Allen-Bradley Rockwell – MicroLogix Family

The MicroLogix communication driver implements communication with Rockwell MicroLogix PLCs by using its proprietary protocol.

It operates as a Master on TCP/IP networks. The communication blocks are dynamically created according to the pooling cycle defined on the AccessType for each point.

Summary Information

Communication Driver Name: MicroLogix

Implementation DLL: T.ProtocolDriver. MicroLogix.dll

Protocol: Proprietary

Interface: TCP/IP

Supported PLC types: Rockwell MicroLogix 1100 and 1400 devices

Protocol Options: None

Multi-threading: User configurable. Default is five threads to each network node

Max number of nodes: User defined

PC Hardware requirements: Standard PC Ethernet interface board

PC Software requirements

Supported Operands:

Operand	Read	Write	Data Type	Address Size
N – Integer	Yes	Yes	Short	2 bytes
F – Float	Yes	Yes	Single	4 bytes
B – Binary	Yes	Yes	Short	2 bytes
O – Output	Yes	Yes	Short	2 bytes
I – Input	Yes		Short	2 bytes
S – Status	Yes	Yes	Short	2 bytes
ST – String	Yes	Yes	ASCII	Max 82 bytes
DLG-DataLogging	Yes		ASCII	Max 109

Channel Configuration

Protocol Options

None

Settings

TCP/IP Channel:

NodeConnections: Defines the maximum number of parallel requests that will be sent to each node (asynchronous communication)

Node Configuration

Station Configuration

TCP/IP:

- Station syntax: <IP address>;<Port number>
- Where:

  <IP address> = IP address of the slave device in the Modbus network

  <Port number> = TCP port where the slave device is listening (default is 44818)

  Ex: 192.168.1.101 ; 44818

Point Configuration

The syntax for the MicroLogix communication points is: <File Type><File Number>;<Address>

Where:

- **File Type:** Represents the Operand:
  - N Integer
  - F Float
  - B Binary
  - O Output
  - I Input
  - S Status
  - ST String
  - DLG DataLogging
- **File Number:** Numeric reference for the FileType
- **Address:** Address number

For DataLogging, the syntax is: <File Type><Queue Number>:<Number of Bytes>

Examples:

- F8:1 File Type = F, File Number = 8, Address = 1
- F8:2 File Type = F, File Number = 8, Address = 2
- N7:1 File Type = N, File Number = 7, Address = 1
- B3:10 File Type = B, File Number = 3, Address = 10
- ST11:1 File Type = ST, File Number = 11, Address = 1
- DLG0:34 File Type = DLG, Queue Number = 0, Number of Bytes = 34

Please use the following table to calculate the Number of Bytes for the DataLogging:

Data	Formatted String Size
delimiter	1 character
word	6 characters
long word	11 characters
date	10 characters
time	8 characters
string	89 characters
float	13 characters

Troubleshoot

The status of the driver's execution can be observed through the diagnostic tools, which are:

- Trace window
- Property Watch
- Module Information

The above tools indicate if the operations have succeeded or have failed. A status of 0 (zero) means communication is successful. Negative values indicate internal driver errors, and positive values indicate protocol error codes.