision	
Match major revision	Checks for compliance with the main revision	
Match product code	Checks for compliance with the product code	
Match product type	Checks for compliance with the product type	
Match vendor	Checks for compliance with the vendor ID	

9.1.2.3 Connection

- Connection name

The name of the connection can be assigned here.

Parameter	Explanation
Connection name	Name of the connection

- Originator to target

The transfer format from the scanner to the adapter can be assigned here.

Parameter	Explanation			
RT transfer format	Transfer format			
	Connection is pure data and is modeless			
	32-bit run/idle header			

- Target to originator

The transfer format from the adapter to the scanner can be assigned here.

Parameter	ixplanation				
RT transfer format	Transfer format				
	Connection is pure data and is modeless				
	32-bit run/idle header				

Information:

The default settings for "RT transfer format" can differ depending on the Automation Studio version / DTM version used.

The device description file package available on the B&R website contains 2 different EDS device description files:

- RT_Transfer_format_OT_32bit_TO_32bit
- RT_Transfer_format_OT_32bit_TO_modeless

The settings must be adjusted depending on the EDS file used. Inconsistencies will occur in the I/O image if the settings for the interface module do not match the settings in the EDS device description file in Automation Studio.

9.1.2.4 Assembly

Here is a list of input and output connections. The data length and the instance ID can be adjusted. If the instance ID or the length of the data is changed, this setting must also be adjusted in the master environment. Otherwise, no connection can be established from the scanner to the adapter.

Parameter	Explanation	Values
In/Out	Input/Output connections of the EtherNet/IP adapter	
Connection name	Name of the input or output connection of the EtherNet/IP adapter	
Instance ID	Instance ID of the connection (editable)	1 to 65535
Data length	Data length in bytes (editable)	0 to 504
Min. length	Minimum data length in bytes	0
Max. length	Maximum data length in bytes	

9.1.2.5 Signal configuration

The data structure of the individual modules can be defined here; the name and data type of the inputs and outputs can also be adjusted. Data types can also be combined.

Parameter	Explanation
Slot	Position of the slot
Name	Name of the slot
Module type	Data type of the slot

After selecting a slot, the type of the assembly (input or output), data type and offset are displayed in another table below.

After right-clicking on the signal to be configured, the following options can be selected in the shortcut menu:

Edit signal

This allows the currently selected signal to be edited.

Parameter	Explanation							
Name The new name for the signal			r the signal					
New type The new data type for the sid			e for the signa	al				
Count Number of individually listed structured; the quantity is not - The maximum number corre type. - If fewer elements are selected				I data type elements for the signal. Only the data of the original type is re- t adjusted. esponds to the quantity that the new data type requires to display the original ted, the last data type element is listed as an array of all remaining elements.				
Apply as array If selected, the new dat "Count" are displayed.					splayed as an array. Otherwise, the	e data type elemen	its set under	
as_Conveyor_	Merge Signals			Slot	Name			
UT ASSEMDA	BME U. Dwebucohioran	100	15	Slot 1	Connection1			
Name: Output_Assembly_B First in Group: Output_Assembly_By		yte_10		Nar	ne	Туре	Offset	
		te_10		Stat	us Conveyor 1	bit	0.0	
				Out	put Assembly Byte 0 Byte 0 Bit 1	bit	0.1	
Last in Gr	oup: Output_Assembly_By	_Byte_13		Out	put_Assembly_Byte_0_Byte_0_Bit_2	bit	0.2	
New Trees				Out	put_Assembly_Byte_0_Byte_0_Bit_3	bit	0.3	
New Type	byte			Out	put_Assembly_Byte_0_Byte_0_Bit_4	bit	0.4	
Count:	4	•		Out	put_Assembly_Byte_0_Byte_0_Bit_5	bit	0.5	
Apply as Array				Out	put_Assembly_Byte_0_Byte_0_Bit_6	bit	0.6	
				Out	put_Assembly_Byte_0_Byte_0_Bit_7	bit	0.7	
	OK	Cancel		Ten	1p_1	byte	1	
	L			Pos	ition_5	word	2	
				Cou	nter_10	dword	4	
				Out	put_Assembly_Byte_8	byte	8	
				Out	put_Assembly_Byte_9	byte	9	
				0.4	And Annually Date 10	A hude memory	10	

Reset

This can be used to undo the signal change or a merge previously completed with "Merge signal".

Merge signal

This allows all signals between "First in group" and "Last in group" to be merged to form a new group. The same settings can be made for the new group as under "Edit signal".

Output_Assembly_Byte_13

Output_Assembly_Byte

The settings made are reflected in the process image (I/O mapping).

Configuring the	signal	
Name	Туре	Offset
Status_Conveyor_1	bit	0.0
Output_Assembly_Byte_0_Byte_0_Bit_1	bit	0.1
Output_Assembly_Byte_0_Byte_0_Bit_2	bit	0.2
Output_Assembly_Byte_0_Byte_0_Bit_3	bit	0.3
Output_Assembly_Byte_0_Byte_0_Bit_4	bit	0.4
Output_Assembly_Byte_0_Byte_0_Bit_5	bit	0.5
Output_Assembly_Byte_0_Byte_0_Bit_6	bit	0.6
Output_Assembly_Byte_0_Byte_0_Bit_7	bit	0.7
Temp_1	byte	1
Position_5	word	2
Counter_10	dword	4
Output Accombly Rute 8	hute	Q

	Process image							
+0	Connection1_Status_Conveyor_1	TRUE		FALSE	BOOL			
+0	Connection1_Output_Assembly_Byte_0_Byte_0_Bit_1	TRUE		FALSE	BOOL			
+0	Connection1_Output_Assembly_Byte_0_Byte_0_Bit_2	TRUE		FALSE	BOOL			
+0	Connection1_Output_Assembly_Byte_0_Byte_0_Bit_3	TRUE		FALSE	BOOL			
+0	Connection1_Output_Assembly_Byte_0_Byte_0_Bit_4	TRUE		FALSE	BOOL			
+0	Connection1_Output_Assembly_Byte_0_Byte_0_Bit_5	TRUE		FALSE	BOOL			
+0	Connection1_Output_Assembly_Byte_0_Byte_0_Bit_6	TRUE		FALSE	BOOL			
+0	Connection1_Output_Assembly_Byte_0_Byte_0_Bit_7	TRUE		FALSE	BOOL			
+0	Connection1_Temp_1	16#11		16#00	USINT			
+0	Connection1_Position_5	16#3322		16#0000	UINT			
+0	Connection 1_Counter_10	16#7766		16#0000	UDINT			
+0	Connection1_Output_Assembly_Byte_8	0		0	USINT			

byte

byte

9.1.2.6 Device settings

- Start of bus communication

It is possible to select how data exchange is started on the module.

Parameter	Explanation
Automatically by device	Data exchange is started automatically after initializing this module.
Controlled by application	Data exchange is started by Automation Runtime.

- Application monitoring

The module-internal watchdog time can be set here. If the watchdog has been enabled (watchdog time not equal to 0), the hardware watchdog must be reset after the set time at the latest.

Parameter	Explanation	Values
Watchdog time	Watchdog software disabled	0 ms
	Permissible range of values Default value: 1000 ms	20 to 65535 ms

Information:

The watchdog time is reset automatically by Automation Runtime.

- Process image storage format

This parameter is not supported.

9.1.2.7 Description

General device information and the entire GSDML file can be read here.

9.2 EDS device description file

The module description is made available to the master in an EDS file. This file contains the description of the slave's complete range of functions. The EDS file can be downloaded from the B&R website (<u>www.br-automation.com</u>) in the Downloads section for the interface module and then imported into the respective master environment.

10 Rockwell RSLogix5000

Software and hardware used for this example:

- X20IF10D3-1 B&R EtherNet/IP adapter interface module
- EDS file from the B&R website
- Rockwell CompactLogix_1769_L35E CPU as EtherNet/IP scanner
- Rockwell RSLogix5000 V20

10.1 Creating a new project

• If necessary, a new project can be created after opening the RSLogix5000 development environment.

To do this, *File* \rightarrow *New* is selected; CPU type, CPU revision, name and path of the new project are specified.

RSLOGIX 2000)		
File Edit Vie	w Search Logic	Communications Tools Window Help	
	5 X B B		R (Q) - S
No Forces No Edits Redundancy	RUN OK BAT I/0	Image: Path TH-1\192.168.0.99\Backplane\0 Image: Path TH-1\192.168.0.99\Backplane\0 Image: Path Image: Path Image: Path Image: Path <th>L) A Timer/Counter A</th>	L) A Timer/Counter A
Ne	ew Controller		
V	/endor:	Allen-Bradley	
I	ype:	1769-L35E CompactLogix5335E Controller 🗸	ок
F	le <u>v</u> ision:	20 🔻	Cancel
	lame:	Adapter X20IF10D3	Help
C	– Description:	*	
G	Phassis Type:	<pre></pre>	
9	il <u>o</u> t:	0 Safety Partner Slot: <none></none>	
c	ir <u>e</u> ate In:	C:\RSLogix 5000\Projects	Browse
3	ecurity Authority:	No Protection)
		Use only the selected Security Authority for Authentication and Authorization	

10.2 Import EDS device description file

• The EDS device description file of the interface module must then be imported into the development environment. The device description file for interface module X20IF10D3-1 is available for download on the B&R website (www.br-automation.com).

- The EDS import wizard can be started via Tools \rightarrow EDS hardware installation tool.
- 1. Select the EDS file registration.

2. Specify the EDS file name.

4. Select a graphic symbol.

6. Completing the import



3. Test the installation.

Rockwell Automation's EDS Wizard EDS File Installation Test Results This test evaluates each EDS file for errors in the EDS file. This test does not guarantee EDS file validity.		Change Graphic Image State You can change the graphic image that is associated with a device. Image State
□ Installation Test Results 		Change icon Change icon Communications Adapter X20 IF 10D3-1
	Cancel	< Back Next > Cancel

5. Summary

5		
Rockwell Automation's EDS Wizard	Rockwell Automation's EDS Wizard	8
Final Task Summary This is a review of the task you want to complete. You would like to register the following device. X20IF10D3-1	You H	have successfully completed the EDS Wizard.
< Back Next >	ncel	Finish

10.3 Adding and configuring the EtherNet/IP adapter

• A new module can be added by right-clicking on the Ethernet section of the CPU and selecting "New module".

Controller Organizer	Select Module Type Catalog Module Discovery Favorites Enter Search Text for Module Type Dear Filters	Hide Filters 🕿
MainProgram Motion Groups Gord Aces Add-On Instructions Data Types Gord Data Types	Image: Module Type Category Filters Image: Module Type Category Filters Image: ClP Motion Drive Image: Motion Drive Image: Communication Image: Motion Drive Image: Communication Adapter Image: Communication Communication Image: Communication Communication Communication Image: Communication Communication Image: Communication Communication Communication Communication Image: Communication Communication Image: Communication Communication Communication Communication Image: Communication Communication <td>Module Type Vendor Filters</td>	Module Type Vendor Filters
Grings Add-On-Defined Add-On-Defined Gring Predefined Trends Trends Gringuration Backplane, CompactLogix System T79-L35E Adapter_X20FJ0D3 GringL769-L35E Ethermet Port LocalENB	Catalog Number Description X20IF10D3-1 X20IF10D3-1	Vendor Category Bernecker + Rai Communications Ada
	1 of 245 Module Types Found	Add to Favorites Create Close Help

• After clicking on **Create**, various basic settings can be made in the next dialog box under *General*.

- Define the name and IP address.

- Select the connection and "Electronic keying". The name of the connection (e.g. Exclusive owner) and "Electronic keying" must be identical to the interface settings in Automation Studio. Otherwise, no connection is established between the EtherNet/IP scanner and adapter.

	-	Revision: 1 Electronic Keying: Disab Connections:	• Le Keying	35 🐳	2	
Module Definition		Name		Remote Data	Size	
Revision: 1.35		Evolucius Ousper	Input:	Input_CP 101	32	SINT
Electronic Keving: Compatible Module		Exclusive Owner	Output:	Output_CP 100	32	51141
Connections: <none></none>	Change	<u></u>				

10.4 Assigning the IP address of an EtherNet/IP scanner

• Right-click on the local Ethernet port of the CPU to open the Properties window. The IP address of the EtherNet/IP scanner is assigned here. This IP address must be identical to the local IP address of the CPU.

Image: Communications Fools Vintuol Heip	
Image:	
No Forces	
No Edits ■ I/O No Edits ■ I/O No Edits ■ I/O A H hard H + +/+ - (-) - (U) - (L). A H hard H + +/+ - (-) - (U) - (L) -	
Controller Organizer - 7 × Module Properties Report: Controller:1 (1769-L35E Ethernet Port 20.11)	
Controller Adapter_X20IF10D3 Controller Tags Controller Fault Handler Power-Up Handler MainTask MainTask MainProgram Unscheduled Programs / Phases Controller Mation Groups Motion Groups Add On Instructions Motion Groups Motion Group	
Slot: 1 Major Revision: 20 Weight User-Defined Module-Define	

10.5 Establishing a connection to the CPU and downloading the configuration

Information:

To connect the CPU to RSLogix, the CPU must already have a valid IP address. Setting the IP address of the CPU is done according to the CPU used and must be looked up in the respective CPU documentation.

• To connect RSLogix to the CPU, the path to the CPU must be defined in RSLogix.

If the path to the CPU has not yet been created, it must be created using RSLinx. For details, see "Creating a path with RSLinx" on page 17.

🗭 RSLogix !	5000 - Adapter_X20IF10D3 [1769-L	35E 20.11]		+ 6	ategge2317
File Edit	View Search Logic Commu	nications To	ols Window Help		
12 🗃 🖬			- → #ª # <u>4</u> [🕼 📝 😰 🔍 🔍 🛛 Select a Language	- 😣
Offline			Path: <none></none>	▼ 🖁	<u> </u>
No Edits		4		{U}{L}-	
			Image: Image: Here → Favorites → Add-On → Safet	ty 🕻 Alarms 🕻 Bit 🥻 Timer/Cr	

• If the path is valid, the addresses of all available EtherNet/IP scanners (CPU) and adapters become visible after clicking on button **Who active**.

Open the desired EtherNet/IP scanner wide enough so that the corresponding processor is visible; mark it, click on **Set project path** and download the project.



10.5.1 Creating a path with RSLinx

The RSLinx application is installed with the RSLogix 5000 installation.



Starting the graphical user interface

Information:

The RSLinx graphical user interface might not start in certain operating systems such as Windows Vista, Windows 7 and Server 2008.

If RSLinx Classic is running as a server, it is not possible to start the graphical user interface. This is only available if RSLinx Classic is in application mode.

To toggle between execution as a service and application mode, use the RSLinx Classic launch control panel. For this, see:

Start \rightarrow Programs \rightarrow Rockwell software \rightarrow RSLinx \rightarrow RsLinx Classic launch control panel

RSLinx Classic Se	rvice is runnin	ig.	
Start		Stop	
✓ Always Run As	Service		

In order to disable **Always run as service**, you must first click on button **Stop**. Other Rockwell software may need to be closed before the service is ended.

Finally, **Always run as service** can be disabled and RSLinx can be started as an application by clicking on **Start**.

• To create the path, open **Configure drivers** and select "Ethernet devices" as the driver type.

🗞 RSLinx Classic Lite - [RSWho - 1]
윪 File View Communications Station DDE/OPC Security W 윪 중圖
Autobrowse Refresh
□
Configure Drivers
Available Driver Types:
Ethernet devices
1784-U2DHP for DH+ devices BS-232.DE1 devices
Ethernet.devices Ethernet.devices T784-PKTX(D)/PCMK for DH+/DH-485 devices 1784-PCIC(S) for ControlNet devices DH495 UIC devices

• Right-click on the newly added driver type (AB_ETH1, Ethernet) and select **Configure driver**. In the configuration dialog box, enter the IP addresses of the EtherNet/IP scanner (CPU) and the adapter.

Select driver



Enter IP address

Station	Host Name	A	Add <u>N</u> ew	
0	192.168.0.99			
1	192.168.0.100		Delete	
63	Driver			

• If "Autobrowse" is enabled, both devices should be found shortly thereafter and displayed in RSLinx.

📅 File View Communications Station DDE/OPC Security Window	w Help

Autobrowse Refresh	und
□	
Horas Ab_E117-1, Ethernet 	192.168.0.99 192.168.0.100 1769-L35E X20IF10D3-1

• Close RSLinx again and continue working with RSLogix 5000.

10.6 Reading and setting inputs/outputs of the EtherNet/IP adapter

• The configured outputs of the Ethernet/IP adapter can now be set and the inputs can be read under "Controller tags".

RSLogix 5000 - Adapter_X20IF10D3 [1769-L35E 20.13]*	* - [Controller Tags - Adapter_X20IF1	0D3(controller)]	+	Î Î		ategge2317		-		
	A& A& C			r						
	·		44	Select a Language	B	* *				
Rem Run 🚺 🔲 Run Mode 🔤 🔣	Path: AB_ETH-1\192.168.0.9	9\Backplane\0	•	器						
No Forces Controller OK No Edits A L/D OK										
	← → \ Favorites \ Safety \ A	larms 🔏 Bit 🔏 T	imer/Counter							
Controller Organizer 🔷 🗣 🕇	× Scope: 🛐 Adapter_×20IF11 →	Show: All Tags								
The Controller Adapter_X20IF10D3	Name	_≘a ∆ Value	€ F	Force Mask 🔶 🗲	Style	Data Type	Description	Constant		
Controller Tags	- X20IF10D3:1		{}	{}		_0377:X20IF10D				
Bower-Up Handler	-X20IF10D3:I.Connectio	nFaulted	0		Decimal	BOOL				
	-X20IF10D3:I.RunMode		1		Decimal	BOOL				
A MainTask	X20IF10D3:I.Data		{	{}	Decimal	SINT[32]				
A MainProgram	+ X20IF10D3:I.Data[0]		99		Decimal	SINT				
Unscheduled Programs / Phases	+ X20IF10D3:I.Data[1]		66		Decimal	SINT				
A Motion Groups	+ X20IF10D3:I.Data[2]		33		Decimal	SINT				
- Avec	+ X20IF10D31 Data[3]				Decim=!	SINT				
Auu-on Instruction	(Pl Datato				mal	(Suppl				
	+ X20E10D31 Data[31	1	0		Decimal	SINT		-		
·	- X20/F10D30	1	1	1	e connar	0377-X20IE10D				
	X20E10D3:0 Data		1 1		Decimal	SINT[32]				
	+ X20/F10D3:0 Data[0	1		(,	Decimal	SINT		-		
	+ X20F10D30 Data[1	1	22		Decimal	SINT				
	+ X20F10D30 Data[1	1	44		Decimal	SINT				
	+ X20F10D30 Data[2	1			Decimal	SINT		_		
	+ X20F10D3/0 Data[4		0		Decimal	SINT		_		
		1	0		Decimal	CINIT		-		
< <u> </u>	Monitor Tags / Edit Tags	ags/					•			

The online mode must be enabled as well. In order to force outputs, **Enable all I/O forces** must also be enabled.

🖁 📄 🔠 Contro

Enable the online mode



Enable "Force" 🗭 RSLogix 5000 - Adapter_X20IF10D3 [1769-L35E 20.13]* - [Controller Tags - Adapt 📝 File Edit View Search Logic Communications Tools Window H Ŧ 🛛 🗸 🔲 I/O Forces: Offline Path: AB_ETH-1\1 Disabled No Forces ⊧., None Installed No Edits I/O Forcing Enable All I/O Forces Disable All I/O Forces SFC Forcing . Controller Org Remove All I/O Forces ¢ Controller Properties

Name