Rockwell DF1 – SLC5

Driver Documentation

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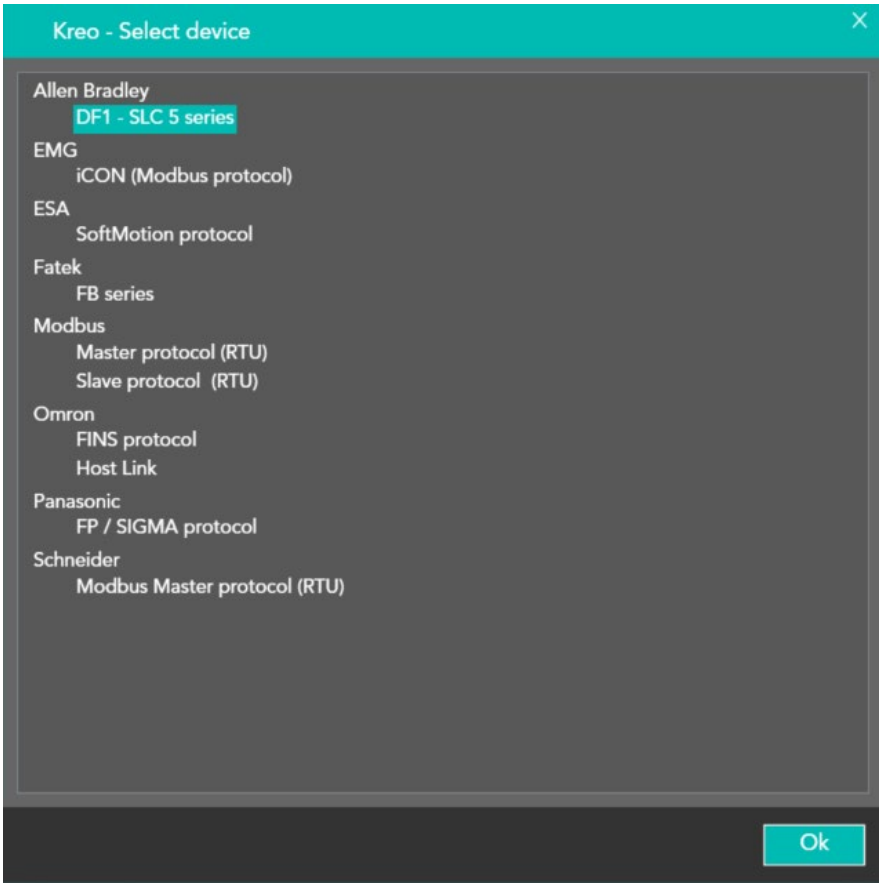
Document description

This document is dedicated to the programming and functionality of the Rockwell DF1 driver for SLC5 series PLCs.

This communication protocol works on RS232 and RS485 serial port and therefore is available on Lumia series products equipped with a serial port.

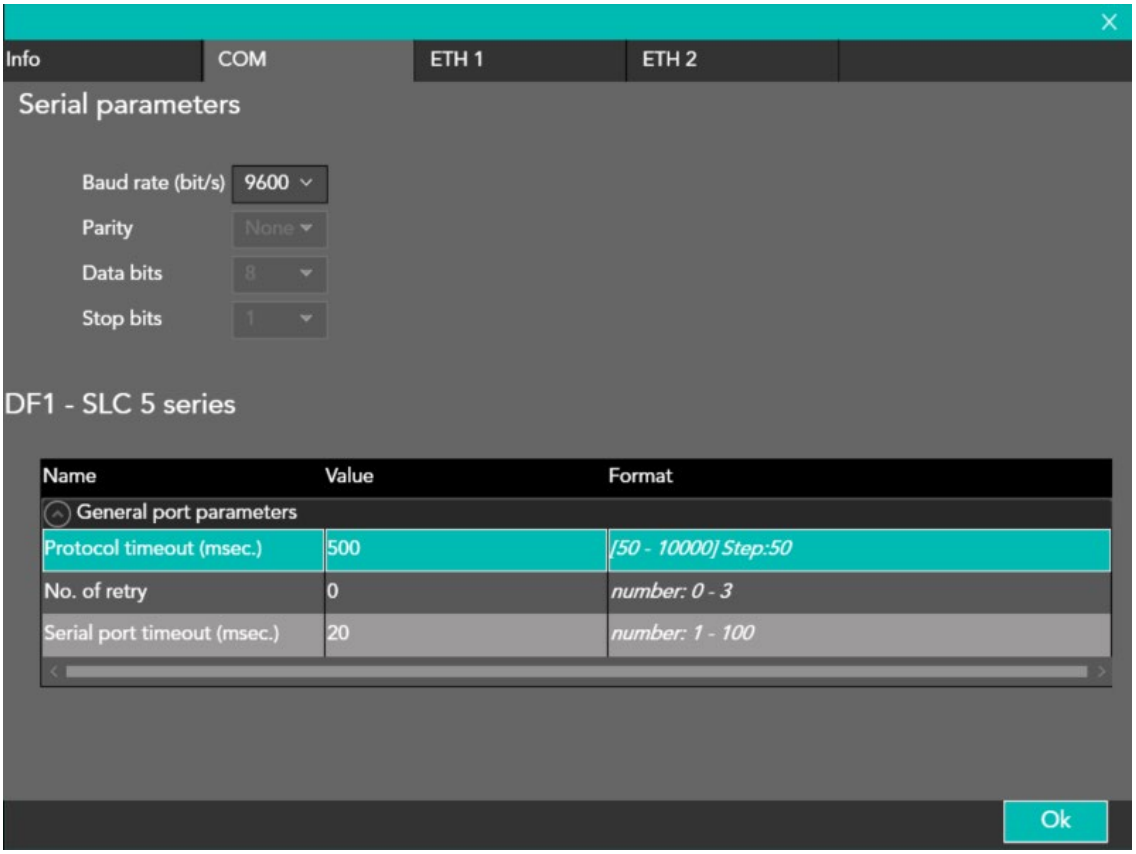
Driver Selection



In the Kreo HMI drivers portfolio select Allen Bradley – DF1 – SLC 5 series.

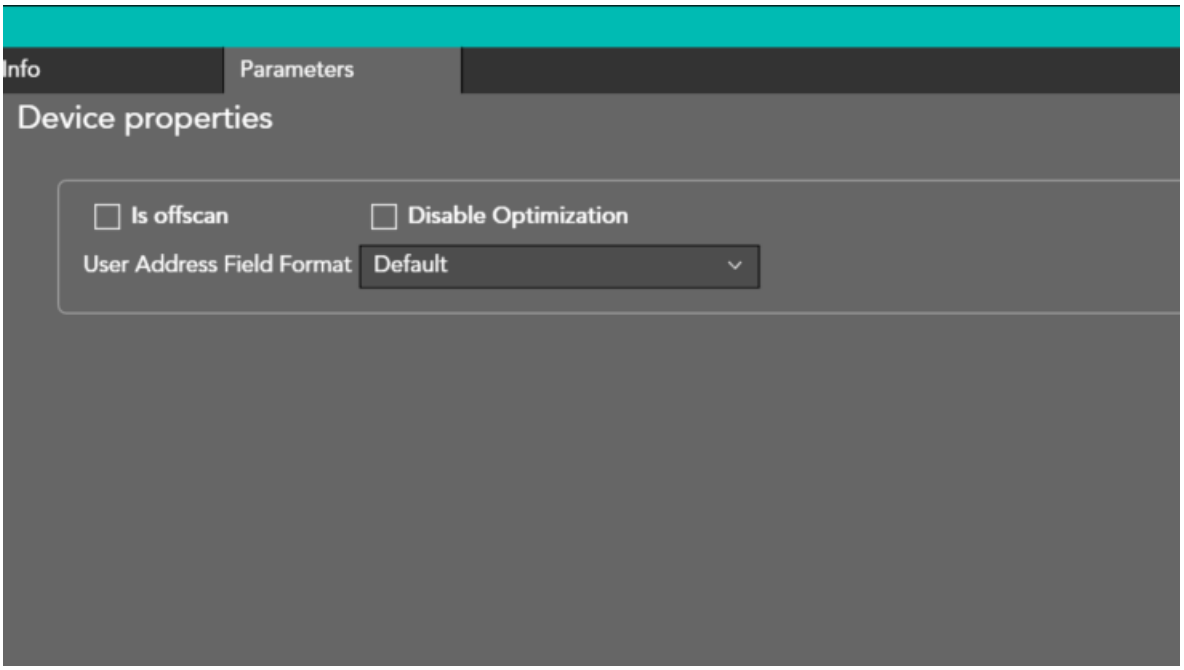
Communication parameters

Double-clicking on the HMI model displays the following page:



Serial parameters	Baud rate, parity, Data bits and stop bits are the parameters necessary to define the communication speed on the serial port. They are valid for both communication via RS232 and RS 485. The selection of the type of communication is automatic and based on the type of cable used.
Protocol Time Out (msec)	Protocol Time Out. Maximum wait value before driver reports a device response timeout error
No. of retry	Number of communication attempts (with error) before forcing the communication driver into error mode
Serial port time out	Low level time out (serial port). Identifies the maximum time that can elapse between one byte and its next within a device response message, after which the end of the message is identified

Double-clicking on the communication driver displays the communication parameters of the Allen Bradley DF1 driver.



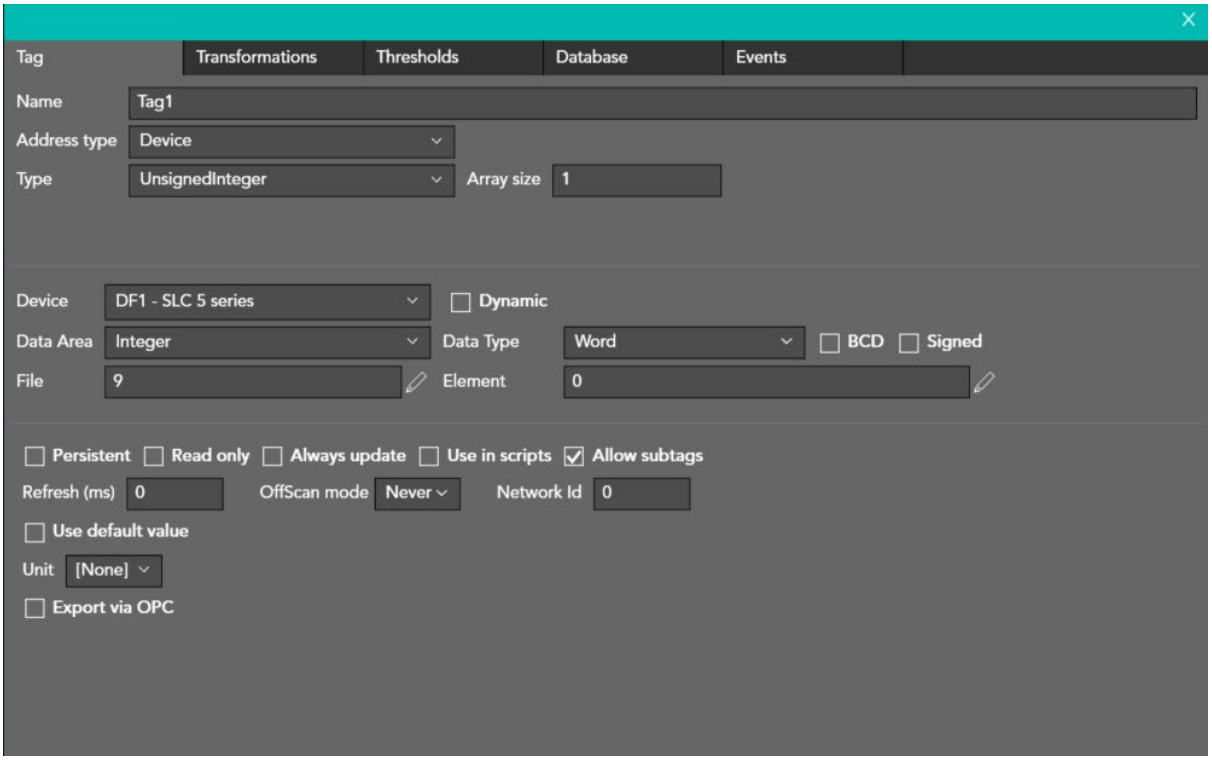
Is offscan	The defined driver in the project is not scheduled. To re-enable driver scheduling, you must use the functions available at the ST script level: TAG_SETOFFSCANDEV (device, state) TAG_SETOFFSCAN (Tag, state)
Disable optimization	Disables data request optimization. Each variable is requested with a dedicated message
User Address Format	Format of the tag address. the default format is default at the driver configuration level but the user can select the preferred format (decimal or hexadecimal)

Offscan
Offscan management can be used if a machine module is part of the Kreo HMI application but is not physically connected.

A device NOT CONNECTED but in ONSCAN state heavily reduces the performance of the product since the continuous communication timeouts slow down the execution of the functions of requests that follow.

Disable optimization:
This option can be used to identify what data displayed on a specific page is causing the communication error.
This value will not be displayed but a series of ????? allows the user to easily identify this Tag.

Programming a Tag



The variables have a fixed address mapped to the memory areas made available by the PLC. Addressing is based on the File – Element combination.

Memory areas

AREA	GUY	DIM.	R/W	DESCRIPTION
Integer	Word Dword Real String	16323216 (2 char)	R/W	Reads / writes integer data with FILE / ELEMENT addressing
Bit	Word	16	R/W	Reads / writes bit type data with FILE / ELEMENT addressing
Hours	ACC PRE	1616	R/W	Reads / writes data type timer file with addressing FILE / ELEMENT ACC: accumulator PRE: preset
Hours	ACC PRE	1616	R/W	Reads / writes data type file counter with addressing FILE / ELEMENT ACC: accumulator PRE: preset
Input	Word	16	R/-	Reads / writes input type data with FILE / ELEMENT addressing
Output	Word	16	R/W	Reads / writes input type data with FILE / ELEMENT addressing
Floating	Dword Real	32 32	R/W	Reads / writes floating data with FILE / ELEMENT addressing
ASCII	String	16 (2 char)	R/W	Reads / writes ASCII type data with FILE / ELEMENT addressing

Error codes

CODE	*DESCRIPTION*
PROTOCOL ERROR	Generic error of receiving data from PLC (wrong message)
PROTOCOL TIMEOUT	Timeout error, there was no response to a data request
PROTOCOL OFFLINE	Device not connected, cannot open a communication
TRANSMISSION ERROR	Driver serial packet transmission error
ERROR	Unmanaged Driver Error Reporting

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