

# Industrial communication solutions for Windows

## XTIS305 Driver Manual

*Texas Instruments TI-305 PLC Series Protocol Driver*

### Contents

<b>XTIS305 technical specifications .....</b>	<b>2</b>
General information.....	2
Command list .....	2
Read Timer/Counter/Data Registers in Binary Mode .....	2
Read Input/Output, Internal Relays and Shift Register Bits in Words and Binary Mode.....	2
Read Scratch Pad Memory in Binary Mode .....	2
Read Ladder Memory in Binary Mode .....	3
Read Communication Errors in Binary Mode.....	3
Read Input/Output, Internal Relays and Shift Register Bits in Bit Mode .....	3
Write Timer/Counter/Data Registers in Binary Mode .....	4
Write Input/Output, Internal Relays and Shift Register Bits in Words and Binary Mode.....	4
Write Scratch Pad Memory in Binary Mode .....	4
Write Ladder Memory in Binary Mode.....	5
Write Communication Errors in Binary Mode .....	5
Write Input/Output, Internal Relays and Shift Register Bits in Bit Mode.....	5
Read Timer/Counter/Data Registers in BCD Mode.....	5
Read Input/Output, Internal Relays and Shift Register Bits in Words and BCD Mode .....	6
Read Scratch Pad Memory in BCD Mode.....	6
Read Ladder Memory in BCD Mode.....	6
Read Communication Errors in BCD Mode.....	7
Write Timer/Counter/Data Registers in BCD Mode .....	7
Write Input/Output, Internal Relays and Shift Register Bits in Words and BCD Mode .....	7
Write Scratch Pad Memory in BCD Mode.....	8
Write Ladder Memory in BCD Mode .....	8
Write Communication Errors in BCD Mode.....	8
Error messages .....	8
Supported devices.....	9

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com  
www.facebook.com/  
cpksoftengineering  
cpksoftengineering@  
hotmail.com  
phone: 54-911-45788354

1990-2012

# Industrial communication solutions for Windows

## XTIS305 technical specifications

### General information

---

XTIS305 driver allows you to connect to TEXAS INSTRUMENTS PLCs, Series 305. Requires a free RS-232 port in your PC.

### Command list

---

#### Read Timer/Counter/Data Registers in Binary Mode

**Description of this command:**

Reads the timer/counter/data registers values in binary mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-128

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

49

**Meaning of the DriverP2 parameter:**

Start address. In this case, HMITalk1.DriverP2 must have a value from 1 to 64 (dec.) to access PLC records 600 to 677 (octal), and a value from 65 to 128 (dec.) to access PLC records 400 to 577 (octal).

**Meaning of the DriverP3 parameter:**

0

#### Read Input/Output, Internal Relays and Shift Register Bits in Words and Binary Mode

**Description of this command:**

Reads the input/output, internal relays and shift register bits values in word and binary mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-250

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

51

**Meaning of the DriverP2 parameter:**

Start address. HMITalk1.DriverP2 must have the 8 bit- "package number" accessed, where:

**Meaning of the DriverP2 parameter:**

$(n/8)+1$ , where "n" is the I/O bit number (decimal) which heads each PLC group of 8 bits. For example: for the group of I/O bits from 136 to 143 (dec.):

**Meaning of the DriverP2 parameter:**

$(136/8)+1=18$

**Meaning of the DriverP3 parameter:**

0

#### Read Scratch Pad Memory in Binary Mode

**Description of this command:**

Reads the scratch pad memory values in binary mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-128

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

# Industrial communication solutions for Windows

**Meaning of the DriverP0 parameter:**  
Indicates the station number (1-90).  
**Meaning of the DriverP1 parameter:**  
54  
**Meaning of the DriverP2 parameter:**  
Start address.  
**Meaning of the DriverP3 parameter:**  
0

## Read Ladder Memory in Binary Mode

**Description of this command:**  
Reads the ladder memory values in binary mode.  
**Methods used to run this command:**  
Analog Input  
**Number of points accepted by this command:**  
1-128  
**Meaning of the DriverP0 parameter:**  
Indicates the station number (1-90).  
**Meaning of the DriverP1 parameter:**  
55  
**Meaning of the DriverP2 parameter:**  
Start address.  
**Meaning of the DriverP3 parameter:**  
0

## Read Communication Errors in Binary Mode

**Description of this command:**  
Reads the communication errors values in binary mode.  
**Methods used to run this command:**  
Analog Input  
**Number of points accepted by this command:**  
1-128  
**Meaning of the DriverP0 parameter:**  
Indicates the station number (1-90).  
**Meaning of the DriverP1 parameter:**  
57  
**Meaning of the DriverP2 parameter:**  
Start address.  
**Meaning of the DriverP3 parameter:**  
0

## Read Input/Output, Internal Relays and Shift Register Bits in Bit Mode

**Description of this command:**  
Reads the input/output, internal relays and shift register bits values in bit mode.  
**Methods used to run this command:**  
Digital Input  
**Number of points accepted by this command:**  
1-250  
**Meaning of the DriverP0 parameter:**  
Indicates the station number (1-90).  
**Meaning of the DriverP1 parameter:**  
51  
**Meaning of the DriverP2 parameter:**  
Start address. HMITalk1.DriverP2 must have the 8 bit- "package number" accessed, where:  
**Meaning of the DriverP2 parameter:**  
 $(n/8)+1$  , where "n" is the I/O bit number (decimal) which heads each PLC group of 8 bits. For example: for the group of I/O bits from 136 to 143 (dec.):  
**Meaning of the DriverP2 parameter:**  
 $(136/8)+1=18$

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com  
www.facebook.com/  
cpksoftengineering  
cpksoftengineering@  
hotmail.com  
phone: 54-911-45788354

1990-2012

# Industrial communication solutions for Windows

## Meaning of the DriverP3 parameter:

0

## Write Timer/Counter/Data Registers in Binary Mode

### Description of this command:

Writes the timer/counter/data registers values in binary mode.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

1-125

### Meaning of the DriverP0 parameter:

Indicates the station number (1-90).

### Meaning of the DriverP1 parameter:

49

### Meaning of the DriverP2 parameter:

Start address. In this case, HMITalk1.DriverP2 must have a value from 1 to 64 (dec.) to access PLC records 600 to 677 (octal), and a value from 65 to 128 (dec.) to access PLC records 400 to 577 (octal).

### Meaning of the DriverP3 parameter:

0

## Write Input/Output, Internal Relays and Shift Register Bits in Words and Binary Mode

### Description of this command:

Writes the input/output, internal relays and shift register bits values in word and binary mode.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

1-125

### Meaning of the DriverP0 parameter:

Indicates the station number (1-90).

### Meaning of the DriverP1 parameter:

51

### Meaning of the DriverP2 parameter:

Start address. HMITalk1.DriverP2 must have the 8 bit- "package number" accessed, where:

### Meaning of the DriverP2 parameter:

$(n/8)+1$ , where "n" is the I/O bit number (decimal) which heads each PLC group of 8 bits. For example: for the group of I/O bits from 136 to 143 (dec.):

### Meaning of the DriverP2 parameter:

$(136/8)+1=18$

### Meaning of the DriverP3 parameter:

0

## Write Scratch Pad Memory in Binary Mode

### Description of this command:

Writes the scratch pad memory values in binary mode.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

1-125

### Meaning of the DriverP0 parameter:

Indicates the station number (1-90).

### Meaning of the DriverP1 parameter:

54

### Meaning of the DriverP2 parameter:

Start address.

### Meaning of the DriverP3 parameter:

0

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

# Industrial communication solutions for Windows

## Write Ladder Memory in Binary Mode

**Description of this command:**

Writes the ladder memory values in binary mode.

**Methods used to run this command:**

Analog Output

**Number of points accepted by this command:**

1-125

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

55

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

0

## Write Communication Errors in Binary Mode

**Description of this command:**

Writes the communication errors values in binary mode.

**Methods used to run this command:**

Analog Output

**Number of points accepted by this command:**

1-125

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

57

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

0

## Write Input/Output, Internal Relays and Shift Register Bits in Bit Mode

**Description of this command:**

Writes the input/output, internal relays and shift register bits values in bit mode.

**Methods used to run this command:**

Digital Output

**Number of points accepted by this command:**

1-8

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

51

**Meaning of the DriverP2 parameter:**

Start address. HMITalk1.DriverP2 must have the 8 bit- "package number" accessed, where:

**Meaning of the DriverP2 parameter:**

$(n/8)+1$  , where "n" is the I/O bit number (decimal) which heads each PLC group of 8 bits. For example: for the group of I/O bits from 136 to 143 (dec.):

**Meaning of the DriverP2 parameter:**

$(136/8)+1=18$

**Meaning of the DriverP3 parameter:**

0

## Read Timer/Counter/Data Registers in BCD Mode

**Description of this command:**

Reads the timer/counter/data registers values in BCD mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-128

CPKSoft Engineering

Industrial communication drivers.

[www.cpksoft.com](http://www.cpksoft.com)

[www.facebook.com/cpksoftengineering](https://www.facebook.com/cpksoftengineering)

[cpksoftengineering@hotmail.com](mailto:cpksoftengineering@hotmail.com)

[cpksoftengineering@hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

# Industrial communication solutions for Windows

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

49

**Meaning of the DriverP2 parameter:**

Start address. In this case, HMITalk1.DriverP2 must have a value from 1 to 64 (dec.) to access PLC records 600 to 677 (octal), and a value from 65 to 128 (dec.) to access PLC records 400 to 577 (octal).

**Meaning of the DriverP3 parameter:**

1

## Read Input/Output, Internal Relays and Shift Register Bits in Words and BCD Mode

**Description of this command:**

Reads the input/output, internal relays and shift register bits values in word and BCD mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-250

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

51

**Meaning of the DriverP2 parameter:**

Start address. HMITalk1.DriverP2 must have the 8 bit- "package number" accessed, where:

**Meaning of the DriverP2 parameter:**

$(n/8)+1$ , where "n" is the I/O bit number (decimal) which heads each PLC group of 8 bits. For example: for the group of I/O bits from 136 to 143 (dec.):

**Meaning of the DriverP2 parameter:**

$(136/8)+1=18$

**Meaning of the DriverP3 parameter:**

1

## Read Scratch Pad Memory in BCD Mode

**Description of this command:**

Reads the scratch pad memory values in BCD mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-128

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

54

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

1

## Read Ladder Memory in BCD Mode

**Description of this command:**

Reads the ladder memory values in BCD mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-128

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

55

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

# Industrial communication solutions for Windows

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

1

## Read Communication Errors in BCD Mode

**Description of this command:**

Reads the communication errors values in BCD mode.

**Methods used to run this command:**

Analog Input

**Number of points accepted by this command:**

1-128

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

57

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

1

## Write Timer/Counter/Data Registers in BCD Mode

**Description of this command:**

Writes the timer/counter/data registers values in BCD mode.

**Methods used to run this command:**

Analog Output

**Number of points accepted by this command:**

1-125

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

49

**Meaning of the DriverP2 parameter:**

Start address. In this case, HMITalk1.DriverP2 must have a value from 1 to 64 (dec.) to access PLC records 600 to 677 (octal), and a value from 65 to 128 (dec.) to access PLC records 400 to 577 (octal).

**Meaning of the DriverP3 parameter:**

1

## Write Input/Output, Internal Relays and Shift Register Bits in Words and BCD Mode

**Description of this command:**

Writes the input/output, internal relays and shift register bits values in word and BCD mode.

**Methods used to run this command:**

Analog Output

**Number of points accepted by this command:**

1-125

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

51

**Meaning of the DriverP2 parameter:**

Start address. HMITalk1.DriverP2 must have the 8 bit- "package number" accessed, where:

**Meaning of the DriverP2 parameter:**

$(n/8)+1$ , where "n" is the I/O bit number (decimal) which heads each PLC group of 8 bits. For example: for the group of I/O bits from 136 to 143 (dec.):

**Meaning of the DriverP2 parameter:**

$(136/8)+1=18$

**Meaning of the DriverP3 parameter:**

1

CPKSoft Engineering

Industrial communication drivers.

[www.cpksoft.com](http://www.cpksoft.com)

[www.facebook.com/cpksoftengineering](https://www.facebook.com/cpksoftengineering)

[cpksoftengineering@](mailto:cpksoftengineering@hotmail.com)

[hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

# Industrial communication solutions for Windows

## Write Scratch Pad Memory in BCD Mode

**Description of this command:**

Writes the scratch pad memory values in BCD mode.

**Methods used to run this command:**

Analog Output

**Number of points accepted by this command:**

1-125

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

54

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

1

## Write Ladder Memory in BCD Mode

**Description of this command:**

Writes the ladder memory values in BCD mode.

**Methods used to run this command:**

Analog Output

**Number of points accepted by this command:**

1-125

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

55

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

1

## Write Communication Errors in BCD Mode

**Description of this command:**

Writes the communication errors values in BCD mode.

**Methods used to run this command:**

Analog Output

**Number of points accepted by this command:**

1-125

**Meaning of the DriverP0 parameter:**

Indicates the station number (1-90).

**Meaning of the DriverP1 parameter:**

57

**Meaning of the DriverP2 parameter:**

Start address.

**Meaning of the DriverP3 parameter:**

1

## 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
- [1404] PROTOCOL (Format): Error receiving acknowledge
- [1405] PROTOCOL (Format): Error receiving expected EOT
- [1407] PROTOCOL (Format): Error receiving header acknowledge
- [1420] PROTOCOL (Format): NAK or EOT received from device
- [1421] PROTOCOL (Format): Negative acknowledge received from device

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012



# Industrial communication solutions for Windows

[1433] PROTOCOL (Format): Validation error in device response  
[2186] CONFIG (NumValues): Too many values (max=128)  
[2203] CONFIG (NumValues): Too many values (max=250)  
[2235] CONFIG (NumValues): Too many values (max=8)  
[3027] CONFIG (P0): Invalid device address (1-90)  
[3508] CONFIG (P1): Invalid command  
[4099] CONFIG (P2): Invalid start address  
[4543] CONFIG (P3): Invalid mode

## Supported devices

---

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

TEXAS INSTRUMENTS TI-315 PLC  
TEXAS INSTRUMENTS TI-330 PLC  
TEXAS INSTRUMENTS TI-335 PLC

CPKSoft Engineering

Industrial communication  
drivers.

[www.cpksoft.com](http://www.cpksoft.com)

[www.facebook.com/  
cpksoftengineering](https://www.facebook.com/cpksoftengineering)

[cpksoftengineering@  
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012