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XYOKUT37 Driver Manual

Yokogawa UT37/UT38 Controller Interface Driver

Contents

XYOKUT37 technical specifications.....	3
General information.....	3
Command list	3
Read OUT, PV, SP, DV and SP No.....	3
Read Current SP Number	3
Read Set Point Operating Parameter	3
Read Set Point Parameters.....	4
Read Control Output Parameters	4
Read Transmission Output Parameters and Alarm Type Parameters.....	4
Read Alarm 1 Status	5
Read Alarm 2 Status	5
Read Man/Auto Current Status.....	5
Switch Man/Auto Mode.....	5
Write Set Point Value	6
Write Alarm 1 Setting Value.....	6
Write Alarm 2 Setting Value.....	6
Write Proportional Band Value	6
Write Integral Time Value	6
Write Derivative Time Value	7
Write Manual Reset Value.....	7
Write ON/OFF Control Hysteresis.....	7
Write Upper Output Limit Value	7
Write Lower Output Limit Value	7
Write Reference Point Value	8
Write Set Point High Limit Value.....	8
Write Set Point Low Limit Value	8
Write Set Point Up-Ramp Slope Value	8
Write Set Point Down-Ramp Slope Value.....	9
Write Set Point Tracking Selection Value	9
Write Set Point PV Tracking Selection Value.....	9
Write Set Point Slope Setting Unit	9
Write Direct/Reverse Switching	9
Write Output Rate of Change Limit Value	10

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Write Preset Output Value.....	10
Write Restart Code Value.....	10
Write Cycle Time Value.....	10
Write Direct/Reverse Switching for the 2.SP.....	10
Write Digital Input Selection Value.....	11
Write Retransmission Output Selection Value	11
Write Retransmission Range Max. Value	11
Write Retransmission Range Min. Value	11
Write Alarm 1 Type Value.....	11
Write Alarm 2 Type Value.....	12
Write Alarm 1 Hysteresis Value	12
Write Alarm 2 Hysteresis Value	12
Error messages.....	12
Supported devices.....	13

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XYOKUT37 technical specifications

General information

XYOKUT37 driver allows you to connect with YOKOGAWA ELECTRIC CORPORATION Controller Model UT37 and UT38.

Command list

Read OUT, PV, SP, DV and SP No.

Description of this command:

Reads the current control output value (OP), measured value (PV), set point (SP), deviation (DV) and set point number (SP No.).

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1-5

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

0

Values that are returned:

Value in PointValue (0) = Control Output Value (OP).

Value in PointValue (1) = Measured Value (PV).

Value in PointValue (2) = Set Point (SP).

Value in PointValue (3) = Deviation (DV).

Value in PointValue (4) = Set Point Number (SP No.).

Read Current SP Number

Description of this command:

Reads the set point number (SP No.) currently in use.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

1

Read Set Point Operating Parameter

Description of this command:

Reads the value of the set point and a part of the operating parameter items, when the main set point is used.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1-11

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

2

Values that are returned:

Value in PointValue (0) = Set Point.

Value in PointValue (1) = Alarm 1 Setting Value.

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Value in PointValue (2) = Alarm 2 Setting Value.
Value in PointValue (3) = Proportional Band.
Value in PointValue (4) = Integral Time.
Value in PointValue (5) = Derivative Time.
Value in PointValue (6) = Manual Reset Value.
Value in PointValue (7) = ON/OFF Control Hysteresis.
Value in PointValue (8) = Upper Output Limit.
Value in PointValue (9) = Lower Output Limit.
Value in PointValue (10) = Reference point.

Read Set Point Parameters

Description of this command:

Reads the values of set point (SP) parameters.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1-7

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

3

Values that are returned:

Value in PointValue (0) = SP High Limit.
Value in PointValue (1) = SP Low Limit.
Value in PointValue (2) = SP Up-Ramp Slope.
Value in PointValue (3) = SP Down-Ramp Slope.
Value in PointValue (4) = SP Tracking Selection.
Value in PointValue (5) = PV Tracking Selection.
Value in PointValue (6) = Slope Setting Unit.

Read Control Output Parameters

Description of this command:

Reads the values of control output parameters.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1-7

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

4

Values that are returned:

Value in PointValue (0) = Direct/Reverse Switching.
Value in PointValue (1) = Output Rate of Change Limit.
Value in PointValue (2) = Preset Output Value.
Value in PointValue (3) = Restart Code.
Value in PointValue (4) = Cycle Time.
Value in PointValue (5) = Direct/Reverse Switching for the 2.SP.
Value in PointValue (6) = Digital Input Selection.

Read Transmission Output Parameters and Alarm Type Parameters

Description of this command:

Reads the values of transmission output parameters and alarm type parameters.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1-7

Meaning of the DriverP0 parameter:

Unit Address (0-16).

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Meaning of the DriverP1 parameter:

5

Values that are returned:

Value in PointValue (0) = Retransmission Output Selection.
Value in PointValue (1) = Retransmission Range Max. Value.
Value in PointValue (2) = Retransmission Range Min. Value.
Value in PointValue (3) = Alarm 1 Type.
Value in PointValue (4) = Alarm 2 Type.
Value in PointValue (5) = Alarm 1 Hysteresis.
Value in PointValue (6) = Alarm 2 Hysteresis.

Read Alarm 1 Status

Description of this command:

Reads the Alarm 1 status.

Methods used to run this command:

Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

0

Read Alarm 2 Status

Description of this command:

Reads the Alarm 2 status.

Methods used to run this command:

Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

1

Read Man/Auto Current Status

Description of this command:

Reads the Alarm 1 status.

Methods used to run this command:

Digital Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

2

Values that are returned:

- 0 = Manual
- 1 = Auto

Switch Man/Auto Mode

Description of this command:

Switches Man/Auto mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

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Meaning of the DriverP1 parameter:

2

Values that are sent:

- 0 = Manual
- 1 = Auto

Write Set Point Value

Description of this command:

Writes the current set point value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

0

Write Alarm 1 Setting Value

Description of this command:

Writes the Alarm 1 setting value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

1

Write Alarm 2 Setting Value

Description of this command:

Writes the Alarm 2 setting value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

2

Write Proportional Band Value

Description of this command:

Writes the proportional band value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

3

Write Integral Time Value

Description of this command:

Writes the integral time value.

Methods used to run this command:

Analog Output

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Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

4

Write Derivative Time Value

Description of this command:

Writes the derivative time value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

5

Write Manual Reset Value

Description of this command:

Writes the manual reset value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

6

Write ON/OFF Control Hysteresis

Description of this command:

Writes the ON/OFF control hysteresis.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

7

Write Upper Output Limit Value

Description of this command:

Writes the upper output limit value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

8

Write Lower Output Limit Value

Description of this command:

Writes the lower output limit value.

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Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

9

Write Reference Point Value

Description of this command:

Writes the reference point value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

10

Write Set Point High Limit Value

Description of this command:

Writes the set point high limit value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

20

Write Set Point Low Limit Value

Description of this command:

Writes the set point low limit value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

21

Write Set Point Up-Ramp Slope Value

Description of this command:

Writes the current set point up-ramp slope value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

22

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Write Set Point Down-Ramp Slope Value

Description of this command:

Writes the current set point down-ramp slope value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

23

Write Set Point Tracking Selection Value

Description of this command:

Writes the current set point tracking selection value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

24

Write Set Point PV Tracking Selection Value

Description of this command:

Writes the current PV tracking selection value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

25

Write Set Point Slope Setting Unit

Description of this command:

Writes the current set point slope setting unit.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

26

Write Direct/Reverse Switching

Description of this command:

Writes the current direct/reverse switching.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

30

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Values that are sent:

- 0 = Reverse.
- 1 = Direct.

Write Output Rate of Change Limit Value

Description of this command:

Writes the output rate of change limit value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

31

Write Preset Output Value

Description of this command:

Writes the current preset output value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

32

Write Restart Code Value

Description of this command:

Writes the current restart code value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

33

Write Cycle Time Value

Description of this command:

Writes the cycle time value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

34

Write Direct/Reverse Switching for the 2.SP

Description of this command:

Writes the direct/reverse switching for the 2.SP.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

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Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

35

Values that are sent:

- 0 = Reverse.
- 1 = Normal.

Write Digital Input Selection Value

Description of this command:

Writes the Digital Input selection value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

36

Write Retransmission Output Selection Value

Description of this command:

Writes the retransmission output selection value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

40

Write Retransmission Range Max. Value

Description of this command:

Writes the retransmission range max. value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

41

Write Retransmission Range Min. Value

Description of this command:

Writes the retransmission range min. value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

42

Write Alarm 1 Type Value

Description of this command:

Writes the alarm 1 type value.

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Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

43

Write Alarm 2 Type Value

Description of this command:

Writes the current alarm 2 type value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

44

Write Alarm 1 Hysteresis Value

Description of this command:

Writes the alarm 1 hysteresis value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

45

Write Alarm 2 Hysteresis Value

Description of this command:

Writes the alarm 2 hysteresis value.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (0-16).

Meaning of the DriverP1 parameter:

46

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
[1410] PROTOCOL (Format): Invalid device id in response
[1429] PROTOCOL (Format): Unknown response
[2147] CONFIG (NumValues): Only one value can be read or written
[2179] CONFIG (NumValues): Too many values (max=11)
[2223] CONFIG (NumValues): Too many values (max=5)
[2232] CONFIG (NumValues): Too many values (max=7)
[3007] CONFIG (P0): Invalid device address
[3508] CONFIG (P1): Invalid command

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[8033] CONFIG (Remote): Burn out response
[8117] CONFIG (Remote): Error closing controller
[8127] CONFIG (Remote): Error opening controller
[8192] CONFIG (Remote): Invalid command executed
[8249] CONFIG (Remote): Out range value
[8253] CONFIG (Remote): Over - range response
[8254] CONFIG (Remote): Over + range response

Supported devices

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

YOKOGAWA Controller Model UT37
YOKOGAWA Controller Model UT38

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