Industrial communication solutions for Windows

XELVIPEN Driver Manual

ElControl VIP Energy 485/ALM Protocol Driver

Contents

CPKSoft Engineering

Industrial communication drivers.

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

XELVIPEN technical specifications

General information

XELVIPEN driver allows you to connect with ELCONTROL VIP ENERGY devices.
The allowed serial setups are:
9600 | 1200 Bauds, 7 Db, Parity None | Odd | Even, Stop bits 1 | 2.
The most common serial setup is:
9600 Bauds, 7 Db, Parity None, 1 stop bit.
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.

Command list

Read All Data Measured

Description of this command:
Obtains all data measured.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-49
Meaning of the DriverP0 parameter:
Station Number (1-247).
Meaning of the DriverP1 parameter:
0
Values that are returned:
Configuration:
Value in PointValue (0) = Instrument Type: 13, Vip Energy
Value in PointValue (1) = Instrument Options (1=On/0=Off) Bit 0 = Serial line option Bit 1 = RPQS option Bit 2 = Alarms option (ALM)
Value in PointValue (2) = Instrument Options: software version
Value in PointValue (3) = Setup (Refer to User Manual)
Value in PointValue (4) = Setup (Refer to User Manual)
Measured Values:
Value in PointValue (5) = Three-Phase Voltage (V)
Value in PointValue (6) = Three-Phase Current (A)
Value in PointValue (7) = Three-Phase Active Power (W)
Value in PointValue (8) = Three-Phase Power Factor
Value in PointValue (9) = Phase L1 Voltage (V)
Value in PointValue (10) = Phase L2 Voltage (V)
Value in PointValue (11) = Phase L3 Voltage (V)
Value in PointValue (12) = Phase L1 Current (A)
Value in PointValue (13) = Phase L2 Current (A)
Value in PointValue (14) = Phase L3 Current (A)
Value in PointValue (15) = Phase L1 Active Power (W)
Value in PointValue (16) = Phase L2 Active Power (W)
Value in PointValue (17) = Phase L3 Active Power (W)
Value in PointValue (18) = Phase L1 Power Factor
Value in PointValue (19) = Phase L2 Power Factor
Value in PointValue (20) = Phase L3 Power Factor
Value in PointValue (21) = Phase L1 Reactive Power (VAr)
Value in PointValue (22) = Phase L2 Reactive Power (VAr)
Value in PointValue (23) = Phase L3 Reactive Power (VAr)
Value in PointValue (24) = Phase L1 Apparent Power (VA)
Value in PointValue (25) = Phase L2 Apparent Power (VA)
Value in PointValue (26) = Phase L3 Apparent Power (VA)

CPKSoft Engineering
Industrial communication drivers.
www.cpksoft.com
www.facebook.com/cpksoftengineering
cpksoftengineering@hotmail.com
phone: 54-911-45788354

Value in PointValue (27) = Phase L1 Current Crest Factor
Value in PointValue (28) = Phase L2 Current Crest Factor
Value in PointValue (29) = Phase L3 Current Crest Factor
Value in PointValue (30) = Three-Phase Apparent Power (VA)
Value in PointValue (31) = Three-Phase Reactive Power (VAr)
Value in PointValue (32) = Frequency (Hz)
Value in PointValue (33) = Positive Three-Phase kWatthours (single phase if single phase is set) (kWh)
Value in PointValue (34) = Positive Three-Phase kVArhours (single phase if single phase is set) (kVArh)
Value in PointValue (35) = Three-Phase Average Reactive Power (single phase if single phase is set) (VAr)
Value in PointValue (36) = Three-Phase Average Apparent Power (single phase if single phase is set) (VA)
Value in PointValue (37) = Three-Phase Average Active Power (single phase if single phase is set) (W)
Value in PointValue (38) = Three-Phase Apparent Power Peaks (single phase if single phase is set) (VA)
Value in PointValue (39) = Three-Phase Active Power Peaks (single phase if single phase is set) (W)
Value in PointValue (40) = Negative Three-Phase kWatthours (single phase if single phase is set) (kWh)
Value in PointValue (41) = Negative Three-Phase kVArhours (single phase if single phase is set) (kVArh)
Value in PointValue (42) = Phase L3 kWatthours (kWh)
Relay Control Data:
Value in PointValue (43) = 0/1: Relay 1 Off/On
Value in PointValue (44) = 0/1: Relay 2 Off/On
Value in PointValue (45) = 0/1: Pulse/Relay Output (RPQS/ALM)
Value in PointValue (46) = 0/1: Alarm Output Inactive/Active
Value in PointValue (47) = 0/1: Relay 1/2 Selected (ALM active)
Value in PointValue (48) = 0/1: Local/Remote Control

Read Date & Time Information

Description of this command:
Returns the date & time information.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-5
Meaning of the DriverP0 parameter:
Station Number (1-247).
Meaning of the DriverP1 parameter:
1
Values that are returned:
Value in PointValue (0) = Minutes
Value in PointValue (1) = Hours
Value in PointValue (2) = Day
Value in PointValue (3) = Month
Value in PointValue (4) = Year

Write Keyboard Status

Description of this command:
Enable/Disable keyboard.
Methods used to run this command:
Digital Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Station Number (1-247).

CPKSoft Engineering
Industrial communication drivers.
www.cpksoft.com
www.facebook.com/cpksoftengineering
cpksoftengineering@hotmail.com
phone: 54-911-45788354

Meaning of the DriverP1 parameter:
2
Values that are sent:
Value in PointValue (0) = 0/1: Disable/Enable Keyboard

Select Local/Remote Mode

Description of this command:
Selects the Local/Remote operation mode for the Relay outputs.
Methods used to run 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:
3
Values that are sent:
Value in PointValue (0) = 0/1: Local/Remote Mode

Peaks and Averages Reset

Description of this command:
Resets the peaks and averages registers.
Methods used to run 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:
4
No Values Required: Just sending this command executes the Reset.

Write Command for Operation of Relays 1 and 2

Description of this command:
Commands the operation of Relays 1 and 2. Before using this command it is ESSENTIAL to switch the VIP Energy to Relay-Output Remote mode, otherwise the command is ignored.
Methods used to run 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:
5
Values that are sent:
Value in PointValue (0) = 0/1: Relay 1 Off/On
Value in PointValue (1) = 0/1: Relay 2 Off/On

Select Star/Delta Connection

Description of this command:
Writes the selection flag for the Star/Delta switching.
Methods used to run 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:
6

CPKSoft Engineering
Industrial communication drivers.
www.cpksoft.com
www.facebook.com/cpksoftengineering
cpksoftengineering@hotmail.com
phone: 54-911-45788354

Values that are sent:
Value in PointValue (0) = 0/1: Star/Delta Connection

Select Cogeneration/No Cogeneration

Description of this command:
Writes the selection flag for the Cogeneration/No Cogeneration switching.
Methods used to run 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:
7
Values that are sent:
Value in PointValue (0) = 0/1: No Cogeneration/Cogeneration

Write Integration Period for Average Values

Description of this command:
Writes the integration time period for average values.
Methods used to run 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
Values that are sent:
Value in PointValue (0) =
0 (10 Minutes)
1 (15 Minutes)
2 (20 Minutes)
3 (30 Minutes)
4 (60 Minutes)
5 (1 Minute)
6 (2 Minutes)
7 (5 Minutes)

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
[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
[2222] CONFIG (NumValues): Too many values (max=49)
[2223] CONFIG (NumValues): Too many values (max=5)
[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

CPKSoft Engineering
Industrial communication drivers.
www.cpksoft.com
www.facebook.com/cpksoftengineering
cpksoftengineering@hotmail.com
phone: 54-911-45788354

[8172] CONFIG (Remote): Illegal function
[8217] CONFIG (Remote): NAK-negative acknowledgment
[8347] CONFIG (Remote): Unknown error

Supported devices

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

ELCONTROL VIP ENERGY 485
ELCONTROL VIP ENERGY RPQS-485
ELCONTROL VIP ENERGY ALM-485
ELCONTROL VIP ENERGY ALMRPQS-485

CPKSoft Engineering
Industrial communication drivers.
www.cpksoft.com
www.facebook.com/cpksoftengineering
cpksoftengineering@hotmail.com
phone: 54-911-45788354