



5.4.3 TLX Pro Messaging with E-mail, FTP and GSM

There are 3 ways of transmitting data and information. These are FTP as *.csv file upload, E-Mail and SMS.

- 3 ways of transmitting data and information
 1. FTP, data warehouse upload, *.csv file
 2. E-Mail, messages
 3. SMS, messages

In order to transmit this, a communication channel must be selected. Communication channel can either be LAN or GSM but not both at the same time.

- There are 2 channels available
 - LAN
 - FTP, Data warehouse upload (Channel depended)
 - E-Mail messaging (Channel depended)
 - GSM
 - FTP, Channel depended (Limited to 50 inverters)
 - E-Mail messaging, depended on Channel selection
 - SMS messaging, **but not depended on channel selection**

For all of these, the channel must be configured first. The configuration of the messaging channels is done on plant level in setup-communication menu point.

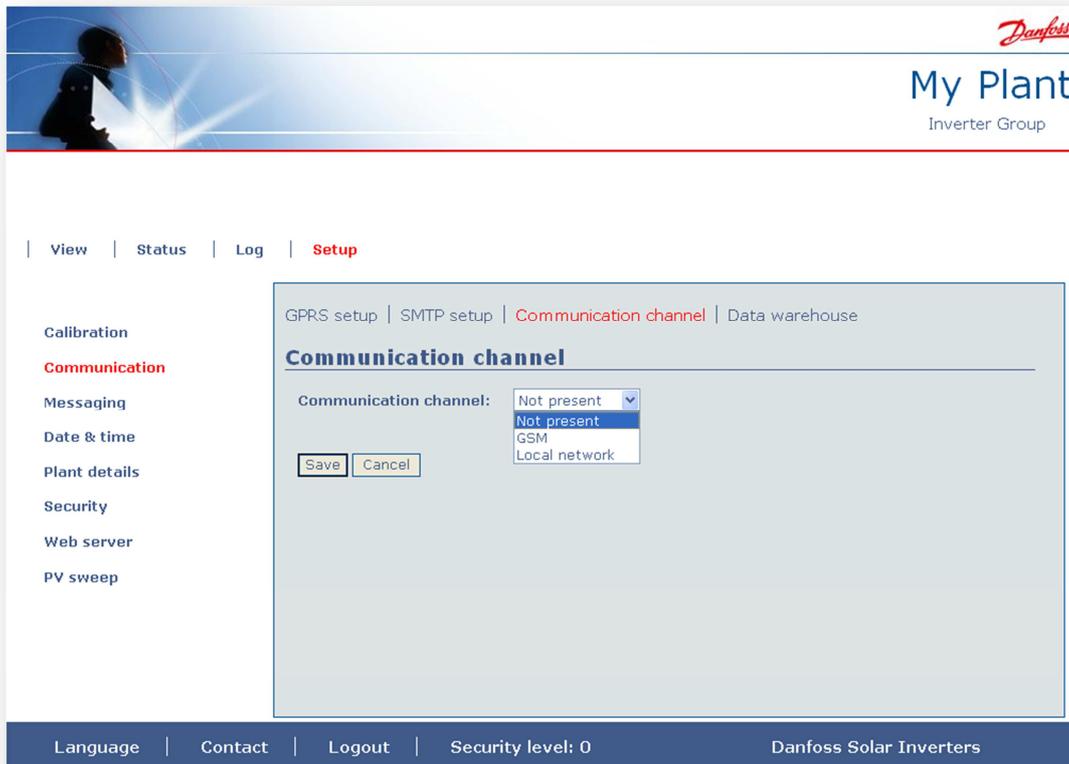
Be aware of if you use GSM as channel there is a **recommended** limitation of 50 inverters for FTP upload. GSM upload can be time consuming.

SMS is **NOT** channel depended. That means that you can select communication channel as LAN, and still send SMS messages if you have an optional GSM modem installed. SMS messages cannot be transmitted via the LAN interface.



TripleLynx Pro and Pro+ channel configuration

Channel selection can be done through the Web server or the display.



Communication channel is configured on "Plant Level" in the web server

- If you select GSM, then FTP and E-Mails are transmitted by means of the optional GSM modem
- If you select Local network, then FTP and E-Mails are transmitted by means of build-in Ethernet
- Remember! SMS are transmitted regardless of this setting!
- Or on the **master inverters display**, go into;
 - Setup
 - Communication setup
 - Communication channel

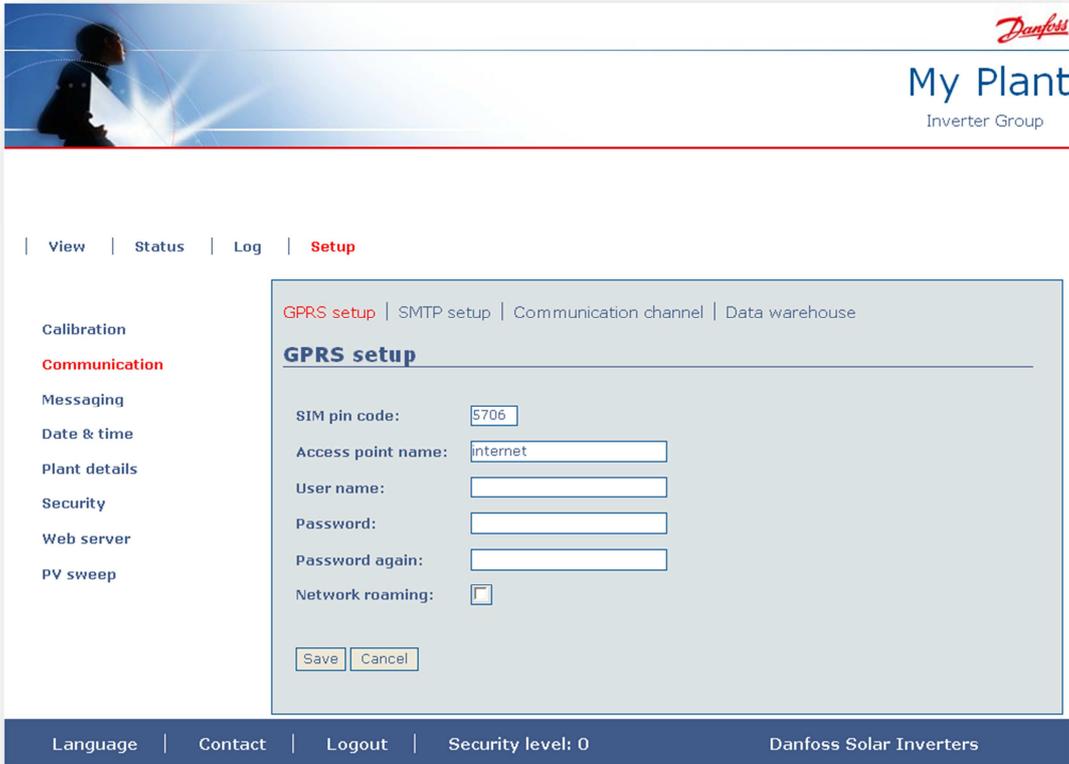
When selecting a communication channel, you only select a route. The channel is not yet configured. In order to use the GSM you must configure the GPRS settings of the modem or if you use Local network you must configure the LAN settings/ IP address to fit your network.

To send E-Mails you must configure the SMTP with your provider's information. SMS are possible regardless of this setting; you configure the SMS part under the actual message recipient.

To transmit to a data warehouse you must also configure the FTP settings under the Data warehouse menu. If you select "Not present" no FTP upload will take place even though it is configured and no emails will be transmitted either.

TripleLynx Pro and Pro+ GPRS setup

To use the GSM Channel, configure the GPRS settings of the GSM modem



The screenshot shows the 'My Plant' web interface for an inverter group. The 'Setup' menu is active, and the 'GPRS setup' page is displayed. The configuration fields are as follows:

Field	Value
SIM pin code	5706
Access point name	internet
User name	
Password	
Password again	
Network roaming	<input type="checkbox"/>

Buttons for 'Save' and 'Cancel' are located at the bottom of the form. The footer of the page includes 'Language', 'Contact', 'Logout', 'Security level: 0', and 'Danfoss Solar Inverters'.

GPRS setup is configured on "Plant Level" in the web server

- Always use SIM Pin code.
- You must always configure the Access point name. This is different for every network provider (telephone company) and can be obtained from your selected provider
- The remaining settings are optional, depending on your provider's requirements
- Or on the **master inverters display**, go into;
 - Setup
 - Communication setup
 - GPRS connection setup

Access Point Name (APN) is a computer protocol that typically allows a user's computer to access the Internet using the mobile phone network. This is different for every provider. The APN shown here is for the Danish telephone company TDC. TDC does not require username or password. One other provider is e.g. the company Orange in France. Their APN is "orange" and they also don't require username and password.

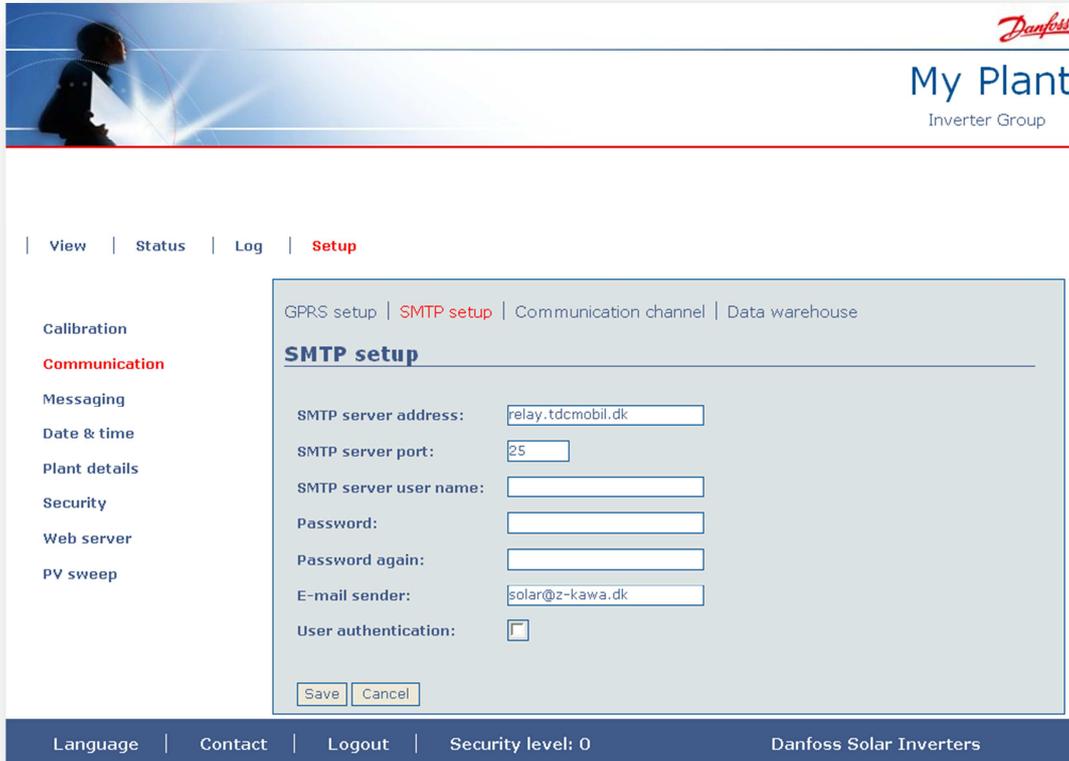
Is there any way I can see if my GSM modem has network connection? Not really, there is a possibility under the menu, Status – Upload status, if you also have selected GSM as communication channel, and only when it is actually transmitting. The best way is to send a test SMS. This will be described under configuring recipients.

The GSM/GPRS is a one-way communication only. You cannot logon to the Master by dialing in to the GSM modem.

Selecting the right account/SIM card option for your application is imperative.

TripleLynx Pro and Pro+ E-Mail setup

To use E-Mail, configure the SMTP settings



The screenshot shows the 'My Plant' web interface for a Danfoss inverter. The top navigation bar includes 'View', 'Status', 'Log', and 'Setup' (which is highlighted). A sidebar on the left lists various configuration categories: Calibration, Communication (highlighted), Messaging, Date & time, Plant details, Security, Web server, and PV sweep. The main content area is titled 'SMTP setup' and contains the following fields:

- SMTP server address: relay.tdcmobil.dk
- SMTP server port: 25
- SMTP server user name: (empty)
- Password: (empty)
- Password again: (empty)
- E-mail sender: solar@z-kawa.dk
- User authentication:

At the bottom of the form are 'Save' and 'Cancel' buttons. The footer of the interface includes 'Language', 'Contact', 'Logout', 'Security level: 0', and 'Danfoss Solar Inverters'.

SMTP setup is configured on "Plant Level" in the web server

- You must always configure the SMTP server address. This is different for every network provider (telephone company) and can be obtained from your selected provider
- SMTP server port is always 25. This is defined by standards
- You must insert an E-mail sender.
- The remaining settings are optional, depending on your provider's requirements
- **You cannot configure SMTP from the inverter display**

You can only configure the SMTP from the Web server interface, not from the inverter display. The SMTP server address is your provider's E-Mail server that is actually transmitting the E-Mail. The one you see here is the SMTP address of the Danish telephone company TDC when using GSM as transmission channel.

If you are on a LAN with access to the internet you must ask your Internet service provider for his SMTP address and optionally if he requires username and password. It is recommended that you always insert an E-Mail sender. Your recipient's server might reject your mail if the E-Mail that he receives doesn't comprise a sender address.



Limitations in SMTP / E-mail support

The TLX Pro and Pro+ only supports port 25, **NOT** port 587.

Any Internet **S**ervice **P**rovider (ISP) which require you to use Port 587 for SMTP is not supported

The change to port 587 allows the ISP to prevent users to use other SMTP servers as their own. This helps preventing the spreading of SPAM mails and misuse of emails.

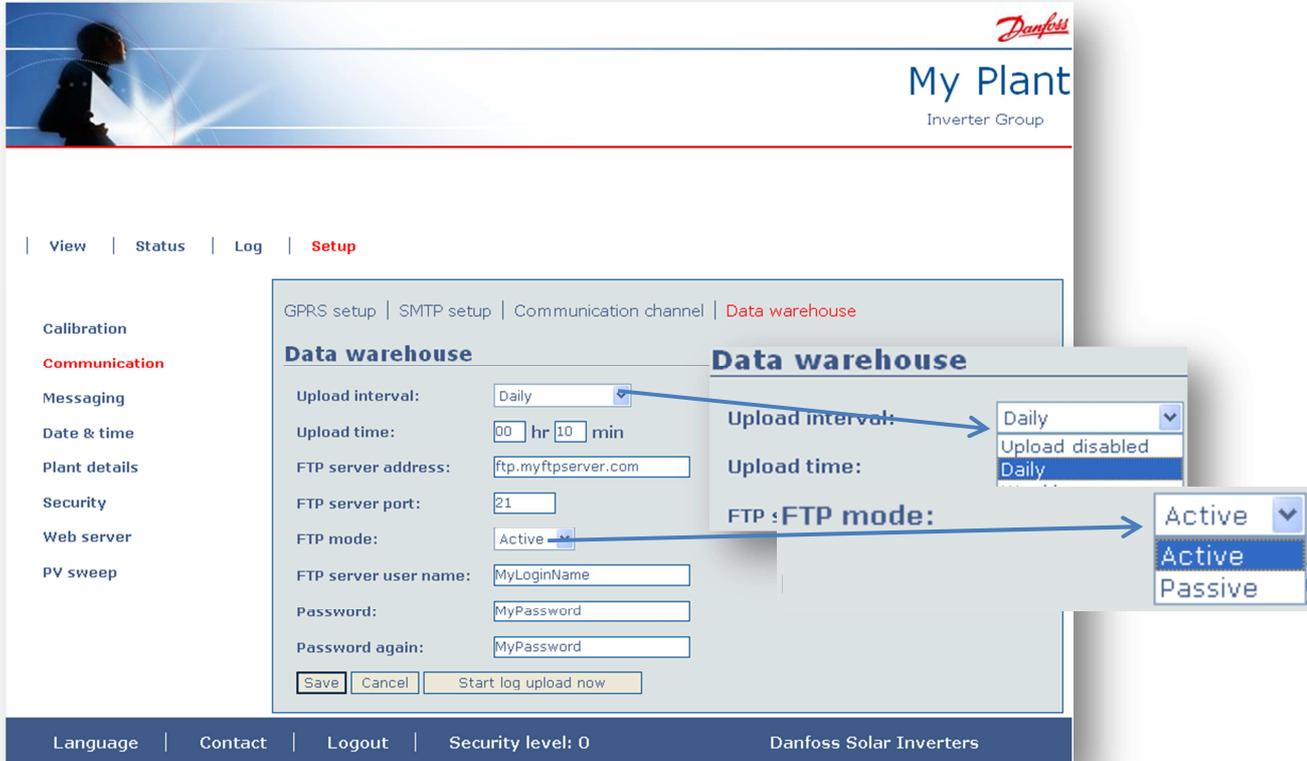
This also means that, previously if your ISP allowed you to use port 25, you could use a 3rd party external SMTP server, like your own account outside the ISP. This is also blocked hence you cannot just select a SMTP provider, other than your ISP.

To use 3rd party SMTP servers, consult your ISP for a solution.



TripleLynx Pro and Pro+ Data warehouse setup

To use Data warehouse, configure the D.W. settings



- Data warehouse is configured on “Plant Level” in the web server
- Or on the master inverters display, go into;
 - Setup
 - Communication setup
 - Data warehouse service

With the Data warehouse functionality; you can upload data to any ftp server of your choice. This can be done on a daily, weekly or monthly basis at a pre-programmed time of day.

You must first configure the ftp connection. The ftp server address is your target server where your data will be stored.

- FTP server address name field is max. 24 characters
 - Insert name or
 - IP address or
 - create an “alias” for the name if the original name is too long

You can only define a target server, not a sub-folder on that server. If your data must be stored in a sub-folder on the server this must be defined at the server, linked to your logon credentials. Aliases must be created on the FTP server by the FTP server’s administrator. It is not a function on the inverter.

The default ftp port no. is 21.

- Be aware of that if communication channel is LAN then ONLY port 21 can be used. You can change it but it will have no effect.



FTP mode can be set to active or passive. Whether your configuration must be active or passive is decided by your ftp server provider.

- Passive can only be selected if the communication channel is selected to GSM. For LAN, active mode is the only possible option.

Finally username and password must be configured. There are some limitations to addresses, names and passwords. The limitation is due to restrictions in the available length in the display which is max. 24 characters.

- User name and password fields are max. 24 characters

Before any transmissions actually can take place, you must configure your communication channel to either GSM or Local Area Network.

- Be aware of if you use GSM as channel there is a limitation of 50 inverters for FTP upload.

A failure during upload will cause the upload to be retried. Retries occur with an increasing delay between consecutive attempts. Upload schedules (e.g. once per day, once per week etc) are ignored during the retries.

DW upload stays in "retry mode" until upload succeeds or the inverter is restarted. DW upload will also exit "retry mode" when the communication channel is changed.



Danfoss Solar Inverters A/S

Danfoss Solar Inverters offers a comprehensive range of advanced grid-connected inverters for residential and commercial solar energy applications. The product range also includes solutions for monitoring the solar system in order to achieve optimal energy output and return on investment.

Energy-saving products and solutions have always been a core competence and now renewable energy generation is added to the Danfoss portfolio of products making modern living possible. Danfoss has 40 years of experience in power electronics technology; solar inverters and frequency converters are technologically closely related.

Contact information

Main web page

www.danfoss.com/solar

Service and hotline information

<http://www.danfoss.com/BusinessAreas/Solar+Energy/Service/>

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German:	+ 49 (0) 69 8902 454
Italian:	800 29 10 60
French:	0820201043
Spanish:	+34 91 383 0455