ICC

INDUSTRIAL CONTROL COMMUNICATIONS, INC.

Siemens FLN Slave Driver Manual

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1 Siemens FLN Slave

This driver supports the Siemens FLN slave protocol.

1.1 Slave Settings

Baud Rate
Selects the baud rate of the network.

Parity
Fixed at No Parity (1 Stop Bit).

Timeout Time
Defines the maximum number of milliseconds for a break in network communications before a timeout event will be triggered. To disable timeout processing, set this field to 0.

Response Delay
Defines the time (in milliseconds) that the driver waits before responding to controller requests. This is a useful feature for certain controllers or infrastructure components (such as radio modems) that may require a given amount of time to place themselves into a "receiving mode" where they are capable of listening for slave responses. If no delay is required, setting this field to 0 instructs the driver to send its responses as soon as possible.

1.2 Node Settings

Address
Defines the station address (0…98) for this node.

Application Number
Defines the unique application number for the application.

Application Descriptor
Enter the application descriptor string (up to 12 ASCII characters).

Revision String
Defines the unique 4-character revision string.

Revision Number
Defines the revision number (0…255) for this application.

1.3 FLN Object Settings

1.3.1 Logical Analog Input (LAI) Object Settings
Point Descriptor
The name of the point. Enter a string of between 1 and 12 characters in length. All point names must be unique within a node, and characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

Point Number
The point number (1…99). Note that point numbers that are reserved by the FLN specification cannot be used (1, 2, 20, 29 and 99).

Database Address
Defines the database address where the point's physical value will reside.

Data Type
Fixed at 16-Bit Unsigned.

Default Value
Defines the factory default physical value of the point (0…32767).

Max Value
Defines the maximum physical value that this point can attain (0…32767).

Slope
Defines the floating-point slope value of the point. The master uses this value to calculate a floating-point analog value using the equation $y=mx+b$, where y is the analog value, x is the physical value stored in the database, m is the slope, and b is the intercept.

Intercept
Defines the floating-point intercept value of the point. The master uses this value to calculate a floating-point analog value using the equation $y=mx+b$, where y is the analog value, x is the physical value stored in the database, m is the slope, and b is the intercept.

Units
Enter an ASCII string of up to 6 characters in length which represent the engineering units of the point. Characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

1.3.2 Logical Analog Output (LAO) Object Settings
Point Descriptor
The name of the point. Enter a string of between 1 and 12 characters in length. All point names must be unique within a node, and characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

Point Number

The point number (1…99). Note that point numbers that are reserved by the FLN specification cannot be used (1, 2, 20, 29 and 99).

Database Address

Defines the database address where the point's physical value will reside.

Data Type

Fixed at 16-Bit Unsigned.

Default Value

Defines the factory default physical value of the point (0…32767).

Max Value

Defines the maximum physical value that this point can attain (0…32767).

Slope

Defines the floating-point slope value of the point. The master uses this value to calculate an analog value using the equation $y = mx + b$, where y is the analog value, x is the physical value, m is the slope, and b is the intercept.

Intercept

Defines the floating-point intercept value of the point. The master uses this value to calculate an analog value using the equation $y = mx + b$, where y is the analog value, x is the physical value, m is the slope, and b is the intercept.

Units

Enter an ASCII string of up to 6 characters in length which represent the engineering units of the point. Characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

1.3.3   Logical Digital Input (LDI) Object Settings

Point Descriptor

The name of the point. Enter a string of between 1 and 12 characters in length. All point names must be unique within a node, and characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

Point Number

The point number (1…99). Note that point numbers that are reserved by the FLN specification cannot be used (1, 2, 20, 29 and 99).

Database Address

Defines the database address where the point's physical value will reside.

Data Type

Fixed at 8-Bit Unsigned.

Bitmask

Specifies which bit(s) in the byte designated by the "Database Address" that the object will map to. This mechanism allows up to 8 LDI objects to be simultaneously assigned to one database address (each object mapping to a single bit of that byte in the database). It is possible to map LDI objects to multiple bits within the designated database location.

The effect of the "Bitmask" field when reading: When the value of an LDI object is read by an FLN controller, the bitmask is used to determine the value of the object by inspecting the value in the designated database address at the bit location(s) indicated in the bitmask. If all of the bit locations at the designated database address indicated by a checkmark in the bitmask are set, then the object's value will be returned as "on". Else, the object's value will be returned as "off".

On Text

Enter an ASCII string of up to 6 characters in length which represent the On Text of the point. Characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

Off Text

Enter an ASCII string of up to 6 characters in length which represent the Off Text of the point. Characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

1.3.4   Logical Digital Output (LDO) Object Settings

Point Descriptor

The name of the point. Enter a string of between 1 and 12 characters in length. All point names must be unique within a node, and characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

Point Number

The point number (1…99). Note that point numbers that are reserved by the FLN specification cannot be used (1, 2, 20, 29 and 99).

Database Address

Defines the database address where the point's physical value will reside.

Data Type

Fixed at 8-Bit Unsigned.

Bitmask

Specifies which bit(s) in the byte designated by the "Database Address" that the object will map to. This mechanism allows up to 8 LDO objects to be simultaneously assigned to one database address (each binary object mapping to a single bit of that byte in the database). It is possible to map LDO objects to multiple bits within the designated database location. Such a configuration allows (for example) the modification of multiple selected database bits via a single LDO.

The effect of the "Bitmask" field when reading: When the value of an LDO object is read by an FLN controller, the bitmask is used to determine the value of the object by inspecting the value

in the designated database address at the bit location(s) indicated in the bitmask. If all of the bit locations at the designated database address indicated by a checkmark in the bitmask are set, then the object's state will be returned as "on". Else, the object's state will be returned as "off".

The effect of the "Bitmask" field when writing: When the value of an LDO object is commanded to "on" by an FLN controller, then the bit(s) in the designated database address indicated by a checkmark in the bitmask are set. Similarly, when the value of an LDO object is commanded to "off", then the bit(s) in the designated database address indicated by a checkmark in the bitmask are cleared.

On Text
Enter an ASCII string of up to 6 characters in length which represent the On Text of the point. Characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

Off Text
Enter an ASCII string of up to 6 characters in length which represent the Off Text of the point. Characters must be valid for encoding in RAD50 format ("A"…"Z", "0"…"9", blank, "$", "." and "?").

1.4 Override Release Event (PicoPort/Mirius Only)

Each commandable point, i.e. LAO and LDO points, can optionally include an override release event. This adds the ability to detect when a release command has been received for the point. The event is assigned to a byte in the database. When a release command is received for the associated point, the event database location is set to a value of 1.

Release Event Database Address
Specifies the database address to use for detecting that a release command has been received for the point.

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