Industrial communication solutions for Windows

XCVMBDM Driver Manual

Circutor CVM-BD Memory Download Protocol Driver

Contents

XCVMBDM technical specifications

General information

XCVMBDM driver allows you to download information from CIRCUTOR Supply Network Analyzers of the CVM-BD Series.
This driver has been elaborated according to the Circutor Instruction Manual M981 360/97C and further information supplied by Circutor S.A.

Command list

Read RS-485 Buffer Size

Description of this command:
Reads the number of bytes available in the RS-485 buffer, which is 256 by default. This indicates the maximum number of bytes that can be transferred at a time.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
0
Values that are returned:
Value in PointValue (0) = RS-485 buffer size in bytes

Read Number of Fields in Each Record

Description of this command:
Reads the record descriptor and returns the number of fields available in each record.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
1
Values that are returned:
Value in PointValue (0) = Number of fields

Read Field Codes

Description of this command:
Returns a list of PointValues containing the codes for each field being recorded. All fields are 2-bytes long and fields from 132 to 167 must come in pairs to form a 4-bytes-long field.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-50
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
2
Values that are returned:
Value in PointValue (0) = Code for field 1
Value in PointValue (1) = Code for field 2 . . .

Value in PointValue (n-1) = Code for field n

Read Record Time

Description of this command:
Reads the time basis used to store a new record into memory.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
3
Values that are returned:
Value in PointValue (0) = Record Time in Seconds

Read File Size

Description of this command:
Reads the available file size, in bytes.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
4
Meaning of the DriverP8 parameter:
Source filename to be requested from the device's memory. If left blank, the name "STD-PROG.CVT" will be used by default. Source filename must have exactly 12-chars.
Values that are returned:
Value in PointValue (0) = File size in bytes.

Read First Record Date

Description of this command:
Reads the date of the first record available in the memory file.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
5
Meaning of the DriverP8 parameter:
Source filename to be requested from the device's memory. If left blank, the name "STD-PROG.CVT" will be used by default. Source filename must have exactly 12-chars.
Values that are returned:
Value in PointValue (0) = Date of first record

Read Last Record Date

Description of this command:
Reads the date of the last record available in the memory file.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).

Meaning of the DriverP1 parameter:
6
Meaning of the DriverP2 parameter:
Record size (=2*vars+4*energies+6) vars=codes other than 132 to 167 energies=codes from 132 to 167
Meaning of the DriverP3 parameter:
File size (as returned by 'Read File Size' command)
Meaning of the DriverP8 parameter:
Source filename to be requested from the device's memory. If left blank, the name "STD-PROG.CVT" will be used by default. Source filename must have exactly 12-chars.
Values that are returned:
Value in PointValue (0) = Date of last record

Read Memory Block

Description of this command:
Reads a portion of the device's memory given a starting offset position and the number of bytes to be read.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-125 (bytes to read)
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
7
Meaning of the DriverP2 parameter:
Starting memory offset
Meaning of the DriverP8 parameter:
Source filename to be requested from the device's memory. If left blank, the name "STD-PROG.CVT" will be used by default. Source filename must have exactly 12-chars.
Values that are returned:
Value in PointValue (0) = First byte value
Value in PointValue (1) = Second byte value . . .
Value in PointValue (n-1) = Last byte value

Append Memory Contents To File

Description of this command:
Reads all the information available in the device's memory
and writes it to a file with the following logic:
1) If the file does not exist, the driver creates a new one. The memory contents are automatically cleared.
2) If the file already exists and the file header is identical to that stored in the current device's memory, all the bytes read (except the header) are appended to the file. The memory contents are automatically cleared.
3) If the file already exists and the file header is identical to that stored in the current device's memory, the memory reading process is aborted and PointValue(0) is set to -1 to inform that the existing file is not compatible with the collected information. The memory contents are not cleared.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
8
Meaning of the DriverP2 parameter:
Number of retries with each block transfer before abandoning the communication. If left blank, up to 10 retries will be allowed.
Meaning of the DriverP3 parameter:
Size of each memory-block being transferred. The block size migth be limited by the device's transmission buffer size. If left blank, blocks are read in groups of 125 bytes. Range is 1 to 125.

Meaning of the DriverP4 parameter:
  0-perform header comparison 1-ignore header comparison If header comparison is ignored, all the bytes read (except the header itself) will be always appended to the disk file if it already exists.
Meaning of the DriverP5 parameter:
  Header size in bytes. If left blank or if 0, the driver will assume a default value of 192. Max. possible value is 250.
Meaning of the DriverP6 parameter:
  Destination filename where the received information will be locally stored (including full path).
Meaning of the DriverP7 parameter:
  Indicates if the device's memory contents must be cleared after the reading process:
    - 0 or blank = ERASE AFTER READING
    - 1 = DO NOT ERASE AFTER READING
Meaning of the DriverP8 parameter:
  Source filename to be requested from the device's memory. If left blank, the name "STD-PROG.CVT" will be used by default. Source filename must have exactly 12-chars.
Values that are returned:
  Value in PointValue (0) = Total number of bytes actually appended to the file.
Important note:
  If PointValue(0) = -1, indicates that current file header contents are not compatible with current device's memory header contents and that the file and the memory contents where not modified. It is up to the user to remove the file or to point the DriverP6 parameter to a compatible file.

Clear Memory

Description of this command:
  Sends an order to clear the device's internal memory.
Methods used to run this command:
  Digital Output
Number of points accepted by this command:
  1
Meaning of the DriverP0 parameter:
  Unit Address (0-99).
Meaning of the DriverP1 parameter:
  1

Read Device Identification Number (Long)

Description of this command:
  Reads the device's identification number as a long integer number from 00000000 to 99999999.
Methods used to run this command:
  Analog Input
Number of points accepted by this command:
  1
Meaning of the DriverP0 parameter:
  Unit Address (0-99).
Meaning of the DriverP1 parameter:
  9
Values that are returned:
  Value in PointValue (0) = Identification number

Write Device Identification Number (Long)

Description of this command:
  Writes the device's identification number as a long integer number from 00000000 to 99999999.
Methods used to run this command:
  Analog Output
Number of points accepted by this command:
  1
Meaning of the DriverP0 parameter:
  Unit Address (0-99).
Meaning of the DriverP1 parameter:
  9

Values that are sent:
 Value in PointValue (0) = Identification number

Read Device Identification Number (Ascii)

Description of this command:
 Reads the device's identification number as a series of 8 individual ASCII codes for each char
Methods used to run this command:
 Analog Input
Number of points accepted by this command:
 8
Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 10
Values that are returned:
 Value in PointValue (0) = Id number first ASCII char code
 Value in PointValue (1) = Id number second ASCII char code . . .
 Value in PointValue (7) = Id number last ASCII char code

Write Device Identification Number (Ascii)

Description of this command:
 Writes the device's identification number as a series of 8 individual ASCII codes for each char.
Methods used to run this command:
 Analog Output
Number of points accepted by this command:
 8
Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 10
Values that are sent:
 Value in PointValue (0) = Id number first ASCII char code
 Value in PointValue (1) = Id number second ASCII char code . . .
 Value in PointValue (7) = Id number last ASCII char code

Read Active Campaign Number

Description of this command:
 Reads the active campaign number.
Methods used to run this command:
 Analog Input
Number of points accepted by this command:
 1
Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 11
Values that are returned:
 Value in PointValue (0) = Active campaign number (0-9)

Write Active Campaign Number

Description of this command:
 Writes the active campaign number.
Methods used to run this command:
 Analog Output
Number of points accepted by this command:
 1
Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 11

Values that are sent:
    Value in PointValue (0) = Active campaign number (0-9)

Read Campaign Related Codes

Description of this command:
    Reads a series of codes related to the specified campaign number. The first code returned is the installation code an consists of 22 individual ASCII chars. The second and last code returned is the clamp relation and consists of 3 additional ASCII chars.
Methods used to run this command:
    Analog Input
Number of points accepted by this command:
    26
Meaning of the DriverP0 parameter:
    Unit Address (0-99).
Meaning of the DriverP1 parameter:
    12
Meaning of the DriverP2 parameter:
    Campaign code (0-9)
Values that are returned:
    Value in PointValue (0) = Installation code first ASCII char . . .
    Value in PointValue (21) = Installation code first ASCII char code
    Value in PointValue (22) = Clamp relation first ASCII char . .
    Value in PointValue (24) = Clamp relation last ASCII char code
    Value in PointValue (25) = Same campaign code indicated in DriverP2

Write Campaign Related Codes

Description of this command:
    Writes a series of codes related to the specified campaign number. The first 22 values written are the ASCII chars that correspond to the installation code. The remaining 3 values are the ASCII chars for the clamp relation.
Methods used to run this command:
    Analog Output
Number of points accepted by this command:
    25
Meaning of the DriverP0 parameter:
    Unit Address (0-99).
Meaning of the DriverP1 parameter:
    12
Meaning of the DriverP2 parameter:
    Campaign code (0-9)
Values that are sent:
    Value in PointValue (0) = Installation code first ASCII char . .
    Value in PointValue (21) = Installation code first ASCII char code
    Value in PointValue (22) = Clamp relation first ASCII char . .
    Value in PointValue (24) = Clamp relation last ASCII char code

Read Record Period

Description of this command:
    Reads the record period in seconds.
Methods used to run this command:
    Analog Input
Number of points accepted by this command:
    1
Meaning of the DriverP0 parameter:
    Unit Address (0-99).
Meaning of the DriverP1 parameter:
    13
Values that are returned:
    Value in PointValue (0) = Record period (in seconds)

Write Record Period

Description of this command:
Writes the record period in seconds.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
1
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
13
Values that are sent:
Value in PointValue (0) = Record period (in seconds)

Read list of value-codes to be recorded

Description of this command:
Reads a list of the active value-codes that are being recorded in the memory file.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
2-31
Meaning of the DriverP0 parameter:
Unit Address (1-255).
Meaning of the DriverP1 parameter:
14
Meaning of the DriverP2 parameter:
Offset (0-999)
Values that are returned:
Value in PointValue (0) = First value-code
Value in PointValue (1) = Second value-code . . .
Value in PointValue (NumPoints-2) = Last value-code
Value in PointValue (NumPoints-1) = Current mode (0 or 1)

Select value-codes to be recorded

Description of this command:
Indicates what measurements must be recorded in the memory file.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
1-30
Meaning of the DriverP0 parameter:
Unit Address (1-255).
Meaning of the DriverP1 parameter:
14
Meaning of the DriverP2 parameter:
Offset (0-999)
Meaning of the DriverP3 parameter:
Mode (0 or 1)
Meaning of the DriverP6 parameter:
Filename (8 chars)
Values that are sent:
Value in PointValue (0) = First value-code (0-999)
Value in PointValue (1) = Second value-code (0-999) . . .
Value in PointValue (NumPoints-1) = Last value-code (0-999)

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
[1201] DRIVER (System): Error closing %s
[1202] DRIVER (System): Error creating %s
[1204] DRIVER (System): Error opening %s
[1208] DRIVER (System): Error seeking end of %s
[1210] DRIVER (System): Error writing to %s
[1212] DRIVER (System): Invalid length for %s
[1300] PROTOCOL (Timeout): No answer
[1433] PROTOCOL (Format): Validation error in device response
[2119] CONFIG (NumValues): Invalid number of values (must be 25)
[2120] CONFIG (NumValues): Invalid number of values (must be 26)
[2131] CONFIG (NumValues): Invalid number of values (must be 8)
[2147] CONFIG (NumValues): Only one value can be read or written
[2148] CONFIG (NumValues): Only one value can be requested
[2152] CONFIG (NumValues): Too many bytes requested (max=125)
[2226] CONFIG (NumValues): Too many values (max=6)
[2263] CONFIG (NumValues): Too many values requested (max=50)
[3018] CONFIG (P0): Invalid device address (0-99)
[3508] CONFIG (P1): Invalid command
[4026] CONFIG (P2): Invalid campaign code (0-9)
[4064] CONFIG (P2): Invalid first register (0-999)
[4076] CONFIG (P2): Invalid offset
[4077] CONFIG (P2): Invalid offset (0-999)
[4542] CONFIG (P3): Invalid memory-block size (1-125)
[4545] CONFIG (P3): Invalid mode (0-1)
[5013] CONFIG (P4): Invalid header comparison mode (0 or 1 only)
[5506] CONFIG (P5): Invalid header size (max=250)
[6002] CONFIG (P6): Destination filename not supplied
[6007] CONFIG (P6): Filename not defined
[6020] CONFIG (P6): Invalid filename length (must be 8 chars)
[7006] CONFIG (P8): Source filename must have 12 chars
[8100] CONFIG (Remote): Device error

Supported devices

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

CIRCUTOR CVM-BD Supply Network Analyzers