Industrial communication solutions for Windows

XCVMMEM Driver Manual

Circutor CVM-M Memory Peripheral Protocol Driver

Contents

Industrial communication solutions for Windows

XCVMMEM technical specifications

General information

XCVMMEM driver allows you to connect with CIRCUTOR Memory Peripherals CVM-M (Codes 7 70 221 - 7 70 222 - 7 70 223). The CVM-M is a memory peripheral with the ability of storing data provided by any of the measuring instruments of the CVM family.
This driver has been elaborated according to the Circutor Instruction Manual M981 172/95-001 and further information supplied by Circutor S.A.

Command list

Read number of bytes in internal files

Description of this command:
Reads the number of bytes available in the internal memory files xx.CVM, xx.CVT, xx.CVX, xx.CVE, xx.CVP, xx.CVH and xx.CVI.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-7
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
0
Meaning of the DriverP7 parameter:
Skip first STD sequence 0 or Null = No
1 = Yes
Meaning of the DriverP8 parameter:
Skip second STD sequence 0 or Null = No
1 = Yes
Meaning of the DriverP9 parameter:
Skip final CND sequence 0 or Null = No
1 = Yes
Values that are returned:
Value in PointValue (0) = Number of bytes in xx.CVM
Value in PointValue (1) = Number of bytes in xx.CVT
Value in PointValue (2) = Number of bytes in xx.CVX
Value in PointValue (3) = Number of bytes in xx.CVE
Value in PointValue (4) = Number of bytes in xx.CVP
Value in PointValue (5) = Number of bytes in xx.CVH
Value in PointValue (6) = Number of bytes in xx.CVI
Important note:A value of -1 in any of the PointValue properties indicates
that the corresponding file was not available in the device's memory.

Read single file contents

Description of this command:
Reads the contents of one single file available in the device. The files are not automatically cleared from the device's memory after being read. If the file exists in the destination path, it will be overwritten with the new data.
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

Meaning of the DriverP2 parameter:
> Number of retries with each block transfer before abandoning the communication. If left blank or 0, up to 10 retries will be allowed.

Meaning of the DriverP3 parameter:
> Size of each file-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 32 bytes. Range is 32 to 512.

Meaning of the DriverP4 parameter:
> Indicates the file extension to be read. Can be one of this only:
>> - 0 for CVM
>> - 1 for CVT
>> - 2 for CVX
>> - 3 for CVE
>> - 4 for CVP
>> - 5 for CVH
>> - 6 for CVI

Meaning of the DriverP5 parameter:
> Total number of bytes to be read from file. If left blank or 0, the returned file size is used.

Meaning of the DriverP6 parameter:
> Destination path where the collected file must be stored. The path must exist before executing this command. The final backslash must NOT be included. It will be automatically appended.

Meaning of the DriverP7 parameter:
> Skip first STD sequence 0 or Null = No
> 1 = Yes

Meaning of the DriverP8 parameter:
> Skip second STD sequence 0 or Null = No
> 1 = Yes

Meaning of the DriverP9 parameter:
> Skip final CND sequence 0 or Null = No
> 1 = Yes

Values that are returned:
> Value in PointValue (0) = Number of bytes read from the file.

Important note:A value of -1 in the number of bytes indicates that the
> selected file was not available in the device's memory.

Read consecutive file(s) contents

Description of this command:
> Reads the contents of the files available in the internal memory. The files that can be read are: xx.CVM, xx.CVT, xx.CVX, xx.CVE, xx.CVP, xx.CVH and xx.CVI, in this order. Files are not automatically cleared from the device's memory after being read. Existing files in the destination path will be overwritten with the new data.

Methods used to run this command:
> Analog Input

Number of points accepted by this command:
> 1-7

Meaning of the DriverP0 parameter:
> Unit Address (0-99).

Meaning of the DriverP1 parameter:
> 1

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 file-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 32 bytes. Range is 32 to 512.

Meaning of the DriverP6 parameter:
> Destination path where the collected files must be stored. The path must exist before executing this command. The final backslash must NOT be included. It will be automatically appended.

Meaning of the DriverP7 parameter:
> Skip first STD sequence 0 or Null = No
> 1 = Yes

Meaning of the DriverP8 parameter:
 Skip second STD sequence 0 or Null = No
 1 = Yes
Meaning of the DriverP9 parameter:
 Skip final CND sequence 0 or Null = No
 1 = Yes
Values that are returned:
 Value in PointValue (0) = Number of bytes read from xx.CVM
 Value in PointValue (1) = Number of bytes read from xx.CVT
 Value in PointValue (2) = Number of bytes read from xx.CVX
 Value in PointValue (3) = Number of bytes read from xx.CVE
 Value in PointValue (4) = Number of bytes read from xx.CVP
 Value in PointValue (5) = Number of bytes read from xx.CVH
 Value in PointValue (6) = Number of bytes read from xx.CVI
Important note:A value of -1 in any of the PointValue properties indicates
 that the corresponding file was not available in the device's memory.

Read Last N Bytes Stored in Memory

Description of this command:
 Returns the last N bytes stored into the device's memory for a particular file extension. This
 information can be used to verify if there is any new activity registered in memory.
Methods used to run this command:
 Analog Input
Number of points accepted by this command:
 32-256
Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 4
Meaning of the DriverP2 parameter:
 Number of retries with each block transfer before abandoning the communication. If left blank or 0,
 up to 10 retries will be allowed.
Meaning of the DriverP4 parameter:
 Indicates the file extension to be read. Can be one of this only:
  - 0 for CVM
  - 1 for CVT
  - 2 for CVX
  - 3 for CVE
  - 4 for CVP
  - 5 for CVH
  - 6 for CVI
Meaning of the DriverP7 parameter:
 Skip first STD sequence 0 or Null = No
 1 = Yes
Meaning of the DriverP8 parameter:
 Skip second STD sequence 0 or Null = No
 1 = Yes
Meaning of the DriverP9 parameter:
 Skip final CND sequence 0 or Null = No
 1 = Yes
Values that are returned:
 Value in PointValue (0) = First byte read (0-255)
 Value in PointValue (1) = Second byte read (0-255) . . .
 Value in PointValue (NumPoints-1) =Last byte read (0-255)
Important note:If the number of bytes in memory is less than the requested
 number of bytes, the remaining bytes are returned with a value of -1.

Turn on/off scan of slave device

Description of this command:
 Turns to On or Off the periodic scan of a CVM-M slave device, when there is one connected with
 the same link used to download the internal files. This command can be executed to turn off the

scan of the slave device before proceeding to read the files and then re-enable the scan to on after the files where read.

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:
3

Values that are sent:
Value in PointValue (0) = New scan status (0 or 1)

Read device's transmission buffer size

Description of this command:
Reads the size in bytes of the device's transmission buffer.

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:
2

Write record period and memory filename

Description of this command:
Writes the new record period in seconds and the new filename to store the memory data.

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:
0

Meaning of the DriverP2 parameter:
The new recording period, in seconds

Meaning of the DriverP6 parameter:
The new filename in uppercase chars without extension, padded to 8 characters.

Write record period, control period and memory filename

Description of this command:
Writes the new record period, the new control period (both in seconds) and the new filename to store the memory data.

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:
5

Meaning of the DriverP2 parameter:
The new recording period, in seconds

Meaning of the DriverP3 parameter:
The new control period, in seconds

Meaning of the DriverP6 parameter:
The new filename in uppercase chars without extension, padded to 8 characters.

Write voltage and h/l percentages

Description of this command:
Writes the new voltage and high/low percentages.
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:
6
Meaning of the DriverP2 parameter:
The new voltage
Meaning of the DriverP3 parameter:
The new high percentage
Meaning of the DriverP4 parameter:
The new low percentage

Read voltage and h/l percentages

Description of this command:
Reads the current voltage and high/low percentages.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-3
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
6
Values that are returned:
Value in PointValue (0) = Current voltage
Value in PointValue (1) = Current high percentage
Value in PointValue (2) = Current low percentage

Write trigger by variable code and thresholds

Description of this command:
Sets the trigger variable code, max and min thresholds.
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:
7
Meaning of the DriverP2 parameter:
Variable code (0-11)
Meaning of the DriverP3 parameter:
Max trigger value
Meaning of the DriverP4 parameter:
Min trigger value

Read trigger variable code and thresholds

Description of this command:
Reads the trigger variable code, max and min thresholds.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-3

Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 7
Values that are returned:
 Value in PointValue (0) = Current variable code
 Value in PointValue (1) = Current max trigger value
 Value in PointValue (2) = Current min trigger value

Write trigger by date and time

Description of this command:
 Sets the trigger date and time.
Methods used to run this command:
 Analog Output
Number of points accepted by this command:
 12
Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 8
Values that are sent:
 Value in PointValue (0) = Day for ON (1-31)
 Value in PointValue (1) = Month for ON (1-12)
 Value in PointValue (2) = Year for ON (0-99)
 Value in PointValue (3) = Hour for ON (0-23)
 Value in PointValue (4) = Minutes for ON (0-59)
 Value in PointValue (5) = Seconds for ON (0-59)
 Value in PointValue (6) = Day for OFF (1-31)
 Value in PointValue (7) = Month for OFF (1-12)
 Value in PointValue (8) = Year for OFF (0-99)
 Value in PointValue (9) = Hour for OFF (0-23)
 Value in PointValue (10) = Minutes for OFF (0-59)
 Value in PointValue (11) = Seconds for OFF (0-59)

Read trigger date and time

Description of this command:
 Reads the trigger date and time.
Methods used to run this command:
 Analog Input
Number of points accepted by this command:
 1-12
Meaning of the DriverP0 parameter:
 Unit Address (0-99).
Meaning of the DriverP1 parameter:
 8
Values that are returned:
 Value in PointValue (0) = Day for ON (1-31)
 Value in PointValue (1) = Month for ON (1-12)
 Value in PointValue (2) = Year for ON (0-99)
 Value in PointValue (3) = Hour for ON (0-23)
 Value in PointValue (4) = Minutes for ON (0-59)
 Value in PointValue (5) = Seconds for ON (0-59)
 Value in PointValue (6) = Day for OFF (1-31)
 Value in PointValue (7) = Month for OFF (1-12)
 Value in PointValue (8) = Year for OFF (0-99)
 Value in PointValue (9) = Hour for OFF (0-23)
 Value in PointValue (10) = Minutes for OFF (0-59)
 Value in PointValue (11) = Seconds for OFF (0-59)

Write communication parameters

Description of this command:
Sets communication parameters and device unit number.
Methods used to run this command:
Analog Output
Number of points accepted by this command:
6
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
9
Values that are sent:
Value in PointValue (0) = New Device unit number
Value in PointValue (1) = New Parity
Value in PointValue (2) = New Data bits
Value in PointValue (3) = New Stop bits
Value in PointValue (4) = New COM1 Baud rate
Value in PointValue (5) = New COM2 Baud rate

Read communication parameters

Description of this command:
Reads communication parameters and device unit number.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-6
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
9
Values that are returned:
Value in PointValue (0) = Current Device unit number
Value in PointValue (1) = Current Parity
Value in PointValue (2) = Current Data bits
Value in PointValue (3) = Current Stop bits
Value in PointValue (4) = Current COM1 Baud rate
Value in PointValue (5) = Current COM2 Baud rate

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:
2-169
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:
1-168
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)

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

Reset device

Description of this command:
Sends an order to reset the device.
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:
2

Read Binary Inputs

Description of this command:
Reads Binary Input status.
Methods used to run this command:
Digital Input
Number of points accepted by this command:
1-6
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
37
Meaning of the DriverP2 parameter:
Defines the first input to be read (1-6).
Values that are sent:
Value in PointValue (0) = First Input status (0 or 1).
Value in PointValue (1) = Second Input status (0 or 1). . .
Value in PointValue (n) = Last Input status (0 or 1).

Read A/D Channels

Description of this command:
Reads A/D Channels current values.
Methods used to run this command:
Analog Input
Number of points accepted by this command:
1-2
Meaning of the DriverP0 parameter:
Unit Address (0-99).
Meaning of the DriverP1 parameter:
39
Values that are sent:
Value in PointValue (0) = DC1 Channel.
Value in PointValue (1) = DC2 Channel.

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
[1204] DRIVER (System): Error opening %s
[1208] DRIVER (System): Error seeking end of %s
[1210] DRIVER (System): Error writing to %s
[1300] PROTOCOL (Timeout): No answer
[1433] PROTOCOL (Format): Validation error in device response
[2114] CONFIG (NumValues): Invalid number of values (must be 12)
[2129] CONFIG (NumValues): Invalid number of values (must be 6)
[2147] CONFIG (NumValues): Only one value can be read or written
[2159] CONFIG (NumValues): Too many files requested (max=256)
[2160] CONFIG (NumValues): Too many files requested (max=7)
[2181] CONFIG (NumValues): Too many values (max=12)
[2190] CONFIG (NumValues): Too many values (max=168)
[2194] CONFIG (NumValues): Too many values (max=2)
[2206] CONFIG (NumValues): Too many values (max=3)
[2226] CONFIG (NumValues): Too many values (max=6)
[3018] CONFIG (P0): Invalid device address (0-99)
[3514] CONFIG (P1): Invalid command (0, 1, 2, 3, 4, 6 and 39 only)
[3519] CONFIG (P1): Invalid command (0-9 or 14 only)
[4064] CONFIG (P2): Invalid first register (0-999)
[4077] CONFIG (P2): Invalid offset (0-999)
[4082] CONFIG (P2): Invalid period (must be a positive number)
[4098] CONFIG (P2): Invalid slave number (0-99)
[4123] CONFIG (P2): Invalid variable code (0-11)
[4545] CONFIG (P3): Invalid mode (0-1)
[4554] CONFIG (P3): Invalid period (must be a positive number)
[5009] CONFIG (P4): Invalid file (0-6)
[5514] CONFIG (P5): Must be a positive number
[6006] CONFIG (P6): Filename must be 8-chars long
[6007] CONFIG (P6): Filename not defined
[6020] CONFIG (P6): Invalid filename length (must be 8 chars)
[8100] CONFIG (Remote): Device error
[8123] CONFIG (Remote): Error in response

Supported devices

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

CIRCUTOR CVM-M Memory Peripherals