

Industrial communication solutions for Windows

XCORSAN Driver Manual

IG Instrumentos CORSAN RTU Protocol Driver

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XCORSAN technical specifications

General information

XCORSAN driver implements a modified version of the Modbus RTU protocol where after the messages are prepared, each byte is transmitted as two hexa-ascii bytes. It also includes 4 additional synchronism bytes in the header and footer sections.

Important note:

When connecting via modem, the following properties must be set: EnableRTS and EnableDTR (when available).

A minimum of 5000ms in the CommTimeout property is also recommended.

Command list

Download RTU Memory

Description of this command:

Reads RTU memory contents.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

48

Meaning of the DriverP0 parameter:

RTU address (1-255)

Meaning of the DriverP1 parameter:

0

Meaning of the DriverP2 parameter:

0 for direct connection. 1 for RS-485 connection. 2 for radio connection. 3 for modem connection.

Meaning of the DriverP3 parameter:

Number of retries for each request (usually 10) (0-100).

Meaning of the DriverP4 parameter:

Number of records in each request (usually 4) (1-7).

Meaning of the DriverP5 parameter:

Dialling timeout in seconds when using modem connection (P3=3).

Meaning of the DriverP6 parameter:

Dial string when using modem connection (P3=3).

Meaning of the DriverP7 parameter:

Hang-up string when using modem connection (P3=3).

Meaning of the DriverP8 parameter:

RTU modem initialization string. Use "<" to indicate <CR> characters. Use ">" to indicate <LF> characters.

Meaning of the DriverP9 parameter:

Local filename where memory contents are stored.

Values that are returned:

Value in PointValue (0) = YEAR IN RTU CLOCK
Value in PointValue (1) = MONTH IN RTU CLOCK
Value in PointValue (2) = DAY IN RTU CLOCK
Value in PointValue (3) = HOUR IN RTU CLOCK
Value in PointValue (4) = MINUTES IN RTU CLOCK
Value in PointValue (5) = SECONDS IN RTU CLOCK
Value in PointValue (6) = NUMRECORDS
Value in PointValue (7) = MEMORYSTART
Value in PointValue (8) = MEMORYEND
Value in PointValue (9) = MEMORYPOINTER
Value in PointValue (10) = RECORDLENGTH
Value in PointValue (11) = ANALOG INPUT 1
Value in PointValue (12) = ANALOG INPUT 2

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Value in PointValue (13) = ANALOG INPUT 3
Value in PointValue (14) = ANALOG INPUT 4
Value in PointValue (15) = ANALOG INPUT 5
Value in PointValue (16) = ANALOG INPUT 6
Value in PointValue (17) = ANALOG INPUT 7
Value in PointValue (18) = ANALOG INPUT 8
Value in PointValue (19) = FLOW 1
Value in PointValue (20) = FLOW 2
Value in PointValue (21) = FLOW 3
Value in PointValue (22) = FLOW 4
Value in PointValue (23) = FLOW 5
Value in PointValue (24) = FLOW 6
Value in PointValue (25) = FLOW 7
Value in PointValue (26) = FLOW 8
Value in PointValue (27) = ACCUM 1
Value in PointValue (28) = ACCUM 2
Value in PointValue (29) = ACCUM 3
Value in PointValue (30) = ACCUM 4
Value in PointValue (31) = ACCUM 5
Value in PointValue (32) = ACCUM 6
Value in PointValue (33) = ACCUM 7
Value in PointValue (34) = ACCUM 8
Value in PointValue (35) = DIGITAL INPUT 0
Value in PointValue (36) = DIGITAL INPUT 1
Value in PointValue (37) = DIGITAL INPUT 2
Value in PointValue (38) = DIGITAL INPUT 3
Value in PointValue (39) = DIGITAL INPUT 4
Value in PointValue (40) = DIGITAL INPUT 5
Value in PointValue (41) = DIGITAL INPUT 6
Value in PointValue (42) = DIGITAL INPUT 7
Value in PointValue (43) = DIGITAL OUTPUT 0
Value in PointValue (44) = DIGITAL OUTPUT 1
Value in PointValue (45) = DIGITAL OUTPUT 2
Value in PointValue (46) = DIGITAL OUTPUT 3
Value in PointValue (47) = TOTAL DOWNLOAD TIME (SEC)

RECORD FORMAT:

- 1) RECORD INDEX (1-888)
- 2) YEAR (0-99)
- 3) MONTH (1-12)
- 4) DAY (1-31)
- 5) HOURS (0-23)
- 6) MINUTES (0-59)
- 7) ANA#1 (0-4095)
- 8) ANA#2 (0-4095)
- 9) ANA#3 (0-4095)
- 10) ANA#4 (0-4095)
- 11) PULSER#1 (0-FFFFFFFF)
- 12) PULSER#2 (0-FFFFFFFF)
- 13) PULSER#3 (0-FFFFFFFF)
- 14) PULSER#4 (0-FFFFFFFF)
- 15) DIGITAL INPUTS (0-255)
- 16) DIGITAL OUTPUTS (0-255)

Write RTU Coils

Description of this command:

Updates the status of the 4 RTU coils.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

4

Meaning of the DriverP0 parameter:

RTU address (1-255)

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Meaning of the DriverP1 parameter:

0

Meaning of the DriverP2 parameter:

0 for direct connection. 1 for RS-485 connection. 2 for radio connection. 3 for modem connection.

Meaning of the DriverP3 parameter:

Number of retries for each request (usually 10).

Meaning of the DriverP4 parameter:

Not used.

Meaning of the DriverP5 parameter:

Dialling timeout in seconds when using modem connection (P3=3).

Meaning of the DriverP6 parameter:

Dial string when using modem connection (P3=3).

Meaning of the DriverP7 parameter:

Hang-up string when using modem connection (P3=3).

Values that are sent:

Value in PointValue (0) = Status of coil #0

Value in PointValue (1) = Status of coil #1

Value in PointValue (2) = Status of coil #2

Value in PointValue (3) = Status of coil #3

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
[1206] DRIVER (System): Error opening file specified in P9
[1300] PROTOCOL (Timeout): No answer
[1307] PROTOCOL (Timeout): No answer when dialing
[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
[2123] CONFIG (NumValues): Invalid number of values (must be 37)
[2125] CONFIG (NumValues): Invalid number of values (must be 4)
[2126] CONFIG (NumValues): Invalid number of values (must be 48)
[3022] CONFIG (P0): Invalid device address (1-255)
[3509] CONFIG (P1): Invalid command (0 only)
[4024] CONFIG (P2): Invalid block size (1-7)
[4048] CONFIG (P2): Invalid connection mode (0 to 3 only)
[4549] CONFIG (P3): Invalid number of retries (0-100)
[5022] CONFIG (P4): Invalid number of records (1-7)
[5504] CONFIG (P5): Invalid dialing timeout (5-180)
[6005] CONFIG (P6): Dial string is empty
[6503] CONFIG (P7): Hang-up string is empty
[7004] CONFIG (P8): RTU modem string is empty
[7005] CONFIG (P8): RTU modem string too long (max=63 chars)
[7503] CONFIG (P9): Local filename undefined
[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

Supported devices

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

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