Industrial communication solutions for Windows

XSYLVAC Driver Manual

Sylvac Measuring Instruments Duplex Protocol Driver

Contents

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Industrial communication drivers.

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XSYLVAC technical specifications

General information

The XSYLVAC driver provides communication with most of the Sylvac measuring instruments from a personal computer by using the OPTO-RS cable in DUPLEX mode.
This driver works as master and the instrument must behave as a slave device and must be ready to accept remote commands. The driver provides a mean to supervise and reconfigure Sylvac instruments in real time using customized applications written by users.
Communication can take place through a physical serial port or through a virtual serial port emulated with some COM redirector software. The instruments can also be accessed directly through an ethernet connection by using an ethernet-to-rs232 converter, such as those from Exemys. In this case, the driver can establish the connection directly under tcp/ip.
Sylvac instruments support point-to-point communication and thus cannot be connected in a multidrop network. In order to overcome this limitation when there are several instruments to interrogate, one or more instruments can be collected by ethernet/serial converters installed over a LAN. Each instrument will have its own IP:port address and therefore there will be no need to use dedicated COM ports for each one.
Expected communication parameters are:

- Bauds: 4800
- Parity: Even
- DataBits: 7
- StopBits: 2

DUPLEX cable allows a 2-way communication between an instrument and a PC in half-duplex mode (transmission and reception are not simultaneous). The instrument itself must support DUPLEX transactions.
During communication, it is recomemded that you keep the RTS signal Off and the DTR signal On.
This driver was developed according to the specifications given in the following Sylvac SA document: User's Manual for OPTO-RS Cable Connections, Version 01.03 / SYL-FDE / 681.018

Command list

Read Displayed Value

Description of this command:
This command forces the instrument to send the displayed value.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
0
Values that are returned:
Value in PointValue (0) = The Displayed Value

Read Operating Mode

Description of this command:
This command reads the instrument's current operating mode.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
1
Values that are returned:
Value in PointValue (0) = Operating Mode

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0 = NOR
1 = REF
2 = MIN
3 = MAX
4 = DEL
5 = TOL1
10 = OTHER

Read Main Parameters

Description of this command:
This command reads the instrument main parameters.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
5
Meaning of the DriverP0 parameter:
2
Values that are returned:
Value in PointValue (0) = Measurement Unit (0=MM / 1=IN)
Value in PointValue (1) = Resolution (0=RES2:0.001mm / 1=RES3:0.01mm)
Value in PointValue (2) = Reference (0=REF1 / 1=REF2)
Value in PointValue (3) = Battery Status (0=Replace Battery / 1=Battery OK)
Value in PointValue (4) = Measuring Value Freeze (0=Disabled / 1=Enabled)

Read Preset Value

Description of this command:
This command reads the instrument preset value of the active reference.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
3
Values that are returned:
Value in PointValue (0) = Preset Value of the active reference

Read Identification Code

Description of this command:
This command reads the instrument identification code.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
4
Values that are returned:
Text in PointText (0) = Text with the Instrument Identification Code
Value in PointValue (0) = Number of chars received in the identification text.

Write Preset Value

Description of this command:
This command sends a new preset value to the instrument.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
0
Values that are sent:
Value in PointValue (0) = New Preset Value

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Place Instrument in Measuring Mode

Description of this command:
This command places the instrument in measuring (NOR) mode. If the keyboard is disabled, the command will place the instrument in reference (REF) mode instead.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
0
Values that are sent:
Value in PointValue (0) = This value is ignored.

Set Measuring Value Freeze

Description of this command:
This command disables or enables the measuring value freeze.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
1
Values that are sent:
Value in PointValue (0) = 0 to disable freeze, 1 to enable freeze

Reset to Initial Parameters

Description of this command:
This command resets the instrument to its initial parameters.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
2
Values that are sent:
Value in PointValue (0) = This value is ignored.

Set Continuous Transfer of Displayed Value

Description of this command:
This command disables or enables the continuous transmission of the displayed value.
Important note:
You should not enable continuous transmission if you are planning to use this driver since it is not prepared to read data that is spontaneously sent by the meter. The instrument should always behave as a slave, waiting for the driver to make the requests.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
3
Values that are sent:
Value in PointValue (0) = 0 to disable transfer, 1 to enable transfer

Switch On/Off Instrument

Description of this command:
This command switches the instrument to On or Off.
Methods used to run this command:
Digital Output

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Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
4
Values that are sent:
Value in PointValue (0) = 0 to switch Off, 1 to switch On

Change Measurement Unit

Description of this command:
This command changes the measurement unit to millimeters or inches.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
5
Values that are sent:
Value in PointValue (0) = 0 for MM, 1 for IN

Change Resolution

Description of this command:
This command changes the instrument resolution.
Important note:The indicated resolution might not be supported by your particular instrument model.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
6
Values that are sent:
Value in PointValue (0) = 0 for RES2 (0.001mm), 1 for RES3 (0.01mm)

Change Reference

Description of this command:
This command changes the instrument reference.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
7
Values that are sent:
Value in PointValue (0) = 0 for REF1, 1 for REF2

Recall Preset

Description of this command:
This command sets the instrument to its preset value.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
8
Values that are sent:
Value in PointValue (0) = This value is ignored.

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Error messages

The following list shows the possible error messages that can be returned by the driver during a failed communication in the 'Status' property.

[1005] DRIVER (Internal): Invalid driver stage
[1300] PROTOCOL (Timeout): No answer
[2002] CONFIG (DataType): Digital inputs are not supported by this driver
[2148] CONFIG (NumValues): Only one value can be requested
[2149] CONFIG (NumValues): Only one value can be written
[2223] CONFIG (NumValues): Too many values (max=5)
[3001] CONFIG (P0): Invalid command

Supported devices

This driver can communicate with these devices, but is not necessarily limited to this list:

SYLVAC SA Dial Gauges Serie 213
SYLVAC SA Dial Gauges with Duplex Transmission

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