

EDW LPEX V2.0

Expected IntervalEDW LPEX V2.0 communication protocol

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Description

EDW LPEX V2.0 protocol is a simple text file protocol. Its implementation is based on a sequential processing of file rows. Two types of files are supported:

- LPEX file
- MPX file

The LPEX file consists of a header and part with data. The header contains a description of data, that are separated by a defined separator. This separator is used to separate also data in each row of a document.

An example of LPEX file body:

LPEX V2.0							
Datum;Zeit;Kundennummer;Kundenname;eindeutigeKDNr;GEId;GEKANr;KALINr;Linie;eindeutigeLINr;ZPB;Kennzahl;Einheit;Wandlerfaktor;MPDauer;Werte							
15.04.14;00:07:00;,,,,,,,,;SK40000041499000000000BESENOVA_T1;AP-M;kWh;1;01;0;00000							
15.04.14;00:07:00;,,,,,,,,;SK40000041499000000000BESENOVA_T1;AP+M;kWh;1;01;0;00000							
15.04.14;00:07:00;,,,,,,,,;SK40000041499000000000BESENOVA_T2;AP-M;kWh;1;01;27;00000							

One row of table corresponds to one row in a text file. As a separator there is used a symbol ";", which may be defined in the station parameters - parameter "[Column Delimiter](#)".

For better visibility, the data is displayed in a table below. The header columns are described in Protocol parameters in the section [Communication station configuration](#).

LPEX V2.0																	
Datum	Zeit								ZPB	Kennzahl	Einheit	Wandlerfaktor	MPDauer	Werte			
15.4.2014	0:07:00								xxx	AP-M	kWh	1	1	0		0	
15.4.2014	0:07:00								yyy	AP+M	kWh	1	1	0		0	
15.4.2014	0:07:00								zzz	AP-M	kWh	1	1	27		0	

The MPX file is an even more primitive text file protocol that has only a data portion. The body of the MPX file may look as follows:

SK10000022099000000000ETRENCIN_G1;AP-M;1;01;00;0;1805151136;92.4;kWh
SK10000022099000000000ETRENCIN_G2;AP-M;1;01;00;0;1805151136;94.8;kWh
SK10000022099000000000ETRENCIN_T1;AP-M;1;01;00;0;1805151136;91;kWh

For better visibility, the data is displayed in a table below. The header columns are described in Protocol parameters in the section [Communication station configuration](#).

ZPB	Kennzahl	Wandlerfaktor	MPDauer	(Flags)		Datum+Zeit	Werte	Einheit
SK10000022099000000000ETRENCIN_G1	AP-M	1	01	00	0	1805151136	92.4	kWh
SK10000022099000000000ETRENCIN_G2	AP-M	1	01	00	0	1805151136	94.8	kWh
SK10000022099000000000ETRENCIN_T1	AP-M	1	01	00	0	1805151136	91	kWh

When MPX files are analyzed, the column order is fixed, and the protocol parameters that specify the column names in the LPEX header as well as the maximum number of columns ([Date Column Name](#), [Time Column Name](#) .. [Interval Name](#) and [Max. Columns Number](#)) are ignored. Parameters [Date Conversion Mask](#) and [Time Conversion Mask](#), specifying the date and time format, are also ignored, and format yymmddhhmi is assumed.

Communication line configuration

- Communication line category: FILE I/O.
- The parameter "Input File" is used only if the parameters [Primary FTP Server](#) and/or [Secondary FTP Server](#) are specified and by parameter [ZIP File Mask](#) specifies, that input files are in ZIP format (*.zip) - the input files are downloaded from the specified FTP servers and the ZIP files are searched for in the directory specified by the "Input File" parameter.
- The parameter "Archive" specifies a folder for storing processed files.

Communication station configuration

[Communication station](#) - configuration dialog box, **Protocol parameters**.

They influence some of the optional protocol parameters. A user may define the following station protocol parameters:

Parameter	Default value	Meaning
File Type	LPEX	Type of processed files - LPEX (*.lpx) or MPX (*.mpx).
Date Column Name	Datum	Column name containing date.
Time Column Name	Zeit	Column name that contains a time data.
Address Column Name	ZPB	Column name that contains a value address.
Tech. Units Column Name	Einheit	Column name that contains a unit of a measured value.
Value Column Name	Werte	Column name that contains the measured values.
Value Type Column Name	Kennzahl	Column name that contains a value type (AP+ ,AP- ,AQ+ ,AQ-).
Interval Name	MPDauer	Column name that contains a granularity of measurements [min].
Max. Columns Number	30	Defines maximum column count, that are scanned when data acquisition.
Column Delimiter	;	Value separator in the header and body.
Date Conversion Mask	dd.mm.rr	A mask for a conversion of date in the text format to an internal date. In case of MPX files the mask is ignored.
Time Conversion Mask	hh:mi:ss	A mask for a conversion of time in the text format to an internal time. In case of MPX files the mask is ignored. Note: time in LPEX as well as MPX file is presumed to be in winter time.
Command Path		Directory for storing the batch files (e.g. unpacked ZIP archive).
Command Path VMS		Only for OpenVMS. Directory (e.g. DKA0:[IFAZD]) containing the batch files TESTZIP.COM and UNZIP.COM.
Download Command File	ftp_download.com	Batch file for downloading data from FTP server.
Delete Temporary Files	deltmp.com	Batch file for deleting of temporary files (FTP_DELETECMD, MAKE_TESTZIP.COM, MAKE_UNZIP.COM).
ZIP File Mask	GOEONL_{rrr}-{mm}-{dd}-{hh}-{mi}-{ss}.zip*	Time and date mask for name of ZIP file. If the parameter is empty, it is assumed that LPEX or MPX files are located in the directory specified by parameter Directory for Unzipped files .
LPX File Mask	GOEONL_{rr}{mm}{dd}{hh}{mi}.lpx*	Time and date mask for name of unzipped LPEX files. If MPX files are processed, their name must match mask *{yy}{mm}{dd}{hh}{mi}.mpx or at least *{yy}{mm}{dd}{hh}{mi} e.g. ETREN_03_1805151136.mpx

Directory for Unzipped files	DKA200:[000000. IFAZD.UNZIPPED]	Directory, from which the unzipped LPEX or MPX files will be read.
Remote Data Directory	2Rove	Directory on FTP server that contains ZIP files.
Primary FTP Server	10.11.1.131	Name/IP address of primary FTP server.
Secondary FTP Server	10.11.1.131	Name/IP address of secondary FTP server.
FTP User	azduser	FTP user name on both the primary and secondary FTP server.
FTP Password	***	FTP user password on both the primary and secondary FTP server.
FTP Connection Timeout	30	If the downloading or deleting of files on FTP server took longer than this setting, this information is written into the log file of KOM process.
Active Energy Tech. Units	MWH	Technical units of active energy .
Reactive Energy Tech. Units	MVARH	Technical units of reactive energy.
Expected Interval	1 min	Expected time interval of all values. If the value in processed file in " Interval Name " column is higher than "Expected Interval", the value of energy will be evenly split into several intervals of "Expected Interval" size. The value 0 disables this feature.
Analyze Archived Files on Startup	YES	KOM process, when starting, inspects old data sources in order to recalculate the value of electrical work.
Send Old Values	NO	Analyzes also the files that are older than "Maximum File Age".
Maximum File Age	3 hod	If the interval is exceeded, the values are either ignored or processed as Old Values, depending on the parameter "Send Old Values".
Debug unknown and lost tags	NO	Enables displaying of warnings about addresses of measurement points with missing I/O tag.
Old Values As New Values	NO	All values from communication (even old ones) go to the system as new values.

I/O tag configuration

Permitted I/O tags: **Ai**

I/O tag address

I/O tag address consists of three parts.

First one defines the type of value:

- P - Power (calculated from Energy read from the input file)
- W - Work (calculated by integrating Power within current hour)
- E - Energy (directly from the input file with possible recalculations due to size of Interval - see the parameter [Expected Interval](#))

The second one - "Primary EAN Code" and "BackupEAN Code" are used as a unique identifier of value, which is placed in "[Address Column Name](#)" of source file.

The third part represents the value type (AP+,AP-,AQ+,AQ-), which is in the "[Value Type Column Name](#)".

Note: configuration of two I/O tags which are of types Power and Energy and next two parts of their address is identical, is not currently supported. Only one of these I/O tags will work. Combinations Power + Work or Work + Energy are supported.

M.LPEX_1 - ??? [Invalid, Unknown] - B.LPEX

General properties Groups Process alarms Destination Address Filter Conversion Default value

LPEX V2.0 Address

Primary EAN Code

P SK10000022099000000000ETRENCIN_G1 AP-

Backup EAN Code

☐ close dialog window after save

Save Undo Use Sample Cancel

It is necessary to hold SHIFT key for save with

Following special addresses exist:

- I/O tag with the address TRIGGER will be set to a value equal to the number of processed LPEX or MPX files immediately after the processing is done
- I/O tag with the address INVALIDS will be set to a value equal to the number of I/O tags the data for which were not found in a file that was just processed

Error indication

The flags **FA** and **FB** are used to indicate the situations, when data processing was not done as expected. **FB** flag is set only for the performance values on condition that the files comes from other server, i.e. they are transmitted through FTP. It relates to the following situations:

- time in the file is older than "Maximum File Age" and the parameter "Send Old Values" is enabled at the same time,
- data are not processed during the current hour, for example, if the record with time stamp 13:45 comes in the time 14:03,
- older data, as already processed, come for I/O tag.

In these cases, the values are archived without flag. The most recent valid value will have **FB** flag.

- There were received data with the same time stamp as current time stamp of I/O tag, but with the different value. **FB** flag is set for this particular value.
- The name of each processed file contains also the information about time. If this time is different from time stamp of value stored in the file, this data has also **FB** flag, in case of both archival and current value.

The performance values will be preprocessed before sending to D2000 Server. If the values are received in N-minutes intervals, the value from the file will be divided by a number (N* 60), which ensures that from the integral value of work will be average performance. The time stamp of this artificial performance value will be moved to the beginning of interval.

If the protocol is configured so that data are downloaded from FTP servers, user may set the primary and secondary FTP server. If data downloading from primary server failed, the secondary one is used. Data processed in such a way have **FA** flag. These value flags are displayed in the archival dialog box of I/O tag, column "Value flag".

H.

AP+ Minutový výkon - metering

+ Minutový výkon - metering

Nastavenia:

☐ msec
☒ Vzostupne
☐ Min.

☐ rok
☐ Zostupne
☐ Max.

Export ...

Stĺpec ...

Riadok:

Stĺpec:

Výber časového intervalu:

Od: 00:00 30.03.2014

Iné - explicitne zadané

Do: 00:00 16.04.2014

Čas	Hodnota	Stav hodnoty	Limity	Arch. príznaky	Príznaky hodnoty
30.03.2014 00:00:00	0		InLimit	OLDVAL	B
30.03.2014 00:01:00	0		InLimit	OLDVAL	B
30.03.2014 00:02:00	0		InLimit	OLDVAL	B
30.03.2014 00:03:00	0		InLimit	OLDVAL	B
30.03.2014 00:04:00	0		InLimit	OLDVAL	B
30.03.2014 00:05:00	0		InLimit	OLDVAL	B
30.03.2014 00:06:00	0		InLimit		
30.03.2014 00:07:00	0		InLimit		
30.03.2014 00:08:00	0		InLimit		
30.03.2014 00:09:00	0		InLimit		
30.03.2014 00:10:00	0		InLimit		
30.03.2014 00:11:00	0		InLimit		
30.03.2014 00:12:00	0		InLimit		
30.03.2014 00:13:00	0		InLimit		
30.03.2014 00:14:00	0		InLimit		
30.03.2014 00:15:00	0		InLimit		
30.03.2014 00:16:00	0		InLimit		
30.03.2014 00:17:00	0		InLimit		
30.03.2014 00:18:00	0		InLimit		
30.03.2014 00:19:00	0		InLimit		
30.03.2014 00:20:00	0		InLimit		
30.03.2014 00:21:00	0		InLimit		
30.03.2014 00:22:00	0		InLimit		
30.03.2014 00:23:00	0		InLimit		
30.03.2014 00:24:00	0		InLimit		
30.03.2014 00:25:00	0		InLimit		
30.03.2014 00:26:00	0		InLimit		
30.03.2014 00:27:00	0		InLimit		
30.03.2014 00:28:00	0		InLimit		

Minimum:

0

00:00:00.000 30.03.2014

23860

Maximum:

0

00:00:00.000 30.03.2014

23860

Stránkovanie:

1 / 96

0

✓

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Zmeniť

Vymazať

Vložiť

Návrat

Literature

Changes and modifications

Document revisions

- Ver. 1.0 - April 23, 2014 - New document.
- Ver. 1.1 - May 17, 2018 - Support for MPX files.



Related pages:

[Communication protocols](#)