

DC450 PRIME

Data Concentrator
User Manual



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b	30.06.2015	Antennas updates

Datos sujetos a cambio sin previo aviso.

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Table of Contents

1	About this document	5
2	Introduction	6
2.1	Key features and benefits of the DC450 data concentrator	6
3	Safety	7
3.1	Safety Information	7
3.2	Responsibilities	7
3.3	Safety Regulations	8
4	Installation requirements	9
4.1	Installation site conditions	9
4.1.1	General conditions	9
4.1.2	Safety notes concerning the communication module	9
4.2	SIM card requirements	9
4.3	Antennas	10
4.4	Installation location	10
4.4.1	Outdoor Installation	10
4.5	Electricity network connection	10
5	Installation sequence	11
5.1	General instructions	11
5.2	Installation of the DC450 concentrator	11
5.2.1	DC450 Mounting without S210 LV Supervision	11
5.2.2	DC450 Mounting with S210 LV Supervision	12
5.2.3	LED operation	13
5.2.4	Installation of the concentrator	13
5.2.5	Installation of the antenna	15
5.2.6	Checking the signal strength	15
5.2.7	Checking GSM/GPRS/UMTS operation	16
5.2.8	Meter response timeout (with RS-485 only)	16
6	Faceplate and LEDs	17
7	Dimensions and connection diagram	18
7.1	DC450 without S210 LV Supervision	18
7.1.1	Dimensions	18
7.1.2	Connection diagram	18
7.2	DC450 with S210 LV Supervision	19
7.2.1	Dimensions	19
7.2.2	Connection diagram	19
7.2.3	Overall components / options	20
8	Alarms	21
9	Events	23
10	Web interface	24
10.1	Connecting to the concentrator locally through LAN	26
10.2	Web-UI Main page	26
10.3	Configuration	28
10.3.1	DC450 Configuration (B07)	28

10.3.2	2G/3G Modem	30
10.3.3	Ethernet Ports Configuration	31
10.3.4	PRIME Configuration	32
10.3.5	Time Configuration	33
10.3.6	Security	34
10.3.7	Digital Inputs (available on some models)	36
10.4	PRIME Network	36
10.4.1	Meters Summary	37
10.4.2	Data Summary	38
10.4.3	Black List	38
10.4.4	Topology	40
10.5	Tasks & Services	40
10.5.1	Obis Query	40
10.5.2	Cycles	41
10.5.3	Program Tasks	42
10.6	Statistics	44
10.6.1	DC Statistics	44
10.6.2	PRIME Statistics	45
10.6.3	Connection Statistics	47
10.6.4	System Information	49
10.7	Software update	51
10.7.1	DC Version History	51
10.7.2	Update Log	51
10.7.3	DC FW Update	52
10.7.4	Meters FW Update	52
10.8	Meter Menu	54
10.8.1	Summary	54
10.8.2	PRIME	54
10.8.3	Actions	56
10.8.4	Power Modification (B02)	56
10.8.5	Disconnect Control (B03)	56
10.8.6	Reports (S01/S21)	56
10.8.7	Reports (S02/S03/S04/S05/S09)	57
10.8.8	Reports (S07/S08/S27)	58
10.8.9	Meter Parameters Modification (S06/B09)	59
10.8.10	Contracts Modifications (S23/B04)	60
10.1	LV Supervisor S210	60
10.1.1	Report (G21)	61
10.1.2	Reports (G03/G04/G05/G06/G07)	61
10.1.3	Extended Meter Parameters Modification (G08/C01)	62
11	Maintenance and troubleshooting	65
11.1	Maintenance	65
11.1.1	Concentrator software update	65
11.1.2	Changing the communication module	65
11.2	Troubleshooting	66
11.2.1	No GSM/GPRS/UMTS connection to the DC450	66
12	Decommissioning and disposal	67
13	Terms and abbreviations	68

1 About this document

Range of validity The present user manual applies to the DC450 Data Concentrator.

Purpose This document describes the installation and use of the DC450 Data Concentrator.

Target Group The contents of this user manual are intended for technically qualified personnel of energy supply companies responsible for the system planning, installation and commissioning, operation, maintenance, decommissioning and disposal of data concentrators.

Reference Documents This document is available in the following languages:

Language	Document number
English	D0000xxxxx

Typographical conventions The following typographical conventions are used throughout this document:

Font	Description
<code>Courier</code>	Font for file names, paths and code examples.
Bold	Font style used for menu items and buttons in user interface and for keys on keyboard.
<i>Italics</i>	Font style for new terminology and for references to other documents or other parts within this document. For example: "For more information on safety, see chapter 3 <i>Safety information.</i> "

Typographical conventions A list of terms and abbreviations used in this document is available at the end of this document.

2 Introduction

2.1 Key features and benefits of the DC450 data concentrator

DC450 data concentrator is an intelligent concentrator for large scale meter reading and controlling systems. The basic function of the concentrator is to collect data from metering devices, store it and deliver the data to the STG platform and on to upper level systems.

DC450 is designed to be modular in both hardware and software structure. This modularity makes introducing new technologies and protocols in the future easy and flexible.

DC450 communicates with the STG system using TCP/IP and GPRS. With the metering devices DC450 uses cost efficient and simple low voltage PRIME communication.

3 Safety

3.1 Safety Information

The following symbols are used to draw your attention to the relevant danger level, i.e. the severity and probability of any danger, in the individual sections of this document:

**Warning**

Used to indicate a dangerous situation that could cause bodily injury or death.

**Caution**

Used to indicate a situation/ action that could result in material damage or loss of data.

**Note**

Used to indicate general guidelines and other useful information.

In addition to the danger level, safety information also describes the type and source of the danger, its possible consequences and measures for avoiding the danger.

3.2 Responsibilities

The owner of the device – usually the utility – is responsible that all persons engaged on work with devices:

- Have read and understood the relevant sections of the user manual. Are sufficiently qualified for the work to be performed.
- Strictly observe the safety regulations and the operating information in the individual chapters.

In particular, the owner of the devices bears responsibility for the protection of persons, prevention of material damage and the training of personnel (Landis+Gyr provides training courses for this purpose on specific equipment; please contact the relevant agent if interested).

3.3 Safety Regulations



The following safety regulations must be observed at all times:

This equipment does not contain a disconnection device. Means for disconnection from the supply must be provided as part of the building installation. Do not work on the equipment unless the supply is disconnected. If disconnection is done by removal of fuses or other cut-outs, the removed disconnection devices must be kept secure from replacement while work is performed. If disconnection is provided by a switch, the switch shall conform to the requirements of IEC 947-1 and IEC 947-3 or equivalent.

This equipment does not contain an overcurrent protection device. Overcurrent protection must be provided as part of the building installation. Maximum overcurrent device rating is 125 Amp at 415 Volts, conforming to the requirements of BS1361, or equivalent. The network connections must not be under voltage during installation or when opening. Contact with live parts is dangerous to life. The relevant main fuses should therefore be removed and kept in a safe place until the work is completed, so that other persons cannot replace them unnoticed.

Only suitably trained and qualified personnel shall be allowed to work on the equipment. Local safety standards shall be observed and shall take precedence over these regulations in points of conflict.

The devices must be held securely during installation. They can cause injuries if dropped.

Devices that have fallen must not be installed, even if no damage is apparent, but must be returned for testing to the service and repair department responsible (or the manufacturer). Internal damage can result in functional disorders or short-circuits.

The devices must on no account be cleaned with running water or with high-pressure devices. Water penetrating can cause short-circuits.

The device terminal cover should be secured in place before any load is supplied.

4 Installation requirements

4.1 Installation site conditions

4.1.1 General conditions

The installation site must meet the requirements of the device's protection class (IP51) and the operating temperature range (-25 ... +60°C). Other temperatures are possible with external housing and additional warming/cooling. Avoid installing the device on south-facing walls and direct sunlight. If necessary, use an additional shield or visor to protect the outdoor installation case from direct sunlight (shield not provided by Landis+Gyr).

4.1.2 Safety notes concerning the communication module

DC450 can contain a 2G or 3G module. Due to the possibility of radio frequency (RF) interference, it is very important to follow any regulations regarding the use of radio equipment at the place of installation.

There may be a hazard associated with the operation of a 2G or 3G module close to inadequately protected personal medical devices such as hearing aids and pacemakers. Consult the manufacturer of the medical device to determine if it is adequately protected.

Operation of the 2G or 3G module close to other electronic equipment may cause interference if the equipment is inadequately protected. Observe any warning signs and manufacturer's recommendations. Make sure that the distance between the GSM/UMTS antenna and any electronic equipment is at least 60 cm.

The following list contains sites referred to in the general safety notes of the 2G/3G module manufacturer. If you are planning to install the DC450 in the immediate vicinity of any of the following sites, please contact Landis+Gyr.

- Airports.
- Service stations.
- Hospitals or any other places where medical equipment may be in use.
- Fuel depots, chemical plants, or other locations with a risk of explosion, or sites where blasting work is in progress.



Changing the communication module during DC operation:

Before the communication module can be replaced, it must be disabled in the web interface, see Chapter 11.1.2 *Changing the communication module*. Removing the module before it is disabled can cause malfunction of the DC and corrupted data.

4.2 SIM card requirements

The SIM card must support GPRS communication. It is recommended to check with the operator that the SIM card's data baud rate and other functions are compatible with the devices the DC450 will be used with.

The SIM card's PIN code enquiry must be switched off. See Chapter 5.2.6 *Checking GSM/GPRS/UMTS operation*.

4.3 Antennas

The communication module for DC450 concentrator has a built in GSM antenna. If necessary, an external antenna can be installed to ensure communication. Check the antenna options available from D000042113 2G/3G Antennas Overview Document.



Warning

Only use antennas approved by Landis+Gyr, which are covered by the R&TTE Declaration. The use of unauthorized antennas are not allowed and can cause health issues. Landis+Gyr cannot be held responsible for the use of unauthorized antennas.

4.4 Installation location

The DC450 can be installed directly to a wall. Fix the cables to the wall with a fastener under the device's terminal block cover; do not leave the cables hanging free.

The DC450 is intended for indoor use, but outdoor installation is possible with external housing and warming/cooling. Avoid installing the device on south-facing walls and direct sunlight.

4.4.1 Outdoor Installation

When the installation environment exceeds the DC450 protection class, you must use an outdoor installation case. You can order the DC450 concentrators so that they are ready-installed in the cases or so that the concentrators and cases are delivered separately.

The case's connection to electricity network is 3 x 230 V. Neutral of the case must always be connected to the power line network. Pre-fuses (16 A) can be ordered ready-installed in the delivery or installed on site. Check if the connection cable requires smaller fuses.

4.5 Electricity network connection

The connection to the power line network is 230 V, 3 x 230 V or 3 x 230/400 V. See also Chapter 7.2 *Connection diagram*.



You must always connect the neutral and L1 of the concentrator to the power line network. If there is no neutral in the network, you must connect the DC according to Chapter 7.2 *Connection diagram*.

5 Installation sequence

5.1 General instructions

Keep low voltage cables, e.g. Ethernet cable, separated from cables with a nominal voltage of 230 Vac. Make sure the cable insulation reaches inside the terminal block cover; do not strip cables more than 40 mm.

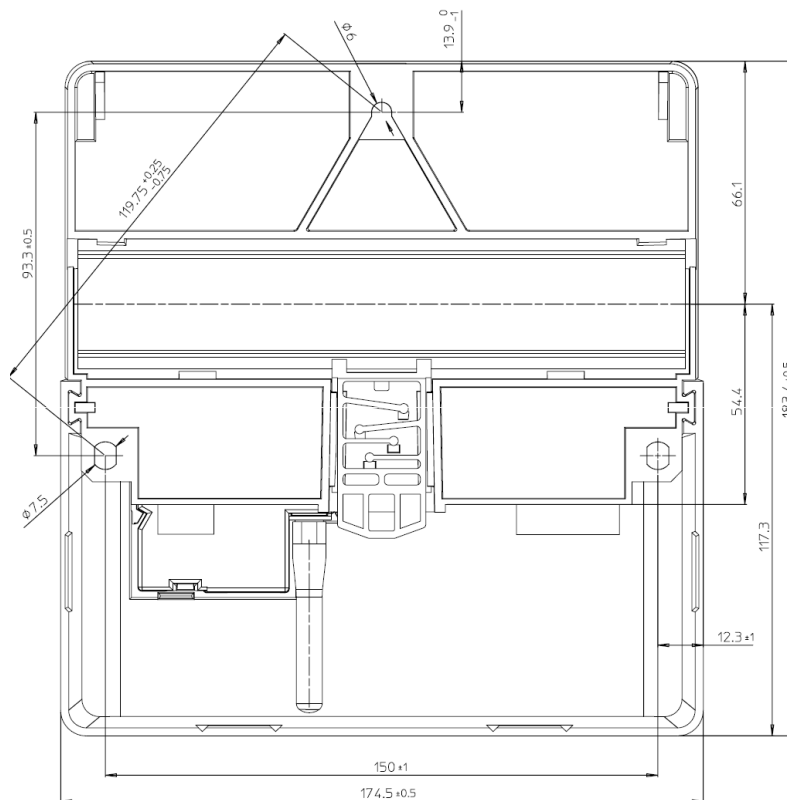


Do not leave the cables hanging free. Use a fastener to fix them to the wall and to prevent draw.

5.2 Installation of the DC450 concentrator

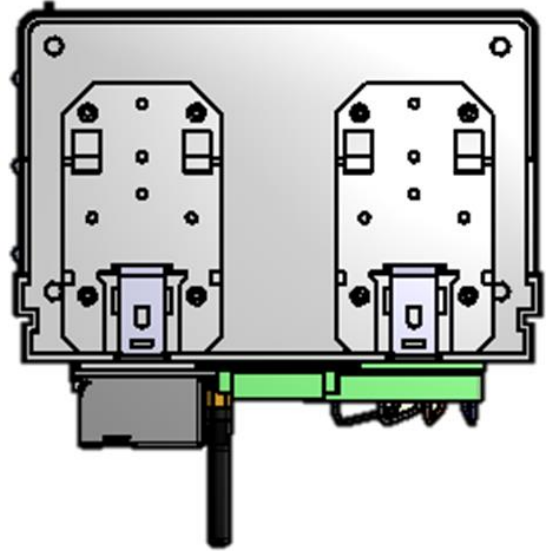
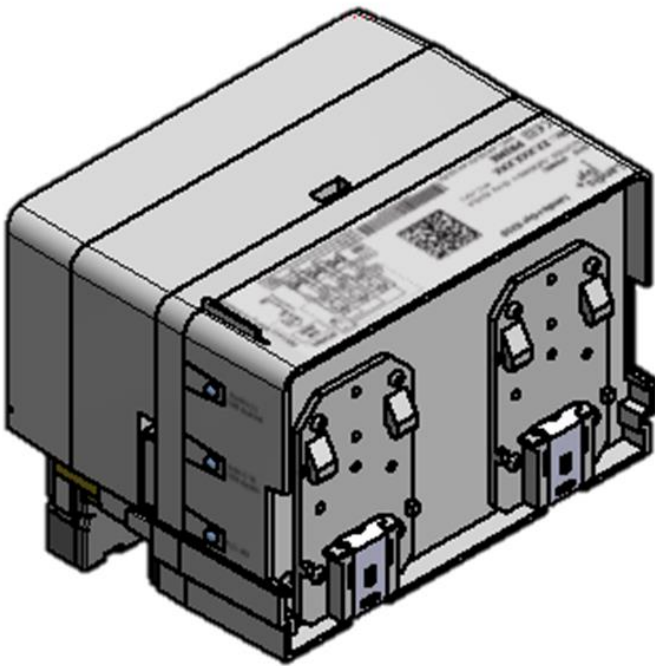
5.2.1 DC450 Mounting without S210 LV Supervision

The DC450 can be installed with its integrated mounting brackets or directly to the DIN rail, when it is supplied without S210 LV Supervision.



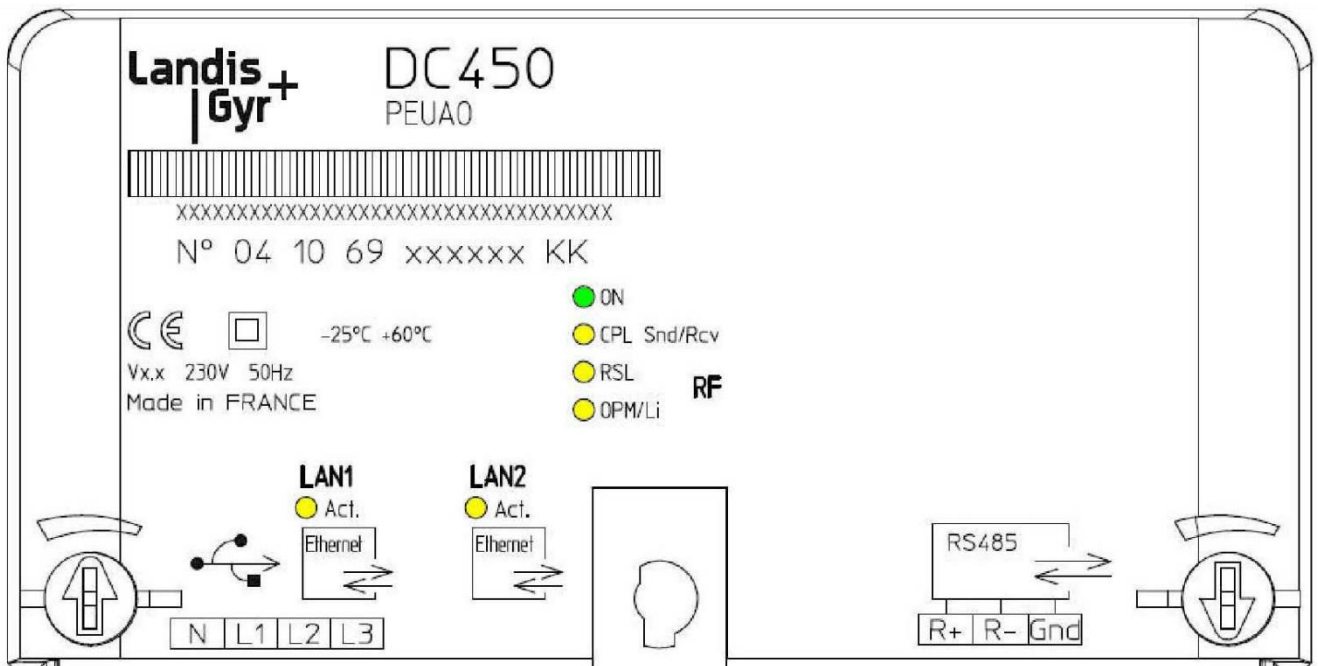
5.2.2 DC450 Mounting with S210 LV Supervision

The DC450 with S210 LV Supervision can be installed directly to the DIN rail, using two metallic DIN rail brackets screwed to it.



5.2.3 LED operation

Observe the LEDs in the concentrator front during the installation procedure.



LED operation in DC450

LED	Interval / State	Colour	Description
ON	250ms ON / 250ms OFF, 2s ON / 2s OFF	Green	Waiting super capacitor to be charged; Normal operation
CPL	ON	Green	Transmitting PLC data
CPL Rcv	ON	Red	Receiving PLC data
RSL	ON/blinking at variable frequency	Yellow	GSM field strength level, see 5.2.5 <i>Checking the signal strength</i>
OPM/Li	ON	Yellow	GPRS/UMTS connection established
LAN1 Act	ON, Blinking	Yellow	Ethernet cable connected; Receiving or transmitting data
LAN2 Act	ON, Blinking	Yellow	Ethernet cable connected; Receiving or transmitting data

5.2.4 Installation of the concentrator

Install the concentrator as follows:

1. Check the concentrator for any visible damage caused by shipping. If the device has been damaged, contact your local Landis+Gyr representative.
2. Make sure the voltage is not on!
3. Make sure that the concentrator type is correct to the installation site. See Chapter 4.1 Installation site conditions.

4. Remove the terminal block cover.
5. Place the concentrator on the wall. Fix it to the wall with screws.
6. Make the required wiring according to the connection diagram, which is located on the reverse side of the terminal block cover. See also Chapter 7.2 Connection diagram and Figure 8.
7. Install the communication module.

Insert the SIM card into the module, the SIM card is not delivered with the DC450 by default. Find below a picture of the 2G/3G modem showing the SIM card slot.



If necessary use an external antenna. See Chapter 5.2.4 *Installation of the antenna*.

8. Attach the terminal block cover.
9. Switch on the voltage.
10. Wait for approx. 10 min. to charge the super capacitor (check LED).
11. Check the operation after the installation. See Chapter 5.2.6 *Checking GSM/GPRS/UMTS operation*.
12. Configure the concentrator's GSM/GPRS/UMTS connection to the metering system. See Chapter 10.3.2 *2G/3G modem configuration*.



Changing the communication module during DC operation: Before the communication module can be replaced, it must be disabled in the web interface, see Chapter 11.1.2 *Changing the communication module*. Removing the module before it is disabled can cause malfunction of the DC and corrupted data.



At the first start-up of the DC450, the backup super capacitor is empty. In order to guarantee a safe shut-down operation, it is necessary to load the super capacitor for approximately 10 minutes. During this time it is not possible to access the DC over the web interface (the “ON” LED will blink 250 ms ON and 250 ms OFF)

5.2.5 Installation of the antenna

The DC comes with a pre-installed $\frac{1}{4}$ lambda antenna on the 2G modem, located under the terminal block cover. External GSM antennas that can be installed indoors or outdoors are also available. If the antenna is installed outdoors, it should be placed so that snow, ice or other debris cannot collect on the antenna. For detailed installation instructions of the antennas delivered with Landis+Gyr products, see GSM/UMTS Antenna Data Sheet.

Installing an external antenna:

1. Connect the antenna cable to the module’s GSM antenna connector.
2. Search for the point of sufficient signal strength.
3. Attach the antenna to the surface according to the instructions of the specific antenna type.



Do not place the antenna inside a closed metal box! The external antenna must be at least 60 cm from any electronic device including the DC450 concentrator.

5.2.6 Checking the signal strength

Place the antenna so that the GSM signal strength is sufficient. Weather may influence the signal strength. If the signal is just above the limit on clear weather, it may be lost altogether when the weather is bad.

To check the signal strength, check the RSL LED on the concentrator front.

LED	Field strength	Explanation
OFF	GSM FSL* is between 0 - 5 or error	Insufficient signal or no signal at all
200ms ON / 1800ms OFF	GSM FSL* is between 6 – 9	Very weak signal, may be lost at times
200ms ON / 800ms OFF	GSM FSL* is between 10 – 14	Weak signal, may be lost at times
ON	GSM FSL* is between 15 – 31	Sufficient signal strength

5.2.7 Checking GSM/GPRS/UMTS operation

When you have installed the SIM card, antenna and connected power to the DC450, check the OPM/Li LED to check if the concentrator has a connection to the GSM/UMTS network.

If the DC450 is not able to establish a connection to the network, check the following on the web interface (for more information on the web interface, see Chapter 10 *Web interface*):

The screenshot shows the DC450 web interface. On the left is a navigation menu with options: MAIN, + CONFIGURATION, + DIAGNOSTICS, + SOFTWARE UPDATE, and LOGOUT. Below the menu is the Landis+Gyr logo and the tagline 'manage energy better'. The main content area is titled 'GSM' and contains four tabs: GSM CONFIG, GPRS CONFIG, SMS CONFIG, and RADIO BAND CONFIG. The 'RADIO BAND CONFIG' tab is active, showing 'Currently used radio band' with a table:

Frequency band	WCDMA 2100
Channel number	10639
TX frequency	1937.8 MHz
RX frequency	2127.8 MHz

Below this is the 'Modem radio band configuration' section with a table:

GSM 900 enabled	<input checked="" type="checkbox"/>
GSM 1800 enabled	<input checked="" type="checkbox"/>
WCDMA 900 enabled	<input checked="" type="checkbox"/>
WCDMA 2100 enabled	<input checked="" type="checkbox"/>

1. Make sure the requested radio band is activated.
2. Move the DC450's antenna to find a location where the signal strength is sufficient. Additionally, a mobile phone can be used to check that the installation location in general is within GSM/GPRS/UMTS signal range, but note that some phones are 3G enabled. The availability of a 3G network does not guarantee a GPRS/2G network and vice versa.
3. Check that the SIM card is properly installed.
4. Switch off the PIN code request of the SIM card. Remove the SIM card from the concentrator and install it to a GSM mobile phone to switch off the request (see the phone's instructions) and reinstall it to the concentrator.

If the GSM/GPRS/UMTS module is still not operational, it could be that the APN information has not been pre-defined at production. Contact your local Landis+Gyr representative for more information.

5.2.8 Meter response timeout (with RS-485 only)

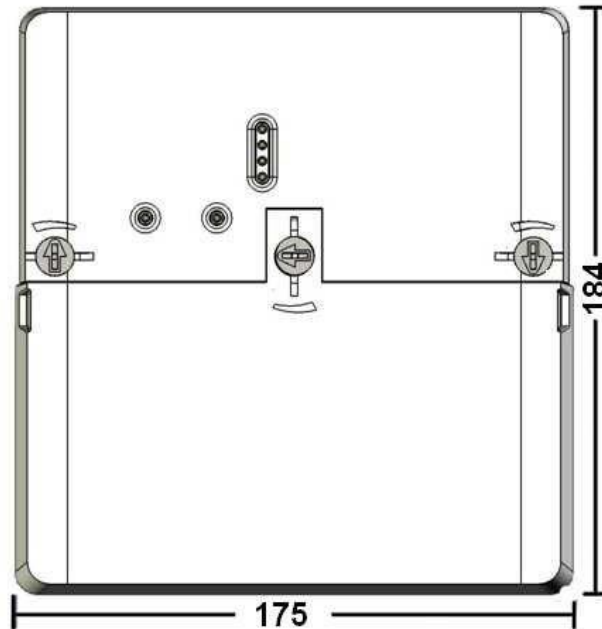
When connecting any device to DC450 through the RS-485 connection, this device needs to be configured so that the response timeout is greater or equal to 200 ms.

For instance, in the case of S650 Smart Grid Terminal, you have to make sure that the value of attribute "ResponseTime" of object HDLCsetupDataCh1 (0-1:22.0.0.255), class [23-0-1-0] in the device configuration is set to 200.

7 Dimensions and connection diagram

7.1 DC450 without S210 LV Supervision

7.1.1 Dimensions

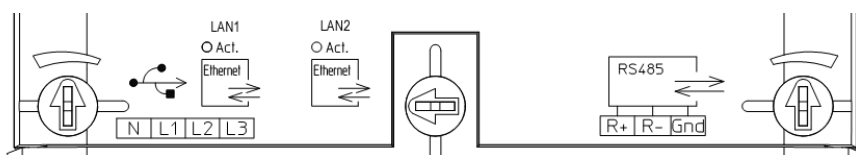


Dimensions of the DC450 Concentrator with Terminal Cover

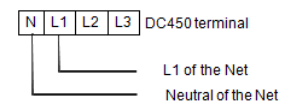
- L = 175 mm
- h = 184 mm
- W = 72 mm (without sealing)

7.1.2 Connection diagram

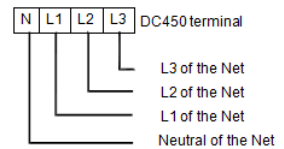
Connection diagram of the DC450 printed on the faceplate.



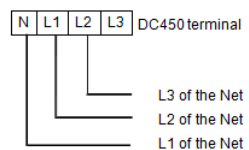
Single phase 230 V



3-phase 230/400 V



3-phase 230 V, no neutral

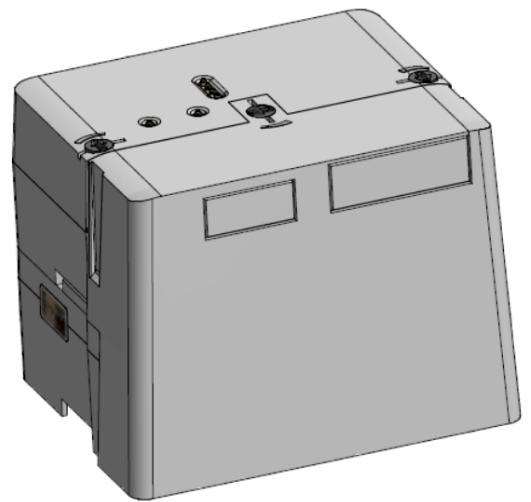
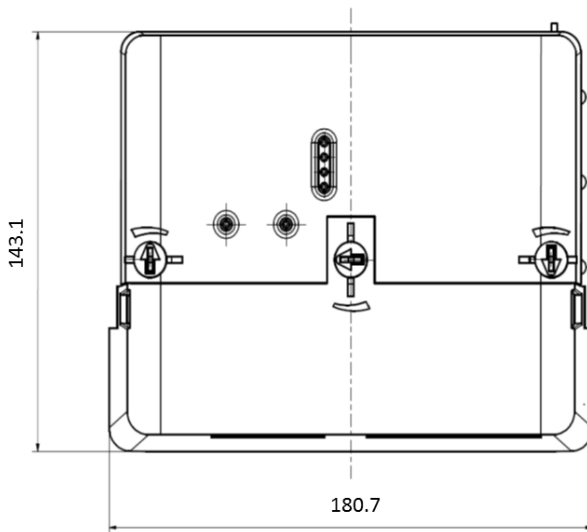
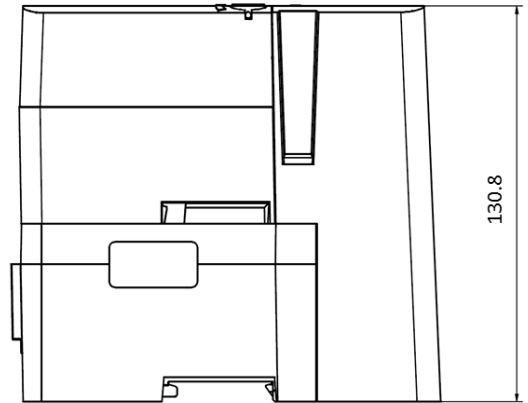


7.2 DC450 with S210 LV Supervision

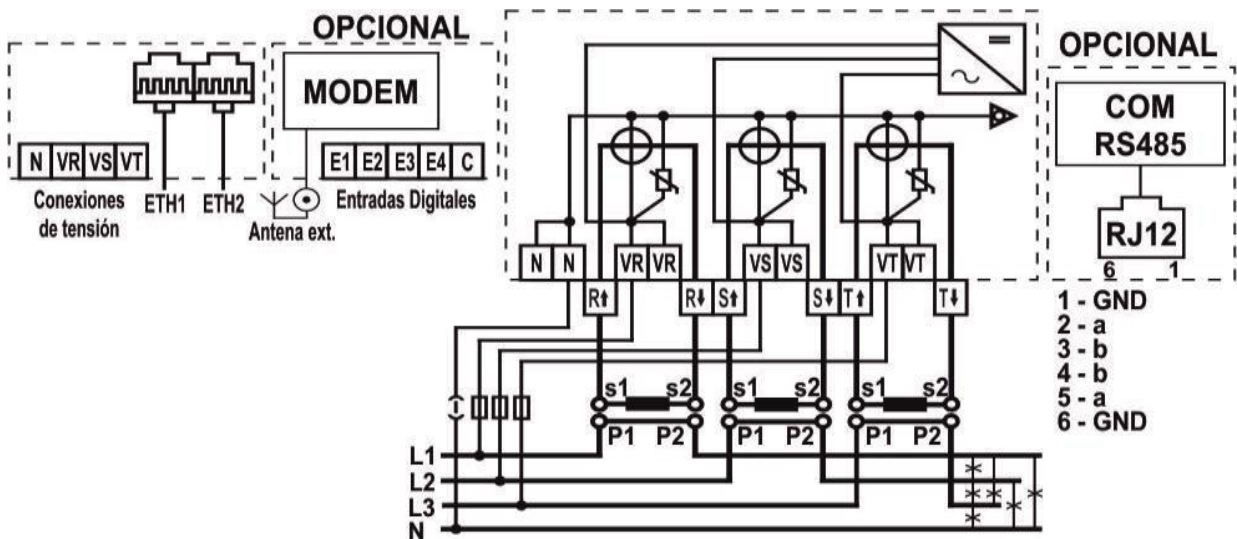
7.2.1 Dimensions

Dimensions of the DC450 Concentrator with S210 LV Supervisor and Terminal Cover. For more information about S210 please refer to the specific documentation:

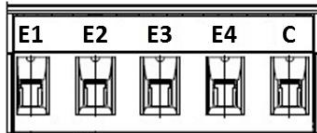
- L = 180.7 mm
- h = 143.1 mm
- W = 130.8 mm (without sealing)



7.2.2 Connection diagram

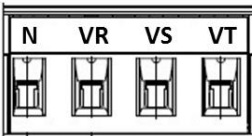


Digital Inputs (DC450)



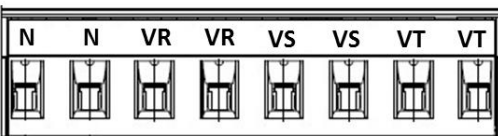
400V / 12A maximum section 2.5mm²

Voltage Connector (DC450)



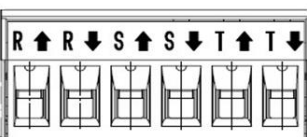
400V / 12A maximum section 2.5mm²

Voltage Connector (S210)

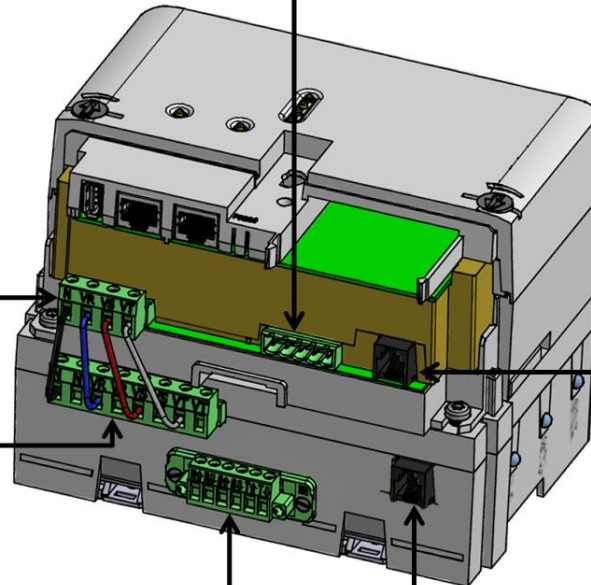


400V / 12A maximum section 2.5mm²

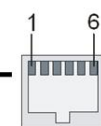
Current Connector (S210)



400V / 12A maximum section 2.5mm²

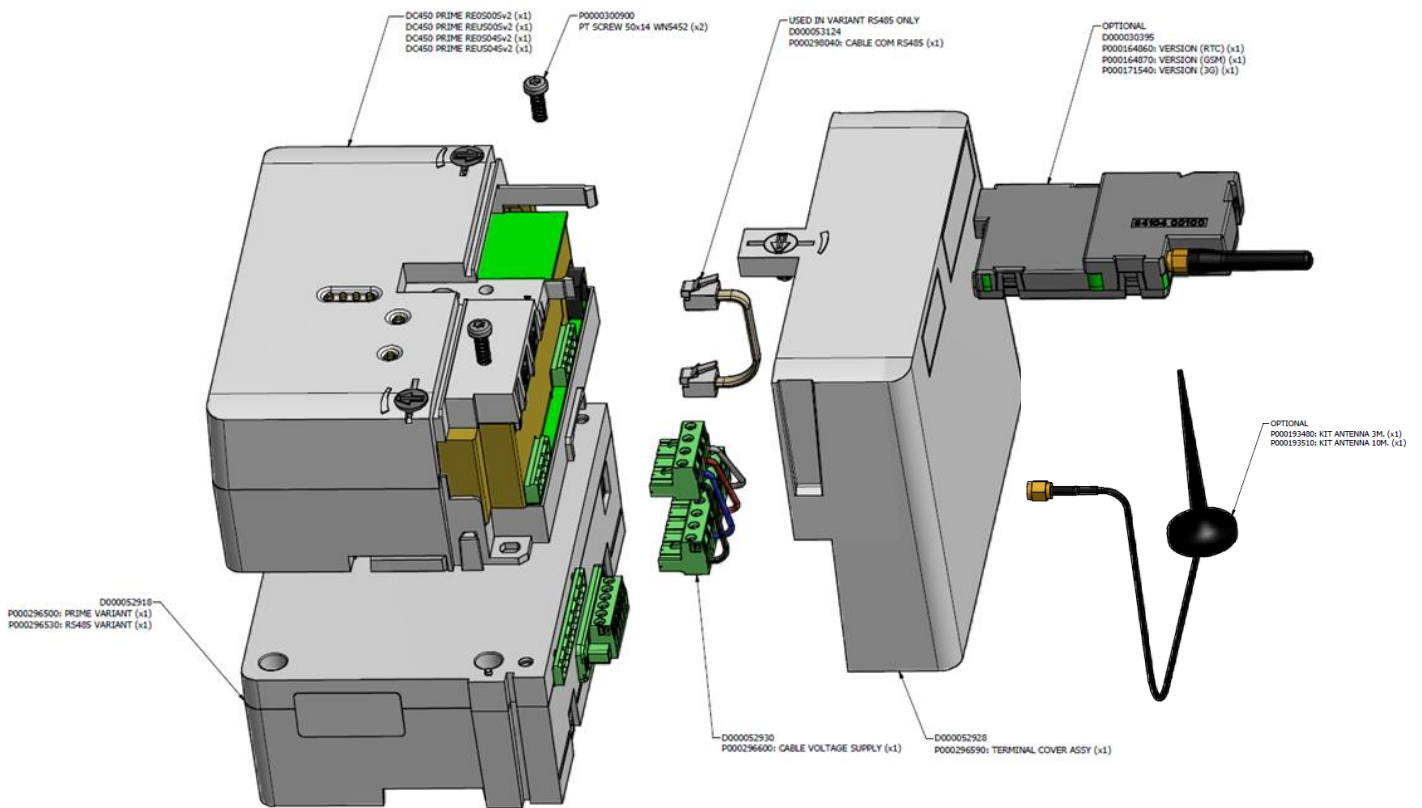


RS485 Connector (RJ12)



- 1 c (common ground)
- 2 a (data a)
- 3 b (data b)
- 4 b
- 5 a
- 6 c

7.2.3 Overall components / options



8 Alarms

The concentrator keeps a log of internal alarms. Longer error conditions are reported as alarms, which are set on and off as the conditions appear and disappear. The alarms can be read from the web interface. The DC can store up to 128 simultaneous alarms in the alarm log.

Alarm	Description
ALARM_RTC_FAULT	The RTC chip has malfunctioned.
ALARM_OVER_TEMPERATURE	The internal temperature of the DC is above the high alarm limit.
ALARM_UNDER_TEMPERATURE	The internal temperature of the DC is below the low alarm limit.
ALARM_POWER_CUT	The DC has lost power.
ALARM_MODEM_UNREACHABLE	The DC cannot establish a connection to the internal GSM/GPRS modem.
ALARM_NO_SIM	No SIM card has been installed.
ALARM_PIN_CODE	The SIM card is asking for a PIN code. The DC does not support PIN codes. The PIN code prompt must be switched off on the SIM card before installation.
ALARM_ETHERNET_CABLE	The Ethernet cable is not connected.
ALARM_LOW_DISK_SPACE	Free space on the flash memory drive is below the alarm limit.
ALARM_LOW_INODES	The number of free i-nodes on the flash memory drive is below the alarm limit.
ALARM_GSM_CONNECTION_DOWN	The GSM/GPRS connection is down.
ALARM_ETHERNET_DOWN	The Ethernet connection is down.
ALARM_PRIME_MAC_NOT_DEFINED	No PRIME MAC address has been defined and therefore PLC communications are down.
ALARM_PRIME_NO_SYNCRO	The DC is unable to synchronize with the PRIME network.
ALARM_UNIT_SIMULATOR_ACTIVE	The DC is using the PLC meter simulation feature. This feature is used for the internal testing of the DC and should not be enabled in a production environment.
ALARM_LOW_FREE_MEMORY	The DC is running low on memory.
ALARM_LOAD_AVERAGE_EXCEED	Some process on the DC is taking up more processor time than allowed. Under some circumstances, load average can be exceeded temporarily.
ALARM_WEAK_GSM_SIGNAL	The GSM field strength is too low.
ALARM_PLAN_OUT_OF_ORDER	The PRIME chip is malfunctioning.
ALARM_LID_OPEN	The lid (terminal block cover) of the DC is open.
ALARM_LOCAL_ETHERNET_UP	The local Ethernet interface is in use.
ALARM_RTC_INCORRECT_TIME	Real time clock time has been found to be incorrect.
ALARM_DB_FAILURE	At least one application on the DC is unable to open its internal SQL database.

ALARM_INVALID_CONFIGURATION	At least one configuration variable on the DC has an invalid value.
ALARM_ODEP_LOGIN_BLOCKED	ODEP login has been temporarily blocked due to multiple failed login attempts.
ALARM_NTP_FETCH_FAULT	The DC is unable to synchronize its RTC time with the configured NTP server.
ALARM_TEMP_PLC_COM_ERR	Indicates that a large number of PLC devices have simultaneously stopped responding.
ALARM_HIGH_UNIT_COUNT	The absolute maximum of 2500 PLC devices has been registered and stored in the DC database. No new devices can be installed by the DC before this alarm has been reset by removing some devices.

9 Events

The concentrator keeps a log of internal events. The event log can be read from the web interface. The size of the event log is 1000 latest events.

Event	Description
NOTICE_MASTER_TIME	A change in RTC master time has been forced on the DC.
NOTICE_TIME_CHANGED	The RTC time on the DC has been changed.
NOTICE_TIME_NOT_CHANGED	The RTC time on the DC has not been changed, because the time shift exceeded the limit.
NOTICE_STARTUP	The operating system of the DC has started up.
NOTICE_CONFIG_CHANGED	Configuration of the DC has been changed.
NOTICE_SW_UPDATE	The firmware of the DC has been updated.
NOTICE_ODEP_CONNECTION_TIMEOUT	An ODEP connection has timed out.
NOTICE_ODEP_CONNECTION_ERROR	There has been an error in establishing an ODEP connection.
NOTICE_PUSH_CONNECT_ERROR	There has been an error in establishing a push connection with MessageMax.
NOTICE_PUSH_SENDING_ERROR	There has been an error during the sending of push data.
NOTICE_PUSH_COLLECT_ERROR	There has been an error in gathering the data that should be pushed.
NOTICE_INVALID_ODEP_FRAME	An invalid ODEP frame has been received.
NOTICE_SMS_RECEIVED	An SMS message has been received by the DC.
NOTICE_CALL_RECEIVED	A wake-up call has been received by the DC.
NOTICE_MODEM_CONNECTION_RESET	The GSM/GPRS connection was reset.
NOTICE_UNIT_REMOVED	A meter has been explicitly removed from the DC.
NOTICE_ALL_DATA_REMOVED	All collected data has been deleted from the DC.
NOTICE_PLAN_NOT_RESPONDING	The PLAN chip is not responding.
NOTICE_RELEASE_ALL_UNITS	The DC has been requested to release all meters.
NOTICE_PROCESS_WD_FAIL	A process has failed to reply to a request from the software watchdog.
NOTICE_TEMP_READ_FAILURE	Reading the internal temperature of the DC has failed.
NOTICE_USER_LOGIN	A user has logged in a terminal connection on the DC.
NOTICE_SMS_SEND	An SMS message has been sent by the DC.
NOTICE_OUT_OF_MEMORY	DC has run out of free RAM. If this event occurs, DC will do a recovery reboot.
NOTICE_RECOVERY_DONE	Software recovery has occurred.
NOTICE_TOO_MANY_FDS	Too many open file descriptors have been detected. If this event occurs, DC will do a recovery reboot.
NOTICE_TOO_MANY_PIDS	Too many running processes have been detected. If this event occurs, DC will do a recovery reboot.
NOTICE_SW_UPDATE_DOWNLOAD_FAIL	Update package download from FTP/HTTP server failed.
NOTICE_USB_DEV_ADDED	A USB device has been plugged in.
NOTICE_USB_DEV_REMOVED	A USB device has been removed.

10 Web interface

DC450 has an internal web user interface that can be accessed in two ways:

- Through the local Ethernet connection (mainly for initial system interface configuration to establish communication with the metering system). For more information, see 10.1 Connecting to the concentrator locally through LAN.
- Through an uplink connection (GPRS/UMTS or Ethernet) after it is configured and operational.



To ensure that the system and concentrator have the same configuration data, it is recommended to do other concentrator configurations through the metering system.



Compatible web browsers:

Mozilla Firefox (latest version), JavaScript must be enabled.
 MS Internet Explorer (latest version), JavaScript must be enabled.
 Other browsers may work but have not been tested.

The web interface can be used to configure a single concentrator. For configuring or updating a larger amount of concentrators at once, Device Management must be used, see *Device Management User Manual*.

Service personnel can also use the web interface for diagnostics and troubleshooting. Alarms, events, statistics and log data collected by the DC as well as data read from the meters can be previewed in the web interface.

The following web interface pages are available to “admin” users:

Main
Configuration
DC-450(B07)
General configuration
Import/Export configuration
Ethernet Ports
Basic configuration
2G/3G Modem
GSM configuration
GPRS configuration
SMS configuration
Radio band configuration
PRIME
Phase injection

Date/Time
Set time
Basic configuration
NTP configuration
Security
Authentication
Firewall
Digital Inputs (G09)
Basic configuration
PRIME Network
Meters Summary
Meters Detailed Info
DC Events (S17)
Managed Meters (S20)
Existing Meters (S24)
Meter Removal (B06)
Data Summary
Black List
Topology
Configuration
Topology Log
Managed Meters (S20)
Base Node PLC Info (S11)
Tasks & Services
Object Query
Cycles
Program Tasks
Tasks
Tasks Log
Ftp Log
Statistics
DC Statistics
PRIME Statistics
Units Summary
Registration History
Hourly Statistics (G01)

10.1 Connecting to the concentrator locally through LAN

To connect to the concentrator for initial configuration you need:

- A laptop computer with an Ethernet connection (100 Mb/s or 1000 Mb/s)
- Ethernet crossover cable.

Creating the connection:

1. Connect the Ethernet cable to your laptop's Ethernet port.
2. Connect the Ethernet cable to the concentrator's LAN2 Ethernet port.
3. The concentrator's default IP address is 10.0.0.2. Configure your laptop IP address to be in the same network, e.g. 10.0.0.1 with subnet mask 255.255.255.0. Check your operating system manual for instructions on how to define IP addresses.
4. When the LAN2 LED on the concentrator faceplate is lit or flashing, connection has been established between the concentrator and your laptop.
5. Open the web browser and enter the concentrator IP address to the address row.
6. The browser opens an authentication window. Enter the username and password provided by your system admin or Landis+Gyr representative.
7. The main page of the concentrator's web interface is opened in your browser.



The concentrator web interface can also be accessed over GPRS. You need a laptop computer with a connection to the same GPRS network the concentrators are in. Otherwise proceed as with LAN connection.

10.2 Web-UI Main page

Web-UI shows a summary of all meters managed by DC-450, and information regarding DC-450 operation.

- **General Information:**
 - **Serial Number:** Serial number of the DC-450
 - **Software Version:** Firmware Version of DC-450
 - **Hardware Version:** Hardware Version of DC-450
 - **Date/Time:** Current Date/Time
 - **Uptime:** DC-450 Running Time
 - **Location:** Location/Identification of DC-450 Installation.
 - **System Memory:** RAM Memory Usage of DC-450.
 - **Data Memory:** Disk Usage of DC-450.
 - **Internal Temperature:** Temperature of PCB Board.

General information

Serial Number	0149000039
Software Version	1.1.9
Hardware Version	v2
Date/Time	2015.02.09 09:09:38
Uptime	000d 21h 54m 28s
Location	CT EL ESCORCHADO IV
System Memory Usage	60%
Data Memory Usage	3%
Internal Temperature	33.75 °C

Summary Information

PRIME Device Count:	131
Access (DLMS):	YES: 129 NO: 2
Comm Status (PRIME):	Active: 129 TF: 2 PF: 0

- **Meters Detailed Information:**

- **Serial:** Serial number of the meter
- **Mac:** Mac Adress of the meter
- **Type:** Type of equipment (contador/supervisor)
- **Meter Firmware Version:** DLMS Version
- **PLC Firmware Version:** PRIME Version
- **Comm Status:** Active (A), Temporary Fail (TF), Permanent Fail (PF)
- **Companion:** Companion Version of the Meter.
- **Last Access:** Last Time meter was accessed
- **Quality:** Communication Quality of the Meter

Meters Detailed Information

Serial	Mac	Type	Access DLMS	Meter Firmware Version	PLC Firmware Version	Comm Status	Companion	Last Access	Total Quality
LGZ0019086476	00:80:E1:13:5B:B1	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 04:57:35	100.0 %
LGZ0019109512	00:80:E1:11:FF:B0	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 04:58:27	98.2 %
LGZ0019109513	00:80:E1:11:FF:E4	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 05:02:13	76.7 %
LGZ0019109514	00:80:E1:11:F8:60	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 05:02:53	93.9 %
LGZ0019109539	00:80:E1:11:F6:79	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 08:47:44	100.0 %
LGZ0019109540	00:80:E1:11:FA:96	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 05:06:01	100.0 %
LGZ0019109547	00:80:E1:11:D7:DE	contador	Yes	V0405	1.2.6h_R	A	DLMS0105	2015.02.09 05:06:18	100.0 %
LGZ0019109548	00:80:E1:11:FB:85	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 05:09:01	92.2 %
LGZ0019109589	00:80:E1:11:F9:B5	contador	Yes	V0511	00-2321x	A	DLMS0106	2015.02.09 05:10:12	100.0 %

10.3 Configuration

10.3.1 DC450 Configuration (B07)

DC450 parameters can be configured from web-ui, those parameters are categorized according to the functionality and modules.

Import/Export Configuration

DC-450 can import a file with the configuration (see Annex A for details about the file)

For export a file, click on “Download DC Configuration file”. A file with the current configuration will be generated (XML format).

Export Configuration

[Download DC Configuration file](#) file size is 1498 bytes

Import Configuration

Config File: No se ha seleccionado ningún archivo.

General Configuration

Information about DC450 parameters, only the field Location can be changed.

General Configuration

STG Field	Description	Value
Cnc	Concentrator Id:	LGZ0014900007
Mod	Model:	DC450
Af	Manufacturing Year:	2014
Te	Type of Equipment:	Concentrator
Vf	Firmware Version:	1.1.7
VFComm	Communication Module Firmware Version:	0.4
Pro	Protocol:	ISDIP
Com	Communications:	PLC
	Location:	C.T Sevilla
Macplc	Mac port PLC:	00:0F:93:01:21:EB
Pse	Serial port Speed:	115200

Access Security

Configure the Parameters for Access to the DC-450.

Access Security

AccInacTimeout	Inactivity time to close the session (mins):	10
AccSimulMax	Maximum number of sessions opened:	3

Ethernet Ports

Configure the parameters for Ethernet ports (according to STG specifications).

Ethernet Ports		
ipDhcp	DHCP:	<input checked="" type="radio"/> static IP <input type="radio"/> DHCP
ipCom	IP Address (LAN1):	<input type="text" value="172.26.0.170"/>
ipMask	Netmask:	<input type="text" value="255.255.255.0"/>
ipGtw	Gateway:	<input type="text" value="172.26.0.1"/>
ipLoc	IP Local Address (LAN2):	<input type="text" value="10.0.0.2"/>
ipMaskLoc	Local Netmask:	<input type="text" value="255.255.255.0"/>

STG and Web Services

Configure the parameters for STG Server and Webservices.

STG and Web Services		
IPstg	IP or URL of the STG:	<input type="text" value="82.159.192.202"/>
PortWS	IP Port:	<input type="text" value="4120"/>
	WebServices Path:	<input type="text" value="/WS_STGSoapService"/>
stgPwd	Password for Accessing STG:	<input type="text"/>
ResetMsg	Reset Message:	<input checked="" type="radio"/> Yes <input type="radio"/> No
NumMeters	Number of Meters:	<input type="text" value="100"/>
TimeSendReq	Maximum Time Without Sending Information:	<input type="text" value="3600"/>
ReportFormat	Format of the report (compressed):	<input type="radio"/> Yes <input checked="" type="radio"/> No
ValuesCheckDelay	Number of seconds to wait before reading:	<input type="text" value="3"/>
MaxOrderOutdate	Time window for validation of orders:	<input type="text" value="86400"/>
Priority	Enabled/disabled:	<input checked="" type="radio"/> Yes <input type="radio"/> No

Remote Servers

Configure all the information about FTP Servers, users, password, used in the DC450 Modules.

Remote Servers		
IPftp	IP of FTP server:	<input type="text" value="200.200.10.1"/>
FTPUserReport	Username for Accessing the FTP Server:	<input type="text" value="test"/>
FTPPwsReport	Password for Accessing the FTP Server:	<input type="text" value="yyyyyyyy"/>
DestDirReport	Directory for Uploading Reports:	<input type="text" value="/reports"/>
IPftpDCUpg	IP of the FTP Server for DC Firmware Upgrade:	<input type="text" value="200.200.10.1"/>
UserftpDCUpg	User of the FTP Server for DC Firmware Upgrade:	<input type="text" value="dcupgrade"/>
PwdftpDCUpg	Password of the FTP Server for DC Firmware Upgrade:	<input type="text" value="zzzzzzzz"/>
IPftpMeterUpg	IP of the FTP Server for Meters Firmware Upgrade:	<input type="text" value="/fwupgrade"/>
UserftpMeterUpg	User of the FTP Server for Meters Firmware Upgrade:	<input type="text" value="fwupgrade"/>
PwdftpMeterUpg	Password of the FTP Server for Meters Firmware Upgrade:	<input type="text" value="xxxxxxxx"/>
RetryFtp	Number of Attempts for Accessing an FTP:	<input type="text" value="10"/>
TimeBetwFtp	Time Between Retries When Accessing an FTP:	<input type="text" value="43200"/>
IPftpCycles	IP of FTP Server for Uploading Cycles Reports:	<input type="text"/>
UserftpCycles	Username for FTP Uploading Cycles:	<input type="text"/>
PwdftpCycles	Password for FTP Uploading Cycles:	<input type="text"/>
DestDirCycles	Directory for Uploading Cycles:	<input type="text"/>

Clock and Synchronization

Configure NTP Server, meter time synchronization parameters and time adjustment of the DC450.

Clock and Synchronization		
IPNTP	IP for NTP:	<input type="text" value="es.pool.ntp.org"/>
SyncMeter	Meter Sync Time:	<input checked="" type="radio"/> Yes <input type="radio"/> No
TimeDevOver	Max Time Deviation:	<input type="text" value="300"/>
TimeDev	Min Time Deviation:	<input type="text" value="30"/>
NTPMaxDeviation	Event is generated when value is exceeded:	<input type="text" value="10"/>

PRIME Management

Configure PRIME parameters of DC450.

PRIME Management		
TimeDisconMeter	Time Between TF to PF (P):	<input type="text" value="3600"/>
RetryDisconMeter	Number of retries (U):	<input type="text" value="3"/>
TimeRetryInterval	Time Between Retries to Access Meters:	<input type="text" value="10"/>
MeterRegData	Info retrieved when meter is registered:	<input type="text"/>

Miscellanea

Configure other parameters regarding to timeouts for meter firmware upgrade , times delays after a DC450 reboot and S26 report.

Miscellanea		
TimeOutMeterFwU	Time Out for Cancelling Meter FW Upgrade:	<input type="text" value="86400"/>
S26Content	Configuration field for S26:	<input type="text" value="L1v:L1i:L2v:L2i:L3v:L3i:f"/>
TimeDelayRestart	Time to wait after a reboot for tasks:	<input type="text" value="20"/>
Slave1	Data definition for other equipment:	<input type="text"/>
Slave2	Data definition for other equipment:	<input type="text"/>
Slave3	Data definition for other equipment:	<input type="text"/>
<input type="button" value="Send"/>		

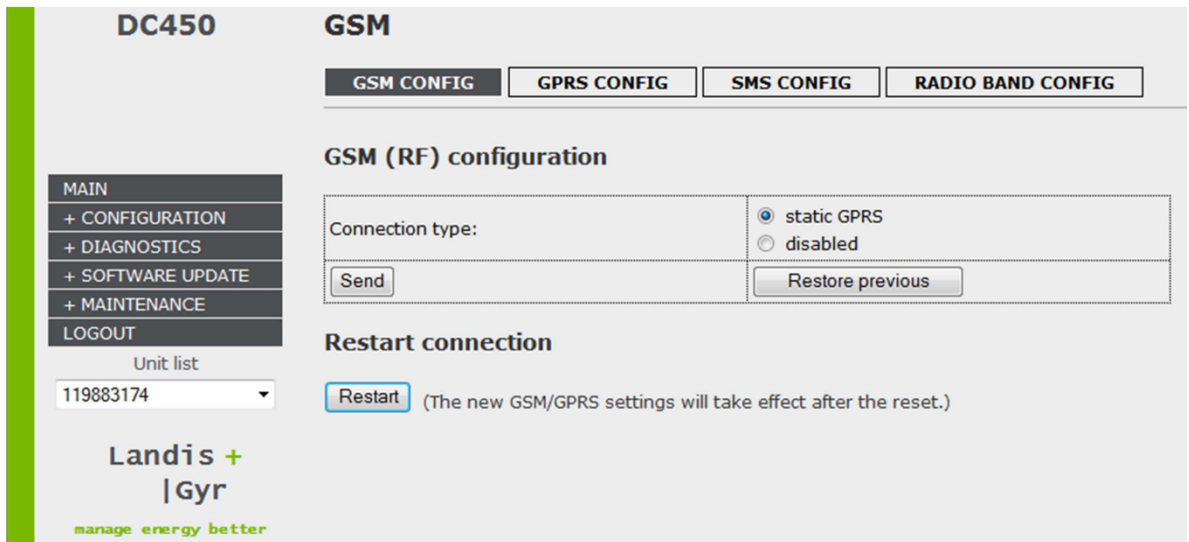
Values valid for S26 content are: L1v, L1i, L2v, L2i, L3v, L3i, I3, P, Q, FP, Ca, Pf, Fc, Eacti, Eanti, Ala, AEa, R1a, R2a, R3a, R4a.

10.3.2 2G/3G Modem

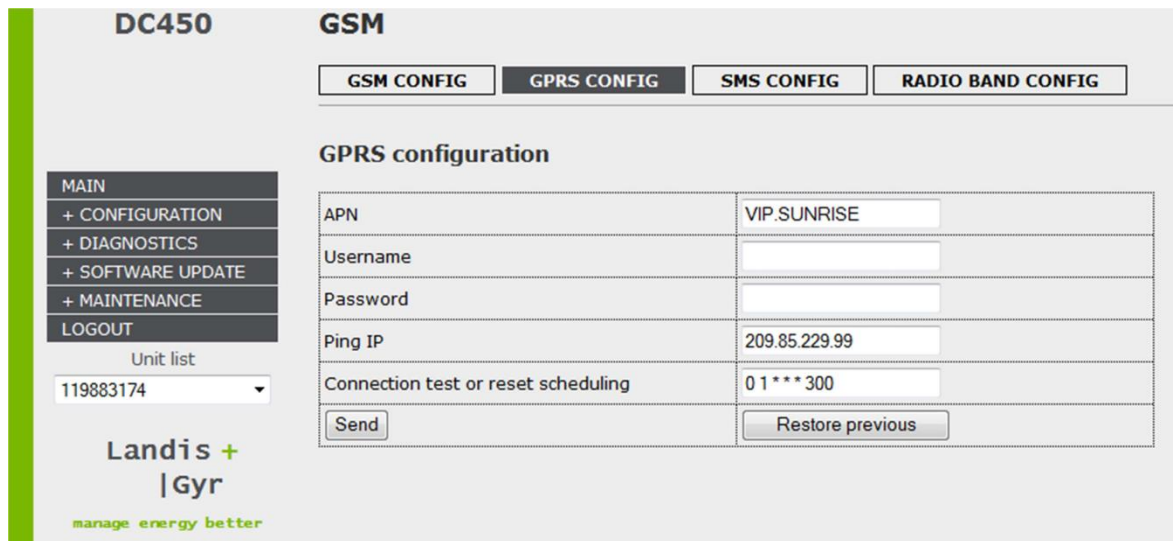
If not configured in production, the initial GSM/GPRS configuration must be done locally to establish communication with the metering system. After communication is operational, other configurations can be done from the system. SMS configuration is not necessary at this point; it can also be configured later.



Changing the communication module during DC operation:
Before the communication module can be replaced, it must be disabled in the web interface, see Chapter 11.1.2 *Changing the communication module*. Removing the module before it is disabled can cause malfunction of the DC and corrupted data.



1. First select CONFIGURATION and then GSM in the Main Menu on the left. The GSM CONFIG page is displayed.
2. Set connection type as Static GPRS (always on).
3. Click Send to send the parameters to the concentrator.
4. Select GPRS CONFIG from the top of the page.



5. On the GPRS CONFIG page, you can enter the APN address of the local GSM operator to the dialog.
6. If the GSM operator requires the username and password information for GPRS communication, also enter the Username and Password. You can also enter a PING IP address and parameters for the Connection test or reset scheduling.
7. Click Send to send the parameters to the concentrator.
8. After you have entered all the configuration data, return to the GSM CONFIG page and click Restart. The new settings will take effect after restarting.

10.3.3 Ethernet Ports Configuration

The Ethernet Port LAN1 is used for DC450 normal operation (WAN/LAN), and the Ethernet Port LAN2 is used for local access to DC450.

- LAN 1/LAN2 Configuration: select between Static IP / DHCP / Disable (only for LAN1)
- IP Adress : IP Adress of LAN1/LAN2 Port
- Mask : Subnet Mask of LAN1/LAN2 Port
- Gateway : Gateway of LAN1/LAN2 Port

Ethernet

BASIC CONFIG

LAN1 Port

Ethernet type	<input checked="" type="radio"/> Static IP <input type="radio"/> DHCP <input type="radio"/> disabled
IP Address	<input type="text" value="192.168.1.2"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="192.168.1.1"/>
MAC Address	00:0F:93:0D:16:8B
<input type="button" value="Send"/>	<input type="button" value="Restore previous"/>

LAN2 Port (Local Service Access)

IP Address	<input type="text" value="10.0.0.2"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Default Gateway	<input type="text" value="10.0.0.1"/>
MAC Address	00:0F:93:0D:16:8A
<input type="button" value="Send"/>	<input type="button" value="Restore previous"/>

Restart Connections

(The new Ethernet Settings will take effect after the restart.)

10.3.4 PRIME Configuration

Phase Injection

Select the Phase(s) for PRIME injection. You can select three phases or each phase individually

Phase Injection

Phase L1	<input checked="" type="checkbox"/>
Phase L2	<input checked="" type="checkbox"/>
Phase L3	<input checked="" type="checkbox"/>
<input type="button" value="Send"/>	

10.3.5 Time Configuration

Current Date/Time

DC Operating System Date/Time	2015.02.07 13:39:55
RTC Date/Time	2015.02.07 12:39:55

Set time

Date/Time (format: YYYY.MM.DD, hh:mm:ss)	2015.02.07.13:39:55	<input type="button" value="Get local Date/Time"/>
Force time change, Ignore Limits	<input checked="" type="checkbox"/>	
<input type="button" value="Set time"/>		

- DC Time: DC450 Date Time
- RTC Time: Always show the GMT Time
- Force Time: Ignore the Limits for Time Change; these limits are defined in Basic Configuration

For Time Change, just write the date/time and press Set Time Button

Basic Configuration

Daylight saving time

Timezone	Madrid <input type="button" value="v"/>
----------	---

Limits

Alarm limit for time changing	<input type="text" value="10"/>
Maximum limit for time changing	<input type="text" value="300"/>
Acceptable clock error (smaller time changes are ignored)	<input type="text" value="30"/>
<input type="button" value="Send"/>	<input type="button" value="Restore previous"/>

- Timezone : DC450 Timezone
- Alarm Limit: if time deviation is greater, alarm log will be written
- Maximum Limit: Maximum time deviation allowed for time change
- Acceptable Clock Error: Maximum Time allowed for time adjustment

NTP Configuration

NTP configuration

NTP enabled	<input checked="" type="checkbox"/>
NTP fetch on uplink wakeup	<input type="checkbox"/>
Address to NTP server	<input type="text" value="es.pool.ntp.org"/>
Local time offset in seconds	<input type="text" value="7200"/>
NTP scheduling	<input type="text" value="10 0 * * *"/>
Alarm limit for NTP time change	<input type="text" value="10"/>
Maximum limit for NTP time change	<input type="text" value="604800"/>
<input type="button" value="Send"/>	<input type="button" value="Restore previous"/>

- NTP Enabled: Enable/Disable use of NTP Server
- NTP Fetch : Enable/Disable
- Address: Address or IP of NTP Server
- Local Time: Time difference between Local Time and RTC
- NTP Scheduling
- Alarm Limit for NTP time change:
- Maximum Limit for NTP: Max deviation allowed for time synchronization

10.3.6 Security

HTTP Authentication

HTTP authentication

User	<input checked="" type="radio"/> read <input type="radio"/> admin
Old password of admin	<input type="password" value="....."/>
New password	<input type="password" value="....."/>
New password again	<input type="password" value="....."/>
<input type="button" value="Send"/>	

- User: Select the user for change password (admin or read),
- Old Password: old password of the selected user
- New Password: new password of the selected user
- New Password Confirmation: repeat the new password
- Note: In case of change the password for READ user, the admin password has to be provided in the field Password Admin.

Meters Passwords

There are two sets of passwords; those passwords are used for meter access.

The DC450 tries first the default passwords when accessing the meters, if it fails, the secondary passwords are used.

Meters Default Passwords

Firmware Client	<input type="password" value="••••••••"/>
Reading Client	<input type="password" value="••••••••"/>
Management Client	<input type="password" value="••••••••"/>
<input type="button" value="Send"/>	

Meters Secondary Passwords

Firmware Client	<input type="text"/>
Reading Client	<input type="text"/>
Management Client	<input type="text"/>
<input type="button" value="Send"/>	

Firewall

Firewall configuration

ICMP echo (ping) enabled	<input checked="" type="checkbox"/>
HTTP enabled	<input checked="" type="checkbox"/>
HTTPS enabled	<input checked="" type="checkbox"/>
SSH enabled	<input checked="" type="checkbox"/>
FTP enabled	<input checked="" type="checkbox"/>
Telnet enabled	<input type="checkbox"/>
<input type="button" value="Send"/>	
<input type="button" value="Restore previous"/>	

Restart firewall

(The new Firewall settings will take effect after the restart.)

Enable / Disable the different security options:

- ICMP Echo: Enable/Disable ping answer
- HTTP: Enable / Disable access through HTTP Protocol
- HTTPS: Always Enabled
- SSH: Enable / Disable Access to DC-450 SSH Protocol
- FTP : Enable / Disable use of FTP
- Telnet: Enable / Disable Access to DC-450 SSH Protocol



Every firewall setting needs a restart for take effect (only the firewall module will be restarted)

10.3.7 Digital Inputs (available on some models)

- Configuration: only accepts 0 or 1
- Name: Digital Input Name
- Spontaneous Events: Send Spontaneous Events (Yes or No)

[G09/C02] Digital Inputs

BASIC CONFIG

INPUT 1

Name	Value	Direction	Spontaneous Event
Alarm_1	0	In	YES

Send

Import / Export Configuration: A file with the format G09 can be exported or imported to change Digital Inputs Configuration.

Get data * Generate G09 XML

[XML](#)

Import Configuration [C02]

Config File: No se ha seleccionado ningún archivo.

G09 file generated from export configuration:

```

- <Report IdRpt="G09" IdPet="0" Version="3.1.c">
- <Cnc Id="LGZ0149000039">
- <G09 Fh="20150208114420000W" IoCount="4">
  <ES Id="1" Name="Alarm_1" Value="0" Dir="I" SponEnable="Y"/>
  <ES Id="2" Name="Alarm_2" Value="0" Dir="I" SponEnable="Y"/>
  <ES Id="3" Name="Alarm_3" Value="0" Dir="I" SponEnable="N"/>
  <ES Id="4" Name="Alarm_4" Value="0" Dir="I" SponEnable="Y"/>
</G09>
</Cnc>
</Report>

```

10.4 PRIME Network

The DC450 web interface PRIME network menu displays information about :

- Meters Summary
- Data Summary
- Black List
- Topology

10.4.1 Meters Summary

Detailed Info

Web Report with summary information

Summary Information									
PRIME Device Count:	131								
Access (DLMS):	YES: 130 NO: 1								
Comm Status (PRIME):	Active: 32 TF: 99 PF: 0								
Meters Detailed Information									
Serial	Mac	Type	Access DLMS	Meter Firmware Version	PLC Firmware Version	Comm Status	Companion	Last Access	Total Quality
LGZ0019086476	00:80:E1:13:5B:B1	contador	Yes	V0511	00-2321x	TF	DLMS0106	2015.02.09 04:57:35	100.0 %
LGZ0019109512	00:80:E1:11:FF:B0	contador	Yes	V0511	00-2321x	TF	DLMS0106	2015.02.09 04:58:27	98.2 %
LGZ0019109513	00:80:E1:11:FF:E4	contador	Yes	V0511	00-2321x	TF	DLMS0106	2015.02.09 05:02:13	76.7 %
LGZ0019109514	00:80:E1:11:F8:60	contador	Yes	V0511	00-2321x	TF	DLMS0106	2015.02.09 05:02:53	93.9 %

DC Events (S17)

Web Report with S17

[S17] DC EVENTS

<input checked="" type="checkbox"/> Standard (Group 1)	
<input checked="" type="checkbox"/> Access (Group 2)	
<input checked="" type="checkbox"/> Demand Management (Group 3)	
<input checked="" type="checkbox"/> Common (Group 4)	
<input checked="" type="checkbox"/> Meters Registering (Group 5)	
Start Time (format: YYYY.MM.DD, hh:mm:ss)	2015.02.06,00:00:00
Stop Time (format: YYYY.MM.DD, hh:mm:ss)	2015.02.07,11:40:39
<input type="button" value="Get data"/> HTML ▾	

Standard

Date Time	Event Code	Extra Info
2015.02.06 10:10:08	74	
2015.02.06 10:10:08	130	2015.01.02 03:41:05
2015.02.06 11:57:13	1	reboot
2015.02.06 12:22:37	13	plcbroker
2015.02.06 12:23:16	1	reboot
2015.02.06 17:41:25	1	reboot
2015.02.06 17:49:32	13	plcbroker
2015.02.06 17:53:04	1	reboot
2015.02.06 18:18:37	27	1.1.8
2015.02.06 18:19:32	1	update & reboot
2015.02.06 18:43:56	13	plcbroker
2015.02.06 18:44:36	1	reboot
2015.02.06 18:51:40	27	1.1.9
2015.02.06 18:52:46	1	update & reboot
2015.02.07 08:43:37	13	fwupdater
2015.02.07 08:44:21	1	reboot

Managed Meters (S20)

Web Report with S20

[S20] MANAGED METERS

Start time (format: YYYY.MM.DD, hh:mm:ss)	2015.02.01,00:00:00
Stop time (format: YYYY.MM.DD, hh:mm:ss)	2015.02.09,12:05:15
<input type="button" value="Get data"/> HTML ▾	

Activation Time	Serial	Device ID 1	Device ID 2	Device ID 3
2015.02.08 12:30:46	LGZ0019086476	0019086476	CYK12	contador DLMS0106
2015.02.08 12:21:03	LGZ0019109512	0019109512	CYK12	contador DLMS0106
2015.02.08 12:24:03	LGZ0019109513	0019109513	CYK12	contador DLMS0106
2015.02.08 12:53:36	LGZ0019109514	0019109514	CYK12	contador DLMS0106
2015.02.08 11:42:43	LGZ0019109539	0019109539	CYK12	contador DLMS0106
2015.02.08 11:41:53	LGZ0019109540	0019109540	CYK12	contador DLMS0106
2015.02.08 11:18:19	LGZ0019109547	0019109547	CYK12	contador DLMS0105
2015.02.08 11:42:31	LGZ0019109548	0019109548	CYK12	contador DLMS0106
2015.02.08 12:19:45	LGZ0019109589	0019109589	CYK12	contador DLMS0106

Existing Meters (S24)

Web Report with S24

[S24] EXISTING METERS

Get data HTML ▾

Serial	Access DLMS	Comm Status	Last Access
LGZ0019086476	Yes	A	2015.02.09 04:57:35
LGZ0019109512	Yes	A	2015.02.09 04:58:27
LGZ0019109513	Yes	A	2015.02.09 05:02:13
LGZ0019109514	Yes	A	2015.02.09 05:02:53
LGZ0019109539	Yes	A	2015.02.09 08:47:44
LGZ0019109540	Yes	A	2015.02.09 05:06:01
LGZ0019109547	Yes	A	2015.02.09 05:06:18
LGZ0019109548	Yes	A	2015.02.09 05:09:01
LGZ0019109589	Yes	A	2015.02.09 05:10:12

Remove Meters (B06)

Remove Meter from DC-450

Remove Meter

Meter Serial Number

Remove unit 'LGZ0050412212'

Success!

10.4.2 Data Summary

Information of last data stored in DC-450 with Billing Profiles (S02/S03/S04/S05)

Data Summary

Meter	S02 (Hourly Load Profile)	S03 (Daily Load Profile)	S04 (Monthly Billing Values)	S05 (Daily Billing Values)
LGZ0019086476	09.02.2015 00:00:00	09.02.2015 00:00:00	---	09.02.2015 00:00:00
LGZ0019109512	09.02.2015 00:00:00	09.02.2015 00:00:00	---	09.02.2015 00:00:00
LGZ0019109513	---	---	---	---
LGZ0019109514	08.02.2015 07:00:00	09.02.2015 00:00:00	---	09.02.2015 00:00:00
LGZ0019109539	09.02.2015 00:00:00	09.02.2015 00:00:00	---	09.02.2015 00:00:00
LGZ0019109540	09.02.2015 00:00:00	09.02.2015 00:00:00	---	09.02.2015 00:00:00
LGZ0019109547	---	---	---	---
LGZ0019109548	09.02.2015 00:00:00	09.02.2015 00:00:00	---	---
LGZ0019109589	09.02.2015 00:00:00	09.02.2015 00:00:00	---	09.02.2015 00:00:00
LGZ0019109598	09.02.2015 00:00:00	09.02.2015 00:00:00	---	09.02.2015 00:00:00

10.4.3 Black List

Add Meter

Add Mac Address to Black List

Add Meter

Mac ID

Remove Meter

Remove Mac Address from Black List

Remove Meter

Mac ID	00:80:E1:11:D0:0F x
<input type="button" value="Send"/>	

Add File

Add multiple Mac Addresses to black list, using a text file.

Add File

File:	<input type="button" value="Examinar..."/>
<input type="button" value="Upload"/>	

The format of the text file must be:

```
Meters_Blocked.txt
1 00:80:E1:11:FF:E4
2 00:80:E1:11:F8:60
3 00:80:E1:11:CA:6A
4 00:80:E1:11:CA:C1
5 00:80:E1:11:D0:0F
6 40:40:22:28:FC:1C
7 40:40:22:29:AA:9E
8 40:40:22:29:AA:C4
9 40:40:22:29:AA:F5
```

The Web-UI shows the mac addresses blocked by the DC450.

Black List Information

Mac
00:80:E1:11:D0:0F
00:80:E1:11:FF:E4
00:80:E1:11:F8:60
00:80:E1:11:CA:6A
00:80:E1:11:CA:C1
40:40:22:28:FC:1C
40:40:22:29:AA:9E
40:40:22:29:AA:C4
40:40:22:29:AA:F5

10.4.4 Topology

Enable/Disable Topology Log

Topology log enabled	<input checked="" type="checkbox"/>
<input type="button" value="Send"/>	
Filename	<input type="text" value="Topology_CT"/>
Host	<input type="text" value="88.26.215.67"/>
Path	<input type="text" value="/topology"/>
User	<input type="text" value="user_topology"/>
Pass	<input type="text" value="pass_topology"/>
Maximum log lines per send	<input type="text" value="2000"/>
Send timeout (seconds)	<input type="text" value="3600"/> x
<input type="button" value="Set"/>	

- Filename: Name of the File to be generated, to this name will be appended the date/time of the file.
- Host: name or ip address of FTP server
- Path: Path or directory of Ftp server
- User: User for access to FTP server
- Pass: Password of User
- Maximum log lines per send: maximum number of lines of each topology file can contain
- Send timeout: Frequency of transmission of topology files.

10.5 Tasks & Services

The DC450 web interface tasks & services menu displays information about:

- Obis Query
- Cycles
- Program Tasks

10.5.1 Obis Query

Select Meter and Object to request

Unit data

REGISTER

Unit ID	LGZ0019109547	...
Register	3;1-0:5.8.0*255;2	...
<input type="button" value="Get data"/>		

There is a list of DLMS objects to request

Select Register

Objects	
Disconnecter Control Status register	<input type="radio"/> 70;0-0:96.3.10*255;2
Alarm Register	<input type="radio"/> 3;0-0:97.98.0*255;2
Number of long power failures in all phases	<input type="radio"/> 1;0-0:96.7.5*255;2
Active energy import (+A)	<input type="radio"/> 3;1-0:1.8.0*255;2
Active energy export (-A)	<input type="radio"/> 3;1-0:2.8.0*255;2
Reactive energy QI (+Ri)	<input type="radio"/> 3;1-0:5.8.0*255;2
Reactive energy QII (+Rc)	<input type="radio"/> 3;1-0:6.8.0*255;2
Reactive energy QIII (-Ri)	<input type="radio"/> 3;1-0:7.8.0*255;2
Reactive energy QIV (-Rc)	<input type="radio"/> 3;1-0:8.8.0*255;2
Active energy import (+A) rate contract 1	<input type="radio"/> 3;1-0:1.8.11*255;2
Active energy import (+A) rate contract 2	<input type="radio"/> 3;1-0:1.8.12*255;2
Active energy import (+A) rate contract 3	<input type="radio"/> 3;1-0:1.8.13*255;2
Active energy import (+A) rate contract 4	<input type="radio"/> 3;1-0:1.8.14*255;2
Active energy import (+A) rate contract 5	<input type="radio"/> 3;1-0:1.8.15*255;2

10.5.2 Cycles

Execute cycles in DC450

Cycles Configuration Upload

Filename: No se ha seleccionado ningún archivo.

Cycles Results

Id	Name	Period	repeat	status
<input checked="" type="radio"/> 1	Hora_test	60	3	running
<input type="button" value="Start"/> <input type="button" value="Delete"/>				
<input type="button" value="Stop"/>				

Select the cycles file to upload, and click on Start Button, once is uploaded. The result of the cycles will be sent to the FTP Server configured for manage cycles files.

Options:

- Start: Start the cycle
- Stop: Stop the cycle
- Delete: Delete the cycle uploaded to DC450

10.5.3 Program Tasks

Program Tasks

TASK **TASK LOG** **FTP LOG**

Units List Files

Upload Units List File: No se ha seleccionado ningún archivo.

Program Tasks Parameters

Task Description:	<input type="text" value="Readings"/>
Start Time (format: YYYY.MM.DD, hh:mm:ss):	<input type="text" value="2015.02.09,02:00:00"/>
Frequency: (All zero means once execution)	<input type="text" value="00"/> Month <input type="text" value="01"/> Day <input type="text" value="00"/> Hour <input type="text" value="00"/> Min
Units List File <input checked="" type="radio"/> None <input type="radio"/> LGZ0019109539.txt (13 bytes) <input type="radio"/> LGZ0098313852.txt (13 bytes) <input type="button" value="Delete"/>	
Priority:	<input type="text" value="1"/> ▼
Fill Gaps:	<input type="text" value="Yes"/> ▼
Select Report/Order:	<input type="text" value="S09 (Meters Events)"/> ▼ <input type="button" value="add"/>
Remove S02	TpReq <input checked="" type="checkbox"/> TpSend <input checked="" type="checkbox"/> TpStore
Remove S05	TpReq <input checked="" type="checkbox"/> TpSend <input checked="" type="checkbox"/> TpStore
Remove S07	TpReq <input checked="" type="checkbox"/> TpSend <input checked="" type="checkbox"/> TpStore
Remove S09	TpReq <input checked="" type="checkbox"/> TpSend <input checked="" type="checkbox"/> TpStore <input type="text"/> EvGroup <input type="text"/> EvCode
<input type="button" value="Send"/>	

- Unit List: upload a file with the serial number of meters.
- Task Description: Name of the task
- Frequency: Frequency of the task, you can select Month, Day, Hour, or Minutes.

- Priority: Values (1 = High Priority, 2 = Medium Priority, 3 = Low Priority)
- Fill Gaps: Management of Data Gaps Enabled or Disabled
- Report / Order: Report or Order to be added to the task.

List of available Reports:

S02	Load Profile – Daily Incremental
S03	Daily absolute
S04	Monthly billing profile
S05	Daily billing values profile
S06	Meter Parameters
S07	Voltage Failure report
S08	Quality Power report
S09	Meter Events
S14	Voltage and current profile (only for Supervisor Meters)
S17	Concentrator events
S26	Current billing values on demand

List of available Orders:

T01	DC Reboot
T02	Stop all Orders
T03	Meter Time Synchronization
T04	Clear Meters in PF
T05	Forced DC Synchronization
T06	Clean Meters Passwords
T07	Brute Force Meter Time Synchronization

10.6 Statistics

The DC450 web interface statistics menu displays information on the concentrator's:

- DC Statistics
- PRIME Statistics
- Connections Statistics
- System Information

10.6.1 DC Statistics

- Profiles: There are 5 profiles (CPU Load, Temperature, Memory, Communication, GSM)
- Start: Start Date/ Time
- End: End Date / Time
- Output Format: Table, Graph, CSV

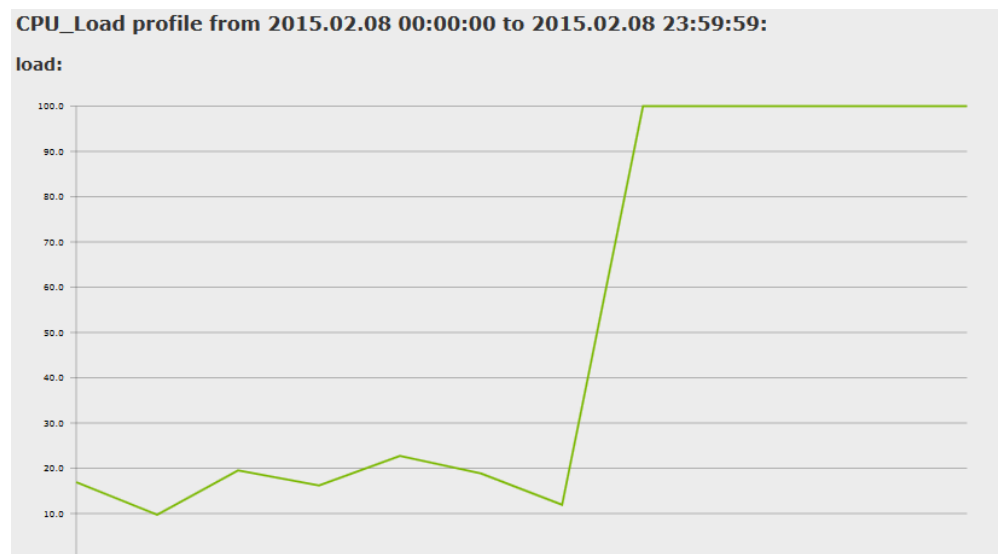
Examples:

Table

Memory_usage profile from 2015.02.08 00:00:00 to 2015.02.08 23:59:59:

num	time	Ram memory usage	Flash memory usage	Permanent memory usage	Temporal memory usage
29	2015.02.07 23:00:00	23.193	16.7283	6.43806	98.4782
30	2015.02.08 00:00:00	21.7966	15.6642	6.14656	98.0896
31	2015.02.08 01:00:00	21.9769	15.7488	6.14656	98.1397
32	2015.02.08 02:00:00	22.0584	15.7519	6.14656	98.1867
33	2015.02.08 03:00:00	22.1226	15.7519	6.14656	98.2369
34	2015.02.08 04:00:00	22.2088	15.7535	6.14656	98.3341
35	2015.02.08 05:00:00	22.2715	15.7707	6.14656	98.3795
36	2015.02.08 06:00:00	23.5989	16.8067	6.43806	98.8168
37	2015.02.08 07:00:00	23.052	16.3522	6.29231	98.6679
38	2015.02.08 08:00:00	22.2715	15.6689	5.80021	98.4093
39	2015.02.08 09:00:00	22.5238	15.8068	6.14656	98.5065
40	2015.02.08 10:00:00	23.9562	16.8709	6.43806	98.939
41	2015.02.08 11:00:00	21.0992	15.5263	6.83927	96.9925

Graph



CSV

Communications_stats profile from 2015.02.08 00:00:00 to 2015.02.08 23:59:59:

```

29,1423350000,0,0,0,0,0
30,1423353600,0,0,0,0,0
31,1423357200,0,0,0,0,0
32,1423360800,0,0,0,0,0
33,1423364400,0,0,0,0,0
34,1423368000,0,0,0,0,0
35,1423371600,0,0,0,0,0
36,1423375200,0,0,0,0,0
37,1423378800,0,0,0,0,0
38,1423382400,0,0,0,0,0
39,1423386000,0,0,0,0,0
40,1423389600,0,0,0,0,0
41,1423393200,0,0,0,0,0
42,1423396800,0,0,0,0,0
    
```

10.6.2 PRIME Statistics

Shows the Registration date/time of the meters in the DC450.

- Start: Start Date/ Time
- End: End Date / Time

PRIME Register History

Start from: (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.08.08:17:00"/>
End to: (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.08.11:18:59"/>
<input type="button" value="Get log"/>	

Registration history of period (2015.02.08 08:17:00 - 2015.02.08 11:18:59)

Date	Unit identifier
2015.02.08 11:17:05	LGZ0098313645
2015.02.08 11:17:20	LGZ0098315857
2015.02.08 11:17:20	LGZ0098313648
2015.02.08 11:17:21	LGZ0098313650
2015.02.08 11:17:25	LGZ0098316932
2015.02.08 11:17:26	LGZ0019109547
2015.02.08 11:17:26	LGZ0098313642
2015.02.08 11:17:26	LGZ0098313852
2015.02.08 11:17:39	LGZ0098315861
2015.02.08 11:17:39	LGZ0098313853
2015.02.08 11:17:40	LGZ0098315861
2015.02.08 11:17:44	LGZ0098313855
2015.02.08 11:17:51	LGZ0098313949
2015.02.08 11:17:54	LGZ0098313854
2015.02.08 11:18:07	ZIV0036285173
2015.02.08 11:18:15	ZIV0036240412
2015.02.08 11:18:27	ZIV0036285124

Hourly Communications (G01)

- Start: Start Date/ Time
- End: End Date / Time

Hourly Communications Statistics [G01]

Start from: (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.08.00:00:00"/>
End to: (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.08.23:59:59"/>
<input type="button" value="Get data"/> <input type="button" value="HTML"/>	

Finished

Hourly Statistics Info

Date Time	Average Active Meters	Maximum Active Meters	Total Number Meters	Percentage Active Meters
08.02.2015,00:00:00	101	115	121	83.47 %
08.02.2015,01:00:00	117	120	121	96.69 %
08.02.2015,02:00:00	117	119	121	96.69 %
08.02.2015,03:00:00	117	119	121	96.69 %
08.02.2015,04:00:00	118	120	121	97.52 %
08.02.2015,05:00:00	119	121	122	97.54 %
08.02.2015,06:00:00	121	122	122	99.18 %
08.02.2015,07:00:00	119	121	122	97.54 %
08.02.2015,08:00:00	102	121	122	83.61 %
08.02.2015,12:00:00	55	121	117	47.01 %

Daily Communications (G02)

- Start: Start Date/ Time
- End: End Date / Time

Daily Communications Statistics [G02]

Start from: (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.08.00:00:00"/>
End to: (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.08.23:59:59"/>
<input type="button" value="Get data"/> <input type="button" value="HTML"/>	

Finished

Daily Statistics Info

Serial Number	Date Time	Active Time	Number of Changes	Total Time	Percentage Active Time
LGZ0011587825	08.02.2015,00:00:00	700185	288	835345	83.82 %
LGZ0012152006	08.02.2015,00:00:00	712736	289	835599	85.30 %
LGZ0012152043	08.02.2015,00:00:00	597798	565	835569	71.54 %
LGZ0012152149	08.02.2015,00:00:00	714973	282	835549	85.57 %
LGZ0012152150	08.02.2015,00:00:00	519067	1030	835331	62.14 %
LGZ0012152172	08.02.2015,00:00:00	697336	279	835127	83.50 %
LGZ0012152185	08.02.2015,00:00:00	713087	155	835340	85.36 %
LGZ0012152203	08.02.2015,00:00:00	496535	444	835226	59.45 %
LGZ0012152231	08.02.2015,00:00:00	709183	138	835621	84.87 %
LGZ0012152241	08.02.2015,00:00:00	627893	886	835559	75.15 %
LGZ0012393372	08.02.2015,00:00:00	696998	472	835408	83.43 %
LGZ0012393673	08.02.2015,00:00:00	702396	469	835484	84.07 %

10.6.3 Connection Statistics

Modem Statistics

Connection Status (RF)

Connection status	Connected
Received signal strength	-75 dBm (19)
Network registration status	Registered, home net
GPRS registration status	Registered, home net
Bearer	UMTS (3G)

Statistics

SIM-card serial number	8934569801204156885
Modem type and version	Telit UE910-EUD 12.00.414
Connection activations	22
Ping failures	0
Connection resets	3
Connection uptime	3d 7h 34m 2s
Previous connection starting time	2015.02.08 10:16:11

Statistics of the Latest Connection

IP address:		77.211.26.249
RX:	Packets:	79293
	Errors:	0
	Dropped:	0
	Overruns:	0
	Frame:	0
	Bytes:	11550064 (11.0 MiB)
TX:	Packets:	103534
	Errors:	0
	Dropped:	0
	Overruns:	0
	Frame:	0
	Collisions:	0
	Queue length:	3
	Bytes:	16734300 (15.9 MiB)

You have the option to show Field Strength and Modem Event Log under the modem statistics.

Ethernet Statistics

Connection Status

LAN2 status	Not connected
LAN1 status	Connected

LAN1 Ethernet Port - Statistics of the Latest Connection

MAC Address:		00:0F:93:01:7E:85
IP Address:		192.168.1.97
Broadcast Address:		192.168.1.255
Subnet Mask:		255.255.255.0
RX:	Packets:	234830
	Errors:	0
	Dropped:	0
	Overruns:	0
	Frame:	0
Bytes:		20992126 (20.0 MiB)
TX:	Packets:	100697
	Errors:	0
	Dropped:	0
	Overruns:	0
	Frame:	0
	Collisions:	0
	Queue length:	1000
Bytes:		18571624 (17.7 MiB)

STG Statistics

STG statistics

Summary of all connections

Connection count	340
Connection time	3309 s
Transmit frames	0
Received frames	0
Transmit bytes	0 B
Received bytes	0 B

Previous connection

Own address	192.168.1.97:4120
Peer address	192.168.1.99:61340
Start time	2015.02.05 13:34:46
End time	2015.02.05 13:34:46
Connection time	0s
Transmit frames	0
Received frames	0
Transmit bytes	0 B
Received bytes	0 B

Connection Test

```
PING 192.168.1.97 (192.168.1.97): 56 data bytes
64 bytes from 192.168.1.97: seq=0 ttl=64 time=1.072 ms
64 bytes from 192.168.1.97: seq=1 ttl=64 time=0.690 ms
64 bytes from 192.168.1.97: seq=2 ttl=64 time=0.609 ms
64 bytes from 192.168.1.97: seq=3 ttl=64 time=0.579 ms
64 bytes from 192.168.1.97: seq=4 ttl=64 time=0.589 ms

--- 192.168.1.97 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 0.579/0.707/1.072 ms
```

Ping Test

IP Address	<input type="text" value="192.168.1.97"/>
<input type="button" value="Start test"/>	

10.6.4 System Information

Information of applications running on DC450.

Applications	Memory	Disk usage	System version								
SERVICE_NAME	PORT	PID	PROGRAM	VERSION	RUN_TIME	MALLOCS	HEAP	RSS	VM	CPU%	per/s
nameservice	000000001	1068	nameserver	1.2.0	62.05	2056	132	175	2688	0.33%	6.466
supervisor	000101070	1070	supervisor	1.4.2	134.63	5272	132	251	2800	0.71%	4.035
eventservice	000101074	1074	eventserver	1.0.1	0.22	3128	132	178	2680	0.00%	0.021
configuration	000101071	1071	configd	1.2.1	46.72	79712	208	270	2756	0.25%	4.557
timermanager	000401073	1073	timermanager	1.2.1	26.84	8512	132	206	2684	0.14%	2.486
enealarm	000401075	1075	alarmmanager	1.4.2	3.93	3136	132	219	2712	0.02%	0.412
registry	000401072	1072	registry	1.1.0	11.31	13272	132	202	2680	0.06%	1.058
enenotice	000401075	1075	alarmmanager	1.4.2	3.93	3136	132	219	2712	0.02%	0.412
rs485	000401081	1081	rs485driver	1.2.0	58.36	4104	132	236	2892	0.31%	9.989
powerresume	000401075	1075	alarmmanager	1.4.2	3.94	3136	132	219	2712	0.02%	0.412
fwupdate	000401085	1085	fwupdater	1.0.3	2.42	131200	260	427	4436	0.01%	0.171
comhandler	000401080	1080	comhandler	1.5.4	18.41	5496	132	381	21292	0.10%	2.951
tlsproxy	000401088	1088	tlsproxy	0.0.1	0.41	76488	132	517	5212	0.00%	0.022
cycles	000401091	1091	cycles	0.1.0	1.20	78920	132	491	15036	0.01%	0.219
push	000401090	1090	pushd	1.7.5	5.58	117168	132	547	14572	0.03%	1.028
dcftp	000401093	1093	dcftp	0.1.0	194.73	892992	1276	958	16528	1.03%	7.771
programtasks	000401092	1092	programtasks	0.1.0	32.39	312512	388	697	17776	0.17%	2.785
msgbroker	000501087	1087	msgbroker	1.5.1	3.90	89504	132	392	12332	0.02%	0.115
serialserver	000401094	1094	serialserver	1.1.0	0.21	2488	132	218	5756	0.00%	0.019
modemmux	000601079	1079	modemmux	1.2.0	208.85	5184	132	245	2828	1.10%	35.234
swupdate	000601084	1084	swupdater	1.8.1	0.48	76336	132	354	4076	0.00%	0.029
readingengine	000601086	1086	readingengine	1.6.8	1.07	171712	260	415	4472	0.01%	0.027
odep	000401089	1089	odepserver	1.7.1	0.31	3352	132	417	7404	0.00%	0.021
activealarm	000401076	1076	notifier	0.1.0	23.97	103808	132	310	3756	0.13%	1.489
plcbroker	000701083	1083	plcbroker	1.10.7	189.75	281400	532	687	46352	1.00%	4.607
notification	000401076	1076	notifier	0.1.0	23.97	103808	132	310	3756	0.13%	1.489
profiler	001001082	1082	loggerd	1.5.0	36.90	192488	416	463	12028	0.20%	2.891
rtc	001501077	1077	rtcd	1.3.0	1.86	2320	132	238	2848	0.01%	0.177
atcommand	000601080	1080	comhandler	1.5.4	18.42	5496	132	381	21292	0.10%	2.951

Memory Usage of DC-450

Applications	Memory	Disk usage	System version
MemTotal:	255232 kB		
MemFree:	209744 kB		
Buffers:	5800 kB		
Cached:	15940 kB		
SwapCached:	0 kB		
Active:	22064 kB		
Inactive:	14940 kB		
Active (anon):	15460 kB		
Inactive (anon):	108 kB		
Active (file):	6604 kB		
Inactive (file):	14832 kB		
Unevictable:	0 kB		
Mlocked:	0 kB		
SwapTotal:	0 kB		
SwapFree:	0 kB		
Dirty:	4 kB		
Writeback:	0 kB		
AnonPages:	15284 kB		
Mapped:	5980 kB		
Shmem:	308 kB		
Slab:	4620 kB		
SReclaimable:	1456 kB		
SUnreclaim:	3164 kB		
KernelStack:	920 kB		
PageTables:	1000 kB		
NFS_Unstable:	0 kB		
Bounce:	0 kB		
WritebackTmp:	0 kB		
CommitLimit:	127616 kB		
Committed_AS:	253660 kB		
VmallocTotal:	761856 kB		
VmallocUsed:	4580 kB		
VmallocChunk:	757168 kB		

Information of FileSystem and Disk Space of DC450.

Applications	Memory	Disk usage	System version
Filesystem	Size	Used Available Use% Mounted on	
/dev/mmcblk0p3	121.1M	68.8M 46.1M 60% /	
devtmpfs	122.4M	0 122.4M 0% /dev	
tmpfs	25.0M	60.0K 24.9M 0% /tmp	
tmpfs	5.0M	224.0K 4.8M 4% /var/log	
tmpfs	1.0M	20.0K 1004.0K 2% /var/run	
tmpfs	1.0M	4.0K 1020.0K 0% /var/lock	
tmpfs	1.0M	0 1.0M 0% /var/spool	
tmpfs	1.0M	0 1.0M 0% /mnt	
/dev/mmcblk0p6	742.2M	20.1M 684.4M 3% /mnt/data	
/dev/mmcblk0p5	118.2M	34.6M 77.6M 31% /mnt/images	
/dev/mtdblock3	320.0K	200.0K 120.0K 63% /mnt/prodcfg	
Filesystem	Inodes	Used Available Use% Mounted on	
/dev/mmcblk0p3	7936	1902 6034 24% /	
devtmpfs	31336	632 30704 2% /dev	
tmpfs	31904	21 31883 0% /tmp	
tmpfs	31904	12 31892 0% /var/log	
tmpfs	31904	7 31897 0% /var/run	
tmpfs	31904	3 31901 0% /var/lock	
tmpfs	31904	56 31848 0% /var/spool	
tmpfs	31904	4 31900 0% /mnt	
/dev/mmcblk0p6	48288	295 47993 1% /mnt/data	
/dev/mmcblk0p5	31360	13 31347 0% /mnt/images	
/dev/mtdblock3	0	0 0 0% /mnt/prodcfg	

System Version

Operating system

Linux version 3.4.52-svn-455 (hico@emvm) (gcc version 4.6.2 (OSELAS.Toolchain-2011.11.0)) #12 PREEMPT Thu Mar 6 09:57:11 CET 2014

Boot loader

U-Boot 2013.04 (Aug 06 2013 - 13:33:44)

10.7 Software update

10.7.1 DC Version History

Shows the DC450 Firmware Upgrade History

TIME	UPDATE PACKAGE	VERSION UPDATE
22.12.2014 08:03:49	1.0.46 -> 1.1.0	1.0.46 beta 1 -> 1.1.0
22.12.2014 08:08:39	1.1.0 -> 1.1.1	1.1.0 -> 1.1.1
22.12.2014 08:10:42	1.1.1 -> 1.1.2	1.1.1 -> 1.1.2
31.12.2014 10:28:55	1.1.2 -> 1.1.3	1.1.2 -> 1.1.3
31.12.2014 10:35:35	1.1.3 -> 1.1.4	1.1.3 -> 1.1.4
31.12.2014 10:42:02	1.1.4 -> 1.1.5	1.1.4 -> 1.1.5
31.12.2014 10:46:01	1.1.6 -> 1.1.7	1.1.5 ->
31.12.2014 10:51:23	1.1.6 -> 1.1.7	1.1.5 ->
31.12.2014 10:52:32	1.1.5 -> 1.1.6	1.1.5 -> 1.1.6
31.12.2014 10:55:42	1.1.6 -> 1.1.7	1.1.6 -> 1.1.7
31.12.2014 11:01:13	1.1.7 -> 1.1.8	1.1.7 -> 1.1.8
06.02.2015 18:18:49	1.1.8 -> 1.1.9	1.1.8 -> 1.1.9
06.02.2015 18:52:02	1.1.8 -> 1.1.9	1.1.9 -> 1.1.9

10.7.2 Update Log

Detailed Information about DC450 Firmware Upgrades

UPDATE HISTORY
UPDATE LOG

Latest update

```

*** 06.02.2015 18:52:02 Starting update from 1.1.8 to 1.1.9 ***
Version at the start of the update is 1.1.9
Verifying version number...OK
Verifying disk space...OK
Processing update...
OK
*** 06.02.2015 18:52:06 Update completed succesfully
Version after the update is 1.1.9
Rebooting device...
                    
```

Version history

```

*** 22.12.2014 08:03:49 Starting update from 1.0.46 to 1.1.0 beta 1 ***
Version at the start of the update is 1.0.46 beta 1
Verifying version number...OK
Verifying disk space...OK
Processing update...
install: omitting directory '/tmp/update/contents/etc/sql'
rm: can't remove '/mnt/data/programtasks/tostg/*': No such file or directory
rm: can't remove '/mnt/data/programtasks/tosend/*': No such file or directory
rm: can't remove '/mnt/data/programtasks/hist/*': No such file or directory
rm: can't remove '/mnt/data/plcbroker/topology/tosend/*': No such file or directory
mount: mounting /dev/nmcblk0p3 on / failed: Device or resource busy
OK
*** 22.12.2014 08:03:52 Update completed succesfully
Version after the update is 1.1.0
Rebooting device...
                    
```

10.7.3 DC FW Update

Performs DC450 Firmware Upgrade.

Update DC Software

Upload Update Package

Update Package	<input type="button" value="Examinar..."/> No se ha seleccionado ningún archivo.
<input type="button" value="Upload"/>	

Select the directory where the file with the Firmware is located.

Update DC Software

Update Package:	dc450v2_PRIME_update_1-1-8_1-1-9	793418 bytes
Signature Matches the Update Package, Upload OK!		
<input type="button" value="Install Update"/>		

The DC450 verifies file integrity and version. If the file is ok, a message with Signature Matches OK will be shown, to start the upgrade click on Install Update.

10.7.4 Meters FW Update

Performs Meters Firmware Upgrade (DLMS and PRIME).

Jobs List

Click on Job ID to get detailed information.

Meter Firmware Update

Unit firmware update jobs

Job ID	Job State	Job Result	Job activation time	Job expiration time	Job closing time	Failed units	Success units	Unfinished units	Total units
1	Failure	Interrupted system call	2015.02.07 07:33:44	2015.02.08 08:33:44		0	0	8	8
2	Broadcast	Operation now in progress	2015.02.09 14:03:55	2015.02.10 15:03:55		0	0	10	10

Done

Information of Firmware Upgrade Job

Detailed information about blocks, transfer, method, images.

Firmware update job 2

Commands

Job summary

Job ID	2
State	Broadcast
Activation time	2015.02.09 14:03:55
Expiration time	2015.02.10 15:03:55
Image file	LGZ_YK_DLMS_v0408.bin
Units list ID	YK_405.txt
Block size	64 bytes
Block count	7489
Transfer Method	Both Broadcast and Unicast
Blocks broadcasted	53
Job Source	WebUI

Job state history

Phase	Start time	Used time	Progress
Waiting activation time	2015.02.09 15:04:00	0s	Completed
Wait unit list	2015.02.09 15:04:00	1s	Completed
Download image	2015.02.09 15:04:01	0s	Completed
Collecting unit data	2015.02.09 15:04:01	5s	Completed
Pre-check units	2015.02.09 15:04:06	32s	Completed
Init transfer	2015.02.09 15:04:38	10s	Completed
Broadcast	2015.02.09 15:04:48	54s	In progress: 0%

Job Status and Statistics

Detailed information about meter state during firmware upgrade process.

Unit update phase statistics

Unit phase	Unit count
Data collect	0
Pre-check	0
Init transfer	0
Transfer	10
Re-transfer	0
FW transfered	0
Activating	0
Success	0
Failed	0
Not processed	0

Units of the job

Unit ID	Unit State	Model	Active Firmware
LGZ0019109547	Transfer	YK	V0405
LGZ0098313642	Transfer	YK	V0405
LGZ0098313645	Transfer	YK	V0405
LGZ0098313648	Transfer	YK	V0405
LGZ0098313664	Transfer	YK	V0405
LGZ0098313852	Transfer	YK	V0405
LGZ0098313949	Transfer	YK	V0405
LGZ0098315857	Transfer	YK	V0405
LGZ0098315861	Transfer	YK	V0405
LGZ0098316902	Transfer	YK	V0405

Create Job

Create job

Upload Image File: No se ha seleccionado ningún archivo.

Upload Meters List File: No se ha seleccionado ningún archivo.

Image File

LGZ_YK_DLMS_v0408.bin (479280 bytes)

Meters List File

None
 LGZ_YK_405.txt (163 bytes)
 YK_405.txt (148 bytes)

Activation time:

Expiration time:

Upgrade Method: Broadcast
 Unicast
 Both

Retry bCast:

Retry uCast:

Running process: Restart
 Continue

Check version: Ignore Updated Meters
 Update All

SUCCESS:
Job Created!

- Select or Upload the Firmware Image File
- Select or Upload the Meters List, the format of meter list has to be a text file with the format:


```
LGZ0019109547
LGZ0098313642
LGZ0098313645
LGZ0098313648
```
- Select the image file, meter list, upgrade method (unicast and broadcast), process time and version checking.

10.8 Meter Menu

For access to meter menu, just click on the serial number or choose from the meter list in the panel menu.

10.8.1 Summary

Shows brief information of the meter with status, firmware versions and communications.

General	
Meter Serial Number	LGZ0098315861
DLMS Firmware Version	V0405
Communication	
Status	OK
Protocol	PRIME
Total Quality	100.0 %
Last Successful Time	2015.02.10 06:35:25
Last Fail Time	-
PRIME	
Serial Number	LGZ0098315861
MAC Address	00:80:E1:12:40:D0
PRIME Firmware Version	1.2.6h_R
More Information	

10.8.2 PRIME

Detailed information about communications and registration.

General		
Meter Serial Number	LGZ0098315861	
Status	OK (0)	
Protocol	PRIME	
Serial Number	0098315861	
DLMS Firmware Version	V0405	
Installation State	Internal value	63
	Installation	Completed
PRIME Information		
Meter Serial Number	LGZ0098315861	
MAC Address	00:80:E1:12:40:D0	
Registration Time	2015.02.09 18:14:47	

Information about last 24 hours of communications activity of the meter.

Communication Statistics

Contacted After Last Powerbreak	yes		
Total Messages Sent	159		
Total Messages Success	159		
Total Quality	100.0 %		
Last Successful Time	2015.02.10 06:35:25		
Last Fail Time	1970.01.01 00:00:00		
Consecutive Failures	0		
Processing Time	0s		
Roundtrip Time Average	0 ms		
Hourly Sent Messages	Hour	Sent / Success	Quality (%)
	00	51 / 51	100.0 %
	01	0 / 0	0.0 %
	02	0 / 0	0.0 %
	03	0 / 0	0.0 %
	04	0 / 0	0.0 %
	05	0 / 0	0.0 %
	06*	3 / 3	100.0 %
	07	0 / 0	0.0 %
	08	0 / 0	0.0 %
	09	0 / 0	0.0 %
	10	0 / 0	0.0 %
	11	0 / 0	0.0 %
	12	0 / 0	0.0 %
	13	0 / 0	0.0 %
	14	0 / 0	0.0 %
	15	0 / 0	0.0 %
	16	0 / 0	0.0 %
	17	0 / 0	0.0 %
	18	0 / 0	0.0 %
	19	0 / 0	0.0 %
	20	0 / 0	0.0 %
	21	0 / 0	0.0 %
	22	0 / 0	0.0 %
	23	0 / 0	0.0 %
Total	54 / 54	100.0 %	

Registration history

Registration History

2015.02.09 18:14:47
2015.02.09 08:41:21
2015.02.08 11:17:40
2015.02.08 11:17:39

10.8.3 Actions

Get/Set Meter Time

- Get Time: Read the meter time
- Set Time: Change the meter time.

Finished

<input type="button" value="Get Time"/>	2015.02.09 15:22:14
<input type="button" value="Set Time"/>	

10.8.4 Power Modification (B02)

- Get Power: Read the Current Values
- Send: Modify the Power Values

[B02] Power Modification

<input type="button" value="Get Power"/>	
Tariff rate	Value (W)
1	<input type="text" value="3450"/>
2	<input type="text" value="3450"/>
3	<input type="text" value="3450"/>
4	<input type="text" value="3450"/>
5	<input type="text" value="3450"/>
6	<input type="text" value="3450"/>
Activation Date (format: YYYY.MM.DD,hh:mm:ss)	<input type="text" value="2015.02.09,00:00:00"/>
<input type="button" value="Send"/>	

10.8.5 Disconnect Control (B03)

- Connect/Disconnect the meter internal breaker.
- Select the Action (Connect or Disconnect)
- Execution Date: Execute the Action according to the date.

[B03] Disconnect Control

Action	Connect ▾
Execution Date (format: YYYY.MM.DD,hh:mm:ss)	<input type="text" value="2015.02.09,00:00:00"/>
<input type="button" value="Send"/>	

10.8.6 Reports (S01/S21)

Reports of Instantaneous Values, S01 has information about 1 Phase and S21 report has information about magnitudes of 3 Phases.

[S01] INSTANTANEOUS VALUES

Finished

Field	Description	Value
Cnf	Unique meter identifier	LGZ0011564459
Fh	Timestamp	20150210063637255W
L1v	Voltage L1	241 V
L1i	Current L1	0.2 A
Pimp	Active power (import)	30 W
Pexp	Active power (export)	0 W
Qimp	Reactive power (import)	10 VAr
Qexp	Reactive power (export)	0 VAr
PF	Power factor	0.904
Ca	Active quadrant	1
PP	Phase presence	1.0.0
Fc	Meter phase	1
Eacti	Actual switch state	1
Eanti	Previous switch state	0
AIa	Active Import	5423.440 kWh
AEa	Active Export	0.082 kWh
R1a	Reactive quadrant I	2072.815 kVArh
R2a	Reactive quadrant II	0.367 kVArh
R3a	Reactive quadrant III	0.003 kVArh
R4a	Reactive quadrant IV	61.645 kVArh

10.8.7 Reports (S02/S03/S04/S05/S09)

All the reports on this category has the same structure, for data request, and can be done according to following parameters:

- DCC: (DC Conditional) If data exists in DC deliver it, otherwise, ask the meter.
- DCF: (DC Forced) Deliver only data which is in the DC, if data is not there, consider data is missing.
- MET: Force meter reading
- Start: Start Date/ Time
- End: End Date / Time

<input type="radio"/> DC Conditional (DCC) <input checked="" type="radio"/> DC Forced (DCF) <input type="radio"/> Meter Forced (MET)	
Start time (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.09,00:00:00"/>
Stop time (format: YYYY.MM.DD, hh:mm:ss)	<input type="text" value="2015.02.09,03:00:00"/>
<input type="button" value="Get data"/>	HTML ▾

You can get the information in two formats : HTML and XML.

S03 Example (HTML)

[S03] DAILY ABSOLUTES

DC Conditional (DCC)
 DC Forced (DCF)
 Meter Forced (MET)

Start time (format: YYYY.MM.DD, hh:mm:ss)

Stop time (format: YYYY.MM.DD, hh:mm:ss)

HTML ▾

Finished

Report	IdRpt	S03	IdPet	0	Version="3.1.c"												
	Cnc	Id	LGZ0014900010														
		Cnt	Id	LGZ0011564459													
S03	Fh	09/02/2015 00:00:00	AI	5408 kWh	AE	0 kWh	R1	2071 kVArh	R2	0 kVArh	R3	0 kVArh	R4	61 kVArh	Bc	00	

S04 Example (XML)

```

- <Report IdRpt="S03" IdPet="0" Version="3.1.c">
- <Cnc Id="LGZ0149000039">
- <Cnt Id="LGZ0098315861">
  <S03 Fh="20150210000000255W" AI="5015" AE="0" R1="1126" R2="0" R3="0" R4="30" Bc="130"/>
  <S03 Fh="20150210000000255W" AI="5015" AE="0" R1="1126" R2="0" R3="0" R4="30" Bc="130"/>
</Cnt>
</Cnc>
</Report>
    
```

10.8.8 Reports (S07/S08/S27)

All the reports on this category has the same structure, for data request, these reports only allows instant read (MET) of meter values.

S07 Example

[S07] VOLTAGE FAILURE

Instant read

Start time (format: YYYY.MM.DD, hh:mm:ss)

Stop time (format: YYYY.MM.DD, hh:mm:ss)

HTML ▾

Finished

Report	IdRpt	S07	IdPet	0	Version="3.1.c"											
	Cnc	Id	LGZ0014900007													
		Cnt	Id	LGZ0012402947												
S07	Fh	20150209154004000W	Dc	180 s	Nc	0	Df	0 s	Hc	20150208030606000W						

S08 Example

[S08] POWER QUALITY

Instant read

Start time (format: YYYY.MM.DD, hh:mm:ss)

Stop time (format: YYYY.MM.DD, hh:mm:ss)

HTML ▾

Finished

Report	IdRpt	S08	IdPet	0	Version="3.1.c"																
	Cnc	Id	LGZ0014900007																		
		Cnt	Id	LGZ0012402947																	
S08	Fh	20150209154135000W																			
	Sub	NsubTt	TsubTt	TsubTta	NsubTf1	0	TsubTf1	0 s	TsubTf1a		NsubTf2	TsubTf2	TsubTf2a	NsubTf3	TsubTf3	TsubTf3a					
	Sob	NsobTt	TsobTt	TsobTta	NsobTf1	50	TsobTf1	10008 s	TsobTf1a	10008 s	NsobTf2	TsobTf2	TsobTf2a	NsobTf3	TsobTf3	TsobTf3a					
	Corte	NcorteTt	TcorteTt	TcorteTta	NcorteTf1		TcorteTf1		TcorteTf1a		NcorteTf2	TcorteTf2	TcorteTf2a	NcorteTf3	TcorteTf3	TcorteTf3a					

10.8.9 Meter Parameters Modification (S06/B09)

This report has detailed information about the meter configuration and parameters.

The parameters that can be modified are (Tp, Ts, Ip, Is, Clec, Cges, Cact, Usag, Uswell, Per, Dctcp, Vr, Ut, Usubt, Usobt, Ucortet, AutmothBill, ScrollDispMode, ScrollDispTime)

Write the values and click on Send button.

[S06]/[B09] PARAMETERS

Finished

Field	Description	Value
Cnf	Unique meter identifier	<input type="text" value="LGZ0012402947"/>
Fh	Timestamp	<input type="text" value="2015020915450000W"/>
NS	Serial number	<input type="text" value="0012402947"/>
Fab	Manufacturer number	<input type="text" value="C"/>
Mod	Model type	<input type="text" value="YB"/>
Af	Manufacturing year	<input type="text" value="11"/>
Te	Type of equipment	<input type="text" value="contador"/>
Vf	Firmware version	<input type="text" value="V0408"/>
VPrime	Prime Firmware version	<input type="text" value="1.2.6h_R"/>
Pro	Protocol	<input type="text" value="DLMS0104"/>
Mac	MAC address, modem PLC	<input type="text" value="00:80:E1:04:40:16"/>
Idm	Id. Comunic. Multicast	<input type="text" value="Device ID 6"/>
Tp	Primary voltage	<input type="text" value="0"/>
Ts	Secondary voltage	<input type="text" value="0"/>
Ip	Primary current	<input type="text" value="0"/>
Is	Secondary current	<input type="text" value="0"/>
Clec	Reading key	<input type="text"/>
Cges	Parameterization key	<input type="text"/>
Cact	Updating key	<input type="text"/>
Usag	Time threshold for Voltage sags (s)	<input type="text" value="180"/>
Uswell	Time threshold for Voltage swells (s)	<input type="text" value="180"/>
Per	Load profile period (s)	<input type="text" value="3600"/>
Dctcp	Demand close to contracted power (%)	<input type="text" value="95.00"/>
Vr	Reference voltage (V)	<input type="text" value="230"/>
Ut	Long Power Failure threshold (V)	<input type="text" value="180"/>
UsubT	Voltage sag threshold (%)	<input type="text" value="7.00"/>
UsobT	Voltage swell threshold (%)	<input type="text" value="7.00"/>
UcorteT	Voltage cut-off threshold (%)	<input type="text" value="50.00"/>
AutMothBill	Enable/Disable automatic monthly billing	<input type="text" value="YES"/>
ScrollDispMode	Scroll Display Mode	<input type="text" value="A"/>
ScrollDispTime	Time for Scroll Display (s)	<input type="text" value="3"/>

Blank values are not sent to the meter

Write the values and click on Send button.

10.8.10 Contracts Modifications (S23/B04)

For read the meter actual contract, click on Get Data button.

For contract modification, just paste or copy a valid contract into the textbox of Passive Calendars and click on Send button.

[S23]/[B04] CONTRACTS

Finished

Active Calendars

```
<Contract c="1" CalendarType="1" CalendarName="504153495645">
  <Season Name="01" Start="FFFFFFFFFFFFFFFF800080" Week="01"/>
  <Season Name="02" Start="FFFFFFDFFFFFFFFF800000" Week="02"/>
  <Week Name="01" Week="01010101010101"/>
  <Week Name="02" Week="02020202020202"/>
  <Day id="01">
    <Change Hour="0D000000" TariffRate="0001"/>
    <Change Hour="17000000" TariffRate="0002"/>
  </Day>
  <Day id="02">
    <Change Hour="0C000000" TariffRate="0001"/>
    <Change Hour="16000000" TariffRate="0002"/>
  </Day>
</Contract>

<Contract c="2" CalendarType="1" CalendarName="414354495645">
</Contract>

<Contract c="3" CalendarType="1" CalendarName="414354495645">
</Contract>
```

Passive Calendars

```
<Contract c="1" CalendarType="1" CalendarName="504153495645" ActDate="FFFFFFFFFFFFFFFF800009">
  <Season Name="01" Start="FFFFFFFFFFFFFFFF800080" Week="01"/>
  <Season Name="02" Start="FFFFFFDFFFFFFFFF800000" Week="02"/>
  <Week Name="01" Week="01010101010101"/>
  <Week Name="02" Week="02020202020202"/>
  <Day id="01">
    <Change Hour="0D000000" TariffRate="0001"/>
    <Change Hour="17000000" TariffRate="0002"/>
  </Day>
  <Day id="02">
    <Change Hour="0C000000" TariffRate="0001"/>
    <Change Hour="16000000" TariffRate="0002"/>
  </Day>
</Contract>

<Contract c="2" CalendarType="1" CalendarName="504153495645" ActDate="FFFFFFFFFFFFFFFF800009">
</Contract>

<Contract c="3" CalendarType="1" CalendarName="504153495645" ActDate="FFFFFFFFFFFFFFFF800009">
</Contract>
```

10.1 LV Supervisor S210

The information related to supervisor meter is the same as for a normal meter, with some special reports which are only available for S210 supervisor meter.

Report S14 is only intended for supervisor meters and is only available for Iberdrola and Small Utilities profiles.

The menu bar when a S210 supervisor meter is selected has additional tabs regarding to Gxx reports.

Meter LGZ000000009 Information

SUMMARY	PRIME	ACTIONS	S01	S21	S02	S03	S04	S27	S05	S06/B09	S07
S08	S09	S23/B04	G03	G04	G05	G06	G07	G08/C01	G21		

10.1.1 Report (G21)

Report of Instantaneous Values (INS) of voltages, currents and powers.

[G21] SUPERVISION INSTANTANEOUS VALUES		
Finished		
Field	Description	Value
Fh	Timestamp	20150210092600000W
InsVph1_lv	Instant Voltage phase 1 - low voltage	223 V.
InsVph2_lv	Instant Voltage phase 2 - low voltage	221 V.
InsVph3_lv	Instant Voltage phase 3 - low voltage	221 V.
InsIph1_lv	Instant Current phase 1 - low voltage	5.0 A.
InsIph2_lv	Instant Current phase 1 - low voltage	4.9 A.
InsIph3_lv	Instant Current phase 1 - low voltage	5.0 A.
InsPplus_triph	Instant Active power (import)	1105.0 W.
InsPminus_triph	Instant Active power (export)	0.0 W.
InsQplus_triph	Instant Reactive power (import)	0.0 W.
InsQminus_triph	Instant Reactive power (Export)	0.0 W.
InsVRS_mv	Instant phase to phase voltage (R-S)- medium voltage	0
InsVST_mv	Instant phase to phase voltage (S-T)- medium voltage	18256
InsVTR_mv	Instant phase to phase voltage (T-R)- medium voltage	18256
Insineutral	Instant Neutral Current	0.0 A.
InsV0_comp	Instant Zero - Comp	74
InsV1_comp	Instant Positive - Comp	74
InsV2_comp	Instant Negative - Comp	74
<input type="button" value="Get data"/>		

10.1.2 Reports (G03/G04/G05/G06/G07)

All the reports on this category has the same structure, for data request, and can be done according to following parameters:

- DCC: (DC Conditional) If data exists in DC deliver it, otherwise, ask the meter.
- DCF: (DC Forced) Deliver only data which is in the DC, if data is not there, consider data is missing.
- MET: Force meter reading
- Start: Start Date/ Time
- End: End Date / Time

<input type="radio"/> DC Conditional (DCC) <input checked="" type="radio"/> DC Forced (DCF) <input type="radio"/> Meter Forced (MET)	
Start time (format: YYYY.MM.DD,hh:mm:ss)	2015.02.09,00:00:00
Stop time (format: YYYY.MM.DD,hh:mm:ss)	2015.02.09,03:00:00
<input type="button" value="Get data"/> <input type="button" value="HTML"/>	

You can get the information in two formats: HTML and XML.

G03 Example (HTML)

[G03] AVERAGE VALUES

DC Conditional (DCC)
 DC Forced (DCF)
 Meter Forced (MET)

Start time (format: YYYY.MM.DD, hh:mm:ss)	2015.02.06,00:00:00
Stop time (format: YYYY.MM.DD, hh:mm:ss)	2015.02.07,09:54:13
<input type="button" value="Get data"/> <input type="button" value="HTML"/>	

Finished

Report	IdRpt	G03	IdPet	0	Version="3.1.c"											
	Cnc	Id	LGZ0014900004													
		Cnt	Id	LGZ0000000009												
G03	Fh	06/02/2015 00:00:00	AvVph1_lv	226 V	AvVph2_lv	226 V	AvVph3_lv	226 V	AvIph1_lv	0 A	AvIph2_lv	0 A	AvIph3_lv	14606 A	AvPplus_triph	0 W
G03	Fh	06/02/2015 01:00:00	AvVph1_lv	227 V	AvVph2_lv	226 V	AvVph3_lv	226 V	AvIph1_lv	0 A	AvIph2_lv	0 A	AvIph3_lv	14638 A	AvPplus_triph	167541 W
G03	Fh	06/02/2015 02:00:00	AvVph1_lv	225 V	AvVph2_lv	225 V	AvVph3_lv	225 V	AvIph1_lv	0 A	AvIph2_lv	0 A	AvIph3_lv	14579 A	AvPplus_triph	0 W
G03	Fh	06/02/2015 03:00:00	AvVph1_lv	226 V	AvVph2_lv	226 V	AvVph3_lv	226 V	AvIph1_lv	0 A	AvIph2_lv	0 A	AvIph3_lv	14619 A	AvPplus_triph	0 W
G03	Fh	06/02/2015 04:00:00	AvVph1_lv	227 V	AvVph2_lv	226 V	AvVph3_lv	226 V	AvIph1_lv	0 A	AvIph2_lv	0 A	AvIph3_lv	14665 A	AvPplus_triph	0 W

G05 Example (XML)

```

<Report IdRpt="G05" IdPet="0" Version="3.1.c">
  <Cnc Id="LGZ0014900004">
    <Cnt Id="LGZ0000000009">
      <G05 Fh="201502060000000000W" MinVph1_lv="224" MinVph2_lv="224" MinVph3_lv="224" MinIph1_lv="0" MinIph2_lv="0" MinIph3_lv="14465" MinPplus_triph="0" MinPminus_triph="0" MinQplus_triph="57189" MinQminus_triph="0" MinVph1_mv="18495" MinVph2_mv="18489" MinVph3_mv="18662" MinIneutral="14465" MinVo_comp="224" MinV1_comp="0" MinV2_comp="0" Bc="0"/>
      <G05 Fh="201502060100000000W" MinVph1_lv="224" MinVph2_lv="224" MinVph3_lv="224" MinIph1_lv="0" MinIph2_lv="0" MinIph3_lv="14492" MinPplus_triph="0" MinPminus_triph="0" MinQplus_triph="57280" MinQminus_triph="0" MinVph1_mv="18495" MinVph2_mv="18489" MinVph3_mv="18690" MinIneutral="14492" MinVo_comp="224" MinV1_comp="0" MinV2_comp="0" Bc="0"/>
      <G05 Fh="201502060200000000W" MinVph1_lv="223" MinVph2_lv="222" MinVph3_lv="222" MinIph1_lv="0" MinIph2_lv="0" MinIph3_lv="14384" MinPplus_triph="0" MinPminus_triph="0" MinQplus_triph="57560" MinQminus_triph="0" MinVph1_mv="18355" MinVph2_mv="18350" MinVph3_mv="18536" MinIneutral="14383" MinVo_comp="222" MinV1_comp="0" MinV2_comp="0" Bc="0"/>
    </Cnt>
  </Cnc>
</Report>
    
```

10.1.3 Extended Meter Parameters Modification (G08/C01)

This report has detailed information about the supervisor extended parameters configuration.

Write the values and click on Send button.

G03Capture	Load profile Supervision_Average values (G03) capture period	<input type="text" value="3600"/> s.
G04Capture	Load profile Supervision_Maximum values (G04) capture period	<input type="text" value="3600"/> s.
G05Capture	Load profile Supervision Minimum values (G05) capture period	<input type="text" value="3600"/> s.
G06Capture	Load profile Supervision Instantaneous values (G06) capture period	<input type="text" value="3600"/> s.
G07Capture	Load profile Supervision Average unbalance and harmonic values (G07) capture period	<input type="text" value="0"/> s.
Tr_S	Apparent Power of Transformer	<input type="text" value="400000"/> VA.
Tr_U1n	Primary voltage of Transformer	<input type="text" value="20000"/> V.
Tr_U2n	Secondary voltage of Transformer	<input type="text" value="420"/> V.
Ip	Transformer ratio - current (numerator)	<input type="text" value="15000"/> dA.
Is	Transformer ratio - current (denominator)	<input type="text" value="50"/> dA.
Tr_Cg	Connection group of transformer	<input type="text" value="Other"/>
Tr_Pcu	Load Loss of Transformer	<input type="text" value="3850"/> W.
Tr_Zcc	Short Circuit Impedance	<input type="text" value="4.00"/> %
Tr_Tap	Position of tap changer	<input type="text" value="0"/>
Per	Load profile Period	<input type="text" value="3600"/> s.
Tphloss_mv	Time threshold for any phase loss event - MV	<input type="text" value="180"/> s.
Vphloss_mv	Voltage threshold for any phase loss event - MV	<input type="text" value="200"/> V.
Hvphloss_mv	Hard voltage threshold for any phase loss event - MV	<input type="text" value="150"/> V.
MinC_DBC_L1	Minimum current threshold for DBC phase L1 event	<input type="text" value="0.5"/> A.
MinC_DBC_L2	Minimum current threshold for DBC phase L2 event	<input type="text" value="0.4"/> A.
MinC_DBC_L3	Minimum current threshold for DBC phase L3 event	<input type="text" value="0.3"/> A.
<input type="button" value="Get data"/>		
<input type="button" value="Send"/> Blank values are not sent to the meter		

Find below a list of available reports for S210 LV supervisor meter.

Report	Description	Web-UI	Program Tasks	Web Services	Notes
G01	Report of hourly communication statistic with meters	Yes	Yes	Yes	
G02	Report of daily communication statistic with meters	Yes	Yes	Yes	
G03	Report of average values curve (MED) of voltages, currents and powers	Yes	Yes	Yes	
G04	Report of maximum values curve (MAX) of voltages, currents and powers	Yes	Yes	Yes	
G05	Report of minimum values curve (MIN) of voltages, currents and powers	Yes	Yes	Yes	
G06	Report of momentaneous values curve (MOM) of voltages, currents and powers	Yes	Yes	Yes	
G07	Report of average curve (MED) of unbalance and harmonics	No	No	No	Available in future versions
G08	Report of extended meter parameters	Yes	Yes	Yes	
G09	Report of digital I/O parameters	Yes	Yes	Yes	
G10	Work in progress	No	No	No	To check with GNF Specs.
G11	Requests and tasks log	Yes	Yes	Yes	
G12	DC's performance log	Yes	Yes	Yes	
G13	FTP transferred file log	Yes	Yes	Yes	

Report	Description	Web-UI	Program Tasks	Web Services	Notes
G14	Meter's firmware update log	Yes	Yes	Yes	
G21	Report of instantaneous values (INS) of voltages, currents and powers	Yes	No	Yes	

Find below a list of available orders for S210 LV supervisor meter.

Orders	Description	Web-Ui	Program Tasks	Web Services	Notes
C01	Extended Meter Parameters	Yes	No	Yes	
C02	Digital I/O Parameters	Yes	No	Yes	
C03	Cycle Test Execution	No	No	Yes	

11 Maintenance and troubleshooting

11.1 Maintenance

The DC450 concentrator does not contain components that are maintained by the user.

The device software can be updated either remotely from a metering system or locally via web interface.



Warning

Do not open the case when the device is connected to the electricity network. Life hazard.

11.1.1 Concentrator software update

There are several update methods for DC450 software:

- Update through the STG system
- Web interface
- Update package download from HTTP or FTP server

See Chapter 10.7 *Software update through the web interface*, for more information on updating DC450 through web interface.

11.1.2 Changing the communication module

The communication module must be disabled before it can be changed on the concentrator. Removing the module before it is disabled can cause malfunction of the DC and corrupted data.

1. Connect to the concentrator's web interface either through LAN or GPRS.
2. First select CONFIGURATION and then GSM in the Main Menu on the left. The GSM CONFIG page is displayed.
3. Select Disabled and click Send.
4. Click Restart.
5. Remove the disabled module and replace it with a new one.
6. Activate the new module on the web interface.

Go to the GSM CONFIG page in web interface.

Select Static GPRS and click Send.

7. Click Restart.

If you use the same SIM card, the procedure is the same when replacing 2G/3G module. If you use a different SIM card with a different IP address, the new IP address must be configured in the STG system.

11.2 Troubleshooting

11.2.1 No GSM/GPRS/UMTS connection to the DC450

If a DC450 GSM/GPRS/UMTS communication does not work, check the following:

- Is the GSM/UMTS signal strength sufficient? Is the SIM card properly installed?
- Is the SIM card's PIN code request (GSM data only) switched off?
- Is the GPRS configuration correct?
- In case of a 3G module, are the required radio bands active? Is the communication module operating?

See Chapter 5.2.5 *Checking the signal strength* and 5.2.6 *Checking GSM/GPRS/UMTS operation*. If all of the above conditions are OK, check with your operator that your service is correct and operational.

12 Decommissioning and disposal

The components used to manufacture the device can, in the main, be broken down into constituent parts and sent for suitable recycling or disposal. When the product is removed from use, the whole product must be sent to a professional electronic waste treatment process. The waste treatment company must be accepted by the officials.

End processing of the product and recycling of its components must always be carried out in accordance with the local laws and instructions given by the officials of the country where the end processing and recycling are done.

By request, Landis+Gyr will give more information about the environmental influence of the product.



This product must not be disposed of in regular waste. Use a professional electronic waste treatment process.



The following are general guidelines and should NOT take priority over local disposal and environmental policies which should be adhered to without compromise

Component Parts	Disposal
Printed Circuit Boards	Electronic waste: disposal according to local regulations.
Metal Components	Sorted and delivered to collective recycling point.
Plastic Components	Sorted and delivered for re-granulation if at all possible.

13 Terms and abbreviations

The following terms and abbreviations are used in this document.

Term	Description
2G/3G Module	GSM/GPRS Module.
AMR	Automated Meter Reading. Refers to systems that are responsible for handling tasks that require communication with metering devices, for example reading of metering values. See HES.
APN	Access Point Name (APN) is the name of an access point for GPRS.
CSV	Comma Separated Value.
DC	Data Concentrator.
GPRS	General Packet Radio Service (GPRS) is a packet-based wireless communication service that provides data rates from 56 up to 114 Kbps. It also offers a continuous connection to the Internet for mobile phone and computer users.
Gridstream AIM	Landis+Gyr's Advanced Metering Management (AMM) system that includes applications for Automated Meter Reading (AMR) and Metering Data Management (MDM).
STG	Sistema de Telegestion
HTTP	Hypertext Transport Protocol (HTTP) is the communication protocol used by the World Wide Web.
MDM	Metering Data Management. The metering database and metering data processing system of Gridstream portfolio is also known as Ware.
PIN	Personal Identification Number (PIN) is a code asked by the SIM card to authenticate the user.
PRIME	PowerLine Intelligent Metering Evolution.
PLC	Power Line Communication.
SIM	Subscriber Identity Module (SIM) securely stores the service-subscriber key (IMSI) used to identify a subscriber on mobile telephony devices (such as computers) and mobile phones.
SMS	Short Message Service (SMS) is a pager-like service for GSM mobile phones that allows the sending and receiving of alphanumeric messages.
TCP/IP	Transmission Control Protocol/Internet Protocol (TCP/IP) is the suite of protocols used to connect hosts on the Internet.
USB	Universal Serial Bus (USB) is a serial bus standard to interface devices to a host computer.
WAN/LAN	Wide Area Network/Local Area Network.
Ware	See MDM.

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