

XCVMMOD Driver Manual

Circutor CVM-BD-M Modbus RTU 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 xcvmmod.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 xcvmmod.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 xcvmmod driver page at CPKSoft Engineering website: <http://www.cpksoft.com/tabid/55/ProductID/27/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

El driver XCVMMOD permite comunicarse con los medidores de energia CIRCUTOR de la serie CVM-BD-M mediante el protocolo Modbus RTU.

Este driver ha sido elaborado de acuerdo al documento interno numero 0049 con fecha 23/10/2001 del Grupo CIRCUTOR. Implementa comandos tanto para la lectura y escritura de registros como para la bajada de la memoria del equipo.

2.2. Supported devices

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

CIRCUTOR Power Meter CVM-BD-M

3. Command list

3.1. Leer numero de serie del equipo

Description of this command:

Lee un valor tipo long conteniendo el numero de serie del equipo.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

16

Values that are returned:

Value in PointValue (0) = Numero de serie del equipo

3.2. Leer version del software del equipo

Description of this command:

Lee una cadena de 6 caracteres conteniendo la version de software del equipo y la entrega como 6 codigos ASCII individuales.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

6

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

17

Values that are returned:

Value in PointValue (0) = Codigo ASCII del primer caracter

Value in PointValue (1) = Codigo ASCII del segundo caracter

Value in PointValue (2) = Codigo ASCII del tercer caracter

Value in PointValue (3) = Código ASCII del cuarto carácter

Value in PointValue (4) = Código ASCII del quinto carácter

Value in PointValue (5) = Código ASCII del sexto carácter

3.3. Lectura de variables electricas trifasico instantaneas

Description of this command:

Lee un paquete de 59 mediciones conteniendo las mediciones instantaneas de las variables electricas trifasico.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

59

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

0

Values that are returned:

Value in PointValue (0) = Tension fase [V]
Value in PointValue (1) = Corriente [mA]
Value in PointValue (2) = Potencia activa [W]
Value in PointValue (3) = Potencia reactiva inductiva [W]
Value in PointValue (4) = Potencia reactiva capacitiva [W]
Value in PointValue (5) = Factor de potencia [adim]
Value in PointValue (6) = Tension fase [V]
Value in PointValue (7) = Corriente [mA]
Value in PointValue (8) = Potencia activa [W]
Value in PointValue (9) = Potencia reactiva inductiva [W]
Value in PointValue (10) = Potencia reactiva capacitiva [W]
Value in PointValue (11) = Factor de potencia [adim]
Value in PointValue (12) = Tension fase [V]
Value in PointValue (13) = Corriente [mA]
Value in PointValue (14) = Potencia activa [W]
Value in PointValue (15) = Potencia reactiva inductiva [W]
Value in PointValue (16) = Potencia reactiva capacitiva [W]
Value in PointValue (17) = Factor de potencia [adim]
Value in PointValue (18) = Tension promedio [V]
Value in PointValue (19) = Corriente promedio [mA]
Value in PointValue (20) = Potencia activa trifasica [W]
Value in PointValue (21) = Potencia inductiva trifasica [W]
Value in PointValue (22) = Potencia capacitiva trifasica [W]
Value in PointValue (23) = Factor de potencia trifasico [adim]

- Value in PointValue (24) = Frecuencia (L1) [Hz]
- Value in PointValue (25) = Potencia aparente trifasica [W]
- Value in PointValue (26) = Tension linea L1-L2 [V]
- Value in PointValue (27) = Tension linea L2-L3 [V]
- Value in PointValue (28) = Tension linea L3-L1 [V]
- Value in PointValue (29) = Tension promedio compuesta [V]
- Value in PointValue (30) = Hora [adim]
- Value in PointValue (31) = Energia activa T1 (+) [Wh]
- Value in PointValue (32) = Energia reactivainductiva T1 (+) [Wh]
- Value in PointValue (33) = Energia reactiva capacitiva T1 (+) [Wh]
- Value in PointValue (34) = Maxima demanda T1 [W/VA]
- Value in PointValue (35) = Energia activa T1 (-) [Wh]
- Value in PointValue (36) = Energia reactiva inductiva T1 (-) [Wh]
- Value in PointValue (37) = Energia reactiva capacitiva T1 (-) [Wh]
- Value in PointValue (38) = Energia activa T2 (+) [Wh]
- Value in PointValue (39) = Energia reactiva inductiva T2 (+) [Wh]
- Value in PointValue (40) = Energia reactiva capacitiva T2 (+) [Wh]
- Value in PointValue (41) = Maxima demanda T2 [W/VA]
- Value in PointValue (42) = Energia activa T2 (-) [Wh]
- Value in PointValue (43) = Energia reactiva inductiva T2 (-) [Wh]
- Value in PointValue (44) = Energia reactiva capacitiva T2 (-) [Wh]
- Value in PointValue (45) = Energia activa T3 (+) [Wh]
- Value in PointValue (46) = Energia reactiva inductiva T3 (+) [Wh]
- Value in PointValue (47) = Energia reactiva capacitiva T3 (+) [Wh]
- Value in PointValue (48) = Maxima demanda T3 [W/VA]
- Value in PointValue (49) = Energia activa T3 (-) [Wh]
- Value in PointValue (50) = Energia reactiva i nductiva T3 (-) [Wh]
- Value in PointValue (51) = Energia reactiva capacitiva T3 (-) [Wh]
- Value in PointValue (52) = Intensidad de neutro [mA]
- Value in PointValue (53) = % THD V 1 [%]
- Value in PointValue (54) = % THD V 2 [%]
- Value in PointValue (55) = % THD V 3 [%]
- Value in PointValue (56) = % THD I 1 [%]
- Value in PointValue (57) = % THD I 2 [%]
- Value in PointValue (58) = % THD I 3 [%]

3.4. Lectura de variables electricas trifasico maximas

Description of this command:

Lee un paquete de 59 mediciones conteniendo los maximos de las variables electricas trifasico.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

59

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

1

Values that are returned:

- Value in PointValue (0) = Tension fase [V]
- Value in PointValue (1) = Corriente [mA]
- Value in PointValue (2) = Potencia activa [W]
- Value in PointValue (3) = Potencia reactiva inductiva [W]
- Value in PointValue (4) = Potencia reactiva capacitiva [W]
- Value in PointValue (5) = Factor de potencia [adim]
- Value in PointValue (6) = Tension fase [V]
- Value in PointValue (7) = Corriente [mA]
- Value in PointValue (8) = Potencia activa [W]
- Value in PointValue (9) = Potencia reactiva inductiva [W]
- Value in PointValue (10) = Potencia reactiva capacitiva [W]
- Value in PointValue (11) = Factor de potencia [adim]
- Value in PointValue (12) = Tension fase [V]
- Value in PointValue (13) = Corriente [mA]
- Value in PointValue (14) = Potencia activa [W]
- Value in PointValue (15) = Potencia reactiva inductiva [W]
- Value in PointValue (16) = Potencia reactiva capacitiva [W]
- Value in PointValue (17) = Factor de potencia [adim]
- Value in PointValue (18) = Tension promedio [V]
- Value in PointValue (19) = Corriente promedio [mA]
- Value in PointValue (20) = Potencia activa trifasica [W]
- Value in PointValue (21) = Potencia inductiva trifasica [W]
- Value in PointValue (22) = Potencia capacitiva trifasica [W]
- Value in PointValue (23) = Factor de potencia trifasico [adim]
- Value in PointValue (24) = Frecuencia (L1) [Hz]
- Value in PointValue (25) = Potencia aparente trifasica [W]
- Value in PointValue (26) = Tension linea L1-L2 [V]
- Value in PointValue (27) = Tension linea L2-L3 [V]
- Value in PointValue (28) = Tension linea L3-L1 [V]
- Value in PointValue (29) = Tension promedio compuesta [V]
- Value in PointValue (30) = Hora [adim]
- Value in PointValue (31) = Energia activa T1 (+) [Wh]
- Value in PointValue (32) = Energia reactivainductiva T1 (+) [Wh]
- Value in PointValue (33) = Energia reactiva capacitiva T1 (+) [Wh]
- Value in PointValue (34) = Maxima demanda T1 [W/VA]
- Value in PointValue (35) = Energia activa T1 (-) [Wh]
- Value in PointValue (36) = Energia reactiva inductiva T1 (-) [Wh]
- Value in PointValue (37) = Energia reactiva capacitiva T1 (-) [Wh]
- Value in PointValue (38) = Energia activa T2 (+) [Wh]
- Value in PointValue (39) = Energia reactiva inductiva T2 (+) [Wh]
- Value in PointValue (40) = Energia reactiva capacitiva T2 (+) [Wh]
- Value in PointValue (41) = Maxima demanda T2 [W/VA]

Value in PointValue (42) = Energia activa T2 (-) [Wh]
Value in PointValue (43) = Energia reactiva inductiva T2 (-) [Wh]
Value in PointValue (44) = Energia reactiva capacitiva T2 (-) [Wh]
Value in PointValue (45) = Energia activa T3 (+) [Wh]
Value in PointValue (46) = Energia reactiva inductiva T3 (+) [Wh]
Value in PointValue (47) = Energia reactiva capacitiva T3 (+) [Wh]
Value in PointValue (48) = Maxima demanda T3 [W/VA]
Value in PointValue (49) = Energia activa T3 (-) [Wh]
Value in PointValue (50) = Energia reactiva inductiva T3 (-) [Wh]
Value in PointValue (51) = Energia reactiva capacitiva T3 (-) [Wh]
Value in PointValue (52) = Intensidad de neutro [mA]
Value in PointValue (53) = % THD V 1 [%]
Value in PointValue (54) = % THD V 2 [%]
Value in PointValue (55) = % THD V 3 [%]
Value in PointValue (56) = % THD I 1 [%]
Value in PointValue (57) = % THD I 2 [%]
Value in PointValue (58) = % THD I 3 [%]

3.5. Lectura de variables electricas trifasico minimas

Description of this command:

Lee un paquete de 59 mediciones conteniendo los minimos de las variables electricas trifasico.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

59

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

2

Values that are returned:

Value in PointValue (0) = Tension fase [V]
Value in PointValue (1) = Corriente [mA]
Value in PointValue (2) = Potencia activa [W]
Value in PointValue (3) = Potencia reactiva inductiva [W]
Value in PointValue (4) = Potencia reactiva capacitiva [W]
Value in PointValue (5) = Factor de potencia [adim]
Value in PointValue (6) = Tension fase [V]
Value in PointValue (7) = Corriente [mA]
Value in PointValue (8) = Potencia activa [W]
Value in PointValue (9) = Potencia reactiva inductiva [W]
Value in PointValue (10) = Potencia reactiva capacitiva [W]

- Value in PointValue (11) = Factor de potencia [adim]
- Value in PointValue (12) = Tension fase [V]
- Value in PointValue (13) = Corriente [mA]
- Value in PointValue (14) = Potencia activa [W]
- Value in PointValue (15) = Potencia reactiva inductiva [W]
- Value in PointValue (16) = Potencia reactiva capacitiva [W]
- Value in PointValue (17) = Factor de potencia [adim]
- Value in PointValue (18) = Tension promedio [V]
- Value in PointValue (19) = Corriente promedio [mA]
- Value in PointValue (20) = Potencia activa trifasica [W]
- Value in PointValue (21) = Potencia inductiva trifasica [W]
- Value in PointValue (22) = Potencia capacitiva trifasica [W]
- Value in PointValue (23) = Factor de potencia trifasico [adim]
- Value in PointValue (24) = Frecuencia (L1) [Hz]
- Value in PointValue (25) = Potencia aparente trifasica [W]
- Value in PointValue (26) = Tension linea L1-L2 [V]
- Value in PointValue (27) = Tension linea L2-L3 [V]
- Value in PointValue (28) = Tension linea L3-L1 [V]
- Value in PointValue (29) = Tension promedio compuesta [V]
- Value in PointValue (30) = Hora [adim]
- Value in PointValue (31) = Energia activa T1 (+) [Wh]
- Value in PointValue (32) = Energia reactivainductiva T1 (+) [Wh]
- Value in PointValue (33) = Energia reactiva capacitiva T1 (+) [Wh]
- Value in PointValue (34) = Maxima demanda T1 [W/VA]
- Value in PointValue (35) = Energia activa T1 (-) [Wh]
- Value in PointValue (36) = Energia reactiva inductiva T1 (-) [Wh]
- Value in PointValue (37) = Energia reactiva capacitiva T1 (-) [Wh]
- Value in PointValue (38) = Energia activa T2 (+) [Wh]
- Value in PointValue (39) = Energia reactiva inductiva T2 (+) [Wh]
- Value in PointValue (40) = Energia reactiva capacitiva T2 (+) [Wh]
- Value in PointValue (41) = Maxima demanda T2 [W/VA]
- Value in PointValue (42) = Energia activa T2 (-) [Wh]
- Value in PointValue (43) = Energia reactiva inductiva T2 (-) [Wh]
- Value in PointValue (44) = Energia reactiva capacitiva T2 (-) [Wh]
- Value in PointValue (45) = Energia activa T3 (+) [Wh]
- Value in PointValue (46) = Energia reactiva inductiva T3 (+) [Wh]
- Value in PointValue (47) = Energia reactiva capacitiva T3 (+) [Wh]
- Value in PointValue (48) = Maxima demanda T3 [W/VA]
- Value in PointValue (49) = Energia activa T3 (-) [Wh]
- Value in PointValue (50) = Energia reactiva i nductiva T3 (-) [Wh]
- Value in PointValue (51) = Energia reactiva capacitiva T3 (-) [Wh]
- Value in PointValue (52) = Intensidad de neutro [mA]
- Value in PointValue (53) = % THD V 1 [%]
- Value in PointValue (54) = % THD V 2 [%]
- Value in PointValue (55) = % THD V 3 [%]
- Value in PointValue (56) = % THD I 1 [%]
- Value in PointValue (57) = % THD I 2 [%]
- Value in PointValue (58) = % THD I 3 [%]

3.6. Lectura de reloj del equipo

Description of this command:

Lee un paquete de 6 valores conteniendo los datos del reloj del equipo.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

6

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

3

Values that are returned:

Value in PointValue (0) = Dia
Value in PointValue (1) = Mes
Value in PointValue (2) = Anio
Value in PointValue (3) = Hora
Value in PointValue (4) = Minutos
Value in PointValue (5) = Segundos

3.7. Escritura de reloj del equipo

Description of this command:

Escribe un paquete de 6 valores enviando los nuevos datos del reloj del equipo.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

6

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

3

Values that are returned:

Value in PointValue (0) = Nuevo dia
Value in PointValue (1) = Nuevo mes
Value in PointValue (2) = Nuevo anio
Value in PointValue (3) = Nueva hora
Value in PointValue (4) = Nuevos minutos

Value in PointValue (5) = Nuevos segundos

3.8. Lectura de los puntos del convertidor

Description of this command:

Lee un paquete de 27 valores conteniendo los sumatorios de puntos del convertidor necesarios para calcular las ganancias.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

27

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

4

Values that are returned:

Value in PointValue (0) = Corriente I1 escala 1
Value in PointValue (1) = Corriente I1 escala 2
Value in PointValue (2) = Tension V1
Value in PointValue (3) = Corriente I2 escala 1
Value in PointValue (4) = Corriente I2 escala 2
Value in PointValue (5) = Tension V2
Value in PointValue (6) = Corriente I3 escala 1
Value in PointValue (7) = Corriente I3 escala 2
Value in PointValue (8) = Tension V3
Value in PointValue (9) = Tension V12
Value in PointValue (10) = Tension V23
Value in PointValue (11) = Tension V31
Value in PointValue (12) = Potencia activa fase 1 escala 1
Value in PointValue (13) = Potencia activa fase 1 escala 2
Value in PointValue (14) = Potencia activa fase 2 escala 1
Value in PointValue (15) = Potencia activa fase 2 escala 2
Value in PointValue (16) = Potencia activa fase 3 escala 1
Value in PointValue (17) = Potencia activa fase 3 escala 2
Value in PointValue (18) = Potencia reactiva fase 1 escala 1
Value in PointValue (19) = Potencia reactiva fase 1 escala 2
Value in PointValue (20) = Potencia reactiva fase 2 escala 1
Value in PointValue (21) = Potencia reactiva fase 2 escala 2
Value in PointValue (22) = Potencia reactiva fase 3 escala 1
Value in PointValue (23) = Potencia reactiva fase 3 escala 2
Value in PointValue (24) = Corriente de neutro escala 1
Value in PointValue (25) = Corriente de neutro escala 2
Value in PointValue (26) = Numero de muestras

3.9. Lectura de las ganancias

Description of this command:

Lee un paquete de 12 valores conteniendo las ganancias o factores de calibracion definidos en fabrica.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

12

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

5

Values that are returned:

Value in PointValue (0) = Ganancia corriente linea 1
Value in PointValue (1) = Ganancia tension linea 1
Value in PointValue (2) = Ganancia corriente linea 2
Value in PointValue (3) = Ganancia tension linea 2
Value in PointValue (4) = Ganancia corriente linea 3
Value in PointValue (5) = Ganancia tension linea 3
Value in PointValue (6) = Ganancia corriente neutro
Value in PointValue (7) = Ganancia tension neutro
Value in PointValue (8) = Ganancia escala 2 linea I1
Value in PointValue (9) = Ganancia escala 2 linea I2
Value in PointValue (10) = Ganancia escala 2 linea I3
Value in PointValue (11) = Ganancia escala 2 linea IN

NOTA:

Para leer las ganancias del equipo, el flag de test de ganancias debe estar activado.

3.10. Escritura de las ganancias

Description of this command:

Escribe un paquete de 12 valores conteniendo los valores actuales de las ganancias del equipo.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

12

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

0

Values that are sent:

Value in PointValue (0) = Nueva ganancia corriente linea 1

Value in PointValue (1) = Nueva ganancia tension linea 1

Value in PointValue (2) = Nueva ganancia corriente linea 2

Value in PointValue (3) = Nueva ganancia tension linea 2

Value in PointValue (4) = Nueva ganancia corriente linea 3

Value in PointValue (5) = Nueva ganancia tension linea 3

Value in PointValue (6) = Nueva ganancia corriente neutro

Value in PointValue (7) = Nueva ganancia tension neutro

Value in PointValue (8) = Nueva ganancia escala 2 linea I1

Value in PointValue (9) = Nueva ganancia escala 2 linea I2

Value in PointValue (10) = Nueva ganancia escala 2 linea I3

Value in PointValue (11) = Nueva ganancia escala 2 linea IN

NOTA:Para manipular las ganancias del equipo, el flag de test de ganancias debe estar activado.

3.11. Lectura del estado de las salidas digitales

Description of this command:

Lee un paquete de 2 valores conteniendo los estados de los reles 1 y 2.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

2

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

1

Values that are returned:

Value in PointValue (0) = Nuevo estado del rele 1

Value in PointValue (1) = Nuevo estado del rele 2

3.12. Seteo del estado de una salida digital

Description of this command:

Escribe el nuevo estado para uno de los dos reles del equipo.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

1

Meaning of the DriverP2 parameter:

Numero de rele (1 o 2)

Values that are sent:

Value in PointValue (0) = Nuevo estado del rele

3.13. Lectura del estado del teclado

Description of this command:

Lee un paquete de 4 valores conteniendo los estados de las teclas MAX, MIN, DISPLAY y RESET del teclado del equipo.

Type of data handled by this command:

Digital Input

Number of points accepted by this command:

4

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

2

Values that are returned:

Value in PointValue (0) = Estado de la tecla MAX

Value in PointValue (1) = Estado de la tecla MIN

Value in PointValue (2) = Estado de la tecla DISPLAY

Value in PointValue (3) = Estado de la tecla RESET

3.14. Seteo del flag de test de ganancias

Description of this command:

Establece el estado del flag de test de ganancias para permitir la lectura y manipulacion de las mismas. Este flag es de solo escritura y no permite su lectura.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

0

Values that are sent:

Value in PointValue (0) = Nuevo estado del flag

NOTA:

Para poder leer o manipular las ganancias del equipo, este flag de test de ganancias debe estar activado.

3.15. Borrado de energias

Description of this command:

Envia al equipo la instruccion de borrado de energias.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

2

3.16. Borrado de maxima demanda

Description of this command:

Envia al equipo la instruccion de borrado de maxima demanda.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

3

3.17. Borrado de maximos y minimos

Description of this command:

Envia al equipo la instruccion de borrado de maximos y minimos.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

4

3.18. Borrado de todo

Description of this command:

Envia al equipo la instruccion de borrado de todo.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

5

3.19. Reset del equipo

Description of this command:

Envia al equipo la instruccion de reset del sistema. Este comando no espera respuesta ya que inmediatamente despues de enviado, el equipo se resetea.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

6

3.20. Seleccion de variables a registrar (CVT)

Description of this command:

Establece cuales seran las variables a ser registradas por el equipo.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1-122

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

1

Values that are sent:

Value in PointValue (0) =Codigo de la primer variable a registrar

Value in PointValue (1) =Codigo de la segunda variable a registrar . . .

Value in PointValue (NumPoints-1) =Codigo de la ultima variable a registrar

TABLA DE CODIGOS:

Los valores permitidos para cada PointValue son los siguientes:

0 = V1

1 = A1

2 = kW1

3 = kvar L1

4 = kvar C1

5 = PF 1

6 = V2

7 = A2

8 = kW2

9 = kvar L2

10 = kvar C2

11 = PF2

12 = V3

13 = A3

14 = kW3

15 = kvar L3

16 = kvar C3
17 = PF3
18 = Vav III N
19 = Aav III
20 = kWIII
21 = kvar LIII
22 = kvar CIII
23 = PF III
24 = Hz
25 = kVA III
26 = V12
27 = V23
28 = V31
29 = Vav III
30 = DC1
31 = DC2
32 = V1mx
33 = A1mx
34 = kW1mx
35 = kvar L1mx
36 = kvar C1mx
37 = PF 1mx
38 = V2mx
39 = A2mx
40 = kW2mx
41 = kvar L2mx
42 = kvar C2mx
43 = PF2mx
44 = V3mx
45 = A3mx
46 = kW3mx
47 = kvar L3mx
48 = kvar C3mx
49 = PF3mx
50 = Vav III Nmx
51 = Aav IIImx
52 = kWIII mx
53 = kvar LIII mx
54 = kvar CIII mx
55 = PF III mx
56 = Hzmx
57 = kVA III mx
58 = V12mx
59 = V23mx
60 = V31mx
61 = Vav III mx
62 = DC1mx
63 = DC2mx
64 = V1mn

65 = A1mn
66 = kW1mn
67 = kvar L1mn
68 = kvar C1mn
69 = PF 1mn
70 = V2mn
71 = A2mn
72 = kW2mn
73 = kvar L2mn
74 = kvar C2mn
75 = PF2mn
76 = V3mn
77 = A3mn
78 = kW3mn
79 = kvar L3mn
80 = kvar C3mn
81 = PF3mn
82 = Vav III Nmn
83 = Aav IIImn
84 = kWIII mn
85 = kvar LIII mn
84 = kWIII mn
85 = kvar LIII mn
86 = kvar CIII mn
87 = PF III mn
88 = Hzmn
89 = kVA III mn
90 = V12mn
91 = V23mn
92 = V31mn
93 = Vav III mn
94 = DC1mn
95 = DC2mn
96 = nkW1
97 = nkvar L1
98 = nkvar C1
99 = nkW2
100 = nkvar L2
101 = nkvar C2
102 = nkW3
103 = nkvar L3
104 = nkvar C3
105 = nkWIII
106 = nkvar LIII
107 = nkvar CIII
108 = nkW1mx
109 = nkvar L1mx
110 = nkvar C1mx
111 = nkW2mx

112 = nkvar L2mx
113 = nkvar C2mx
114 = nkW3mx
115 = nkvar L3mx
116 = nkvar C3mx
117 = nkWIII mx
118 = nkvar LIII mx
119 = nkvar CIII mx
120 = nkW1mn
121 = nkvar L1mn
122 = nkvar C1mn
123 = nkW2mn
124 = nkvar L2mn
125 = nkvar C2mn
126 = nkW3mn
127 = nkvar L3mn
128 = nkvar C3mn
129 = nkWIII mn
130 = nkvar LIII mn
131 = nkvar CIII mn
132 = kwh-1
133 = kwh/1000-1
134 = kvarLh-1
135 = kvarLh/1000-1
136 = kvarCh-1
137 = kvarCh/1000-1
138 = nkwh-1
139 = nkwh/1000-1
140 = nkvarLh-1
141 = nkvarLh/1000-1
142 = nkvarCh-1
143 = nkvarCh/1000-1
144 = kwh-2
145 = kwh/1000-2
146 = kvarLh-2
147 = kvarLh/1000-2
148 = kvarCh-2
149 = kvarCh/1000-2
150 = nkwh-2
151 = nkwh/1000-2
152 = nkvarLh-2
153 = nkvarLh/1000-2
154 = nkvarCh-2
155 = nkvarCh/1000-2
156 = kwh-3
157 = kwh/1000-3
158 = kvarLh-3
159 = kvarLh/1000-3
160 = kvarCh-3

161 = kvarCh/1000-3
162 = nkwh-3
163 = nkwh/1000-3
164 = nkvarLh-3
165 = nkvarLh/1000-3
166 = nkvarCh-3
167 = nkvarCh/1000-3
168 = nPF 1
169 = nPF 2
170 = nPF 3
171 = nPF III
172 = nPF 1 mx
173 = nPF 2 mx
174 = nPF 3 mx
175 = nPF III mx
176 = nPF 1 mn
177 = nPF 2 mn
178 = nPF 3 mn
179 = nPF III mn

3.21. Lectura del seteo del trigger (CVT)

Description of this command:

Lee 5 valores con los seteos de la condicion del trigger del inicio de registro del equipo.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

5

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

9

Values that are returned:

Value in PointValue (0) = Codigo de variable para el trigger (0-9)
Value in PointValue (1) = Fecha de inicio de registro
Value in PointValue (2) = Fecha de fin de registro
Value in PointValue (3) = Valor maximo de trigger
Value in PointValue (4) = Valor minimo de trigger

3.22. Establecer seteo del trigger (CVT)

Description of this command:

Establece las condiciones bajo las cuales se realizara el disparo del registro de las mediciones establecidas.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

5

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

4

Values that are sent:

Value in PointValue (0) = Codigo de variable para el trigger (0-9)

Value in PointValue (1) = Fecha de inicio de registro

Value in PointValue (2) = Fecha de fin de registro

Value in PointValue (3) = Valor maximo de trigger

Value in PointValue (4) = Valor minimo de trigger

3.23. Lectura del tiempo de registro actual (CVT)

Description of this command:

Lee un valor conteniendo el tiempo actual en minutos entre dos registros consecutivos en la memoria del equipo.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

6

Values that are returned:

Value in PointValue (0) = Tiempo de registro actual

3.24. Establecer tiempo de registro (CVT)

Description of this command:

Establece cual sera el tiempo entre dos muestras consecutivas registradas por el equipo, en minutos.

Type of data handled by this command:

Analog Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

2

Values that are sent:

Value in PointValue (0) = Tiempo entre muestras en segundos.

3.25. Leer cabecera de la memoria (CVT)

Description of this command:

Lee la cabecera del fichero donde se almacenan los registros y la guarda en un archivo.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

7

Meaning of the DriverP6 parameter:

Nombre con path completo del archivo de destino.

Values that are returned:

Value in PointValue (0) = Longitud total de la cabecera

Value in PointValue (1) = Longitud total de cada registro

Value in PointValue (2) = Cantidad de variables que se registran

3.26. Leer punteros y cantidad de registros (CVT y CVP)

Description of this command:

Devuelve las posiciones a la que apuntan actualmente los punteros de los archivos CVT y CVP que es donde se escribirán los próximos registros. También devuelve la cantidad de registros que hay actualmente disponibles en cada tipo de fichero. Si la cantidad de registros es el máximo y el puntero es un número inferior, indicará que la memoria ha dado vuelta.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

4

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

8

Values that are returned:

Value in PointValue (0) = Cantidad de registros en memoria (CVT)

Value in PointValue (1) = Posición actual del puntero (CVT)

Value in PointValue (2) = Cantidad de registros en memoria (CVP)

Value in PointValue (3) = Posición actual del puntero (CVP)

3.27. Resetear puntero al inicio (CVT)

Description of this command:

Pone el puntero al inicio de la memoria. Haciendo un reset del equipo y justo después enviando este comando, el equipo empezará a registrar desde el principio.

Type of data handled by this command:

Digital Output

Number of points accepted by this command:

1

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

6

3.28. Leer registros de la memoria (CVT)

Description of this command:

Este comando implementa la lectura de una cantidad de registros a partir de una posición indicada, almacenando en un archivo binario (CVT) los datos recibidos. El comando también se encarga de obtener previamente la cabecera que le corresponde a ese archivo. Si el archivo no existe, se crea un archivo nuevo utilizando la cabecera obtenida. Si el archivo ya existe, se compara la cabecera obtenida con la cabecera existente en el archivo de destino antes de agregarle nuevos registros. Si la cabecera es diferente, el comando se aborta sin agregar registros al archivo.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

6

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

20

Meaning of the DriverP2 parameter:

Posición inicial a leer

Meaning of the DriverP3 parameter:

Cantidad de registros a leer

Meaning of the DriverP4 parameter:

Ignorar comparación de cabeceras (1=Si, 0=No)

Meaning of the DriverP5 parameter:

Número de reintentos con cada bloque transferido antes de abandonar la bajada del archivo. Si se deja en 0, se realizarán 10 reintentos.

Meaning of the DriverP6 parameter:

Nombre con path completo del archivo de destino.

Values that are returned:

Value in PointValue (0) = Cantidad total de bytes leídos
Value in PointValue (1) = Longitud total de la cabecera
Value in PointValue (2) = Longitud total de cada registro
Value in PointValue (3) = Cantidad de variables que se registran
Value in PointValue (4) = Cantidad total de muestras leídas
Value in PointValue (5) = Posición final leída

3.29. Leer registros de eventos (CVP)

Description of this command:

Este comando implementa la lectura de una cantidad de registros a partir de una posición indicada, almacenando en un archivo binario (CVP) los datos recibidos. El comando también se encarga de obtener previamente la cabecera que le corresponde a ese archivo. Si el archivo no existe, se crea un archivo nuevo utilizando la cabecera obtenida. Si el archivo ya existe, se compara la cabecera obtenida con la cabecera existente en el archivo de destino antes de agregarle nuevos registros. Si la cabecera es diferente, el comando se aborta sin agregar registros al archivo.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

6

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

21

Meaning of the DriverP2 parameter:

Posición inicial a leer

Meaning of the DriverP3 parameter:

Cantidad de registros a leer

Meaning of the DriverP5 parameter:

Número de reintentos con cada bloque transferido antes de abandonar la bajada del archivo. Si se deja en 0, se realizarán 10 reintentos.

Meaning of the DriverP6 parameter:

Nombre con path completo del archivo de destino.

Values that are returned:

Value in PointValue (0) = Cantidad total de bytes leídos
Value in PointValue (1) = Longitud total de la cabecera
Value in PointValue (2) = Longitud total de cada registro
Value in PointValue (3) = Cantidad de variables que se registran
Value in PointValue (4) = Cantidad total de muestras leídas
Value in PointValue (5) = Posición final leída

3.30. Descomposicion armonica de Corriente 1

Description of this command:

Lee un paquete de 15 valores conteniendo la corriente RMS y catorce componentes armonicos para la corriente 1.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

15

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

10

Values that are returned:

Value in PointValue (0) = Corriente RMS

Value in PointValue (1) = Componente armonico 1

Value in PointValue (2) = Componente armonico 2

Value in PointValue (3) = Componente armonico 3

Value in PointValue (4) = Componente armonico 4

Value in PointValue (5) = Componente armonico 5

Value in PointValue (6) = Componente armonico 6

Value in PointValue (7) = Componente armonico 7

Value in PointValue (8) = Componente armonico 8

Value in PointValue (9) = Componente armonico 9

Value in PointValue (10) = Componente armonico 10

Value in PointValue (11) = Componente armonico 11

Value in PointValue (12) = Componente armonico 12

Value in PointValue (13) = Componente armonico 13

Value in PointValue (14) = Componente armonico 14

3.31. Descomposicion armonica de Corriente 2

Description of this command:

Lee un paquete de 15 valores conteniendo la corriente RMS y catorce componentes armonicos para la corriente 2.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

15

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

11

Values that are returned:

Value in PointValue (0) = Corriente RMS

Value in PointValue (1) = Componente armonico 1

Value in PointValue (2) = Componente armonico 2

Value in PointValue (3) = Componente armonico 3

Value in PointValue (4) = Componente armonico 4

Value in PointValue (5) = Componente armonico 5

Value in PointValue (6) = Componente armonico 6

Value in PointValue (7) = Componente armonico 7

Value in PointValue (8) = Componente armonico 8

Value in PointValue (9) = Componente armonico 9

Value in PointValue (10) = Componente armonico 10

Value in PointValue (11) = Componente armonico 11

Value in PointValue (12) = Componente armonico 12

Value in PointValue (13) = Componente armonico 13

Value in PointValue (14) = Componente armonico 14

3.32. Descomposicion armonica de Corriente 3

Description of this command:

Lee un paquete de 15 valores conteniendo la corriente RMS y catorce componentes armonicos para la corriente 3.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

15

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

12

Values that are returned:

Value in PointValue (0) = Corriente RMS

Value in PointValue (1) = Componente armonico 1

Value in PointValue (2) = Componente armonico 2

Value in PointValue (3) = Componente armonico 3

Value in PointValue (4) = Componente armonico 4

Value in PointValue (5) = Componente armonico 5

Value in PointValue (6) = Componente armonico 6
Value in PointValue (7) = Componente armonico 7
Value in PointValue (8) = Componente armonico 8
Value in PointValue (9) = Componente armonico 9
Value in PointValue (10) = Componente armonico 10
Value in PointValue (11) = Componente armonico 11
Value in PointValue (12) = Componente armonico 12
Value in PointValue (13) = Componente armonico 13
Value in PointValue (14) = Componente armonico 14

3.33. Descomposicion armonica de Tension 1

Description of this command:

Lee un paquete de 15 valores conteniendo la tension RMS y catorce componentes armonicos para la tension 1.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

15

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

13

Values that are returned:

Value in PointValue (0) = Tension RMS
Value in PointValue (1) = Componente armonico 1
Value in PointValue (2) = Componente armonico 2
Value in PointValue (3) = Componente armonico 3
Value in PointValue (4) = Componente armonico 4
Value in PointValue (5) = Componente armonico 5
Value in PointValue (6) = Componente armonico 6
Value in PointValue (7) = Componente armonico 7
Value in PointValue (8) = Componente armonico 8
Value in PointValue (9) = Componente armonico 9
Value in PointValue (10) = Componente armonico 10
Value in PointValue (11) = Componente armonico 11
Value in PointValue (12) = Componente armonico 12
Value in PointValue (13) = Componente armonico 13
Value in PointValue (14) = Componente armonico 14

3.34. Descomposicion armonica de Tension 2

Description of this command:

Lee un paquete de 15 valores conteniendo la tension RMS y catorce componentes armonicos para la tension 2.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

15

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

14

Values that are returned:

Value in PointValue (0) = Tension RMS

Value in PointValue (1) = Componente armonico 1

Value in PointValue (2) = Componente armonico 2

Value in PointValue (3) = Componente armonico 3

Value in PointValue (4) = Componente armonico 4

Value in PointValue (5) = Componente armonico 5

Value in PointValue (6) = Componente armonico 6

Value in PointValue (7) = Componente armonico 7

Value in PointValue (8) = Componente armonico 8

Value in PointValue (9) = Componente armonico 9

Value in PointValue (10) = Componente armonico 10

Value in PointValue (11) = Componente armonico 11

Value in PointValue (12) = Componente armonico 12

Value in PointValue (13) = Componente armonico 13

Value in PointValue (14) = Componente armonico 14

3.35. Descomposicion armonica de Tension 3

Description of this command:

Lee un paquete de 15 valores conteniendo la tension RMS y catorce componentes armonicos para la tension 3.

Type of data handled by this command:

Analog Input

Number of points accepted by this command:

15

Meaning of the DriverP0 parameter:

Unit Address (1-255).

Meaning of the DriverP1 parameter:

15

Values that are returned:

Value in PointValue (0) = Tension RMS

Value in PointValue (1) = Componente armonico 1

Value in PointValue (2) = Componente armonico 2

Value in PointValue (3) = Componente armonico 3

Value in PointValue (4) = Componente armonico 4

Value in PointValue (5) = Componente armonico 5

Value in PointValue (6) = Componente armonico 6

Value in PointValue (7) = Componente armonico 7

Value in PointValue (8) = Componente armonico 8

Value in PointValue (9) = Componente armonico 9

Value in PointValue (10) = Componente armonico 10

Value in PointValue (11) = Componente armonico 11

Value in PointValue (12) = Componente armonico 12

Value in PointValue (13) = Componente armonico 13

Value in PointValue (14) = Componente armonico 14

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
- [1201] DRIVER (System): Error closing %s
- [1202] DRIVER (System): Error creating %s
- [1204] DRIVER (System): Error opening %s
- [1207] DRIVER (System): Error reading %s
- [1208] DRIVER (System): Error seeking end of %s
- [1210] DRIVER (System): Error writing to %s
- [1300] PROTOCOL (Timeout): No answer
- [1421] PROTOCOL (Format): Negative acknowledge received from device
- [1425] PROTOCOL (Format): Response is too short
- [2114] CONFIG (NumValues): Invalid number of values (must be 12)
- [2115] CONFIG (NumValues): Invalid number of values (must be 15)
- [2117] CONFIG (NumValues): Invalid number of values (must be 2)
- [2121] CONFIG (NumValues): Invalid number of values (must be 27)
- [2125] CONFIG (NumValues): Invalid number of values (must be 4)
- [2127] CONFIG (NumValues): Invalid number of values (must be 5)
- [2128] CONFIG (NumValues): Invalid number of values (must be 59)
- [2129] CONFIG (NumValues): Invalid number of values (must be 6)
- [2141] CONFIG (NumValues): Only one flag can be requested
- [2144] CONFIG (NumValues): Only one register can be requested
- [2145] CONFIG (NumValues): Only one register can be written
- [2146] CONFIG (NumValues): Only one status can be set
- [2148] CONFIG (NumValues): Only one value can be requested
- [2249] CONFIG (NumValues): Too many values requested (max=122)
- [3022] CONFIG (P0): Invalid device address (1-255)
- [3508] CONFIG (P1): Invalid command
- [4067] CONFIG (P2): Invalid initial position
- [4093] CONFIG (P2): Invalid relay number (1 or 2)
- [4548] CONFIG (P3): Invalid number of registers
- [5034] CONFIG (P4): Invalid setting (0 or 1)
- [6002] CONFIG (P6): Destination filename not supplied
- [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
[8347] CONFIG (Remote): Unknown error

4.2. Keywords list

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

"CIRCUTOR, CVM-BD-M, Meter, Modbus, Power, RTU".