

# Industrial communication solutions for Windows

## XVERIS80 Driver Manual

*VERIS INDUSTRIES Enercept H8035/36 Modbus RTU/TCP Protocol Driver*

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## XVERIS80 technical specifications

### General information

XVERIS80 driver reads most common data points from VERIS INDUSTRIES Enercept H8035/36 Power Transducers using either Modbus RTU (serial RS-485) or Modbus TCP (Ethernet) protocol.

### Command list

#### Read Most Common Data Points using Modbus RTU

**Description of this command:**

Reads most common data points from given power transducer using the Modbus RTU protocol.

**Methods used to run this command:**

Analog Input (ReadNumericValues)

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

1-26

**Meaning of the DriverP0 parameter:**

Unit Address (1-255)

**Meaning of the DriverP4 parameter:**

0 (or empty)

**Values that are returned:**

Value in PointValue (0) = Energy Consumption (KWH)  
Value in PointValue (1) = Real Power X (KW)  
Value in PointValue (2) = Reactive Power X (VAR)  
Value in PointValue (3) = Apparent Power X (VA)  
Value in PointValue (4) = Power Factor X ()  
Value in PointValue (5) = Voltage, line to line X (VOLTS)  
Value in PointValue (6) = Voltage, line to neutral X (VOLTS)  
Value in PointValue (7) = Current X (AMPS)  
Value in PointValue (8) = Real Power, phase A X (KW)  
Value in PointValue (9) = Real Power, phase B X (KW)  
Value in PointValue (10) = Real Power, phase C X (KW)  
Value in PointValue (11) = Power Factor, phase A X ()  
Value in PointValue (12) = Power Factor, phase B X ()  
Value in PointValue (13) = Power Factor, phase C X ()  
Value in PointValue (14) = Voltage, phase A-B X (VOLTS)  
Value in PointValue (15) = Voltage, phase B-C X (VOLTS)  
Value in PointValue (16) = Voltage, phase A-C X (VOLTS)  
Value in PointValue (17) = Voltage, phase A-N X (VOLTS)  
Value in PointValue (18) = Voltage, phase B-N X (VOLTS)  
Value in PointValue (19) = Voltage, phase C-N X (VOLTS)  
Value in PointValue (20) = Current, phase A X (AMPS)  
Value in PointValue (21) = Current, phase B X (AMPS)  
Value in PointValue (22) = Current, phase C X (AMPS)  
Value in PointValue (23) = Average Real Power X (KW)  
Value in PointValue (24) = Minimum Real Power X (KW)  
Value in PointValue (25) = Maximum Real Power (KW)

#### Read Most Common Data Points using Modbus TCP

**Description of this command:**

Reads most common data points from given power transducer using the Modbus TCP protocol.

**Methods used to run this command:**

Analog Input (ReadNumericValues)

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

1-26

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**Meaning of the DriverP0 parameter:**

Unit Address (1-255)

**Meaning of the DriverP4 parameter:**

1

**Values that are returned:**

Value in PointValue (0) = Energy Consumption (KWH)  
Value in PointValue (1) = Real Power X (KW)  
Value in PointValue (2) = Reactive Power X (VAR)  
Value in PointValue (3) = Apparent Power X (VA)  
Value in PointValue (4) = Power Factor X ()  
Value in PointValue (5) = Voltage, line to line X (VOLTS)  
Value in PointValue (6) = Voltage, line to neutral X (VOLTS)  
Value in PointValue (7) = Current X (AMPS)  
Value in PointValue (8) = Real Power, phase A X (KW)  
Value in PointValue (9) = Real Power, phase B X (KW)  
Value in PointValue (10) = Real Power, phase C X (KW)  
Value in PointValue (11) = Power Factor, phase A X ()  
Value in PointValue (12) = Power Factor, phase B X ()  
Value in PointValue (13) = Power Factor, phase C X ()  
Value in PointValue (14) = Voltage, phase A-B X (VOLTS)  
Value in PointValue (15) = Voltage, phase B-C X (VOLTS)  
Value in PointValue (16) = Voltage, phase A-C X (VOLTS)  
Value in PointValue (17) = Voltage, phase A-N X (VOLTS)  
Value in PointValue (18) = Voltage, phase B-N X (VOLTS)  
Value in PointValue (19) = Voltage, phase C-N X (VOLTS)  
Value in PointValue (20) = Current, phase A X (AMPS)  
Value in PointValue (21) = Current, phase B X (AMPS)  
Value in PointValue (22) = Current, phase C X (AMPS)  
Value in PointValue (23) = Average Real Power X (KW)  
Value in PointValue (24) = Minimum Real Power X (KW)  
Value in PointValue (25) = Maximum Real Power (KW)

## Generic Read Points From Modbus Map

**Description of this command:**

Reads a set of points from the Modbus Point Map using either Modbus RTU or Modbus TCP. Points can be of any type and of any address. Points can be read in different groups that share the same type.

**Methods used to run this command:**

Analog Input (ReadNumericValues)

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

1-250

**Meaning of the DriverP0 parameter:**

Unit Address (1-255).

**Meaning of the DriverP1 parameter:**

0

**Meaning of the DriverP2 parameter:**

Not used.

**Meaning of the DriverP3 parameter:**

Indicates the format for returned dates:  
0 = Use English format (MM/DD/YYYY)  
1 = Use Spanish format (DD/MM/YYYY)

**Meaning of the DriverP4 parameter:**

Modbus protocol type, where:  
0 = RTU (for serial ports)  
1 = TCP (for ethernet ports)

**Meaning of the DriverP5 parameter:**

Number of retries reading each item, before discarding the whole communication.

**Meaning of the DriverP6 parameter:**

Not used.

**Meaning of the DriverP7 parameter:**

Comma-separated list of register items to be read, using the format "NNNFD:AAAA,NNNFD:AAAA,NNNFD:AAAA,..." where:

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- <NNN> = Number of pointvalues to be returned by this item (1-999). If the item returns more values than reserved points, extra values are discarded. If it returns less values, points are filled with -1 and empty texts.
- <F> = Format code, where:
  - D=Get date from an unsigned \_\_int64 milliseconds since 01/01/2000
  - T=Get time from an unsigned \_\_int64 milliseconds since 01/01/2000
  - s=Get text from WORD Modbus registers (use the Divisor format parameter to set the number of registers to be read. For example, 's5' will read 5 registers, this is, 10 bytes).
  - u=Get a 16-bit unsigned integer (WORD, 1 Modbus register)
  - U=Get a 32-bit unsigned integer (DWORD, 2 Modbus registers)
  - V=Get a 64-bit unsigned integer (UINT64, 4 Modbus registers)
  - i=Get a 16-bit signed integer (short, 1 Modbus register)
  - l=Get a 32-bit signed integer (int, 2 Modbus registers)
  - f=Get a 32-bit IEEE floating point number (float, 2 Modbus registers)
  - F=Get a 64-bit IEEE floating point number (double, 4 Modbus registers)
  - b=Get individual bit values as 0 or 1 (registers will be considered as words and number of actual words requested will be (NN/16)+1)
  - a=Get individual bit values as active or inactive (same as case 'b')
  - A=Get individual bit values as Active or Inactive (same as case 'b')
  - l=Get individual bit values as high or low (same as case 'b')
  - L=Get individual bit values as High or Low (same as case 'b')
  - o=Get individual bit values as on or off (same as case 'b')
  - O=Get individual bit values as On or Off (same as case 'b')
  - y=Get individual bit values as yes or no (same as case 'b')
  - Y=Get individual bit values as Yes or No (same as case 'b')
  - @=Get text from a built-in text array based on the '16-bit unsigned' register value
- <D> = Divisor, where:
  - 0=No divisor
  - 1=Divide by 10
  - 2=Divide by 100
  - 3=Divide by 1000
  - 4=Divide by 10000
  - 5=Divide by 100000
- <AAAA> = First register address, as a 4-digit uppercase hexadecimal number (0000-FFFF)
- Example = 013f0:0102,013f0:011C (this will return the same points than the 'Read Most Common Data Points' command)

#### Meaning of the DriverP8 parameter:

Not used.

#### Meaning of the DriverP9 parameter:

Not used.

#### Important note:

Consider that each item may return several values, so DriverNumPoints should be big enough to receive all values.

#### Values that are returned:

Value in PointValue (0) = First numeric data returned by first item

Text in PointText (0) = First text data returned by first item

...

Value in PointValue (DriverNumPoints-1) = Last numeric data returned by last item

Text in PointText (DriverNumPoints-1) = Last text data returned by last item

## 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
- [1007] DRIVER (Internal): Code logic error
- [1009] DRIVER (Internal): Buffer size exceeded
- [1010] DRIVER (Internal): Error calculating elapsed milliseconds
- [1201] DRIVER (System): Error closing %s
- [1202] DRIVER (System): Error creating %s
- [1208] DRIVER (System): Error seeking end of %s

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[1210] DRIVER (System): Error writing to %s  
[1214] DRIVER (System): Error deleting %s  
[1300] PROTOCOL (Timeout): No answer  
[1313] PROTOCOL (Timeout): No answer from meter after retrying with a Start Communications message  
[1319] REPLY (Remote): Too many NAK BUSY or unexpected telegrams received  
[1332] PROTOCOL (Remote): Invalid date received  
[1333] PROTOCOL (Remote): Couldn't decode received date  
[1334] PROTOCOL (Remote): Invalid time received  
[1338] PROTOCOL (Remote): Couldn't decode reference date  
[1340] REPLY (Remote): Invalid file-block sequence received  
[1421] PROTOCOL (Format): Negative acknowledge received from device  
[2001] CONFIG (DataType): Analog outputs are not supported by this driver  
[2002] CONFIG (DataType): Digital inputs are not supported by this driver  
[2003] CONFIG (DataType): Digital outputs are not supported by this driver  
[2178] CONFIG (NumValues): Too many values (max=1000)  
[2311] CONFIG (List): Invalid format of item list  
[2311] CONFIG (List): Invalid item format in item list  
[2314] CONFIG (List): Invalid number of points in item list (1-999)  
[3022] CONFIG (P0): Invalid device address (1-255)  
[3508] CONFIG (P1): Invalid command  
[8013] CONFIG (Remote): Acknowledge  
[8034] 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  
[8347] CONFIG (Remote): Unknown error  
[8488] CONFIG (Remote): Gateway paths not available  
[8489] CONFIG (Remote): The targeted device failed to respond. The gateway generates this exception

## Supported devices

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

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