

Industrial communication solutions for Windows

XSUNWAYS Driver Manual

SUNWAYS AC NT Inverter Protocol Driver

Contents

XSUNWAYS technical specifications	2
General information.....	2
Command list	2
Read On-Line Values By Group	2
Read On-Line Values Summary	2
Read PAC, QAC, WAC and Status of PT Inverter	3
Read IAC and VAC of PT Inverter	3
Read IDC and VDC of PT Inverter.....	4
Read Irradiation and Temperature of PT Inverter.....	4
Read Fault	5
Error messages.....	5
Supported devices.....	5

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](http://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2013

Industrial communication solutions for Windows

XSUNWAYS technical specifications

General information

XSUNWAYS driver communicates with the Photovoltaic Inverters of the NT-Series from SUNWAYS AT.

Protocol version must be 1.0 or higher.

Communication can be made through RS-232 (one inverter) or RS-485 (several inverters).

Typical settings: 9600 Baud, 8 Bit, No Parity, 1 Stopbit.

The driver supports TCP/IP so it can also be used through a TCP/IP/Serial converter.

Command list

Read On-Line Values By Group

Description of this command:

Obtains on-line values for a given group number (not valid for PT series).

Methods used to run this command:

Analog Input (ReadNumericValues)

Number of points accepted by this command:

1-10

Meaning of the DriverP0 parameter:

Inverter station number (1-99).

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

Group number (1-3 for protocol version 1.2, <> 0 for protocol version 1.1).

Meaning of the DriverP3 parameter:

0

Values that are returned:

- Value in PointValue (0) = VDC
- Value in PointValue (1) = IDC
- Value in PointValue (2) = VAC
- Value in PointValue (3) = IAC
- Value in PointValue (4) = Temperature
- Value in PointValue (5) = Irradiation
- Value in PointValue (6) = Wh/Day
- Value in PointValue (7) = kWh
- Value in PointValue (8) = Status code
- Text in PointText (8) = Status text
- Value in PointValue (9) = Inverter code
- Text in PointText (9) = Inverter series
 - 02=NT10000
 - 10=NT1800
 - 18=NT 3+ (ausser 10k)
 - 26=Alle NT mit 850 V
 - 34=NT 3+ 10k
 - 42=PT
 - 50=Alle NT mit 750 V
 - 58=Alle AT

Read On-Line Values Summary

Description of this command:

Obtains summary of on-line values (not valid for PT series).

Methods used to run this command:

Analog Input (ReadNumericValues)

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2013

Industrial communication solutions for Windows

Number of points accepted by this command:

1-10

Meaning of the DriverP0 parameter:

Inverter station number (1-99).

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

255

Meaning of the DriverP3 parameter:

0

Values that are returned:

Value in PointValue (0) = PDC (W)

Value in PointValue (1) = Reserved

Value in PointValue (2) = PAC (W)

Value in PointValue (3) = Reserved

Value in PointValue (4) = Temperature

Value in PointValue (5) = Irradiation

Value in PointValue (6) = Wh/Day

Value in PointValue (7) = kWh

Value in PointValue (8) = Status code

Text in PointText (8) = Status text

Value in PointValue (9) = Inverter code

Text in PointText (9) = Inverter series

- 02=NT10000

- 10=NT1800

- 18=NT 3+ (ausser 10k)

- 26=Alle NT mit 850 V

- 34=NT 3+ 10k

- 42=PT

- 50=Alle NT mit 750 V

- 58=Alle AT

Read PAC, QAC, WAC and Status of PT Inverter

Description of this command:

Obtains PAC, QAC, WAC total and Status of PT inverter with protocol version 4.x (not valid for other inverter series).

Methods used to run this command:

Analog Input (ReadNumericValues)

Number of points accepted by this command:

1-5

Meaning of the DriverP0 parameter:

Inverter station number (1-99).

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

1

Values that are returned:

Value in PointValue (0) = PAC (W)

Value in PointValue (1) = QAC (var)

Value in PointValue (2) = WAC Total (kWh)

Value in PointValue (3) = Status code

Text in PointText (3) = Status text

Value in PointValue (4) = Inverter code

Text in PointText (4) = Inverter series

Read IAC and VAC of PT Inverter

Description of this command:

Obtains IAC and VAC of PT inverter with protocol version 4.x (not valid for other inverter series).

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2013

Industrial communication solutions for Windows

Methods used to run this command:

Analog Input (ReadNumericValues)

Number of points accepted by this command:

1-6

Meaning of the DriverP0 parameter:

Inverter station number (1-99).

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

2

Meaning of the DriverP3 parameter:

1

Values that are returned:

Value in PointValue (0) = IAC L1 (A)

Value in PointValue (1) = IAC L2 (A)

Value in PointValue (2) = IAC L3 (A)

Value in PointValue (3) = VAC L1 (V)

Value in PointValue (4) = VAC L2 (V)

Value in PointValue (5) = VAC L3 (V)

Read IDC and VDC of PT Inverter

Description of this command:

Obtains IDC and VDC of PT inverter with protocol version 4.x (not valid for other inverter series).

Methods used to run this command:

Analog Input (ReadNumericValues)

Number of points accepted by this command:

1-6

Meaning of the DriverP0 parameter:

Inverter station number (1-99).

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

1

Values that are returned:

Value in PointValue (0) = IDC L1 (A)

Value in PointValue (1) = IDC L2 (A)

Value in PointValue (2) = IDC L3 (A)

Value in PointValue (3) = VDC L1 (V)

Value in PointValue (4) = VDC L2 (V)

Value in PointValue (5) = VDC L3 (V)

Read Irradiation and Temperature of PT Inverter

Description of this command:

Obtains irradiation and temperature of PT inverter with protocol version 4.x (not valid for other inverter series).

Methods used to run this command:

Analog Input (ReadNumericValues)

Number of points accepted by this command:

1-2

Meaning of the DriverP0 parameter:

Inverter station number (1-99).

Meaning of the DriverP1 parameter:

2

Meaning of the DriverP2 parameter:

4

Meaning of the DriverP3 parameter:

1

Values that are returned:

Value in PointValue (0) = Irradiation

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](http://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2013

Industrial communication solutions for Windows

Value in PointValue (1) = Temperature

Read Fault

Description of this command:

Obtains one of the last N faults, indicated by its fault number (available for protocol version 1.2 or higher).

Methods used to run this command:

Analog Input (ReadNumericValues)

Number of points accepted by this command:

6

Meaning of the DriverP0 parameter:

Inverter station number (1-99).

Meaning of the DriverP1 parameter:

1

Meaning of the DriverP2 parameter:

Number of fault to be read (1-10 or 1-100), being 1 the most recent fault.

Meaning of the DriverP3 parameter:

Device type, where:

- 02=NT10000
- 10=NT1800
- 18=NT 3+ (ausser 10k)
- 26=Alle NT mit 850 V
- 34=NT 3+ 10k
- 42=PT (Status label not available for this series, shown as 'Unknown')
- 50=Alle NT mit 750 V
- 58=Alle AT

Values that are returned:

Value in PointValue (0) = Fault status code

Text in PointText (0) = Fault status label

Value in PointValue (1) = Year

Value in PointValue (2) = Month

Value in PointValue (3) = Day

Value in PointValue (4) = Hour

Value in PointValue (5) = Minutes

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
- [1010] DRIVER (Internal): Error calculating elapsed milliseconds
- [1201] DRIVER (System): Error closing %s
- [1202] DRIVER (System): Error creating %s
- [1208] DRIVER (System): Error seeking end of %s
- [1210] DRIVER (System): Error writing to %s
- [1214] DRIVER (System): Error deleting %s
- [1300] PROTOCOL (Timeout): No answer
- [1313] PROTOCOL (Timeout): No answer from meter after retrying with a Start Communications message
- [1332] PROTOCOL (Remote): Invalid date received
- [1333] PROTOCOL (Remote): Couldn't decode received date
- [1334] PROTOCOL (Remote): Invalid time received
- [1338] PROTOCOL (Remote): Couldn't decode reference date
- [1433] PROTOCOL (Format): Validation error in device response
- [3029] CONFIG (P0): Invalid device address (1-99)

Supported devices

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

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2013

Industrial communication solutions for Windows

SUNWAYS NT10000 Series Photovoltaic Inverters
SUNWAYS NT1800 Series Photovoltaic Inverters
SUNWAYS NT 3+ (ausser 10k) Series Photovoltaic Inverters
SUNWAYS Alle NT mit 850 V Series Photovoltaic Inverters
SUNWAYS NT 3+ 10k Series Photovoltaic Inverters
SUNWAYS PT Series Photovoltaic Inverters
SUNWAYS Alle NT mit 750 V Series Photovoltaic Inverters
SUNWAYS Alle AT Series Photovoltaic Inverters

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](http://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2013