

# Industrial communication solutions for Windows

## XIDECM3 Driver Manual

*Idec Izumi Micro3 Programmable Controller Protocol Driver*

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## XIDECM3 technical specifications

### General information

XIDECM3 driver was designed to support the IDEC IZUMI MICRO3 controllers. Serial communication is RS-485 at the PLC side. You can use a RS232C/RS485 Converter HD9Z-T11 to convert electrical signals between RS-232C and RS-485 to communicate with a computer using a RS-232 port.

Communication is half-duplex, being the PC always the master and the PLC always behave as a slave in the RS-485 network.

This driver supports both types of end codes for messages. Terminator can be CR (default for the PLC) or CR+LF. The terminator can be selected using F10+F3+FUN8 in the Micro3 configuration software (CUBIC).

*Communication parameters can be:*

- Baudrate = 1200, 2400, 4800, 9600 (default), 19200 bauds.
- Start bits = 1
- Data bit = 7 (default), 8
- Stop bit = 1 (default), 2

If you are communicating with a RS-485 network in 1:N communication computer link system, it is suggested that you configure your driver to raise the RTS signal while transmitting and lower it while receiving.

If you are communicating in 1:1 communication, it is suggested that you keep the RTS signal raised during the whole communication.

### Command list

#### Read Input Status (X)

**Description of this command:**

This command is used to read the current status of binary inputs.

**Methods used to run this command:**

Digital Input

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

1-32

**Meaning of the DriverP0 parameter:**

Device Number (0-31)

**Meaning of the DriverP1 parameter:**

88

**Meaning of the DriverP2 parameter:**

Indicates the first input to be read (0-37).

**Meaning of the DriverP3 parameter:**

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]
- 1 = Terminator is CR+LF [0D][0A]

**Important note:**

When indicating the first address to be read in the P2 parameter, the least significant digit must be a number between 0 and 7 since it is indicating a bit offset as an octal number.

**Values that are returned:**

Value in PointValue (0) = First binary input status (X) requested  
Value in PointValue (1) = Second binary input status (X) requested  
...  
Value in PointValue (NumValues-1) = Last binary input status (X) requested

#### Read Output Status (Y)

**Description of this command:**

This command is used to read the current status of binary outputs.

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**Methods used to run this command:**

Digital Input

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

1-32

**Meaning of the DriverP0 parameter:**

Device Number (0-31)

**Meaning of the DriverP1 parameter:**

89

**Meaning of the DriverP2 parameter:**

Indicates the first output to be read (0-37).

**Meaning of the DriverP3 parameter:**

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

**Important note:**

When indicating the first address to be read in the P2 parameter, the least significant digit must be a number between 0 and 7 since it is indicating a bit offset as an octal number.

**Values that are returned:**

Value in PointValue (0) = First binary output status (Y) requested

Value in PointValue (1) = Second binary output status (Y) requested

...

Value in PointValue (NumValues-1) = Last binary output status (Y) requested

## Read Internal Relays Status (M)

**Description of this command:**

This command is used to read the current status of internal relays.

**Methods used to run this command:**

Digital Input

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

1-248

**Meaning of the DriverP0 parameter:**

Device Number (0-31)

**Meaning of the DriverP1 parameter:**

77

**Meaning of the DriverP2 parameter:**

Indicates the first internal relay to be read (0-317).

**Meaning of the DriverP3 parameter:**

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

**Important note:**

When indicating the first address to be read in the P2 parameter, the least significant digit must be a number between 0 and 7 since it is indicating a bit offset as an octal number.

**Values that are returned:**

Value in PointValue (0) = First internal relay status (M) requested

Value in PointValue (1) = Second internal relay status (M) requested

...

Value in PointValue (NumValues-1) = Last internal relay status (M) requested

## Read Shift Registers Status (R)

**Description of this command:**

This command is used to read the current status of shift registers.

**Methods used to run this command:**

Digital Input

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

1-43

**Meaning of the DriverP0 parameter:**

Device Number (0-31)

**Meaning of the DriverP1 parameter:**

82

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**Meaning of the DriverP2 parameter:**

Indicates the first shift register to be read (0-63).

**Meaning of the DriverP3 parameter:**

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]
- 1 = Terminator is CR+LF [0D][0A]

**Important note:**

When indicating the first address to be read in the P2 parameter, the least significant digit must be a number between 0 and 7 since it is indicating a bit offset as an octal number.

**Values that are returned:**

- Value in PointValue (0) = First shift register status (R) requested
- Value in PointValue (1) = Second shift register status (R) requested
- ...
- Value in PointValue (NumValues-1) = Last shift register status (R) requested

## Read Timer Preset Values (T)

**Description of this command:**

This command is used to read the current values of timer presets.

**Methods used to run this command:**

Analog Input

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

1-32

**Meaning of the DriverP0 parameter:**

Device Number (0-31)

**Meaning of the DriverP1 parameter:**

84

**Meaning of the DriverP2 parameter:**

Indicates the first timer preset value to be read (0-31).

**Meaning of the DriverP3 parameter:**

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]
- 1 = Terminator is CR+LF [0D][0A]

**Values that are returned:**

- Value in PointValue (0) = First timer preset value (T) requested
- Value in PointValue (1) = Second timer preset value (T) requested
- ...
- Value in PointValue (NumValues-1) = Last timer preset value (T) requested

## Read Timer Current Values (t)

**Description of this command:**

This command is used to read the current values of timers.

**Methods used to run this command:**

Analog Input

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

1-32

**Meaning of the DriverP0 parameter:**

Device Number (0-31)

**Meaning of the DriverP1 parameter:**

116

**Meaning of the DriverP2 parameter:**

Indicates the first timer value to be read (0-31).

**Meaning of the DriverP3 parameter:**

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]
- 1 = Terminator is CR+LF [0D][0A]

**Values that are returned:**

- Value in PointValue (0) = First timer current value (t) requested
- Value in PointValue (1) = Second timer current value (t) requested
- ...
- Value in PointValue (NumValues-1) = Last timer current value (t) requested

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## Read Counter Preset Values (C)

### Description of this command:

This command is used to read the current values of counter presets.

### Methods used to run this command:

Analog Input

### Number of points accepted by this command:

1-32

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

67

### Meaning of the DriverP2 parameter:

Indicates the first counter preset value to be read (0-31).

### Values that are returned:

Value in PointValue (0) = First counter preset value (C) requested

Value in PointValue (1) = Second counter preset value (C) requested

...

Value in PointValue (NumValues-1) = Last counter preset value (C) requested

## Read Counter Current Values (c)

### Description of this command:

This command is used to read the current values of counters.

### Methods used to run this command:

Analog Input

### Number of points accepted by this command:

1-32

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

99

### Meaning of the DriverP2 parameter:

Indicates the first counter current value to be read (0-31).

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

### Values that are returned:

Value in PointValue (0) = First counter current value (c) requested

Value in PointValue (1) = Second counter current value (c) requested

...

Value in PointValue (NumValues-1) = Last counter current value (c) requested

## Read Data Register Values (W)

### Description of this command:

This command is used to read the current values of data registers.

### Methods used to run this command:

Analog Input

### Number of points accepted by this command:

1-100

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

68

### Meaning of the DriverP2 parameter:

Indicates the first data register to be read (0-99).

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

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## Values that are returned:

Value in PointValue (0) = First data register value (W) requested  
Value in PointValue (1) = Second data register value (W) requested  
...  
Value in PointValue (NumValues-1) = Last data register value (W) requested

## Read Calendar/Clock

### Description of this command:

This command is used to read the calendar/clock information.

### Methods used to run this command:

Analog Input

### Number of points accepted by this command:

1-7

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

87

### Meaning of the DriverP2 parameter:

0

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF  
- 0 = Terminator is CR [0D]  
- 1 = Terminator is CR+LF [0D][0A]

### Values that are returned:

Value in PointValue (0) = Year  
Value in PointValue (1) = Month  
Value in PointValue (2) = Day  
Value in PointValue (3) = Day of Week  
Value in PointValue (4) = Hour  
Value in PointValue (5) = Minute  
Value in PointValue (6) = Second

## Write Output Status (Y)

### Description of this command:

This command is used to modify the current status of binary outputs.

### Methods used to run this command:

Digital Output

### Number of points accepted by this command:

1-32

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

89

### Meaning of the DriverP2 parameter:

Indicates the first output to be modified (0-37).

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF  
- 0 = Terminator is CR [0D]  
- 1 = Terminator is CR+LF [0D][0A]

### Important note:

When indicating the first address to be modified in the HMITalk1.DriverP2 parameter, the least significant digit must be a number between 0 and 7 since it is indicating a bit offset as an octal number. When 2 or more bits are modified, all the other bits belonging to the same byte will be affected. When only one bit at a time is modified, a special command is used to avoid affecting other bits.

### Values that are sent:

Value in PointValue (0) = First binary output status (Y) to be written  
Value in PointValue (1) = Second binary output status (Y) to be written  
...  
Value in PointValue (NumValues-1) = Last binary output status (Y) to be written

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## Write Internal Relays Status (M)

### Description of this command:

This command is used to modify the current status of internal relays.

### Methods used to run this command:

Digital Output

### Number of points accepted by this command:

1-248

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

77

### Meaning of the DriverP2 parameter:

Indicates the first internal relay to be modified (0-317).

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

### Important note:

When indicating the first address to be modified in the HMITalk1.DriverP2 parameter, the least significant digit must be a number between 0 and 7 since it is indicating a bit offset as an octal number. When 2 or more bits are modified, all the other bits belonging to the same byte will be affected. When only one bit at a time is modified, a special command is used to avoid affecting other bits.

### Values that are sent:

Value in PointValue (0) = First relay status status (M) to be written

Value in PointValue (1) = Second relay status status (M) to be written

...

Value in PointValue (NumValues-1) = Last relay status status (M) to be written

## Write Shift Registers Status (R)

### Description of this command:

This command is used to modify the current status of shift registers.

### Methods used to run this command:

Digital Output

### Number of points accepted by this command:

1-43

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

82

### Meaning of the DriverP2 parameter:

Indicates the first shift register to be modified (0-63).

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

### Important note:

When indicating the first address to be modified in the HMITalk1.DriverP2 parameter, the least significant digit must be a number between 0 and 7 since it is indicating a bit offset as an octal number. When 2 or more bits are modified, all the other bits belonging to the same byte will be affected. When only one bit at a time is modified, a special command is used to avoid affecting other bits.

### Values that are sent:

Value in PointValue (0) = First shift register status (R) to be written

Value in PointValue (1) = Second shift register status (R) to be written

...

Value in PointValue (NumValues-1) = Last shift register status (R) to be written

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## Write Timer Preset Values (T)

### Description of this command:

This command is used to modify the current values of timer presets.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

1-32

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

84

### Meaning of the DriverP2 parameter:

Indicates the first timer preset value to be modified (0-31).

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

### Values that are sent:

Value in PointValue (0) = First timer preset value (T) to be written

Value in PointValue (1) = Second timer preset value (T) to be written

...

Value in PointValue (NumValues-1) = Last timer preset value (T) to be written

## Write Counter Preset Values (C)

### Description of this command:

This command is used to modify the current values of counter presets.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

1-32

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

67

### Meaning of the DriverP2 parameter:

Indicates the first counter preset value to be modified (0-31).

### Meaning of the DriverP3 parameter:

Indicates if terminator is configured as CR or as CR+LF

- 0 = Terminator is CR [0D]

- 1 = Terminator is CR+LF [0D][0A]

### Values that are sent:

Value in PointValue (0) = First counter preset value (C) to be written

Value in PointValue (1) = Second counter preset value (C) to be written

...

Value in PointValue (NumValues-1) = Last counter preset value (C) to be written

## Write Data Register Values (W)

### Description of this command:

This command is used to modify the current values of data registers.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

1-100

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

68

### Meaning of the DriverP2 parameter:

Indicates the first data register to be modified (0-99).

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## Meaning of the DriverP3 parameter:

- Indicates if terminator is configured as CR or as CR+LF
- 0 = Terminator is CR [0D]
- 1 = Terminator is CR+LF [0D][0A]

## Values that are sent:

- Value in PointValue (0) = First data register value (W) to be written
- Value in PointValue (1) = Second data register value (W) to be written
- ...
- Value in PointValue (NumValues-1) = Last data register value (W) to be written

## Write Calendar/Clock

### Description of this command:

This command is used to modify the calendar/clock information.

### Methods used to run this command:

Analog Output

### Number of points accepted by this command:

7

### Meaning of the DriverP0 parameter:

Device Number (0-31)

### Meaning of the DriverP1 parameter:

87

### Meaning of the DriverP2 parameter:

0

### Meaning of the DriverP3 parameter:

- Indicates if terminator is configured as CR or as CR+LF
- 0 = Terminator is CR [0D]
- 1 = Terminator is CR+LF [0D][0A]

### Values that are sent:

- Value in PointValue (0) = Year
- Value in PointValue (1) = Month
- Value in PointValue (2) = Day
- Value in PointValue (3) = Day of Week
- Value in PointValue (4) = Hour
- Value in PointValue (5) = Minute
- Value in PointValue (6) = Second

## 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
- [1300] PROTOCOL (Timeout): No answer
- [1433] PROTOCOL (Format): Validation error in device response
- [2157] CONFIG (NumValues): Too many data registers requested (max=100)
- [2158] CONFIG (NumValues): Too many data registers to write (max=100)
- [2161] CONFIG (NumValues): Too many input/outputs requested (max=32)
- [2162] CONFIG (NumValues): Too many input/outputs to write (max=32)
- [2164] CONFIG (NumValues): Too many internal relays requested (max=248)
- [2165] CONFIG (NumValues): Too many internal relays to write (max=248)
- [2168] CONFIG (NumValues): Too many shift registers requested (max=43)
- [2169] CONFIG (NumValues): Too many shift registers to write (max=43)
- [2172] CONFIG (NumValues): Too many timers/counters requested (max=32)
- [2173] CONFIG (NumValues): Too many timers/counters to write (max=32)
- [2266] CONFIG (NumValues): Too many values requested (max=7)
- [2276] CONFIG (NumValues): Too many values to write (max=7)
- [3015] CONFIG (P0): Invalid device address (0-31)
- [3542] CONFIG (P1): Invalid command (valid are 84/116/67/99/68/87)
- [3543] CONFIG (P1): Invalid command (valid are 88/89/77/82)
- [4102] CONFIG (P2): Invalid starting calendar/clock element (0 only)
- [4103] CONFIG (P2): Invalid starting input/output (0-37)

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[4104] CONFIG (P2): Invalid starting internal relay (0-317)  
[4106] CONFIG (P2): Invalid starting shift register (0-63)  
[4107] CONFIG (P2): Invalid starting timer/counter (0-31)  
[4108] CONFIG (P2): Invalid starting timer/counter (0-99)  
[4592] CONFIG (P3): Invalid terminator (0 for CR, 1 for CR+LF)  
[8037] CONFIG (Remote): Calendar or clock data error  
[8091] CONFIG (Remote): Data range error  
[8336] CONFIG (Remote): Timer/counter preset value change error  
[8346] CONFIG (Remote): Undocumented error

## 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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