Industrial communication solutions for Windows

XSHISR50 Driver Manual

Shimaden SR50 Series Digital Controller Driver

Contents

CPKSoft Engineering

Industrial communication drivers.

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XSHISR50 technical specifications

General information

XSHISR50 driver allows you to connect to the SR50 Series Digital Controllers from Shimaden Co. Ltd. using either RS-232C, RS-422A or RS-485.

Command list

Monitor PV and SV Values

Description of this command:
Obtains current values of PV (Processed Value) and SV (Setpoint Value).
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-2
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
1
Values that are returned:
Value in PointValue (0) = PV (Processed Value)
Value in PointValue (1) = SV (Setpoint Value)

Monitor LSV, RSV and SV_b Values

Description of this command:
Obtains current values of LSV (Local target Set Value), RSV (Remote target Set Value) and SV_b (Set Value bias).
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-3
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
2
Values that are returned:
Value in PointValue (0) = LSV (Local target Set Value)
Value in PointValue (1) = RSV (Remote target Set Value)
Value in PointValue (2) = SV_b (Set Value bias)

Monitor EV_1, EV_2 and EV_3 Values

Description of this command:
Obtains current values of EV_1 (Event 1, action point), EV_2 (Event 2, action point) and EV_3 (Event 3, action point).
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-3
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
3
Values that are returned:
Value in PointValue (0) = EV_1 (Event 1, action point)

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Value in PointValue (1) = EV_2 (Event 2, action point)
Value in PointValue (2) = EV_3 (Event 3, action point)

Monitor PID Values

Description of this command:
Obtains current values of P (Proportional band), I (Integral time) and D (Differential time).
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-3
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
4
Values that are returned:
Value in PointValue (0) = P (Proportional band)
Value in PointValue (1) = I (Integral time)
Value in PointValue (2) = D (Differential time)

Monitor mr and SF Values

Description of this command:
Obtains current values of mr (Manual reset) and SF (Control coefficient).
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-2
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
5
Values that are returned:
Value in PointValue (0) = mr (Manual reset)
Value in PointValue (1) = SF (Control coefficient)

Monitor Control Output Value

Description of this command:
Obtains current value of the Control output.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
6
Values that are returned:
Value in PointValue (0) = Control Output

Monitor SV_L and SV_H Values

Description of this command:
Obtains current values of SV_L (lower limit setting) and SV_H (higher limit setting).
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-2
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
7

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Values that are returned:
Value in PointValue (0) = SV_L (lower limit setting)
Value in PointValue (1) = SV_H (higher limit setting)

Monitor EV1, EV2 and EV3 Leds Status

Description of this command:
Obtains current status of EV1, EV2 and EV3 leds.
Methods used to run this command:
Digital Input
Number of points accepted by this command:
1-3
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
8
Values that are returned:
Value in PointValue (0) = EV1 Led Status (1=On/0=Off)
Value in PointValue (1) = EV2 Led Status (1=On/0=Off)
Value in PointValue (2) = EV3 Led Status (1=On/0=Off)

Monitor AT, PRG, COM, REM, MAN, EXEC, HLD and SB Leds Status

Description of this command:
Obtains current status of AT, PRG, COM, REM, MAN, EXEC, HLD and SB leds.
Methods used to run this command:
Digital Input
Number of points accepted by this command:
1-8
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
9
Values that are returned:
Value in PointValue (0) = AT Led Status (1=In action/0=Not in action)
Value in PointValue (1) = PRG Led Status (1=Program control/0=Fixed value)
Value in PointValue (2) = COM Led Status (1=Communication mode/0=Local mode)
Value in PointValue (3) = REM Led Status (1=Remote SV/0=Local SV)
Value in PointValue (4) = MAN Led Status (1=Manual mode/0=Automatic mode)
Value in PointValue (5) = EXEC Led Status (1=EXEC(RUN)/0=ST_BY(RST))
Value in PointValue (6) = HLD Led Status (1=HLD in action/0=HLD not in action)
Value in PointValue (7) = SB Led Status (1=SV bias in action/0=not in action)

Set Communication Mode

Description of this command:
Sets the controller's communication mode to either LOC or COM. The controller should be set to LOC mode before executing any other writing command.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
1
Values that are sent:
Value in PointValue (0) = Communication Mode (1=COM/0=LOC)

Toggle Manual/Auto Mode

Description of this command:
Toggles the controller from Manual or Automatic mode depending on its previous status, as if the MAN button had been pressed.

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Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
2
Values that are sent:
Value in PointValue (0) = Any value (the message sent does not depend on the current value of channel 0).

Press EXEC Key

Description of this command:
Simulates the pressing of the EXEC key.
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
3
Values that are sent:
Value in PointValue (0) = Any value (the message sent does not depend on the current value of channel 0).

Press REM Key

Description of this command:
Simulates the pressing of the REM key.
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
4
Values that are sent:
Value in PointValue (0) = Any value (the message sent does not depend on the current value of channel 0).

Press AT Key

Description of this command:
Simulates the pressing of the AT key.
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
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:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
5
Values that are sent:
Value in PointValue (0) = Any value (the message sent does not depend on the current value of channel 0).

Press HLD Key

Description of this command:
Simulates the pressing of the HLD key.
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
6
Values that are sent:
Value in PointValue (0) = Any value (the message sent does not depend on the current value of channel 0).

Press ADV Key

Description of this command:
Simulates the pressing of the ADV key.
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
7
Values that are sent:
Value in PointValue (0) = Any value (the message sent does not depend on the current value of channel 0).

Set LSV, RSV and SV_b Values

Description of this command:
Sets current values of LSV (Local target Set Value), RSV (Remote target Set Value) and SV_b (Set Value bias).
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
3
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).

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Meaning of the DriverP1 parameter:
2
Values that are sent:
Value in PointValue (0) = LSV (Local target Set Value)
Value in PointValue (1) = RSV (Remote target Set Value)
Value in PointValue (2) = SV_b (Set Value bias)

Set EV_1, EV_2 and EV_3 Values

Description of this command:
Sets current values of EV_1 (Event 1, action point), EV_2 (Event 2, action point) and EV_3 (Event 3, action point).
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
3
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
3
Values that are sent:
Value in PointValue (0) = EV_1 (Event 1, action point)
Value in PointValue (1) = EV_2 (Event 2, action point)
Value in PointValue (2) = EV_3 (Event 3, action point)

Set PID Values

Description of this command:
Sets current values of P (Proportional band), I (Integral time) and D (Differential time).
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
3
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
4
Values that are sent:
Value in PointValue (0) = P (Proportional band)
Value in PointValue (1) = I (Integral time)
Value in PointValue (2) = D (Differential time)

Set mr and SF Values

Description of this command:
Sets current values of mr (Manual reset) and SF (Control coefficient).
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
2
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
5

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Values that are sent:
Value in PointValue (0) = mr (Manual reset)
Value in PointValue (1) = SF (Control coefficient)

Set Control Output Value

Description of this command:
Sets current value of the Control output.
Important note:
The controller must be set to COM mode before executing this command or you will get a 'Command error' message.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Controller Station Number (0-31).
Meaning of the DriverP1 parameter:
6
Values that are sent:
Value in PointValue (0) = Control Output

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
[1402] PROTOCOL (Format): Checksum/BCC/CRC+D224+D38 error in device response
[1433] PROTOCOL (Format): Validation error in device response
[2148] CONFIG (NumValues): Only one value can be requested
[2149] CONFIG (NumValues): Only one value can be written
[2254] CONFIG (NumValues): Too many values requested (max=2)
[2257] CONFIG (NumValues): Too many values requested (max=3)
[2268] CONFIG (NumValues): Too many values requested (max=8)
[2271] CONFIG (NumValues): Too many values to write (max=2)
[2272] CONFIG (NumValues): Too many values to write (max=3)
[3015] CONFIG (P0): Invalid device address (0-31)
[3520] CONFIG (P1): Invalid command (1 only)
[3522] CONFIG (P1): Invalid command (1 to 7)
[3526] CONFIG (P1): Invalid command (2 to 7)
[3535] CONFIG (P1): Invalid command (8 or 9)
[8031] CONFIG (Remote): BCC error
[8054] CONFIG (Remote): Command error
[8082] CONFIG (Remote): Data error
[8086] CONFIG (Remote): Data format error
[8136] CONFIG (Remote): Execution command error
[8149] CONFIG (Remote): Framing error
[8256] CONFIG (Remote): Overrun error
[8259] CONFIG (Remote): Parity error
[8324] CONFIG (Remote): Specification/option error
[8331] CONFIG (Remote): Text format error
[8348] CONFIG (Remote): Unknown error code
[8365] CONFIG (Remote): Write command error

Supported devices

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

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