

XELVIPD3 Driver Manual

EIControl Energy VIPD3-485 Protocol Driver



CPKSoft Engineering Process Monitoring and Industrial Automation Software

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1. Introduction

CPKSoft Engineering assumes no responsibility for any errors that may appear in this document. If you have any suggestions for improvements or amendments or have found errors in this publication, please notify us.

This driver is included with all unlimited licenses of TAS-HMITalk. It is not sold separately. It requires the TAS-HMITalk ActiveX to work, therefore it cannot be used as a stand-alone driver.

If you use this driver in your applications, you need to include the xelvipd3.tlk in the set of files that you distribute. This file must be located in the same folder where the hmitalk.ocx file is registered in order to be found by the activex when the applications are executed.

The source-code for the xelvipd3.tlk driver is available in plain-C language for additional USD 299 if you own a license of TAS-HMITalk 8.04 or higher.

Refer to the following link to visit the xelvipd3 driver page at CPKSoft Engineering website: <http://www.cpksoft.com/tabid/55/ProductID/33/PageIndex/1/Default.aspx>.

Visit this link if you want to see a complete list of drivers that are currently available for TAS-HMITak: <http://www.cpksoft.com/Drivers/tabid/55/Default.aspx>.

Also, refer to this link if you are interested in purchasing a license of the most recent version of TAS-HMITalk: <http://www.cpksoft.com/Products/tabid/54/Default.aspx>.

We welcome your comments about this document. You can reach us by e-mail at [contact @ cpksoft.com](mailto:contact@cpksoft.com).

2. Driver details

2.1. Driver overview

XELVIPD3 driver allows you to connect with ELCONTROL ENERGY devices model VIPD3-485.

*The most common serial setup is:
9600 / 1200 Bauds, 7 Db, No parity, 1 Sb.*

It is strongly recommended that you use The PC-485 Box RS-232/485 converter supplied by ELCONTROL. The device could behave erratically if you use a different RS-232/485 converter.

2.2. Supported devices

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

ELCONTROL ENERGY VIPD3-485 Energy Monitor
ELCONTROL ENERGY VIPD3-485 HV Energy Monitor

3. Command list

3.1. Read All Data Measured

Description of this command:

Obtains all data measured.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-37

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

1

Values that are returned:

Value in PointValue (0) = Voltage 3-Phase
Value in PointValue (1) = Current 3-Phase
Value in PointValue (2) = Active Power 3-Phase
Value in PointValue (3) = Power Factor 3-Phase
Value in PointValue (4) = Voltage Phase L1
Value in PointValue (5) = Voltage Phase L2
Value in PointValue (6) = Voltage Phase L3
Value in PointValue (7) = Current Phase L1
Value in PointValue (8) = Current Phase L2
Value in PointValue (9) = Current Phase L3
Value in PointValue (10) = Active Power Phase L1
Value in PointValue (11) = Active Power Phase L2
Value in PointValue (12) = Active Power Phase L3
Value in PointValue (13) = Apparent Power 3-Phase
Value in PointValue (14) = Reactive Power 3-Phase
Value in PointValue (15) = Frecuency
Value in PointValue (16) = Real Energy 3-Phase
Value in PointValue (17) = Reactive Energy 3-Phase
Value in PointValue (18) = Apparent Power Peaks
Value in PointValue (19) = Active Power Peaks
Value in PointValue (20) = Apparent Power Average
Value in PointValue (21) = Active Power Average
Value in PointValue (22) = TDHTF of Phase L1
Value in PointValue (23) = TDHTF of Phase L2
Value in PointValue (24) = TDHTF of Phase L3

- Value in PointValue (25) = Connection Type (0 = Single Phase, 1 = 3-Phase)
- Value in PointValue (26) = Analog Output Full Scale (0 = 750 V, 1 = 250 V) or PQS Output Pulse Value Select (0 = 1 Pulse = 3 W/h, 1 = 20 Pulses = 3 W/h)
- Value in PointValue (27) = Select Baudrate (0 = 9600, 1 = 1200)
- Value in PointValue (28) = Select Instrument Type:
 - 1 = VIP D
 - 2 = VIP 96
 - 3 = VIP D3
 - 4 = VIP DC
 - 5 = OEM1 Module
 - 6 = OEM3 Module
 - 7 = VIP D144
 - 8 = VIP D30 A
 - 9 = VIP DBatt
 - 10 = NanoVip
 - 11 = PFERM
 - 12 = Micro VIP 3
 - 15 = VIPD3-HV
- Value in PointValue (29) = RS485: Present MODBUS Protocol
- Value in PointValue (30) = Present Q Analog Output
- Value in PointValue (31) = Present S Analog Output
- Value in PointValue (32) = Present P Analog Output
- Value in PointValue (33) = Present Q Pulse Output
- Value in PointValue (34) = Present S Pulse Output
- Value in PointValue (35) = Present P Pulse Output
- Value in PointValue (36) = RS232: Present ELCONTROL Protocol

3.2. Write Keyboard Status

Description of this command:

Enable/Disable keyboard.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

2

3.3. Average and Picks Reset with Date & Time Information

Description of this command:

Average and picks reset and returns the date & time information corresponding to the moment the reset was done.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-6

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

3

Values that are returned:

Value in PointValue (0) = Month
Value in PointValue (1) = Day
Value in PointValue (2) = Year
Value in PointValue (3) = Hour
Value in PointValue (4) = Minutes
Value in PointValue (5) = Seconds

3.4. Counter Reset with Date & Time Information

Description of this command:

Counter reset and returns the date & time information, corresponding to the moment the reset was done.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1-6

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

4

3.5. Write K Factor of Current Transformer in VIPD3-485

Description of this command:

Writes the K factor of current transformer in VIPD3-485.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

5

Values that are sent:

- 00 - Reserved
- 01 - Transformer = 10/1 K = 10
- 02 - Transformer = 100/1 K = 100
- 03 - Transformer = 200/1 K = 200
- 04 - Transformer = 500/1 K = 500
- 05 - Transformer = 1000/1 K = 1000
- 06 - Transformer = 3000/1 K = 3000
- 07 - Transformer = 5/5 K = 1
- 08 - Transformer = 20/5 K = 4
- 09 - Transformer = 30/5 K = 6
- 10 - Transformer = 50/5 K = 10
- 11 - Transformer = 60/5 K = 12
- 12 - Transformer = 75/5 K = 15
- 13 - Transformer = 80/5 K = 16
- 14 - Transformer = 100/5 K = 20
- 15 - Transformer = 150/5 K = 30
- 16 - Transformer = 200/5 K = 40
- 17 - Transformer = 250/5 K = 50
- 18 - Transformer = 300/5 K = 60
- 19 - Transformer = 400/5 K = 80
- 20 - Transformer = 500/5 K = 100
- 21 - Transformer = 600/5 K = 120
- 22 - Transformer = 800/5 K = 160
- 23 - Transformer = 1000/5 K = 200
- 24 - Transformer = 1200/5 K = 240
- 25 - Transformer = 1500/5 K = 300
- 26 - Transformer = 2000/5 K = 400
- 27 - Transformer = 2500/5 K = 500
- 28 - Transformer = 3000/5 K = 600

3.6. Write K Factor of Current Transformer in VIPD3-485 HV

Description of this command:

Writes the K factor of current transformer in VIPD3-485 HV.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

6

Values that are sent:

- 00 - Reserved
- 01 - Transformer = 10/1 K = 10
- 02 - Transformer = 50/1 K = 50
- 03 - Transformer = 100/1 K = 100
- 04 - Transformer = 200/1 K = 200
- 05 - Transformer = 250/1 K = 250
- 06 - Transformer = 300/1 K = 300
- 07 - Transformer = 400/1 K = 400
- 08 - Transformer = 500/1 K = 500
- 09 - Transformer = 600/1 K = 600
- 10 - Transformer = 700/1 K = 700
- 11 - Transformer = 750/1 K = 750
- 12 - Transformer = 800/1 K = 800
- 13 - Transformer = 1000/1 K = 1000
- 14 - Transformer = 1200/1 K = 1200
- 15 - Transformer = 1600/1 K = 1600
- 16 - Transformer = 2000/1 K = 2000
- 17 - Transformer = 2400/1 K = 2400
- 18 - Transformer = 3000/1 K = 3000
- 19 - Transformer = 4000/1 K = 4000
- 20 - Transformer = 5/5 K = 1
- 21 - Transformer = 10/5 K = 2
- 22 - Transformer = 15/5 K = 3
- 23 - Transformer = 20/5 K = 4
- 24 - Transformer = 30/5 K = 6
- 25 - Transformer = 40/5 K = 8
- 26 - Transformer = 50/5 K = 10
- 27 - Transformer = 60/5 K = 12
- 28 - Transformer = 75/5 K = 15

- 29 - Transformer = 80/5 K = 16
- 30 - Transformer = 100/5 K = 20
- 31 - Transformer = 150/5 K = 30
- 32 - Transformer = 200/5 K = 40
- 33 - Transformer = 250/5 K = 50
- 34 - Transformer = 300/5 K = 60
- 35 - Transformer = 400/5 K = 80
- 36 - Transformer = 500/5 K = 100
- 37 - Transformer = 600/5 K = 120
- 38 - Transformer = 800/5 K = 160
- 39 - Transformer = 900/5 K = 180
- 40 - Transformer = 1000/5 K = 200
- 41 - Transformer = 1200/5 K = 240
- 42 - Transformer = 1500/5 K = 300
- 43 - Transformer = 1600/5 K = 320
- 44 - Transformer = 2000/5 K = 400
- 45 - Transformer = 2500/5 K = 500
- 46 - Transformer = 3000/5 K = 600
- 47 - Transformer = 3500/5 K = 700
- 48 - Transformer = 4000/5 K = 800
- 49 - Transformer = 5000/5 K = 1000
- 50 - Transformer = 6000/5 K = 1200

3.7. Write K Factor of Voltage Transformer in VIPD3-485 HV

Description of this command:

Writes the K factor of voltage transformer in VIPD3-485 HV.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

7

Values that are sent:

- 00 - Reserved
- 01 - Transformer = 380/100 K = 3.8
- 02 - Transformer = 400/100 K = 4
- 03 - Transformer = 600/100 K = 6
- 04 - Transformer = 1000/100 K = 10
- 05 - Transformer = 2000/100 K = 20

- 06 - Transformer = 3000/100 K = 30
- 07 - Transformer = 6000/100 K = 60
- 08 - Transformer = 10000/100 K = 100
- 09 - Transformer = 12000/100 K = 120
- 10 - Transformer = 15000/100 K = 150
- 11 - Transformer = 20000/100 K = 200
- 12 - Transformer = 30000/100 K = 300
- 13 - Transformer = 150000/100 K = 1500
- 14 - Transformer = 500000/100 K = 5000
- 15 - Transformer = 3300/110 K = 30
- 16 - Transformer = 6600/110 K = 60
- 17 - Transformer = 11000/110 K = 100
- 18 - Transformer = 22000/110 K = 200
- 19 - Transformer = 33000/110 K = 300
- 20 - Transformer = 44000/110 K = 400
- 21 - Transformer = 66000/110 K = 600
- 22 - Transformer = 88000/110 K = 800
- 23 - Transformer = 110000/110 K = 1000
- 24 - Transformer = 132000/110 K = 1200
- 25 - Transformer = 220000/110 K = 2000
- 26 - Transformer = 275000/110 K = 2500
- 27 - Transformer = 330000/110 K = 3000
- 28 - Transformer = 550000/110 K = 5000
- 29 - Transformer = 20125/115 K = 175
- 30 - Transformer = 34500/115 K = 300
- 31 - Transformer = 840/120 K = 7
- 32 - Transformer = 1200/120 K = 10
- 33 - Transformer = 2400/120 K = 20
- 34 - Transformer = 4200/120 K = 35
- 35 - Transformer = 4800/120 K = 40
- 36 - Transformer = 7200/120 K = 60
- 37 - Transformer = 8400/120 K = 70
- 38 - Transformer = 12000/120 K = 100
- 39 - Transformer = 14400/120 K = 120
- 40 - Transformer = 24000/120 K = 200

3.8. Write Integration Period

Description of this command:

Writes integration period.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Station Number (1-247).

Meaning of the DriverP1 parameter:

8

Meaning of the DriverP2 parameter:

Indicates the equipment to be used.

- 0 = VIPD3-485
- 1 = VIPD3-485-HV

Values that are sent:

- 0 = 10 Minutes
- 1 = 15 Minutes
- 2 = 20 Minutes
- 3 = 30 Minutes

4. Appendices

4.1. Error messages

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

This list does not include some error messages that can be returned by the activex component while attempting to establish a connection.

- [1005] DRIVER (Internal): Invalid driver stage
- [1300] PROTOCOL (Timeout): No answer
- [1408] PROTOCOL (Format): Invalid amount of data bytes received
- [1410] PROTOCOL (Format): Invalid device id in response
- [1433] PROTOCOL (Format): Validation error in device response
- [2002] CONFIG (DataType): Digital inputs are not supported by this driver
- [2147] CONFIG (NumValues): Only one value can be read or written
- [2214] CONFIG (NumValues): Too many values (max=37)
- [2226] CONFIG (NumValues): Too many values (max=6)
- [3007] CONFIG (P0): Invalid device address
- [3508] CONFIG (P1): Invalid command
- [8013] CONFIG (Remote): Acknowledge
- [8036] CONFIG (Remote): Busy, rejected message
- [8138] CONFIG (Remote): Failure in associated device
- [8168] CONFIG (Remote): Illegal data address
- [8170] CONFIG (Remote): Illegal data value
- [8172] CONFIG (Remote): Illegal function
- [8217] CONFIG (Remote): NAK-negative acknowledgment
- [8347] CONFIG (Remote): Unknown error

4.2. Keywords list

The following list shows a set of words directly related to this driver.

"ELCONTROL, ENERGY, HV, Monitor, VIPD3-485".