



CtZxD400 Driver
Manual

ASKOM[®] and **asix**[®] are registered trademarks of ASKOM Spółka z o.o., Gliwice. Other brand names, trademarks, and registered trademarks are the property of their respective holders.

All rights reserved including the right of reproduction in whole or in part in any form. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without prior written permission from the ASKOM.

ASKOM sp. z o. o. shall not be liable for any damages arising out of the use of information included in the publication content.

Copyright © 2005, ASKOM Sp. z o. o., Gliwice



ASKOM Sp. z o. o., ul. Józefa Sowińskiego 13, 44-121 Gliwice,
tel. +48 (0) 32 3018100, fax +48 (0) 32 3018101,
<http://www.askom.com.pl>, e-mail: office@askom.com.pl

1. Driver of Protocol of Electric Energy Counters of ZxD400 Type Manufactured by Landys & Gyr

1.1. Driver Use

CtZxD400 driver is used for data exchange between **asix** and electric energy counters of ZxD400 type, manufactured by Landys & Gyr, via RS-485 interface. The driver is not adapted for data exchange via optical connection because it demands the protocol with initial negotiations of transmission speed to be used.

The driver allows readout of register statement of a counter as well as registration of data (read by commands „Read Log Book” or „Read Load Profile”) in files.

1.2. Declaration of Transmission Channel

The syntax of declaration of transmission channel using the driver is as follows:

Channel=UNIDRIVER, CtZxD400,Port=number [;Baudrate=number][;Period=number]

where:

<i>UNIDRIVER</i>	- name of universal UNIDRIVER;
<i>CtZxD400</i>	- name of driver used for communication with the counter;
<i>Port</i>	- number of COM serial port;
<i>Boudrate</i>	- speed of transmission between computer and device; the following speeds are acceptable: 1200,2400, 4800, 9600, 19200, 38400 Bd; default value is 2400 Bd;
<i>Period</i>	- timeout (in seconds) between successive readouts of counter registers. Default value is 10 seconds.

EXAMPLE

An example of channel declaration on COM2 port:

CHANNEL = UNIDRIVER, CtZxD400, Port=2; Period=20; Baudrate=9600

1.3. Declaring the Process Variables

The syntax of symbolic address of process variable is as follows:

"[*counter_name*]/*register_code*"

where:

<i>counter_name</i>	- (option); defines the controller unique name used in multipoint installations to identify particular controllers;
<i>counter_name</i>	- it corresponds to 'Device address' according to PN-EN 61107; <i>counter_name</i> may be omitted in point-point connection;
<i>register_code</i>	- code and index of counter register compatible with readout list - that is loaded into the counter by the manufacturer in the parameterisation stage.

NOTICE:

All the variable values are of *FLOAT* type.

EXAMPLE

```
/* C.1.0 - identification number of the counter */
JJ_01, identification number of the counter, "/C.1.0", CHANNEL, 1, 1, NOTHING_FP

/* 1.8.0 - register of consumed active energy*/
JJ_03, register of consumed active energy, "/1.8.0", CHANNEL, 1, 1, NOTHING_FP

/* C.8.0 - total worktime */
JJ_03, total worktime, "/C.8.0", CHANNEL, 1, 1, NOTHING_FP
```

1.4. Driver Parameterisation

Driver parameterisation takes place with use of a separate section named [CTZxD400]. Using this section, you may declare:

- log file,
- log file size,
- log of telegrams.

[**LOG_FILE=log_file_name**

Meaning - allows to define a file to which all the diagnostic messages of the driver will be written.

Default value - by default, the log file is not created.

Defining - manual

[**LOG_FILE_SIZE=number**

Meaning - this item is used to define the size of log file, defined with use of LOG_FILE item.

Default value - by default, the log file size is 1 MB.

Parameter:

number - log file size in MB.

Defining - manual

[**LOG_OF_TELEGRAMS =YES / NO**

Meaning - this item allows contents of telegrams transferred between driver and controllers to be written into log file (declared with use of LOG_FILE item). The referred item should only be used in the **asix** system activation stage.

Default value - by default, value of this item is set to NO.

Defining - manual

Parameterisation of Particular Counters

The driver allows the set of individual parameters concerning service of particular counters to be transferred in separate sections. The name of such section is composite of the following elements:

channel_name:counter_name

where:

channel_name - ASMEN's channel name, in which the given counter is serviced;

counter_name - address name of the counter (the name used in variable address);
counter_name may be empty, if point-point installation is used.

EXAMPLE 1

ASMEN's channel name	CHANNEL
Counter name	counter1
Section name	CHANNEL:counter1

EXAMPLE 2

ASMEN's channel name	CHANNEL
Counter name	is not used
Section name	CHANNEL:

A parameterisation of the counter may be performed by the following items:

- time maker,
- log book file,
- log book file size,
- log book read period,
- log profile file,
- log profile file size,
- log profile read period.

[***TIME_MARKER = register_code [,register_code]***
Meaning - it allows to define a register (or two registers), that includes data and time stamp transmitted from the counter. It is assumed that, if one register is declared, it contains data and time in 'YY-MM-DD hh:mm:ss' format. If the couple of registers is declared, it is assumed that the first register contains data in 'YY-MM-DD' format, and the second one contains time in 'hh:mm:ss' format.
Default value - by default, it is assumed that PC's data and time stamp from the moment of the end of data receiving will be assigned to variables transmitted from the counter.

[***LOG_BOOK_FILE =log_file_name***
Meaning - events read from the counter are wrtitten to a text file in 'csv' formate. Each event is written in a separate line. Events in the file are ordered according to the growing time stamps. An examplary event form is as follows:

P.98;1;2005-05-10 08:14:33;0048;;3;;;F.F;;1.8.0;kWh;024;00000000;0000.0000

LOG_BOOK_FILE item allows to define a file path, in which book file will be written.
Default value - by default, log book file is not created.

[***LOG_BOOK_FILE_SIZE =number***
Meaning - this item is used to define the size of log file, defined with use of LOG_BOOK_FILE item.
Deaefault value - by default, log file size is 10 MB.

Parameter:
number - log file size in MB.

[***LOG_BOOK_READ_PERIOD =number***
 Meaning - it allows to determine the cycle of event log readout from the counter.

Default value - by default, event log readout takes place every hour.

Parameter:
number - cycle of event log readout (in hours).

[***LOG_PROFILE_FILE =log_file_name***
 Meaning - profiles read from the counter are entered to a text file in 'csv' format. Each profile is written in a separate line. Profiles in the file are ordered according to the growing time stamps. An exemplary profile form is as follows (the exemplary profile form is broken into two lines to be more clear):

```
P.01;1;2005-05-10 12:45:00;0008;15;6;1.5.0;kW;5.5.0;kvar;8.5.0;kvar;
32.7;V;52.7;V;72.7;V;0.0000;0.0000;0.0000;---.;---.;---
```

LOG_PROFILE_FILE item allows to define a file path, in which profile file will be written.

Default value - by default, log profile file is not created.

[***LOG_PROFILE_FILE_SIZE =number***
 Meaning - this item is used to define the size of log file, defined with use of LOG_PROFILE_FILE item.

Default value - by default, the log file size is 10 MB.

Parameter:
number - log file size in MB.

Defining - manual

[***LOG_PROFILE_READ_PERIOD =number***
 Meaning - it allows to determine the cycle of profile log readout from the counter.

Default value - by default, profile log readout takes place every hour.

Parameter:
number - cycle of profile log readout (in hours).

[***LOG_BOOK_DATA =YES/NO***
 Meaning - it allows to declare whether detailed description of parsing of particular event log lines should be entered to the driver log. The log file should be used only while activating the **asix** system.

Default value - by default, event parsing details are not written to the driver log.

[***LOG_PROFILE_DATA =YES/NO***
 Meaning - it allows to declare whether detailed description of parsing of particular profile log lines should be entered to the driver log. The log file should be used only while activating the **asix** system.

Default value - by default, event parsing details are not written to the driver log.

[METER_DATA =YES/NO
Meaning	- it allows to declare whether detailed description of parsing of particular data (read from the counter) lines should be entered to the driver log. The log file should be used only while activating the asix system.
Default value	- by default, readout data parsing details are not written to the driver log.

1.5. Examples of the Driver Sections

EXAMPLE

An exemplary counter section.

There is an exemplary section describing the counter in CHANNEL channel below. Because the counter has no declared name (*counter_name*), the character ":" ends the name of the section.

```
[CHANNEL:]
TIME_MARKER = 0.9.2, 0.9.1
LOG_BOOK_FILE = c:\tmp\ctZxD400\book.log
LOG_BOOK_FILE_SIZE = 4
LOG_BOOK_READ_PERIOD = 1
LOG_PROFILE_FILE = c:\tmp\ctZxD400\profile.log
LOG_PROFILE_FILE_SIZE = 2
LOG_PROFILE_READ_PERIOD = 1
LOG_BOOK_DATA = YES
LOG_PROFILE_DATA = YES
```

EXAMPLE

An exemplary section of the driver.

```
[CTZXD400]
LOG_FILE =d:\tmp\CtZxD400\ak.log
LOG_FILE_SIZE =3
LOG_OF_TELEGRAMS =YES
```

1. DRIVER OF PROTOCOL OF ELECTRIC ENERGY COUNTERS OF ZXD400 TYPE MANUFACTURED BY LANDYS & GYR.....	3
1.1. DRIVER USE.....	3
1.2. DECLARATION OF TRANSMISSION CHANNEL	3
1.3. DECLARING THE PROCESS VARIABLES	3
1.4. DRIVER PARAMETERISATION	4
1.5. EXAMPLES OF THE DRIVER SECTIONS.....	7