Omron – Ethernet Ip
NJ – NX series

Driver Documentation

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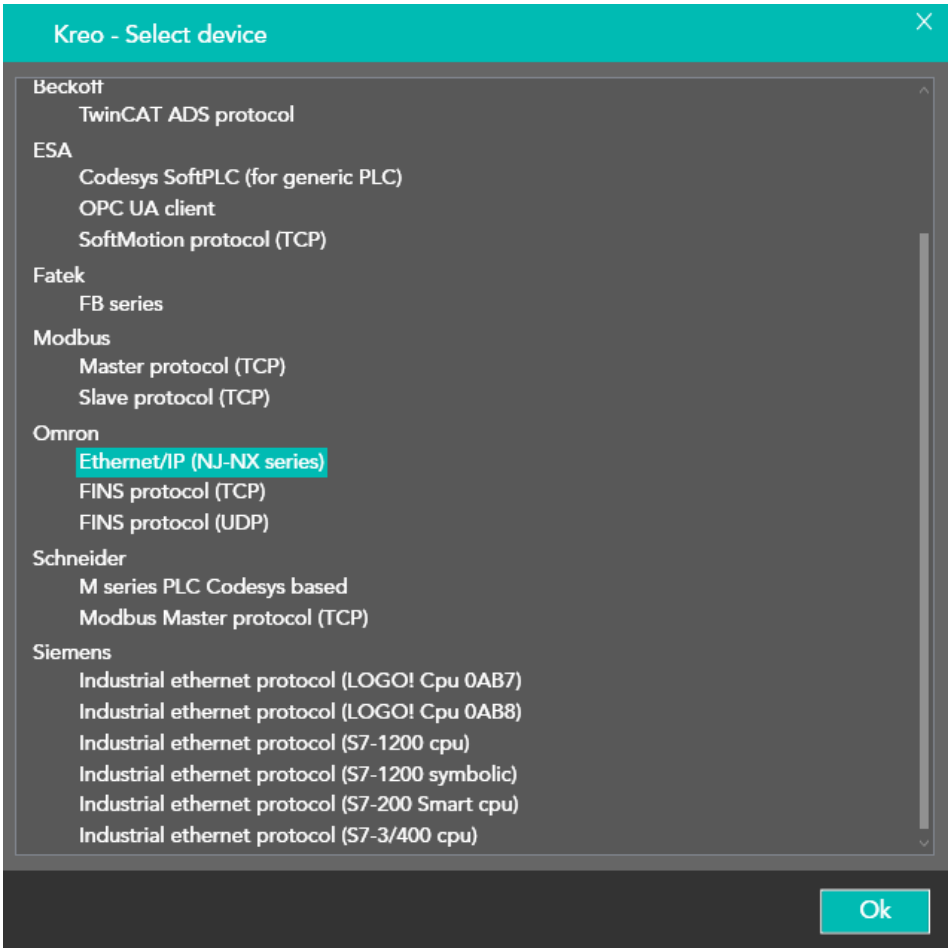
Document description

This document is dedicated to the programming and functionalities of the Omron Ethernet Ip driver. Both NJ and NX PLC series are supported.

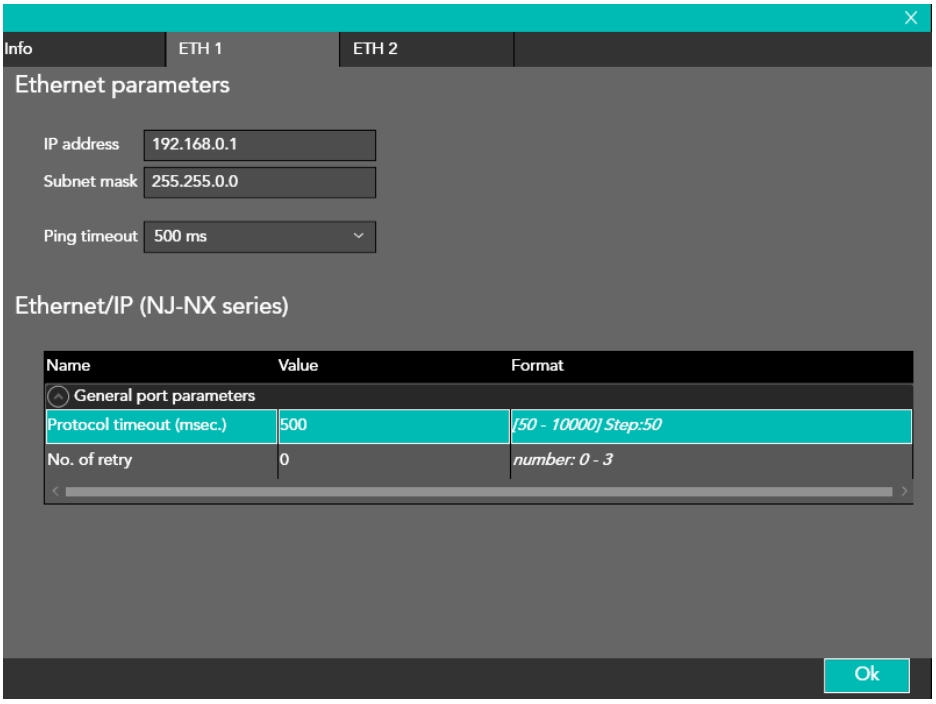
Driver selection



Select Omron – Ethernet/IP (NJ-NX series) in the Kreo HMI driver portfolio.

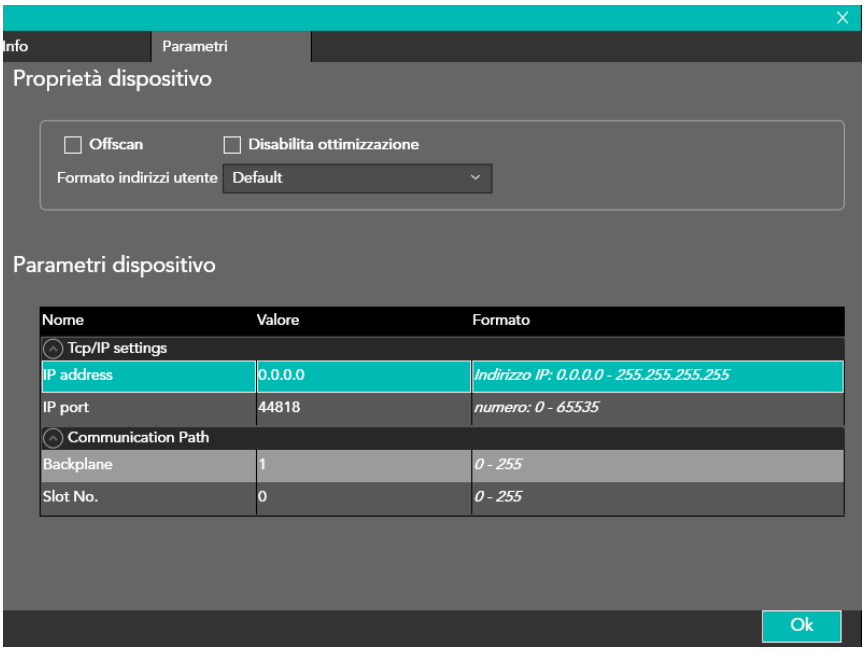
Communication parameters

The page below is displayed by double-clicking over the HMI model.



IP address	Ip address of the HMI port connected to the Omron PLC
Subnet mask	Subnet mask of the HMI port connected to the Omron PLC
Ping timeout	The PING command is sent to the PLC in order to check the connection stability
Protocol Timeout	The PLC hhas to reply before this timing window will expire. In case of delay the driver will be forced into the error state
No. Of retry	Number of retries necessaries before forcing the driver error status

The page below is displayed double clicking on the Omron driver



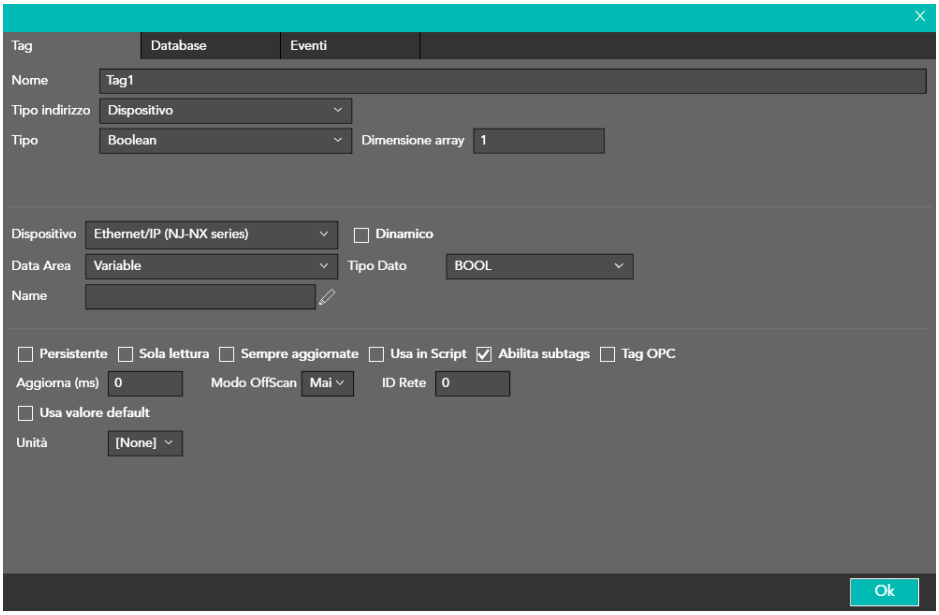
Is Offscan	The driver is defined in the project but will not be scheduled. In order to enable the driver it is mandatory to use the ST script function: TAG_SETOFFSCANDEV (device, state) TAG_SETOFFSCAN (Tag, state)
Disable Optimization	Disable the data optimization. Each tag will be refreshed with a separate communication message.
User Address Field Format	Tag address format. The default format is defined in the driver description but the user can select the desired format (DECIMAL or HEXADECIMAL)
Ip address	Ip address od the PLC port
Ip port	Communication port. The default value (44818) is the standard port for Ethernet Ip communication
Backplane	CPU backplane number
Slot No	CPU slot number inside the specific backplane

IsOffscan
Is offscan management can be used in case a specific machine module will be part of the Kreo HMI project but will not be physically connected.

A NOT CONNECTED and ONSCAN device will reduce dramatically the performance of the page refresh due to the communication timeout.

Disable Optimization:
This option can be used in order to identify wich of the data displayed on a specific page is causing the communication error.
The value will not be displayed but a series of ????? will let the user identify the faulty tag to be fixed.

Tag programming



The Tag addressing is totally symbolic.
The Tag name is the address itself.
If the Tag is part of a datastructure the Tag address is the complete structure path.

Tag database importing

The user can import the Tag database from the PLC programming environment both in TXT and XLSX formats.

Data Area

AREA	TYPE	DIM.	R/W	DESCRIPTION
Variable	Bool Sint Int Dint Real LReal LInt ULInt String	1 8 16 32 32 64 64 64 8	R/W	Both read and write access

- <TagName>: Simple Tag
- <TagName>[X]: Array element
- <TagName>.<ElementName>: Structure element

Error codes

CODE	*DESCRIPTION*
DRIVER ERROR	The message cannot be dispatched Hardware error
PROTOCOL ERROR	Generic error
PROTOCOL TIMEOUT	The PLC did not reply before the time out has expired
PROTOCOL OFFLINE	The TCP/IP connection cannot be established
SOCKET ERROR	The ethernet socket cannot be created
TRANSMISSION ERROR	The TCP message cannot be created
ERROR	Unknown error

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