Honeywell
THE POWER OF CONNECTED

Volume Converter/Data Logger

LIS200 Device Series

FTP in LIS terminal devices (EK/DL)

EK280 from V2.50 (incl. default request from V2.52)
DL230 from V1.10 (incl. default request from V1.11)

Manual

FTP Application

73024343 2019-2 (a) edition From SW version 2.50/1.10

Disclaimer

The information contained in this document is the property of Honeywell. The following information may only be used for its intended purpose. This document or its contents must not be copied, published or made accessible to a third party in full or in part without the express consent of Elster GmbH.

All information and descriptions in this operating manual have been compiled after careful and diligent checking. In spite of this, errors cannot be completely ruled out. Honeywell can therefore not provide any guarantee that the content is complete or correct. The manual must also not be understood as an assurance of product characteristics. Furthermore, features are also described here which are only available as an option.

Honeywell cannot accept liability in any case for direct, special or consequential damage suffered by third parties. The information and specifications in this document may be amended without notice.

In view of extended product liability, the listed data and material properties should only be regarded as reference values and must always be checked for each individual case and corrected if necessary. This is especially the case when safety aspects are affected.

Further support is available from your local branch office or agent. The address is available on the Internet or from Honeywell.

This manual or parts of it may only be disclosed or copied with written consent from Honeywell.

If the product described here is improperly handled, repaired or changed by unauthorized persons or if spare parts other than those supplied by Honeywell are used, our warranty will be rendered void.

Mainz-Kastel, February 2019

Contents

I System requirements

☞ An FTP-enabled terminal device

- EK280, software version 2.50 or higher (default request possible from V2.52)
- DL230, software version 1.10 or higher (default request possible from V1.11)

☞ Connected to the terminal device or installed in the terminal device:

- GPRS modem (ECM-GW120 “TCPserv” / ECM-2G / ECM-3G in GPRS mode) or
- UMTS modem (ECM-3G in UMTS/GPRS mode) or
- Ethernet module (“AK-Nord” from Q2/2018)

☞ “enSuite” parameterization software V3.9 or higher

☞ Good network coverage (in general > 50%) is the basis for a high level of availability and secure transmission by the system. 100% availability cannot be guaranteed, since several influencing factors (network provider, firewall and FTP server) may affect the transmission.

☞ The customer is responsible for setting up and managing the FTP server. We recommend using “Pro-FTP” as the FTP server, since this FTP application does not delete any data on the FTP server used as the target system. The operator is responsible for maintenance of this server. Make sure that adequate storage capacity is available on the relevant server. Examples for estimating the data volume are listed in ⇨ section B-4 Estimating the data volume on the FTP server (p. 41).

☞ No data can be saved to the FTP server while active CSD or TCPserv data transfer is in progress (PULL).

II Important information about the data card

☞ For FTP based on GPRS technology, you need a SIM card of a mobile network operator. The SIM card must be enabled for GPRS data service. If you use the ECM-3G modem, the UMTS network is also supported.

☞ In order to access terminal devices with a normal CSD connection (analogue modem), we recommend that you also enable the CSD service (ideally using a “multi-numbering” SIM). If you use the ECM-3G modem in the UMTS network, German providers do not support the CSD service!

☞ The continuous autonomous data transfer of the FTP application generates data volumes continuously, which may cause monthly costs to be incurred under your SIM card contract.

☞ Note that the data volume information (examples) in this manual is based on the assumption that no data packets need to be sent repeatedly.
Depending on which data (archive data or individual parameters) is transferred, the ratio of the data volume for protocol and user data varies. In addition, poor reception in the mobile network or other interference in the IP network may result in telegram repetitions in the IP network which significantly increase the data volume. This application and Honeywell have no influence on this. Therefore, Honeywell cannot be held responsible for costs that may be incurred by higher data volumes.

☞ The required free volume of the data card to be agreed with the network operator depends on the individual settings or use of the FTP application and needs to be considered when selecting a tariff in order to avoid unnecessary costs. Depending on the application, we recommend a flat rate for a data volume of 5 – 30 MB (⇨ section B-4 Estimating the data volume on the FTP server, p. 41). Please contact your mobile service provider/network operator for further information.

☞ Roaming may incur significant additional costs for GPRS data transmission. In this case, the device operator must consider whether the security of the data transmission takes priority over the level of connection costs. If necessary, make sure that the roaming feature on the SIM card has been disabled by the provider or is supported free of charge.

☞ The use of roaming cards with the ECM-2G/ECM-3G modems and software version EK280 < V2.52 and DL230 < V1.12 is not possible.

☞ Honeywell cannot accept any liability for costs incurred if a suitable data plan or data volume is not selected or for parameter configuration by the customer that exceeds the monthly free data volume included in the SIM card’s contract.

☞ A SIM card may be used in a VPN (virtual private network). If you wish to do this, save the APN access data for the relevant network (⇨ section 1.2.1 Commissioning the GPRS or UMTS modem, p. 11).
Calling the terminal device using the “fixed IP address” assigned by this process is also possible since the TCP server function is also available with the device versions specified above.
Also ensure that access to public and private FTP/NTP servers is possible from the VPN you use.

Brief description

The FTP function is designed both for the periodic provision of online values using a standard output data record which complies with the VDEW specifications and for transferring archives from a connected terminal device in various files to an FTP server.

This manual must be regarded as a supplement to the general operating manuals for the terminal devices and the installation manual for the specific device and primarily describes the FTP application as such and the required parameter configuration of the FTP application in the terminal device.

The FTP function can either be parameterized locally using the optical read head or remotely using a GSM-CSD connection.

The FTP application provides the following functions:

- Transfer of archives to an FTP server
- Transfer of arbitrary values to the FTP server
  → default request; often abbreviated to “DefReq” (EK280 from V2.52 / DL230 from V1.11)
- Time synchronization of the terminal device using an NTP time server

Principle of operation in brief

By defining a cycle for the data transfer (e.g. daily, weekly or monthly), a TCP/IP connection is established with an FTP server. As soon as the connection has been established successfully, the data is saved to the FTP server.

Depending on the parameter settings, archives are saved in `GasX` format (Wieser-compatible), `RAW` format and in `ABL` format with or without header information (without header information = Görlitz standard).

Lists with addresses can also be saved in the device (“default request”) and transferred to an FTP server in `RAW` or `MPX` format. These are generally online measurements or counter discrepancies.

These files are then available on the FTP server for forwarding to transport customers and other network operators involved or for importing into an EDM system. In general, Internet technologies such as HTTP, FTP, e-mail, etc. are used for forwarding.

In addition to providing online data, billing data can also be read at any time using retrieval systems via TCP or CSD connection (but not at the same time as an active FTP transfer via the same interface, e.g. an internal modem).

- Establishing a TCP connection
  The modem is addressed using its (static) IP address.
- Establishing a CSD connection
  The modem is called using the data call number assigned to the SIM card.

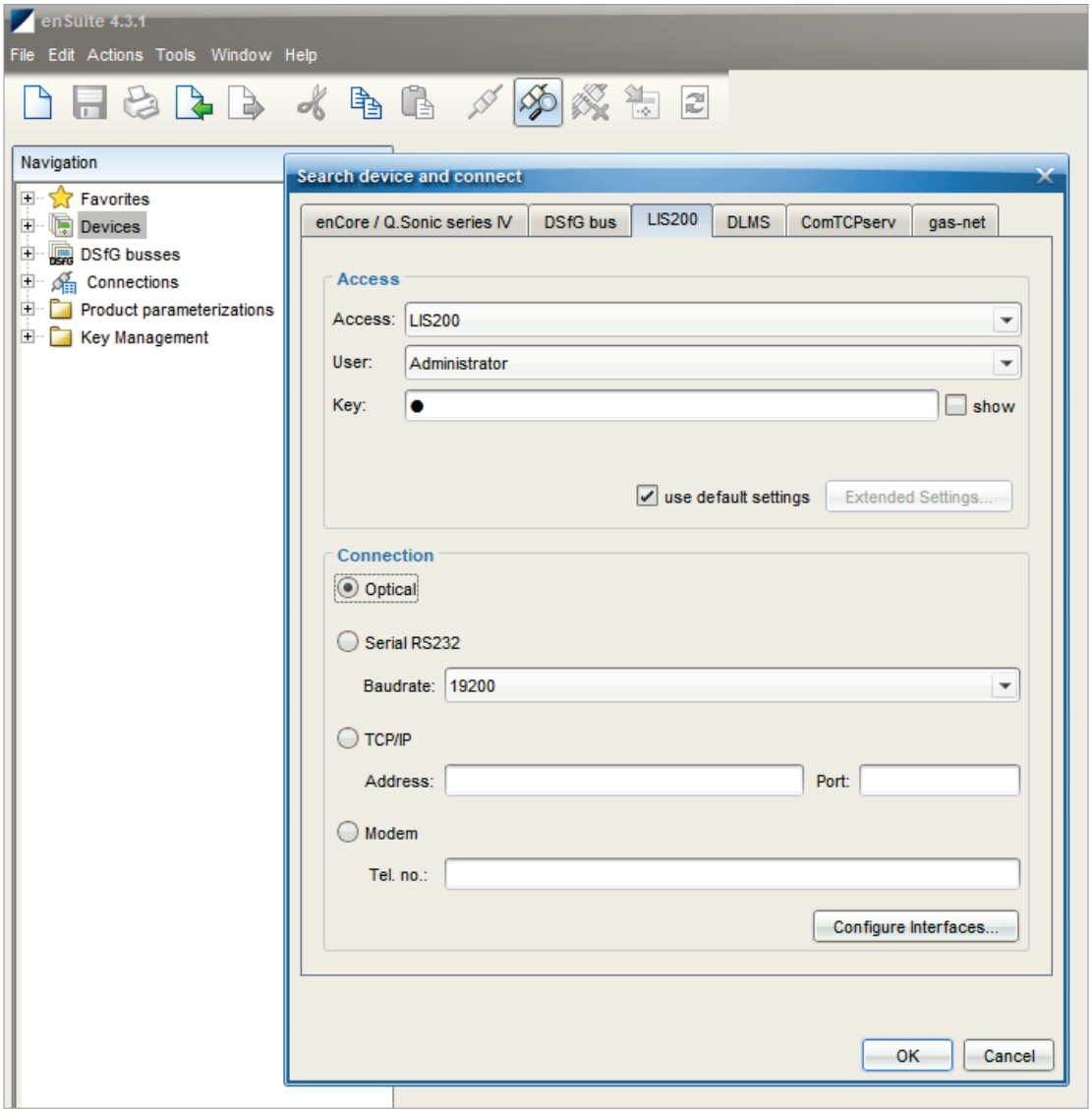
For technical reasons, a CSD connection (= line-established data transmission) takes around 30 to 60 seconds longer to establish. The billing-relevant archives can then be read.

In addition, you can modify the parameter settings of the terminal device using enSuite V3.9 or higher.

☞ No data can be saved to the FTP server while active CSD or TCPserv data transfer is in progress (PULL).

About enSuite

enSuite is the parameterization and analysis software for current Elster flow computers, data loggers/volume converters (LIS200), gas quality analyzers and ultrasonic gas meters and supports all the activities required for the commissioning and maintenance of these devices.



1. Configuring the FTP application

You can parameterize the FTP application using enSuite (V3.9 or higher) either via the device's optical interface or remotely using the TCP/IP or CSD connection. Since this is normally only required for commissioning, the general instructions for using enSuite are not provided here.

This manual must be regarded as a supplement to the application manual for the relevant terminal device. It is restricted to describing the parameters of the FTP application. Refer to the ⇨ application manual for the relevant terminal device for setting other parameters and for general instructions on the use of enSuite.

1.1 Parameterization guide

You can use enSuite version 3.9 or higher to parameterize the FTP function for volume converters and data loggers.

= Interactive links

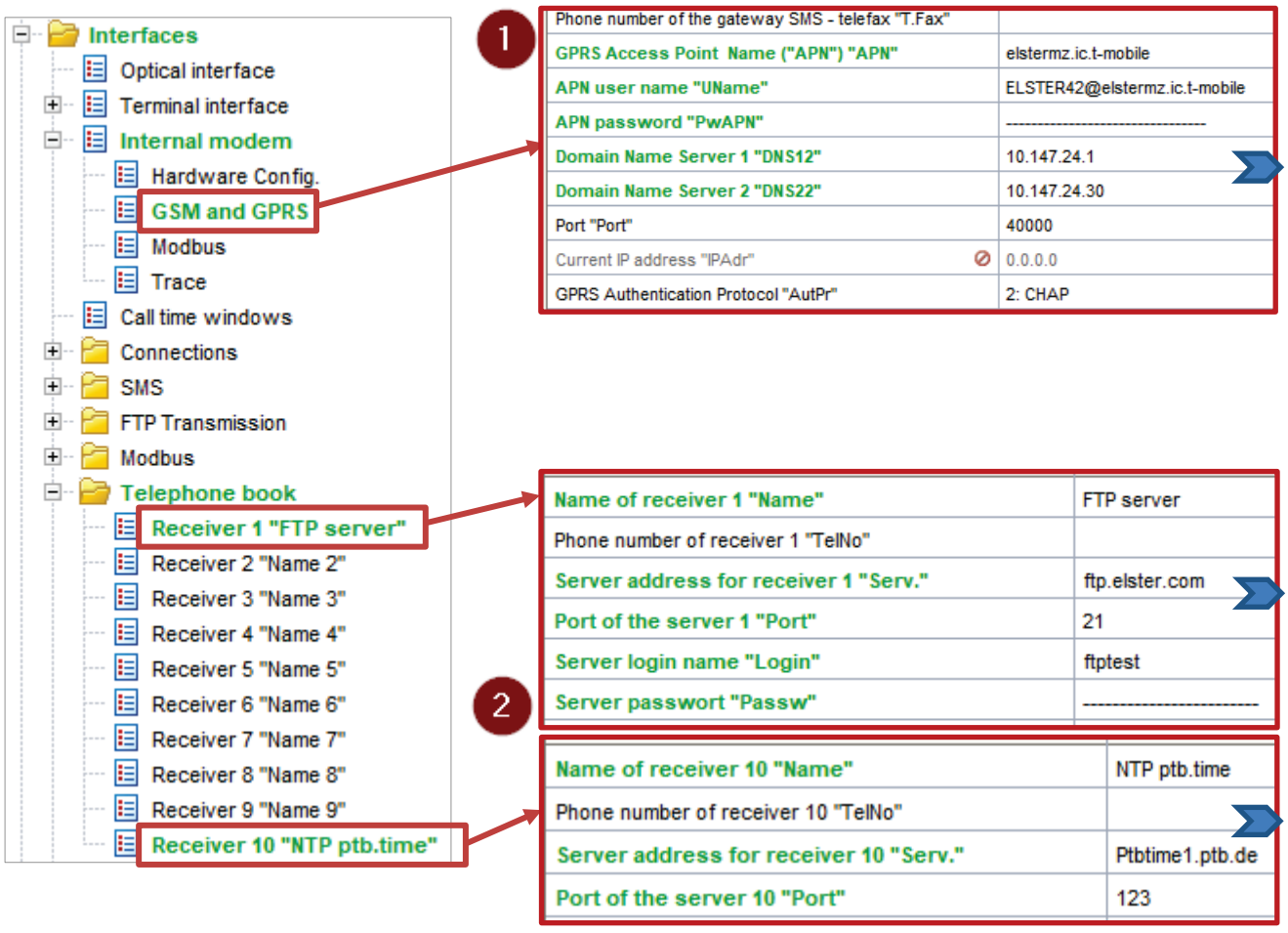
The FTP function can be configured in the following steps:

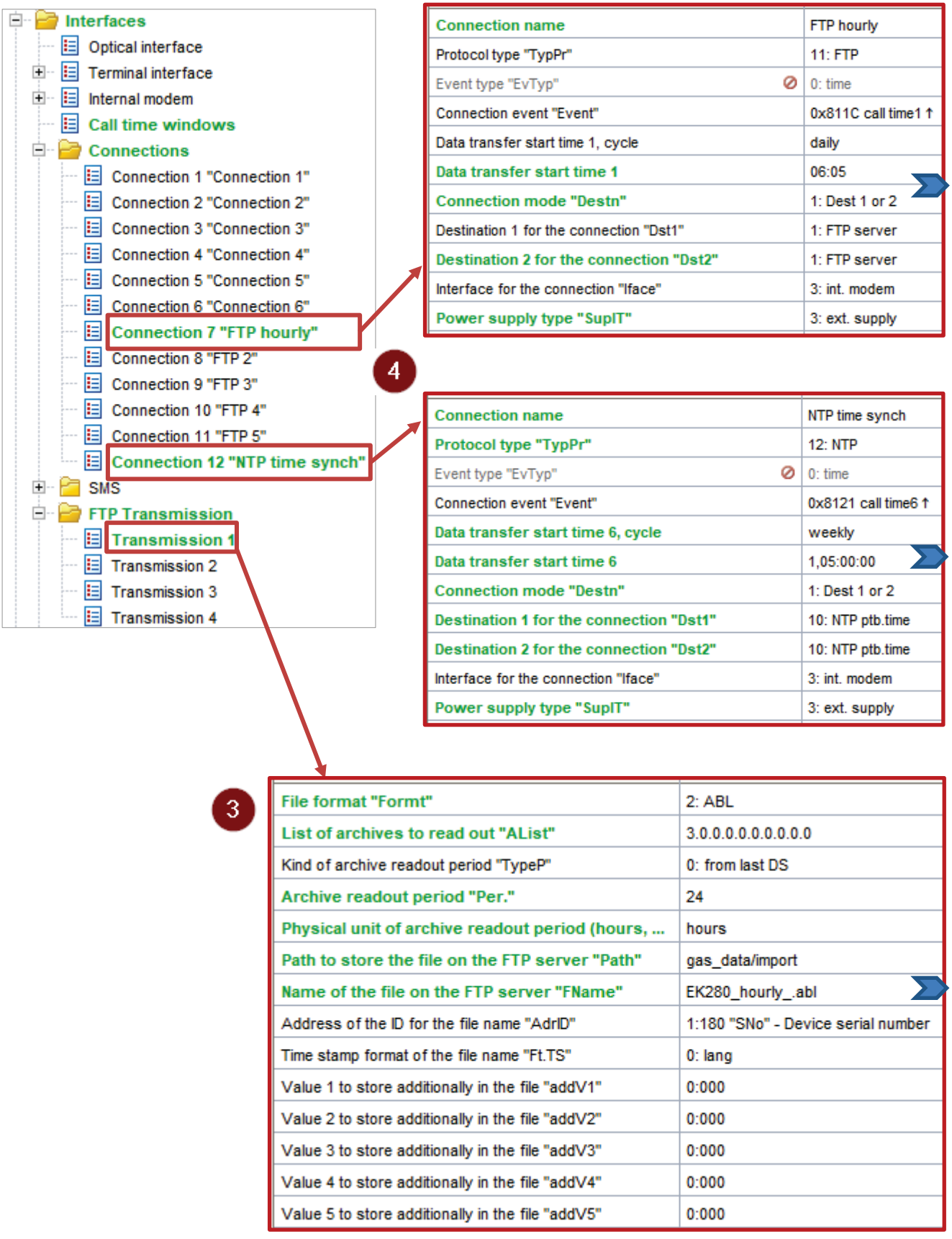
1. **Commissioning the GPRS or UMTS modem or the Ethernet module**
   ⇨ Section 1.2 Commissioning the communication module (p. 11)

2. **Setting up the FTP servers** on which the data can be stored or NTP servers for time synchronization (“Telephone book”)
   ⇨ Section 1.3 Setting up the FTP servers (“Telephone book”) (p. 14)

3. **Parameterizing the data to be stored on the server** (“FTP Transmission”)
   ⇨ Section 1.4 Definition of the data to be saved (FTP transmission) (p. 15)

4. **Parameterizing the time at which this FTP/NTP task is completed** and the target servers to which this data is to be saved (“Connections”)
   ⇨ Section 1.5 Defining the start time (p. 27)




Interfaces
Optical interface
Terminal interface
Internal modem
Call time windows
Connections
Connection 1 "Connection 1"
Connection 2 "Connection 2"
Connection 3 "Connection 3"
Connection 4 "Connection 4"
Connection 5 "Connection 5"
Connection 6 "Connection 6"
Connection 7 "FTP hourly"
Connection 8 "FTP 2"
Connection 9 "FTP 3"
Connection 10 "FTP 4"
Connection 11 "FTP 5"
Connection 12 "NTP time synch"
SMS
FTP Transmission
Transmission 1
Transmission 2
Transmission 3
Transmission 4
Connection name | FTP hourly
Protocol type "TypPr" | 11: FTP
Event type "EvTyp" | 0: time
Connection event "Event" | 0x811C call time1 ↑
Data transfer start time 1, cycle | daily
Data transfer start time 1 | 06:05
Connection mode "Destn" | 1: Dest 1 or 2
Destination 1 for the connection "Dst1" | 1: FTP server
Destination 2 for the connection "Dst2" | 1: FTP server
Interface for the connection "Iface" | 3: int. modem
Power supply type "SupIT" | 3: ext. supply
4
Connection name | NTP time synch
Protocol type "TypPr" | 12: NTP
Event type "EvTyp" | 0: time
Connection event "Event" | 0x8121 call time6 ↑
Data transfer start time 6, cycle | weekly
Data transfer start time 6 | 1,05:00:00
Connection mode "Destn" | 1: Dest 1 or 2
Destination 1 for the connection "Dst1" | 10: NTP ptb.time
Destination 2 for the connection "Dst2" | 10: NTP ptb.time
Interface for the connection "Iface" | 3: int. modem
Power supply type "SupIT" | 3: ext. supply
3
File format "Formt" | 2: ABL
List of archives to read out "AList" | 3.0.0.0.0.0.0.0.0.0
Kind of archive readout period "TypeP" | 0: from last DS
Archive readout period "Per." | 24
Physical unit of archive readout period (hours, ... | hours
Path to store the file on the FTP server "Path" | gas_data/import
Name of the file on the FTP server "FName" | EK280_hourly_.abl
Address of the ID for the file name "AdrID" | 1:180 "SNo" - Device serial number
Time stamp format of the file name "Ft.TS" | 0: lang
Value 1 to store additionally in the file "addV1" | 0:000
Value 2 to store additionally in the file "addV2" | 0:000
Value 3 to store additionally in the file "addV3" | 0:000
Value 4 to store additionally in the file "addV4" | 0:000
Value 5 to store additionally in the file "addV5" | 0:000

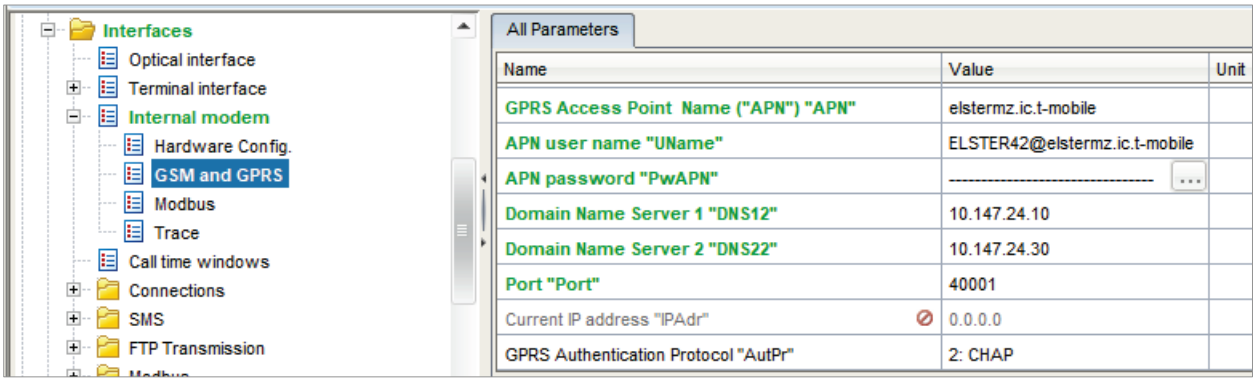
1.2 Commissioning the communication module

To use the FTP application, the communication module (GPRS or UMTS modem or Ethernet module) must first be commissioned, so that it can establish a connection to the Internet or to a VPN).

1.2.1 Commissioning the GPRS or UMTS modem

To commission data transmission via FTP, first configure the terminal device for GPRS or UMTS mode. When doing so, you must decide whether you would like the FTP data transfer to take place within a VPN[1] or via the Internet:

- If the FTP data transfer must take place within a VPN, the parameter set is identical to that for TCPserv operation.
  (⇨ “Application manual” for the relevant terminal device, section headed “TCPserv operation”)
  As you do so, the access data for the VPN and other data is entered in the menu “Parameters – Interfaces – Internal modem – GSM and GPRS”, or, if an external data transfer device is used, in “Parameters – Interfaces – Terminal interface – GSM and GPRS”. In detail, this includes:



- The domain name server (DNS11 and DNS21) only has to be entered if the FTP server is defined not by an IP address but by a URL address.

- The port specified here (“40001”) is only required for a TCP/IP connection from the retrieval software (TCP client) to the terminal device (TCP server). The ports specified in the telephone book under the FTP servers are used for an FTP transfer (⇨ section 1.3, p. 14).

[1] VPN = Virtual Private Network

- If the FTP transfer takes place on the Internet, the provider-specific access data for the public Internet must be entered instead of that for a VPN in the menu “Parameters – Interfaces – Internal modem – GSM and GPRS”.

  For German providers, these are as follows:

Parameter	Telekom	Vodafone	O2 Telefónica
Access Point Name (“APN”)	internet.telekom	web.vodafone.de	internet
APN user name	tmobile	– (blank)	– (blank)
APN password	tm	– (blank)	– (blank)

  and optionally (only necessary if the FTP server is defined not by an IP address but by a URL address, such as “ftp.elster.de”:

Domain Name Server 1	193.254.160.1	139.007.030.125	62.134.11.4
Domain Name Server 2	193.254.160.2	139.007.030.126	195.182.110.132

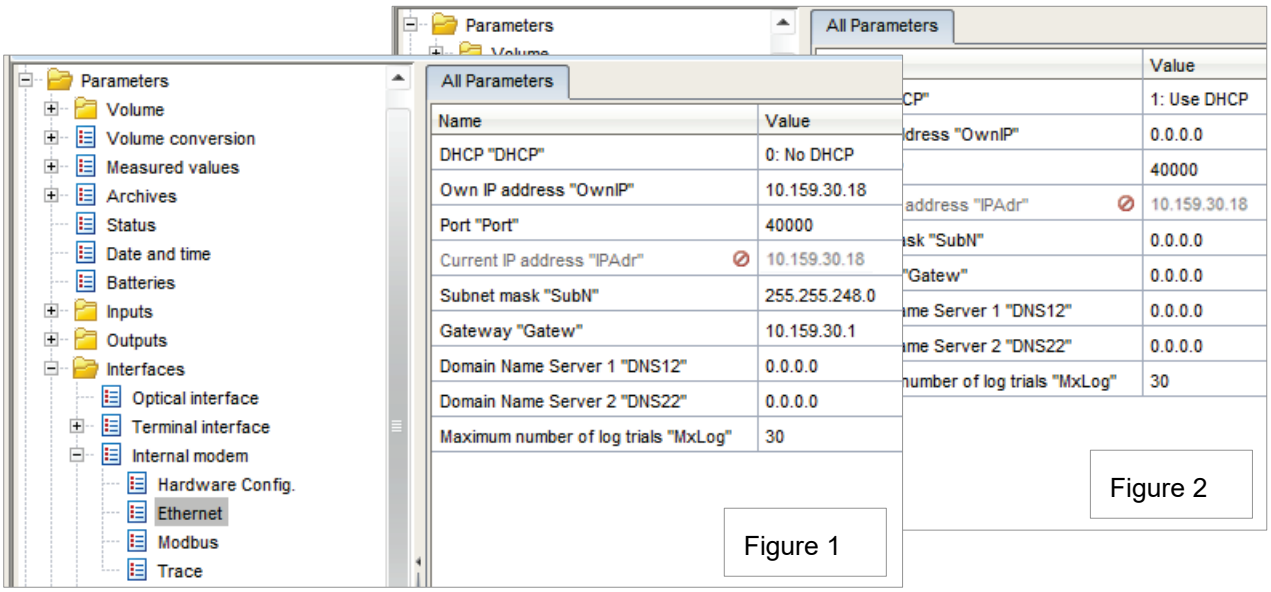
  The access data shown in the table are examples. This may differ depending on the SIM or the SIM’s tariff. Please consult your provider for more details.

Back to the parameterization guide

1.2.2 Commissioning the Ethernet module

⇨ For a detailed description, see the “Application manual” for the relevant terminal device, section entitled “Ethernet module”.

Loading the appropriate parameter file for the EK280 or DL230 in conjunction with the internal or external Ethernet card, the following “Ethernet” menu (e.g. “Internal module”) will be displayed:



Enter the following values depending on whether DHCP is enabled or disabled:

DHCP disabled… (Figure 1)

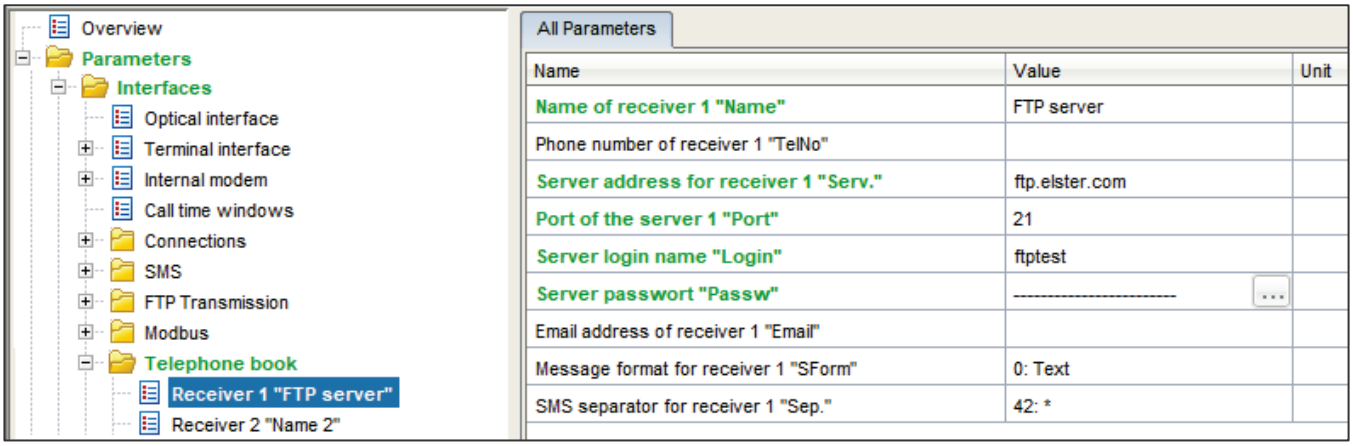
- **DHCP** 0: Use static IP address
- **Own IP address** Used IP address
- **Port** The port used for TCP/IP communication
- **Current IP address** Identical to “Own IP address” after the interface has been enabled
- **Subnet mask** Address for the subnet mask (depends on network)
- **Gateway** Gateway address (depends on network)
- **DNS12/DNS22** Used only for URL destination addresses rather than IP

DHCP enabled… (Figure 2)

- **DHCP** 1: Dynamic IP address assignment by a DHCP in the network
- **Port** The port used for TCP/IP communication
- **Maximum… “MxLog”** Number of login attempts in the network (DHCP)
- **Current IP address** IP address assigned by the DHCP
- **DNS12/DNS22** Used only for URL destination addresses rather than IP

1.3 Setting up the FTP servers (“Telephone book”)

The FTP servers on which the data needs to be saved later must be set up in the telephone book (→ “Parameters – Interfaces – Telephone book” menu).



Enter the following values for each FTP server (all the others are irrelevant for FTP transmission):

- **Server address** IP address or domain name of the FTP server (max. 62 characters)
- **Port of the server** The port used (the default port is “21”).
- **Login name** For the FTP server (max. 24 characters)
- **Password** For the FTP server (max. 24 characters)
- **Name of receiver** A freely selectable designation for the FTP server set up

☞ The default port for FTP is **21**. If you are setting up your own FTP server, we recommend that you use a different port.

☞ If the FTP server is located behind a firewall, ensure that the FTP ports used are also enabled in the firewall.

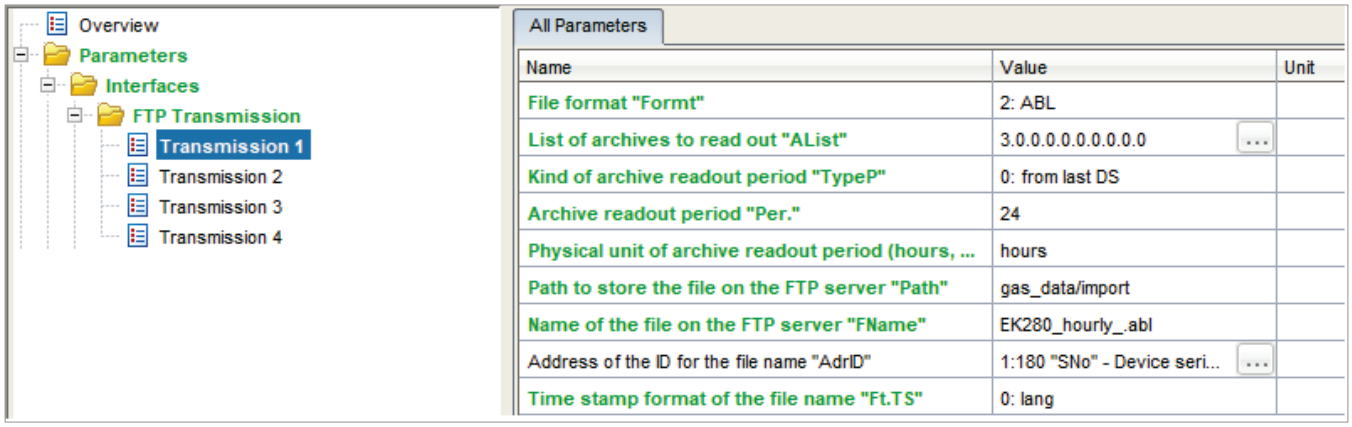
☞ The FTP server used must be configured for **“passive mode”**, for which data ports must be configured.

☞ If a domain name (e.g. “ftp.elster.com”) has been specified as the server address rather than an IP address, at least one domain name server (DNS) must be defined when commissioning the communication module (⇨ section 1.2 Commissioning the communication module, p. 11).

Back to the parameterization guide

1.4 Definition of the data to be saved (FTP transmission)

The type and scope of the data to be transferred, name of the destination file on the FTP server, format of the data and additional parameters must be configured for an FTP transfer (→ “Parameters – Interfaces – FTP Transmission” menu):



(The data specified above is used as an example and vary from case to case.)

1.4.1 “Formt” file format

This parameter determines how and which data is saved in the output file.
Possible values:

- **“0”** `GasX`
- **“1”** `RAW`
- **“2”** **`ABL`** (default for archive transmission)
- **“3”** `ABL` with header
- **“4”** `DefReq_raw` (DL230 V1.11 or higher, EK280 V2.52 or higher, ⇨ section 1.4.10)
- **“9”** `DefReq_mpx` (DL230 V1.11 or higher, EK280 V2.52 or higher, ⇨ section 1.4.10)

1.4.1.1 Example of a file in GasX XML format

```
<wieser>
  <mrg ident="0" type="39">
    <vohlist>
      <vohset ts="20081019090000" state="0">
        <voh cid="1" state="0">0</voh>
        <voh cid="2" state="0">0</voh>
        <voh cid="3" state="0">0</voh>
        <voh cid="4" state="0">0</voh>
        <voh cid="5" state="32">2.89992</voh>
        <voh cid="6" state="32">15</voh>
      </vohset>
       …
      <vohset ts="20081020080000" state="0">
        <voh cid="1" state="0">0</voh>
        <voh cid="2" state="0">0</voh>
        <voh cid="3" state="0">0</voh>
        <voh cid="4" state="0">0</voh>
        <voh cid="5" state="32">2.89992</voh>
        <voh cid="6" state="32">15</voh>
      </vohset>
    </vohlist>
  </mrg>
</wieser>
```

1.4.1.2 Example of a file in RAW format

```
ausgelesenes Archiv
============================
Ablesezeit:  4.11.2016 16:37:30
GeräteId: 3.221.234
Archivinstanz: 2
============================
04.11.2016
16:37:30
5:150.0(60*minutes)
2:190.0(1.10)
(499)(3)(2016-11-04,11:28:24)(0)(0)(14)(11;13;15)(0x8A02)(CRC Ok)
(501)(4)(2016-11-04,11:28:24)(0)(0)(14)(11;13;15)(0x8105)(CRC Ok)
(874)(5)(2016-11-04,12:00:00)(0)(0)(0)(11;15)(0x8105)(CRC Ok)
(931)(6)(2016-11-04,13:00:00)(0)(0)(0)(11;15)(0x8105)(CRC Ok)
(1092)(7)(2016-11-04,14:00:00)(0)(0)(0)(11;13;15)(0x8105)(CRC Ok)
(1098)(8)(2016-11-04,15:00:00)(0)(0)(0)(11;13;15)(0x8105)(CRC Ok)
(1114)(9)(2016-11-04,16:00:00)(0)(0)(0)(11;13;15)(0x8105)(CRC Ok)
```

1.4.1.3 Example of an EK280 file in ABL format

```
[HEADER]
PROT = 0
MAN1 = Els5\2EK280

ZNR1 = 4009647
DATE = 25.05.18
TIME = 08:04:56

[SEQUENCE]
TYPE = 402

[DATA]
4:150.0(60*minutes)
2:190.0(2.52)
(18)(13)(2018-05-25,06:32:39)(0)(0)(0)(0)(0.01)(-263.15)(1)(0.01)(14)(0)(0)(0)(11;13)(0x8A03)(CRC Ok)
(19)(14)(2018-05-25,06:32:39)(0)(0)(0)(0)(0.01)(-263.15)(1)(0.01)(14)(0)(0)(0)(11;13)(0x1202)(CRC Ok)
(20)(15)(2018-05-5,06:32:39)(0)(0)(0)(0)(2.5168)(11.33)(0.99715)(2.39147)(14)(0)(0)(0)(11;13)  (0x8104)(CRC Ok)
(22)(16)(2018-05-25,06:43:16)(0)(0)(0)(0)(2.5168)(11.33)(0.99715)(2.39147)(14)(0)(1;6)(1;6)  (11)(0x2507)(CRC Ok)
(22)(17)(2018-05-25,06:43:16)(0)(0)(0)(0)(2.5168)(11.33)(0.99715)(2.39147)(14)(0)(1;6)(1;6)  (11)(0x2506)(CRC Ok)
```

1.4.1.4 Example: ABL format including archive header

```
[HEADER]
PROT = 0
MAN1 = Els5\2EK280

ZNR1 = 4009647
DATE = 25.05.18
TIME = 08:05:16

[SEQUENCE]
TYPE = 402

[DATA]
4:150.0(60*minutes)
2:190.0(2.52)
1:100.0(13.14.15.16)
1:101.0(0)
2:777.0(96%)
2:404.0(114*months)
(GONo)(ABNo)(Time)(Vb)(VbT)(Vm)(VmT)(p.MP)(T.MP)(K.MP)(C.MP)(St.2)(St.4)(St.7)(St.6)(StSy)(Ev)(Check)
(18)(13)(2018-05-25,06:32:39)(0)(0)(0)(0)(0.01)(-263.15)(1)(0.01)(14)(0)(0)(0)(11;13)  (0x8A03)(CRC Ok)
(19)(14)(2018-05-25,06:32:39)(0)(0)(0)(0)(0.01)(-263.15)(1)(0.01)(14)(0)(0)(0)(11;13)  (0x1202)(CRC Ok)
(20)(15)(2018-05-25,06:32:39)(0)(0)(0)(0)(2.5168)(11.33)(0.99715)(2.39147)(14)(0)(0)(0)  (11;13)(0x8104)(CRC Ok)
(22)(16)(2018-05-25,06:43:16)(0)(0)(0)(0)(2.5168)(11.33)(0.99715)(2.39147)(14)(0)(1;6)(1;6)  (11)(0x2507)(CRC Ok)
```

Marked in blue: Optional additional values which can also be transferred in the file
(⇨ section 1.4.9 Additional values “addV1”… “addV5” (not for “DefReq”), p. 24)

1.4.1.5 Example of a DL230 file in ABL format

```
[HEADER]
PROT = 0
MAN1 = Els5\2DL230

ZNR1 = 565656
DATE = 14.05.18
TIME = 10:57:40

[PDATA]
2
2:190.0(1.11)
5:150.0(60*minutes)
(48)(131)(2018-05-14,09:07:04)(64)(64)(14)(13;16)(0x8B02)(CRC Ok)
(68)(132)(2018-05-14,09:07:04)(64)(64)(14)(13;16)(0x8A02)(CRC Ok)
(83)(133)(2018-05-14,10:00:00)(3240)(3240)(14)(13;16)(0x8105)(CRC Ok)
```

1.4.1.6 Example: ABL format including archive header (DL230)

```
[HEADER]
PROT = 0
MAN1 = Els5\2DL230

ZNR1 = 565656
DATE = 14.05.18
TIME = 10:59:08

[PDATA]
2
2:190.0(1.11)
5:150.0(60*minutes)
(GONo)(ABNo)(Time)(Vb)(VbT)(Vm)(VmT)(p.MP)(T.MP)(K.MP)(C.MP)(St.2)(St.4)(St.7)(St.6)(StSy)(Ev
)(Check)
(48)(131)(2018-05-14,09:07:04)(64)(64)(14)(13;16)(0x8B02)(CRC Ok)
(68)(132)(2018-05-14,09:07:04)(64)(64)(14)(13;16)(0x8A02)(CRC Ok)
(83)(133)(2018-05-14,10:00:00)(3240)(3240)(14)(13;16)(0x8105)(CRC Ok)
```

1.4.1.7 Example: DefReq_raw

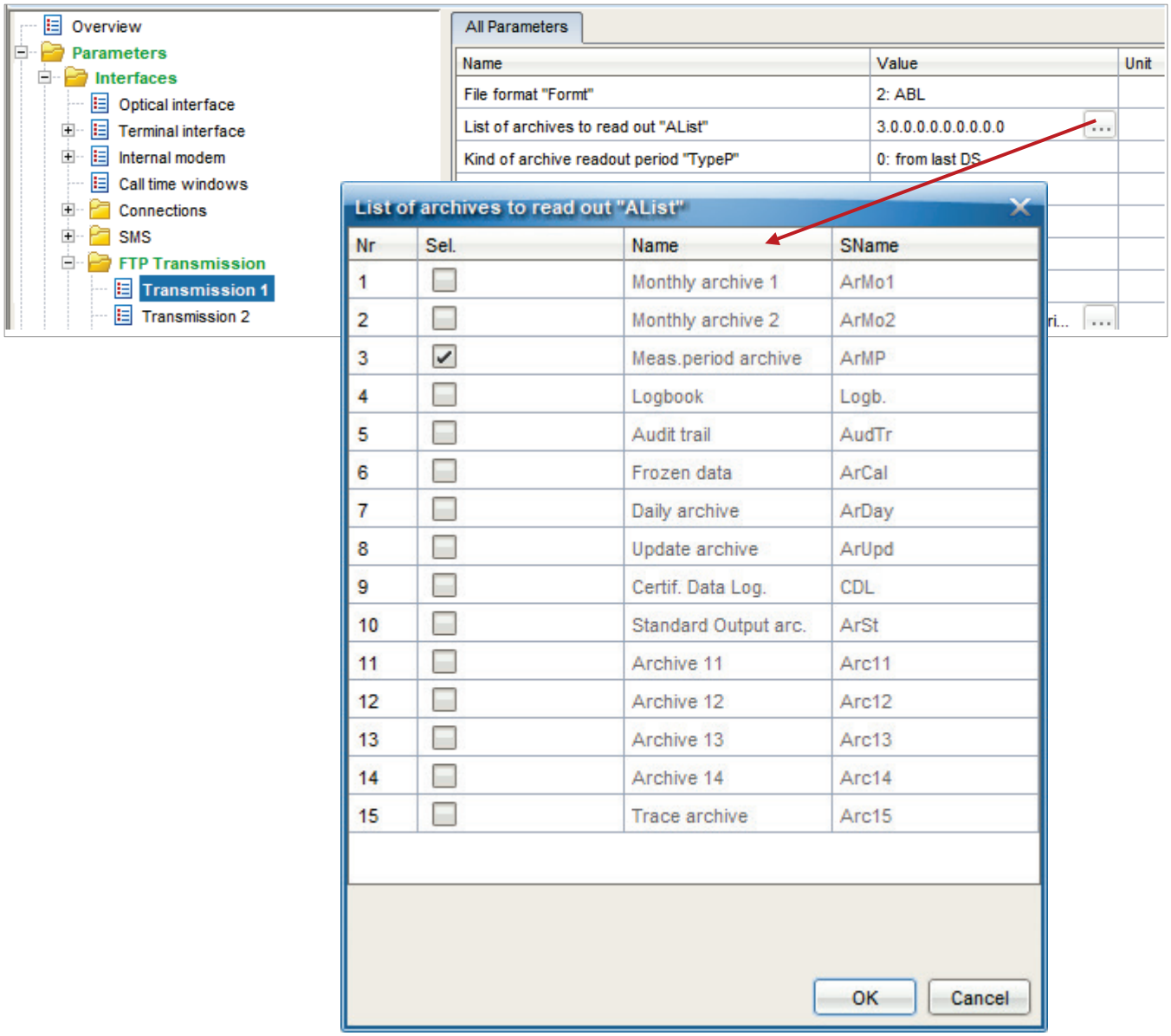
```
1:1CD.12(2018-05-16,08:00:00)
2:1CD.13(15)(16)
1:180.0(565656)
4:150.0(60*minutes)
1:160.22*47(168990*m3)(2018-05-16,08:14:10)(8)(16)(0001:0200)
5:160.22*47(84509*m3)(2018-05-16,08:14:10)(8)(16)(0002:0200)
9:160.22*47(56348.6666*m3)(2018-05-16,08:14:10)(16)(0003:0200)
13:160.22*47(0*m3)(2018-05-16,08:14:12)(16)(0004:0200)
3:410_1.1(23.27*°C)
7-1:210.1(360*m3/h)
1:100.3(8)(13)(16)
```

1.4.1.8 Example: DefReq_mpx

```
565656;7-1:21.12.0*255;1;60;00;1;1805141000;56;m3
565656;7-2:21.12.0*255;1;60;00;1;1805141000;28;m3
565656;7-3:21.12.0*255;1;60;00;1;1805141000;18.6667;m3
565656;7-4:21.12.0*255;1;60;00;1;1805141000;0;m3
565656;0-0:96.9.0*255;1;60;00;1;1805141000;25.96;°C
565656;7-1:43.0.0*255;1;60;00;1;1805141000;3600;m3/h
565656;7-129:96.5.1*255;1;60;00;1;1805141000;13.14.16;
```

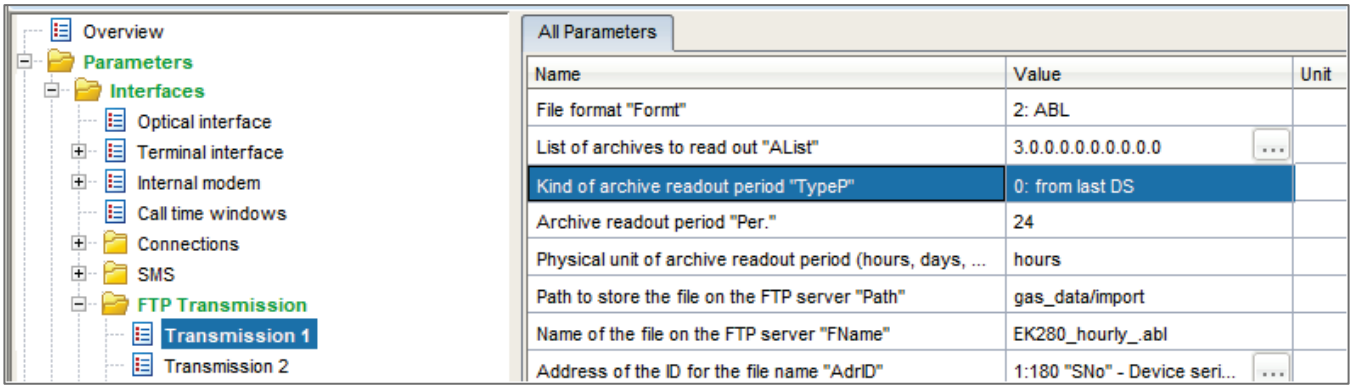
1.4.2 List of archives to read out “AList” (not for “DefReq”)

This parameter defines which archives are read or which archive information is used for the transfer.



You can transfer up to 10 archives simultaneously in one file.

1.4.3 Kind of archive readout period “TypeP” (not for “DefReq”)



You can choose between 2 settings here:

- **“1”** fix period
- **“2”** from last DS

1.4.3.1 Fix period (not for “DefReq”)

A fixed time period means that the data for a specific period is available in the destination file.

Example

If there is a *2* in *“Archive readout period”* and *“days”* has been selected as the *“Physical unit of archive readout period”*, all the data from “Start time – 2 days” to “Start time” should be present in the destination file after the data transfer. The start time is the time at which the data transfer is started (see “Connections” menu from “Connection 7”).

1.4.3.2 From last DS

If “*From last DS*” (DS = data record = archive row) is selected for “*Kind of archive readout period*”, the application remembers the last successfully transferred archive row after each transfer. The next transfer then always begins at this last row.

Note 1

If the application determines that no new data has been written into the archive since the time of the last transfer, nothing will be transferred.

Note 2

Since there is no “last” data record available for the very first transmission, the application uses the parameters “Archive readout period” and “Physical unit of archive readout period”, on a one-off basis to calculate a start time (readout period = “Start time” – “Archive readout period” x “Physical unit of archive readout period”, with start time = time at which the data transfer starts → “Connections” menu).

1.4.4 Archive readout period/Physical unit of archive readout period (not for “DefReq”)

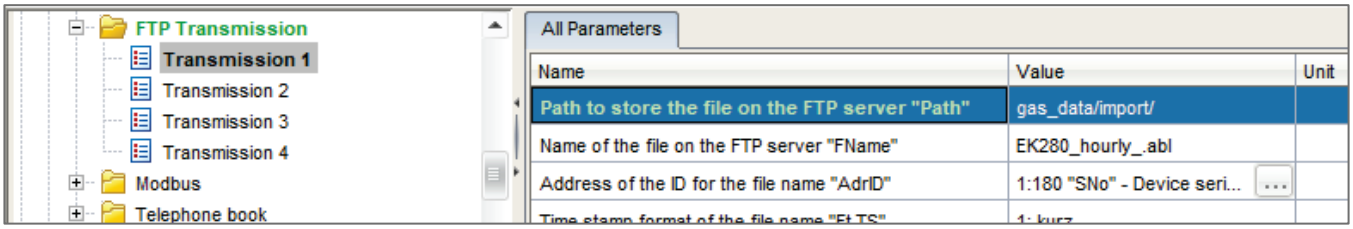
The period for reading data is generated using these two values.

This period is used depending on the “Kind of archive readout period”.

If “Kind of archive readout period” is set to “1: fix period”, the destination file contains the data from “Start time” – period up to the “Start time”.

If “Kind of archive readout period” is set to “2: from last DS”, the period is used only for the first transfer.

1.4.5 Path “Path”



A sub-directory of the FTP server is specified in **Path** if necessary. Other levels are separated by a **slash /** (not “backslash” \). The path may contain a maximum of 62 characters.

The path has the following structure:

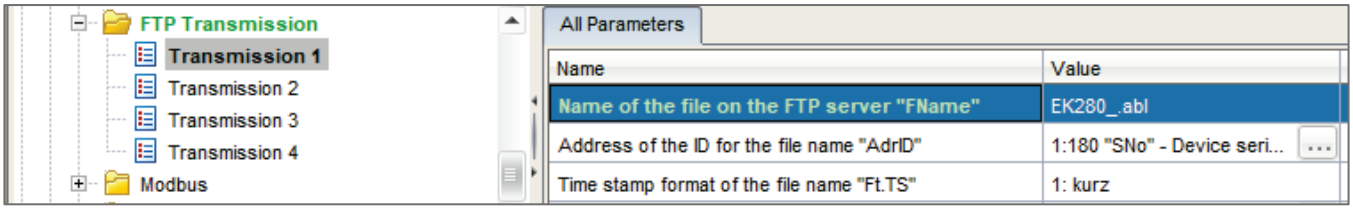
From EK280 V2.52 or DL230 V1.11: **`Name/Sub-name/Sub-sub-name`**
Up to EK280 V2.51 or DL230 V1.10: **`Name/Sub-name/Sub-sub-name/`**

☞ The paths used must first be set up on the FTP server.

☞ While parameterizing the FTP server, a start directory is specified for the relevant user. This is why no drive letters are included in the path. If no sub-directory is specified, the data is saved straight to the start/root directory of the FTP user.

☞ Please note the maximum path length (⇨ Annex B-3).

1.4.6 File name “FName”



The **File name** specifies the start of the name as well as the extension of the transferred file.

☞ The specified file name is always extended with an ID (⇨ Parameter 1.4.7 Address of the ID for archive file names “AdrID”, p. 8) and a time stamp (⇨ Parameter 1.4.8 Format of the time stamp (for archive file name) “Ft.TS”, p. 24).

☞ If no extension is specified, from EK280 V2.52 or DL230 V1.11 the application automatically assigns an extension depending on the selected output format:

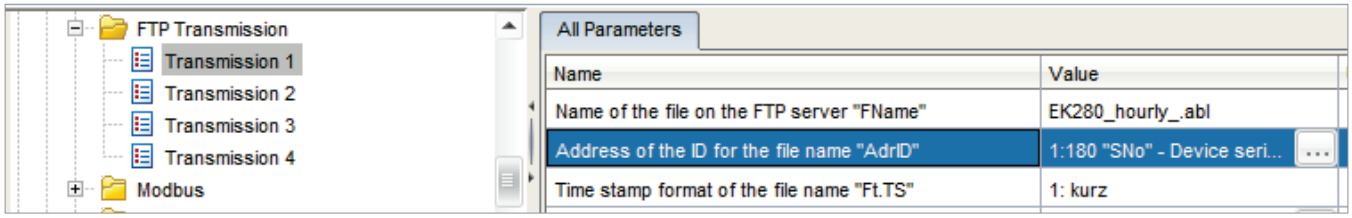
- **.xml** for GasX,
- **.raw** for RAW format and “DefReq_raw”
- **.abl** for ABL format with and without header data

– **.mpx** for “DefReq_mpx”

For EK280 up to V2.51 or DL230 V1.10, the file suffix, e.g. `.abl` must be entered in the “FName” field manually. Otherwise, the suffix `.txt` will be used.

☞ Please note the maximum path length (⇨ Annex B-3).

1.4.7 Address of the ID for archive file names “AdrID”

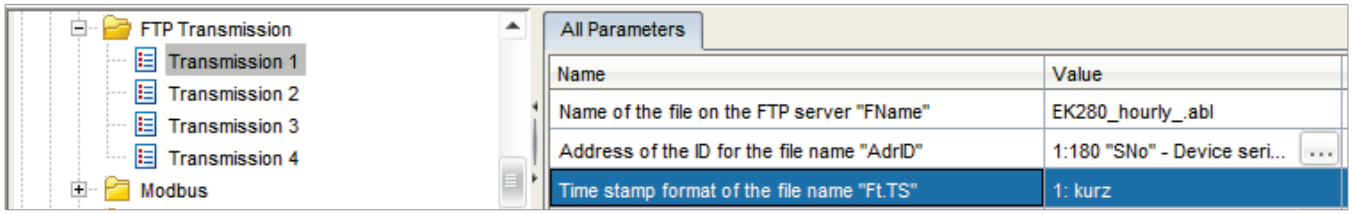


This parameter specifies which value from the device database should be added to the name of the created file for identification purposes.

☞ The device number of the device with address “1:181.0” is suggested.

☞ See also ⇨ section 1.4.6 File name “FName” (p. 23) and 1.4.8 Format of the time stamp (for archive file name) “Ft.TS” (p. 24).

1.4.8 Format of the time stamp (for archive file name) “Ft.TS”



This specifies the form in which the current time is output in the file name:

– **“0”** Long format with `YYYYMMDDSSmmsszzzz`
where `zzzz` is the deviation of the local time from UTC.

– **“1”** Short format with `YYMMDDSSmmss`

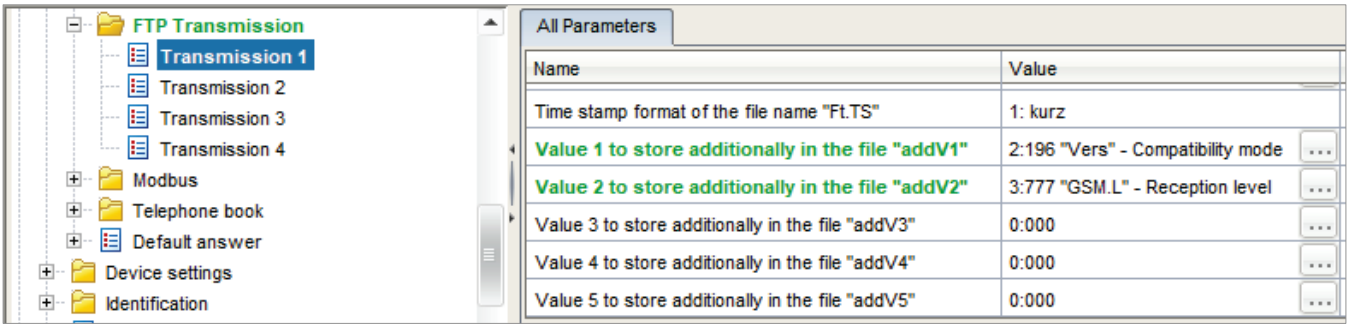
☞ Special attention must be paid to the “Time zone” parameter setting (“Date and time” menu) in the terminal device, which defines the deviation of the local time from UTC (time zone of the zero meridian without taking the winter/summer period into account).

☞ See also ⇨ section 1.4.6 File name “FName” (p. 23) and ⇨ section 1.4.7 Address of the ID for archive file names “AdrID” (p. 24).

Using the above values, the file name of the saved file is:

DL230_3241234_180828000000.abl

1.4.9 Additional values “addV1”… “addV5” (not for “DefReq”)



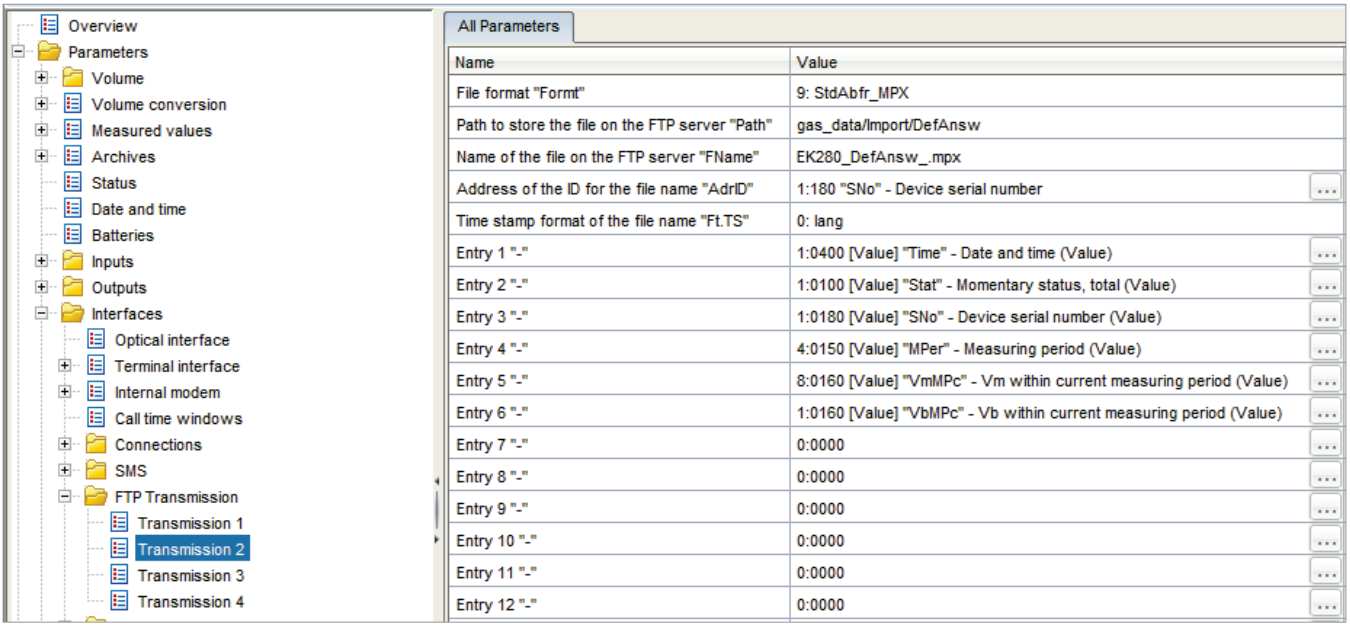
Up to 5 additional values can be added in the “Raw” and “ABL” formats (with and without header).

The addresses of these values are configured in the parameters “addV1” to “addV5”.

☞ For example, this enables status messages, battery information, header data such as the customer number, metering point identifier, reception level, etc. to be transferred which can then be processed automatically by a downstream system (check whether your EDM driver supports this function).

1.4.10 Default request (“DefReq”): “Entry 1...20”

If “DefReq_raw” or “DefReq_mpx” file format has been selected, up to 20 values (effectively 16 free values) can be selected for writing to the destination file on the FTP server.



(The values specified above are used as an example and may differ from case to case.)

IMPORTANT for MPX format:
“Entry 1” to “Entry 4” is essential as shown above to generate a correctly formatted MPX file.

The form in which the values are written to the generated file is specified in ⇨ section 1.4.1.7 Example: DefReq_raw and ⇨ section 1.4.1.8 Example: DefReq_mpx.

1.4.11 Information on the “DefReq_mpx” export

OBIS codes are used instead of the LIS200 addresses for MPX files.

It must therefore be ensured that an OBIS code has been saved for the output values.

The default settings are:

Designation	Code	Description
Time stamp	`0-0:1.0.0*255`	Time of tagging
System status	`7-0:96.5.0*255`	Status with information about DST
Description of the meter location	`7-128:0.0.6*255`	Name of channel
Measuring period	`7-0:0.8.12*255`	Measuring period used

To be able to obtain the relevant values from the standard output for the MPX files,
the first 4 entries must be available in the following sequence:

1. **Time stamp**, e.g. `1:400` (a “tagged” value is also possible)
2. **System status**, e.g. `1:100` (a “tagged” value is also possible)
3. **LIS address which identifies the metering point**, e.g. `1:180` (serial number)
4. **Measuring period for subsequent measurements**, e.g. `4:150` (measuring period)

All the following addresses (from “Entry 5”) define an output value (e.g. consumption counter, meter reading, pressure value, temperature value, etc.).

The output could then have the following appearance:

```
434311234;7-0:11.0.0;1;03;00;0;0710101230;3;m3
434311234;7-1:5.9.0;1;03;00;0;0710101230;2.5985;m3
434311234;7-0:42.0.0;1;03;00;0;0710101230;1.00473;bar
434311234;7-0:41.0.0;1;03;00;0;0710101230;10.09;°C
```

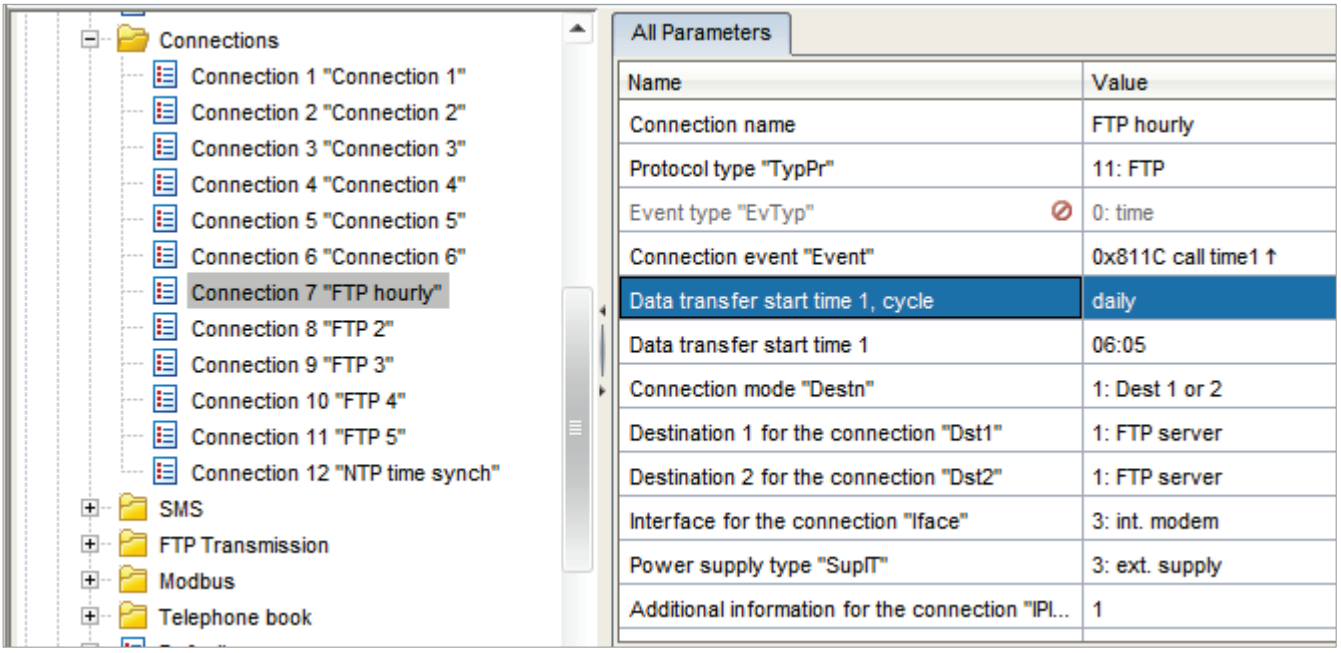
Back to the parameterization guide

1.5 Defining the start time for the FTP transfer

After the destinations and the type and scope of the data to be transferred have been defined, an entry must still be made to specify when, i.e. at what time, the data should be transferred to the FTP server.

A connection is parameterized for this purpose (→ “Parameters – Interfaces – Connections” menu).

Connections 7 – 12 are preset for FTP transmission and should therefore be used as a priority.



☞ No data can be saved to the FTP server while active CSD or TCPserv data transmission is in progress (PULL).

1.5.1 Protocol type “TypPr”

“**11: FTP**” must always be selected here for an FTP transfer.

1.5.2 Data transfer start time x, cycle

Here, you can set the cycle in which the transfer should be repeated.

Possible values:

- “hourly”
- “daily”
- “weekly”
- “monthly”
- **“cycle of minutes”** (from EK280 V2.52 and DL230 V1.11 in conjunction with enSuite from V4.2)

1.5.3 Data transfer start time

This parameter determines the time at which the transfer should start.

Two or more connections cannot be started at the same time. This means that execution times must be offset.
The entered time depends on the working cycle of the device. This means that the time selection is very restricted, particularly if the terminal devices are operated in battery mode:

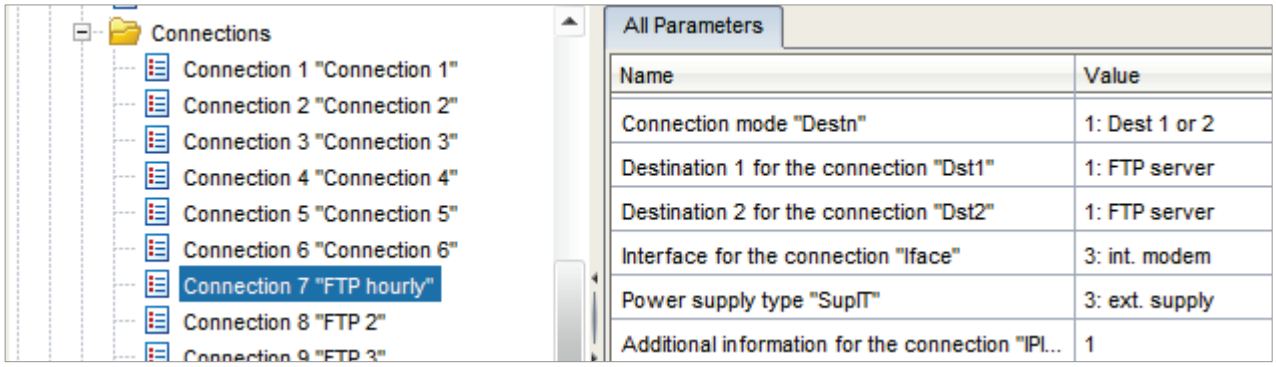
EK280

Measuring cycle in battery mode =	30 s (transfer time possible at 30-second intervals, e.g. at 10:01:30)
Measuring cycle in mains mode =	2 s (transfer time possible at 2-second intervals, e.g. at 10:00:02)

DL230

Measuring cycle in **battery mode** =	**900 s** (**only times xx:00:00, xx:15:00, xx:30:00 or xx:45:00 are possible**)
Measuring cycle in mains mode =	2 s (transfer time possible at 2-second intervals, e.g. at 10:00:02)

1.5.4 Connection mode “Destn”



Here, you can decide how the two destinations for the connection should be handled:

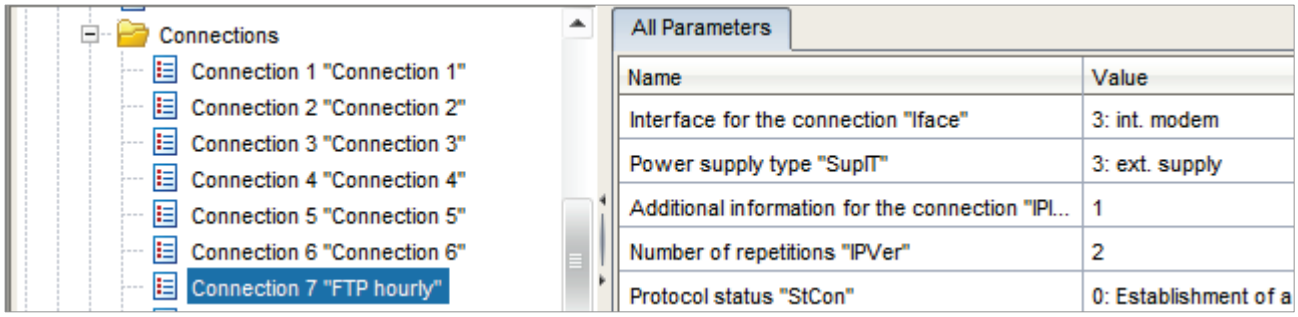
- **“0: No connection”** Connection establishment is not started (connection disabled)
- **“1: Dest 1 or 2”** If destination 1 was not reached, destination 2 is “dialled”
- **“2: Dest 1 and 2”** The device tries to transfer the data to both destinations

Tip:
If the FTP transfer is only to be made to one server, specify the same FTP server for both destinations for the “Dest 1 or 2” setting. This will result in an immediate repeat of the FTP transfer if the first transfer attempt fails.

1.5.5 Destination x for the connection “Dst1” or “Dst2”

One entry from the telephone book (⇨ section 1.3 Setting up the FTP servers (“Telephone book”), p. 14) can be selected as “Dst1” or “Dst2” to which the data should be transferred.

1.5.6 Interface for the connection “Iface”



This parameter determines the interface to which the modem is connected and which should also be used for the FTP transfer.

1.5.7 Power supply type “SupIT”

This parameter specifies when the transfer can take place. Possible values:

- **“1 – always”** Regardless of the voltage supply (use only if there are modem batteries in addition to the power supply unit)
- **“2 – battery”** Use only if the terminal device (EK/DL) is battery-powered
- **“3 – ext. supply”** Use only if the terminal device has an external power supply

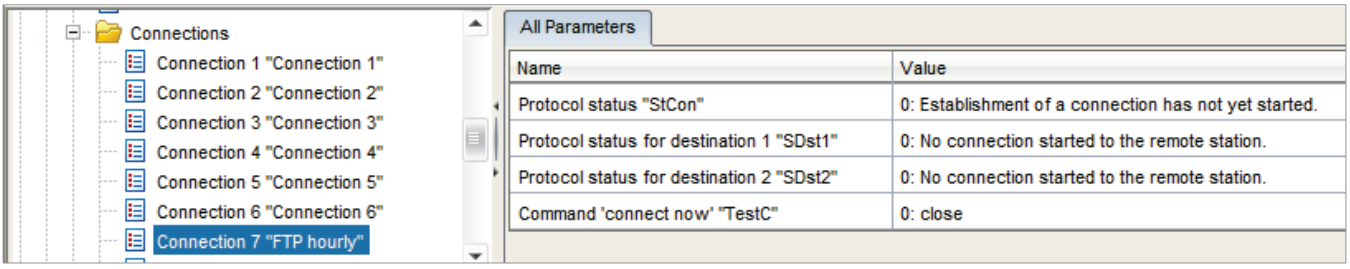
The modem’s power supply itself is not taken into account. It must be ensured that the modem is powered by the internal power supply or by a charged modem battery.

1.5.8 Additional information for the connection IPInf

This must contain the number of the FTP transfer (⇨ section 1.4 Definition of the data to be saved (FTP transmission), p. 15) started by this connection.

- **“1”** Use the settings for archive transfer 1
- **“2”** Use the settings for archive transfer 2
- etc. etc.

1.5.9 Protocol status “StCon” (cannot be adjusted)



Status of the connection or the last connection attempt.

☞ ⇨ Annex A-1 Status messages for connection “StCon” (p. 35)

1.5.10 Protocol status for destination 1/2 “SDst1”/“SDst2” (cannot be adjusted)

This value displays the status of the last connection to destination 1 or 2.

☞ ⇨ Annex A-2 Status messages for destinations “SDst1”/“SDst2” (p. 37)

1.5.11 Command ‘connect now’ “TestC”

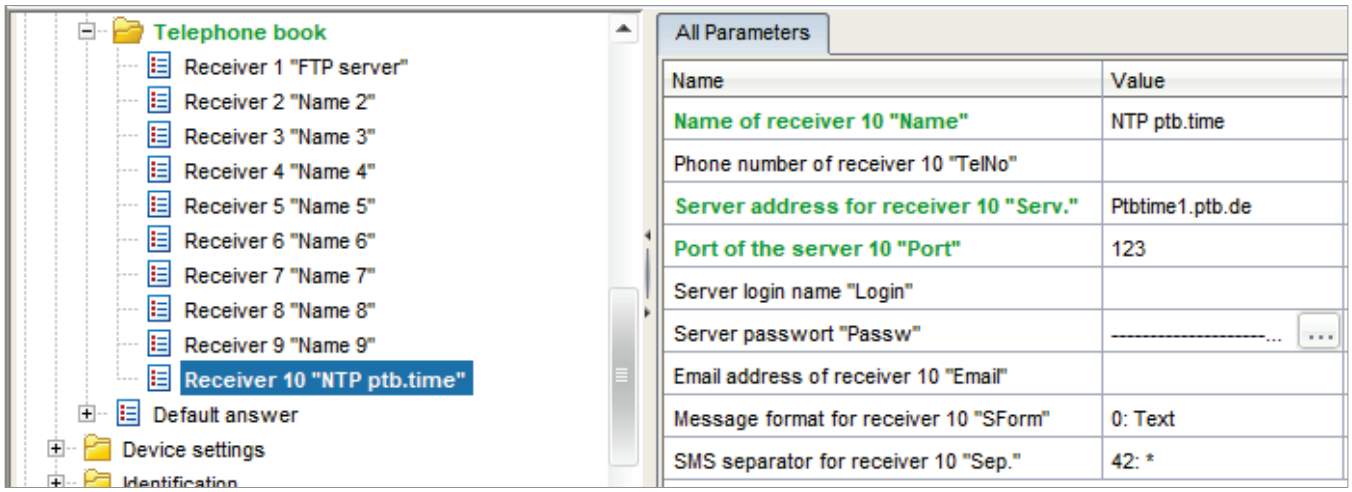
If this value is set to “1”, an immediate attempt will be made to establish the connection (regardless of the set connection time) and the device attempts to save the specified data to the specified FTP destinations.

Back to the parameterization guide

2. Time sync. configuration using NTP time servers

2.1 Setting up the NTP time servers (“Telephone book”)

The NTP time servers using which the current time is determined and the terminal devices are synchronized must be set up in the telephone book (→ “Parameters – Interfaces – Telephone book” menu).



The following values must be entered for each NTP server:

- **“Server address”** IP address or name (assuming that valid DNS addresses have been set in the “GSM and GPRS” menu) of the NTP server (max. 62 characters).
- **“Port of the server”** The default port is 123, but this may be different in a VPN.
- **“Name of receiver”** A freely selectable designation for the NTP server.

The other values are not required for NTP synchronization.

☞ The default port for the NTP protocol is `123`.

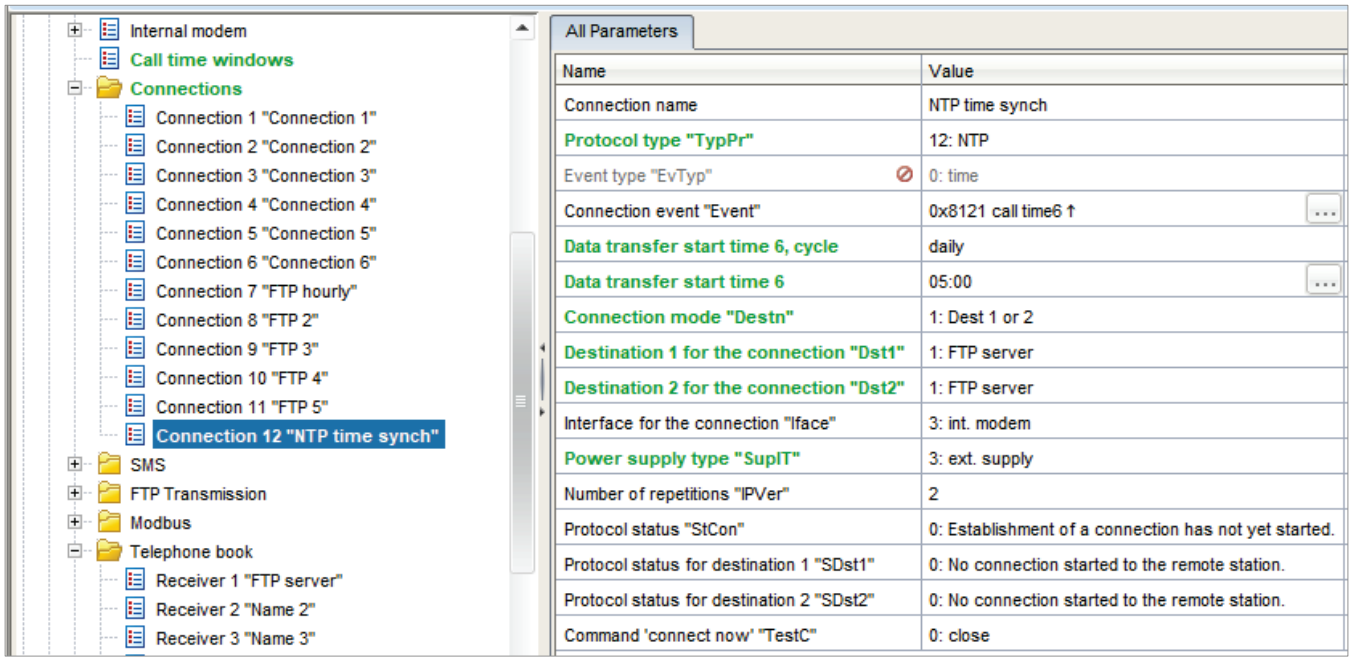
☞ If the device or time server is located behind a firewall, make sure that the UDP protocol is also enabled for the NTP function using the configured port.

☞ The public NTP time servers are listed in ⇨ Annex B-2 on page 39.

Back to the parameterization guide

2.2 Defining the start time for NTP synchronization

After the destinations have been defined, you still need to specify when, i.e. at what time, the time should be synchronized. The following connection is configured for this purpose:



☞ No data can be saved to the FTP server while active CSD or TCPserv data transmission is in progress (PULL).

2.2.1 Protocol type “TypPr”

“**12: NTP**” must always be selected here for an NTP transfer.

2.2.2 Data transfer start time x, cycle “-”

Here, you can set the cycle in which the synchronization should be repeated.

Possible values:

- “hourly”
- “daily”
- “weekly”
- “monthly”

2.2.3 Data transfer start time

This parameter determines the time at which the synchronization should start.

Two or more connections cannot be started at the same time. This means that execution times must be offset.
The entered time depends on the working cycle of the device. This means that the time selection is very restricted, particularly if the terminal devices are operated in battery mode:

EK280

Measuring cycle in battery mode =	30 s (start of synchronization at 30-second intervals, e.g. at 10:01:30)
Measuring cycle in mains mode =	2 s (start of synchronization at 2-second intervals, e.g. at 10:00:02)

DL230

Measuring cycle in **battery mode** =	**900 s** (**only synchronization start times at xx:00:00, xx:15:00, xx:30:00 or xx:45:00 are possible**)
Measuring cycle in mains mode =	2 s (start of synchronization at 2-second intervals, e.g. at 10:00:02)

2.2.4 Connection mode “Destn”

Set here how the two time servers should be handled:

- **“0: No connection”** Connection establishment is not started (connection disabled)
- **“1: Dest 1 or 2”** Time server 2 Is only “dialled” if the first time server could not be reached
- **“2: Dest 1 and 2”** The device attempts to connect to both time servers

☞ Setting 1 is recommended. If destination 1 has been reached, there is no need to dial the 2nd time server.

2.2.5 Interface for the connection “Iface”

This parameter determines the interface to which the modem is connected and which should be used for synchronization.

EK280 time synchronization using an external modem (e.g. in the FE260) is only possible from version V2.52!

2.2.6 Power supply type “SupIT”

This parameter specifies when the transfer can take place.

Possible values:

- **“1 – always”** Regardless of the voltage supply (use only if there are modem batteries in addition to the power supply unit)

- **“2 – battery”** Use only if the terminal device (EK/DL) is battery-powered
- **“3 – ext. supply”** Use only if the terminal device has an external power supply

The modem’s power supply itself is not taken into account. It must be ensured that the modem is powered by the internal power supply or by a charged modem battery.

2.2.7 Protocol status “StCon” (cannot be adjusted)

This value displays the status of the connection or the last attempt made to establish the connection.

☞ ⇨ Annex A-1 Status messages for connection “StCon” (p. 35)

2.2.8 Protocol status for destination 1/2 “SDst1”/“SDst2” (cannot be adjusted)

This value displays the status of the last connection to destination 1 or 2.

☞ ⇨ Annex A-2 Status messages for destinations “SDst1”/“SDst2” (p. 37)

2.2.9 Command ‘connect now’

Setting this value to “1” immediately starts the establishment of the connection, regardless of the set connection time, and the device attempts to synchronize the time.

Back to the parameterization guide

Appendix A:

A-1 Status messages for connection “StCon”

The following information can be displayed in the **Status** field:

Status	Description
0	Establishment of a connection has not yet started.
2	The interface is being activated for the connection.
3	The interface to be used for the connection (e.g. the modem) is busy, the EK280 will wait until the connection can be established.
4	The interface (e.g. the modem) is ready to establish a connection (e.g. the call time window is open).
5	The interface is being released for the connection.
6	The interface (e.g. the modem) is released for use by other connections (e.g. after the time window is no longer open).
7	Data transfer via DLMS protocol is in progress.
8	Data transfer via DLMS protocol is complete.
9	Data transfer via Modbus protocol is in progress.
10	Data transfer via Modbus protocol is complete.
11	Data transfer via LIS200 protocol is in progress.
12	Data transfer via LIS200 protocol is complete.
13	The EK280 synchronizes with the EIServer in order to begin data transfer via the DLMS protocol.
14	EIServer synchronization is complete.
15	SMS transfer is in progress.
16	SMS transfer is complete.
29	No valid recipient specified.
30	A communication error occurred.
31	The modem’s supply voltage is too low.
32	The modem cannot be used due to a SIM card error (modem message: `\u201eSIM Error\u201c`).
33	The modem cannot be used, as an incorrect PIN has been entered.
34	The modem cannot be used, as an incorrect PUK has been entered.
35	The communication link to the network cannot be established or the communication link to the network was lost before the communication link to the remote subscriber could be established.

Sta-tus	Description
36	The communication link to the GSM network was denied.
37	The APN parameters required to establish a GPRS communication link are missing.
38	The communication link to the APN was denied.
39	The port for server connection was not configured.
40	The destination name or port was not configured.
41	The remote subscriber has disconnected.
42	The communication link to the network was lost after a communication link to the remote subscriber had already been established.
43	The telephone number of the SMS service center is wrong or missing on the SIM card.
44	The APN password or APN user name is wrong.
45	The APN parameters are already in use by another mobile phone subscriber.
70	Unable to establish a communication link to the ElServer.
71	No response from the ElServer (timeout).
72	The ElServer reports “unknown device type”.
73	The EK280 was unable to understand a response from the ElServer.
74	Sending error: the modem reported an error when an attempt was made to send data to the ElServer.

A-2 Status messages for destinations “SDst1”/“SDst2”

Sta-tus	Description
0	No connection started to the remote subscriber.
1	The remote subscriber is not fully configured.
2	Connection to remote subscriber is being established.
3	Remote subscriber is busy.
4	Connection to remote subscriber established.
5	Disconnection from remote subscriber in progress.
6	Disconnection from remote subscriber finished.
7	Remote subscriber not reached.
8	Remote subscriber refused the connection.
9	Connection to remote subscriber aborted during communication.
80	No connection possible.
81	FTP: error when logging into the FTP server (password/user name correct?) NTP: error when opening a connection to the NTP server.
82	FTP: error when setting the path NTP: error during query to NTP server (no response)
83	FTP: error when creating the file NTP: error when calculating the new time
84	Error when preparing archive access
85	Error when writing the header data
86	Error when writing the archive data
87	Error when closing the file on the FTP server
88	Error when logging out of the FTP server

Appendix B: Parameters for FTP data transfer

B-1 Character set – characters allowed in texts

Essentially, all characters are permitted in text strings, such as user name, passwords and file names. Restrictions may be imposed by the target system on file names and file paths, for example. The following characters may be used:

ASCII code		Character
Dec.	Hex.	
32	20	<Space>
34	22	"
35	23	#
36	24	$
37	25	%
38	26	&
42	2A	*
43	2B	+
44	2C	,
45	2D	-
46	2E	.
48 ... 57	30...39	0...9

ASCII code		Character
Dec.	Hex.	
58	3A	:
61	3D	=
65 ... 90	41 ... 5A	A ... Z
91	5B	[
93	5D	]
95	5F	_
96	60	`
97 ... 122	61 ... 7A	a ... z
123	7B	{
124	7C	|
125	7D	}
126	7E	~

All special characters must be coded correctly by the parameterization software.

There are two options for doing this:

a. Using substitute characters

Various characters can be specified using a substitute character:

ASCII code		Character	Substitute character
Dec.	Hex.		
47	2F	/	|
63	3F	?	\x7F
176	B0	°	(
196	C4	Ä	[

ASCII code		Character	Substitute character
Dec.	Hex.		
214	D6	Ö	^
220	DC	Ü	]
223	DF	ß	?
246	F6	ö	@

The substitute character for ? is the character ⌂. Since this cannot be accessed using the keyboard, enter its character code in hexadecimal form.

b. Direct entry of the character code

Characters may also be entered directly with their character code. The notation \xhh is used for this purpose, where hh stands for the half bytes of the hexadecimal numerical value. This means, for example, the character @ has the decimal numerical value 64, which is equivalent to the hexadecimal numerical value of 0x40. Therefore, the character must be coded with \x40.

B-2 NTP – names of public NTP servers

Server name
Ntp.eim.gr
Ptbtime1.ptb.de
Ntp.univ-lyon1.fr
Info.cyr-kr.edu.pl
0.de.pool.ntp.org
Ntp1.t-online.de
ntp.web.de
ntps1-0.cs.tu-berlin.de
Biofiz.mf.uni-lj.si

B-3 Path and name of the file to be created on the FTP server

The following restrictions apply to the length of the path and name of the file being created. They are partly dependent on the device and the transfer module:

Dependent on the terminal device (DL and EK):
The path and file names may have a maximum length of 64 bytes each.

Dependent on the transfer module:

ECM-GW120:	the path and file names together must not exceed 128 characters.
ECM-2G-UG350:	no other restrictions
ECM-3G-UV270:	no other restrictions
iCE280:	no other restrictions

B-4 Estimating the data volume on the FTP server

The resulting data volumes for transferring data in `ABL` and `RAW` format can be roughly estimated.

The following applies:

For the EK280:

- approx. 0.15 kB for a data record of an interval or daily archive
- approx. 0.2 kB for a data record from the meter or measured value archive

For a DL2xx:

- approx. 0.1 kB for a data record of an interval or daily archive
- approx. 0.15 kB for a data record from the meter or measured value archive

For additional information, 1 additional data record is required per transfer.

Example 1: DL240

The last 24 hours of the measuring period archive are transferred three times a day (the measuring period is 60 minutes). This means:

- `V per transfer = 25 (--> 24 + 1) × 0.1 kB = 2.5 kB`
- `V = 31 days × 3 times per day × 2.5 kB = approx. 230 kB`

Example 2: EK280

The last 4 hours of the EK280's measuring period archive are transferred every hour.

This means:

- `V per transfer = 5 (4 + 1) × 0.15 kB = 0.75 kB`
- `V = 31 days × 24 hours × 0.75 kB = 558 kB`

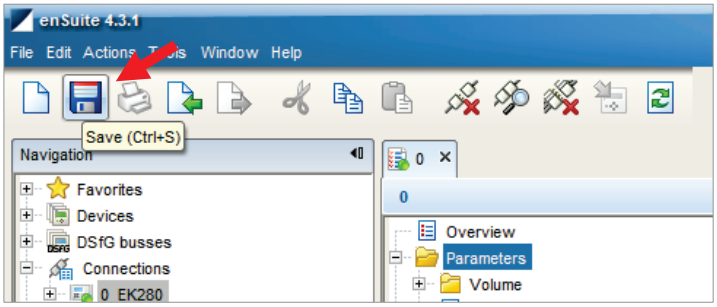
B-5 Transmitting settings to multiple FTP servers

If multiple systems are operated with FTP, the settings of the tasks and access to the FTP and NTP servers, etc. must be similar. For the purposes of a data backup, it is also a good idea to back up all the settings for the FTP application. The following instructions describe how the parameter set of the FTP application can be read and how it can be saved in the form of a so-called LIS200 file.

This parameter set can then be copied to other devices with the same or a higher software version.

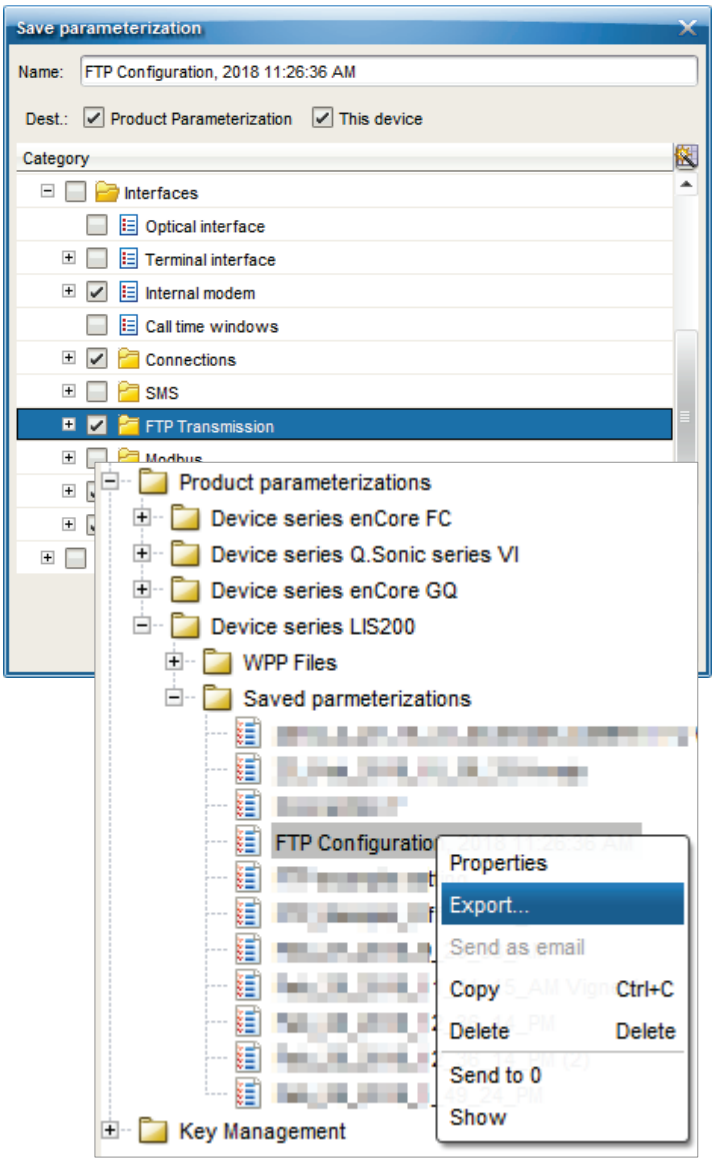
B5-1 Reading and saving the parameter set

To read the parameter set of an FTP application, select the **Save** function in the **File** menu in enSuite or click on the diskette icon.



Requirement:
A connection to the terminal device (by remote data transfer or optically/locally) has already been established.

Configure all settings in the **Save parameterization** dialogue.



Select the **name** of the parameter set that you wish to save. The default value is the current date and time.

If you would like to save the parameters of this device for data backup only, click the check box **This device**.

If you would like to copy the saved parameter set later to other FTP devices, click the check box **Product Parameterization**.

You can also activate both options simultaneously.

Select the parameter types that you wish to save in the **Category** section.

Clicking on **OK** reads the FTP parameters from the device and saves them in the enSuite database.

Tip:

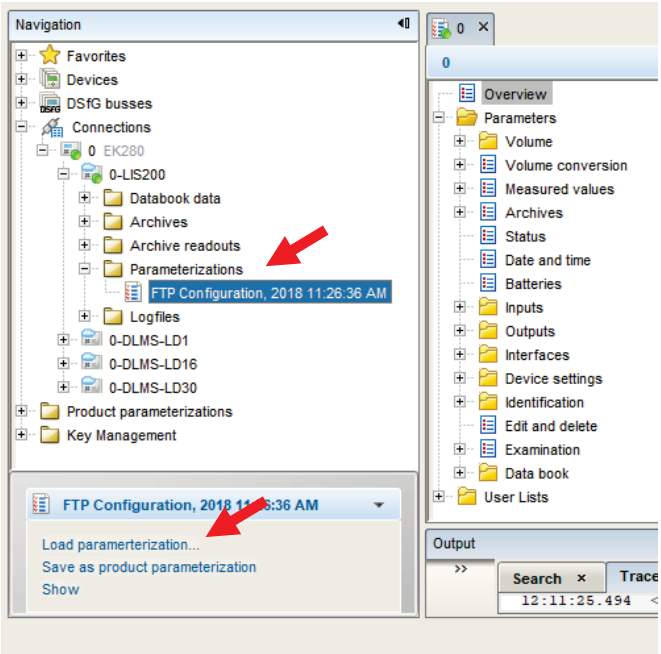
The saved parameter set can be exported as a <name>.lis200 file, sent by e-mail, for example, and imported into another enSuite application.

B5-2 Loading the saved parameter set into the same device (backup)

A parameter set can also be copied into a device using enSuite.

The **Load parameterization…** function is used for this purpose.

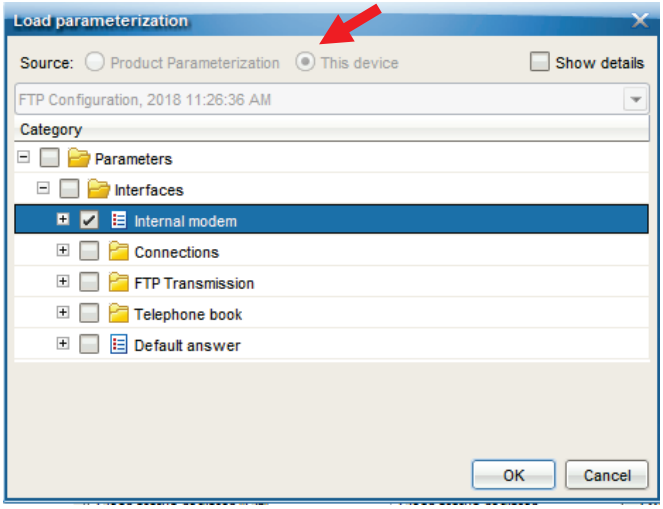
Select the parameter set you wish to transfer to the FTP application in the navigation tree under the required device (⇨ Fig.). Select the parameter set on the basis of the date or name you assigned to it previously when saving.



You can select the parameter types you wish to load into the FTP application in the **Load parameterization** dialogue window in **Category**.

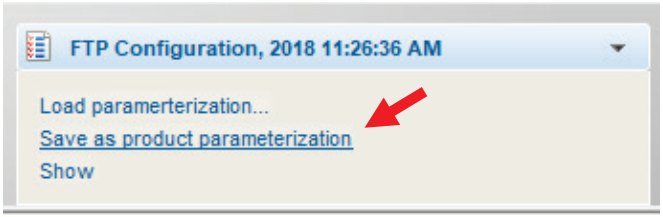
At the top of the dialogue, you will see in the **Source** section that the available parameter set is suitable only for **This device** and is not suitable for use as a general copy.

The FTP parameters can be copied back to the device by clicking on **OK**.



A parameter set that was previously saved separately with the attribute **This device** can be converted into a general parameter set. To do this, use the **Save as product parameterization** function.

The parameter set can then be used for product parameterization.



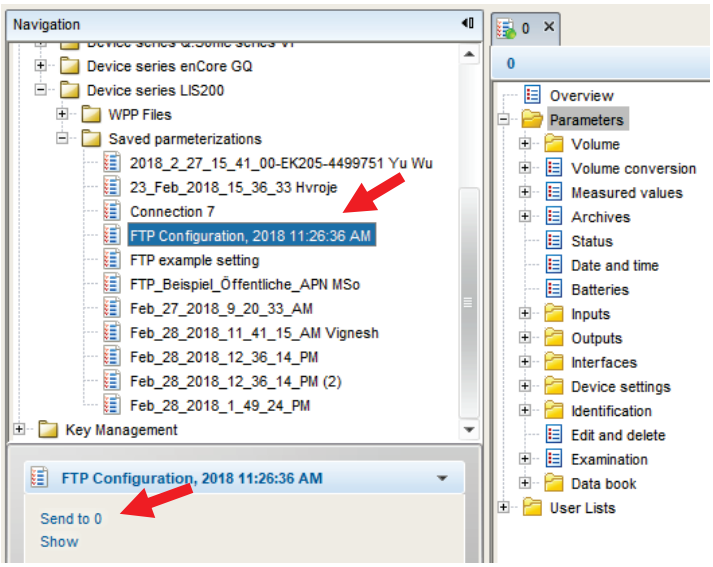
B5-3 Loading a copy of a saved parameter set into other devices

If a parameter set has been saved as a **Product parameterization** (⇨ section B5-1, p. 43 or B5-2, p. 44), these parameters can also be copied to other FTP devices.

The **Load parameterization…** function is used for this purpose.

Select the parameter set you wish to transfer (copy) to another FTP application in the navigation tree in **Product parameterizations** (⇨ Fig.). Select the parameter set on the basis of the date or name you assigned to it previously when saving.

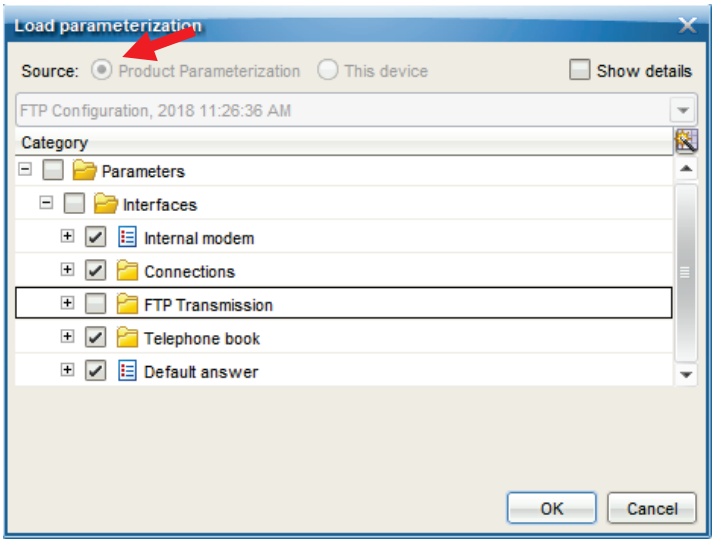
Click on **Send to…** to open the **Load parameterization** dialogue window.



You can select the parameter types which you wish to load into the FTP application in the **Load parameterization** dialogue window in **Category**.

At the top of the dialogue window, you can see in the **Source** section that the available parameter set is a general copy which is suitable for use as a **Product parameterization**.

Click on **OK** to transfer the FTP parameters to the other (new) FTP device.



☞ All the settings in the new FTP device must be checked! This particularly applies to concealed entries such as the PIN for the SIM card and APN password.

In particular, the APN access to the GPRS network (“Parameters – Interfaces – Internal modem – GSM and GPRS” menu) generally differs from SIM card to SIM card, which means that it may have to be changed.

We do not recommend using a function copy from an EK2x0 in a DL2x0 (or vice versa) as, in addition to the points set out above, the parameterization of the tasks and default request differ greatly.

Appendix C: FAQ

C-1 Time in the terminal device is not synchronized

No.	Possible cause	Solution(s)	⇨ see
(1)	The task is not enabled.	Enable the task.	Section 2.2.4
(2)	The time zone in the terminal device is not set correctly.	The time zone is used for synchronizing the time. On terminal devices which allow the time zone to be specified, it must be set in the device using the address `1:40F`.	Section 1.4.8 and in the terminal device
(3)	Mode for daylight saving time (DST) is not set correctly.	Adjust the setting in the terminal device so that it matches the setting in the application.	In the terminal device
(4)	None of the specified NTP servers can be accessed.	Access to the NTP server (using the public Internet) is not possible (clarify the situation for VPN with your IT department) Tip: save multiple NTP servers or reduce the cycle time for NTP sync.	Section 2.1 and B-2
(5)	The time in the terminal device is incorrect.	Correct the time in the terminal device. Please note that you can only adjust the time if the deviation does not exceed the parameterized time window.	In the terminal device
(6)	There is a fundamental problem with accessing the GSM/GPRS/UMTS network.	Check the SIM card and your service provider's data (PIN number, APN (VPN!), user name and password).	Section 1.2.1
(7)	EK280 up to V2.51 in conjunction with FE260 and modem	NTP time sync. is only possible using the external modem in the FE260 with an EK280 of V2.52 or higher.	In the terminal device

C-2 Task is not executed

No.	Possible cause(s)	Solution(s)	⇨ see
(1)	Access to the FTP server is not possible:		Section 1.2.1, 1.3 or contact your IT department
	– Firewall prevents access, e.g. port 21 or the TCP channel is not enabled.	Make sure with (your IT department) that the firewall settings allow communication via the port and the protocol used.	
	– Resolving the domain name of the FTP server to the IP address fails.	– Check the DNS settings (with your IT department). – Save the IP address instead of the DNS name.	
(2)	Multiple connection times selected at the same time. The terminal device can only open one connection at any one time.	Offset the transfer times.	Section 1.5.3 and 2.2.3
(3)	There is already a CSD or TCPserv connection active at the time of the FTP transfer.	Ensure that no PULL queries are made at the FTP time. **A “repeat” is not possible with FTP.**	AMR query
(4)	The selected file name is too long.	Use a short file prefix if possible.	Section 1.4.6
(5)	The selected time does not correspond to the device’s measuring cycle.	Select the time of the task depending on the operating mode (battery or mains operation) and the device’s measuring cycle.	Section 1.5.3 and 2.2.3
(6)	Although the task has been executed, it has not been saved in the destination directory: There is no “slash” / at the end of the file path in EK280 V2.51 or DL230 V1.10.	Added automatically as from EK280 V2.52 or DL230 V1.11.	Section 1.4.5
(7)	Although the task has been executed, the connection to the FTP server has not been established: EK280 up to V2.51 or DL230 V1.10 uses an incorrect operation code for the 2G or 3G modem to establish the FTP connection.	Specify a URL for the FTP server rather than an IP address (attention: DNS server required in “GSM and GPRS”). FW update of the EK280 to V2.52 or higher or DL230 to V1.11 or higher	Section 1.3 and 1.2.1

C-3 MPX file not correctly formatted

No.	Possible cause(s)	Solution(s)	⇨ see
(1)	The first 4 values do not match the specifications.	Adjust the values.	Section 1.2.1, 1.3 or contact your IT depart-ment
(2)	The preset OBIS codes have been changed.	Return the OBIS codes to their de-fault settings.	Section 1.4.11
(3)	No `.mpx` is specified in the “File prefix” value for EK280 up to V2.51 or DL230 V1.10. → The file is created with the suffix `.txt`.	Add `.mpx` to the file prefix. FW up-date of the EK280 to V2.52 or higher or DL230 to V1.11 or higher	Section 1.4.6

C-4 File is created with incorrect file extension

No.	Possible cause(s)	Solution(s)	⇨ see
(1)	No file extension has been specified for EK280 up to V2.51 or DL230 V1.10 (e.g. `.abl`) in the “File prefix” value. → The file is therefore saved as .txt.	Add the required file extension (e.g. `.abl`) to the file prefix. FW update of the EK280 to V2.52 or higher or DL230 to V1.11 or higher	Section 1.4.6

C-5 File cannot be processed in the AMR/EDM system

No.	Possible cause(s)	Solution(s)	⇨ see
(1)	Formatting error in the header structure of the ABL file. Occurs on the EK280 up to V2.51 and DL230 V1.10. Formatting error: – No blank line in the header between MAN1 and ZNR1 – Incorrect sequence of the first 2 val-ues in the [DATA] block	FW update of the EK280 to V2.52 or higher or DL230 to V1.11 or higher	Firmware

C-6 Modem or terminal device does not receive an IP address or does not log into the GSM network

No.	Possible cause(s)	Solution(s)	⇨ see
(1)	Invalid APN data (possibly due to a write error)	Check the APN data and correct them if necessary. Ask your network provider for the valid APN data.	Section 1.2.1
(2)	The SIM card cannot be used with a VPN.	Ask your network provider about enabling your SIM card.	IT department/service provider
(3)	APN user name longer than 30 characters when using a 2G modem	Reduce APN user name to < 30 characters or use a 3G or GW120 modem.	Section 1.2.1
(4)	No time window has been set.	Open the time window in the appropriate connection.	Terminal device
(5)	The device has a power supply but the modem does not. → StCon shows message “30 – A communication error occurred”.	If you use the GW120 modem in conjunction with the internal power supply in the EK280, the cable for the internal power supply must be connected to the “Battery” plug on the modem. The power supply receives 230 V on the primary side but does not output 3.9 V on the secondary side for the modem. → Power supply defective.	Hardware
(6)	The incorrect time window has been opened.	Select a time window based on the device’s voltage supply: For an internal modem and external voltage supply (by the internal power supply unit), for example, time window 3 must be opened.	Terminal device

Appendix D: Commissioning checklist

The main steps for commissioning are set out briefly below.

No.	Task	Brief description	OK?	⇨ see
(1)	SIM card	SIM card is enabled for data traffic.	☐	Section 1.2.1
		PIN: _____	☐	
		Data call number:_____	☐	
		APN name: _____	☐	
		User name: _____	☐	
		Password: _____	☐	
		The APN data is entered in the tab with the same network operator ID in the VPN.	☐	
		For GSM data retrieval only: CSD service is available/active.	☐	
		For retrievals from an analogue AMR modem only: "Multi-numbering SIM" is available.	☐	
(2)	enSuite	Version ≥ V3.9	☐	
(3)	Terminal device	The terminal device has the correct software version (e.g. EK280 V >= 2.50, DL230 V >= 1.10).	☐	
		Daylight saving time (DST) mode and time are correct.	☐	
		The PIN has been entered in the terminal device if necessary.	☐	
(4)	Power supply	FE260 power supply is OK.	☐	
		The terminal device detects the power supply.	☐	
(5)	FE260	The correct modem module is installed (ECM-GW120 with WipSoft, ECM-2G-UG350, ECM-3G-UU270).	☐	
		Only during the time window or during an FTP transfer: LED 1 "GSM" flashes (100 ms on, 2 s off).	☐	
		LED 2 "GPRS" is lit.	☐	
		Jumper "Mode" is set to "Operation". (Only change over the jumper when the power supply is switched off!)	☐	

No.	Task	Brief description	OK?	⇨ see
(6)	GSM reception level	Only during the time window or during an FTP transfer: GSM reception level is sufficiently high (GSM.L >= 50%).	☐	
(7)	FTP server	Correct server version	☐	
		The server (if necessary, in the VPN) has been set up and is available.	☐	Section 1.3
		Sub-paths have been created and specified.	☐	
		Software for further data processing has been set up if necessary.	☐	
		If you use a URL as the server address, has the DNS server also been saved?	☐	
		Other servers have been set up if necessary.	☐	
(8)	FTP application	The access data for the FTP server(s) have been entered.	☐	Section 1.3
		Archive transfer has been set up.	☐	Section 0
		Tasks, i.e. FTP connections with start times, have been set up.	☐	Section 1.4.10
(9)	NTP servers	NTP servers for automatic time correction have been entered (be careful when using a VPN).	☐	Section 2.1 and B-2
		The NTP servers entered in a VPN have been enabled if necessary.	☐	Contact your IT depart-ment.
		At least 2 servers have been entered (ide-ally, different ones).	☐	Section 2.1 and B-2