



Rockwell: Ethernet Ip
MicroLogix PLC family

Driver Documentation

Connect
Ideas.
Shape
solutions.



Table of contents

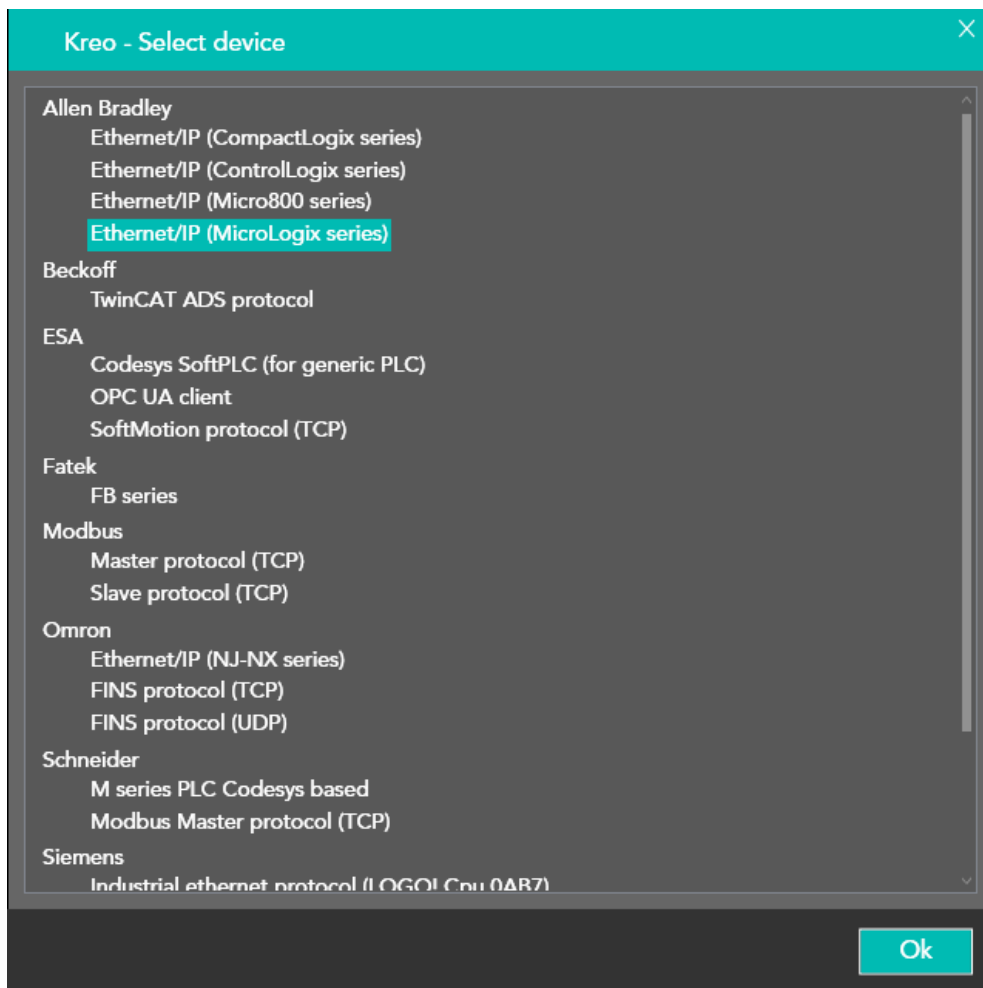
Document description	3
Driver Selection	3
Communication parameters	4
Tag definition	6
Data Area	7
Error codes.....	8



Document description

This document is dedicated to the programming and functionality of the Rockwell MicroLogix driver included in the Kreo HMI driver portfolio.

Driver Selection



In the Kreo HMI driver portfolio select Rockwell – Ethernet Ip (Micrologix series).



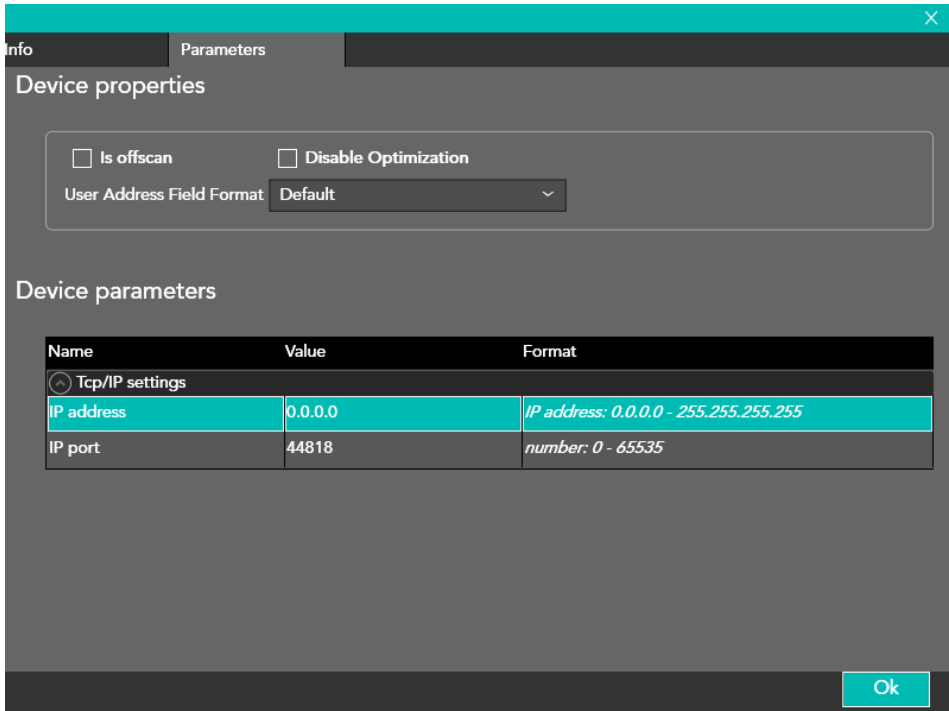
Communication parameters

A double click on the HMI model will display the below pop_up page.

IP address	Ip address of the HMI port connected to the Micro800 PLC
Subnet mask	HMI port subnet mask
Ping timeout	The PING message is used to check the connection stability
Protocol timeout	Ethernet Ip communication time out. The PLC has to reply inside this timing in order not to have the communication error.
No. of retry	Number of retries to be sent (with communication error) before rising the HMI error status.



Double click on the communication driver will open the pop_up window below.



Is Offscan	The communication driver is not scheduled. In order to enable the communication the user has to force the ST script functions below. TAG_SETOFFSCANDEV (device, state) TAG_SETOFFSCAN (Tag, state)
Disable optimization	The data exchange optimization is disabled. Each Tag is required with a separate message.
User address field format	Tag addressing format. The default one is defined in the driver database configuration but the user can select the preferred one (DECIMAL or HEX). In case of symbolic addressing driver this parameter does not have any effect.
Address prefix	Prefix added to the initial part of the Tag path
IP address	PLC Ip address
IP port	PLC communication port. The value displayed is the default port.



Offscan

The Offscan option can be selected in case the machine module is part of the application but is not physically connected.



A device which is NOT CONNECTED but in ONSCAN state will reduce dramatically the data refresh performance.

The timeout error of the communication driver will delay the Tag requests.

Disable optimization

This option can be used in order to identify which Tag displayed on a specific page is causing the communication error.

The value of this Tag will not be displayed but some ????? will be displayed in the numeric field.

Tag definition

The screenshot shows a 'Tag definition' dialog box with the following configuration:

- Tag: Tag1
- Address type: Device
- Type: UnsignedInteger
- Array size: 1
- Device: Ethernet/IP (MicroLogix series)
- Dynamic:
- Data Area: Integer
- Data Type: Word
- BCD:
- Signed:
- File: 3
- Element: 0
- Persistent:
- Read only:
- Always update:
- Use in scripts:
- Allow subtags:
- Tag OPC:
- Refresh (ms): 0
- OffScan mode: Never
- Network Id: 0
- Use default value:
- Unit: [None]

The Tag addressing is based on the classic Rockwell format file/element.



Data Area

AREA	TIPO	DIM.	R/W	DESCRIZIONE
Integer	Word Dword String	16 32 8	R/W	Read/Write of Integer data type. The page and exchange areas data optimization is by default.
Timer	EN / TT / DN ACC PRE	1 16 16	R/W	Read/Write of the Timer data area
Counter	CU / CD / DN OV / UN / UA ACC PRE	1 1 16 16	R/W	Read/Write of the Counter data area
Input	Bit Word	1 16	R/W	Read/Write of the Input data area
Output	Bit Word	1 16	R/W	Read/Write of the Output data area
Bit	Bit Word	1 16	R/W	Read/Write of the Bit data area
Floating	Dword Floating (32-bit)	16 16	R/W	Read/Write of the Floating data area
String	String	8	R/W	Read/Write of the String data area
Long	Dword	32	R/W	Read/Write of the Long data area



Error codes

CODE	DESCRIPTION
DRIVER ERROR	The message cannot be sent HW problem at the port level
PROTOCOL ERROR	Generic error
PROTOCOL TIMEOUT	The HMI did not receive any reply from the PLC inside the time out window
PROTOCOL OFFLINE	The TCP/IP connection cannot be established
SOCKET ERROR	The ethernet socket cannot be created
PING FAIL	The device is not replying the PING command
TRANSMISSION ERROR	The TCP message cannot be created
ERROR	Unknown error



Connect
ideas.
shape
solutions.

[ESA S.p.A. | www.esa-automation.com](http://www.esa-automation.com) |