

Data concentrator
DC450v3 G3-PLC Java

Technical data



The DC450v3 G3-PLC Java is a smart data concentrator for Landis+Gyr's Gridstream metering system and third-party systems.

Date: 06.09.2019

Filename:D000060789 DC450v3 G3-PLC Java Technical data en f.docx

© Landis+Gyr

D000060789 en f

Revision history

Version	Date	Comments
a	25.05.2017	First edition.
b	14.02.2018	Updated with LTE modem and antenna information.
c	11.03.2019	Deleted LTE Category 4.
d	03.04.2019	Updated product name.
e	01.07.2019	Update on LTE modem.
f	06.09.2019	Updated DLMS/COSEM standards.

Although the information contained within this document are presented in good faith and believed to be correct, Landis+Gyr (including its affiliates, agents and employees) disclaim any and all liability for any errors, inaccuracies or incompleteness relating to the product. Landis+Gyr makes no warranty, representation or guarantee regarding the performance, quality, durability or suitability of the products for any particular purpose. To the fullest extent permitted by law Landis+Gyr disclaims (1) any and all liability arising out of the use of the product, (2) any and all liability, including, but without limitation to, special, consequential and indirect damages and losses, and (3) any and all implied warranties, including, but without limitation to, fitness for purpose and merchantability.

The information contained in this document is strictly confidential and is intended for the addressee only. The unauthorised use, disclosure, copying, alteration or distribution of this document or the contents thereof is strictly prohibited and may be unlawful.

All product information are subject to change without notice.

DC450v3 G3-PLC handles the communication between the Head-End System (HES) and the G3-PLC metering device. It reads metering data automatically and can send data directly to the system or store it for later retrieval by HES.

DC450v3 G3-PLC communicates with the metering device using PLC communication (G3-PLC OFDM protocol in the CENELEC A or G3-500 band). It transfers messages to and from the Head-End System using the standard TCP/IP communication protocol over an Ethernet connection or with its pluggable 2G/3G or 2G/3G/4G modem.

DC450v3 G3-PLC Java – Technical data

Power supply

- Operating voltage: 1 x 230 V or 3 x 230/400 V
- Earthing systems (IEC 60364): TN and TT
- Voltage range: 0.8 U_n to 1.15 U_n
- Frequency: 50 Hz
- Power consumption in normal operation: < 8 W / 40 VA
- Reserve running (accuracy at 23 °C) acc. to EN 62054-21
- Back-up time (supercapacitor) when fully charged: 7 days

G3-PLC interface

- 3-phase PLC signal injection
- PLC communication in the CENELEC A or G3-500 band
- G3-PLC as per ITU-T G.9903 (02-2014)
- Incorporates 6LoWPAN adaptation layer to transmit IPv6 packets over power line channels
- IEEE 802.15.4-based MAC layers enable interoperability
- Plug-and-play installation
- COSEM application layer 62056-5-3
- COSEM application model 62056-6-1 (OBIS) and 62056-6-2 (interface classes)
- COSEM transport layer 62056-4-7

External connections

- RS-485, Safety Extra-Low Voltage (SELV), max. 24 V
- 2 x LAN (RJ45) interfaces (10/100 Base-T) acc. to IEEE 802.3
 - LAN1 to connect to the Head-End System
 - LAN2 for local web-interface access
 - Safety Extra-Low Voltage (SELV)

Electromagnetic compatibility and safety

- EMC according to EN 50065-1, EN 50065-2-3 (PLC CENELEC A band) or EN 55032, EN 55024 (PLC G3-500 band).

- Electric strength: 3.48 kV rms (60 s) / 5.4 kV rms (5 s) (EN 61010-1)
- Electrostatic discharge: ± 8 kV contact, ± 8 kV air discharge (EN 61000-4-2)
- Surge: ± 4 kV, 1.2/50 μ s (EN 61000-4-5)
- Burst: 2 kV (EN 61000-4-4)
- Impulse voltage: 8 kV, 1.2/50 μ s (EN 61010-1)
- Radio frequency electromagnetic field: 10 V/m (EN 61000-4-3)
- Safety according to IEC 61010-1
- Protection class: class II
- Overvoltage category: IV

Environmental influences

- Temperature range
 - Operation -25 to $+70$ °C
 - Storage -40 to $+85$ °C
 - Other temperatures possible with external housing and warming/cooling
- Ingress protection according to IEC 60529: IP 51
- Max. operating altitude: 2000 m
- Humidity range (operation and storage): 0-95%
- Pollution degree: 2

Case

- Material: Polycarbonate (10% glass fibre filler)
- Installation: On wall, DIN rail or equivalent
- Flammability class: UL94 5VB
- RoHS II compliant

Dimensions

- Weight max 760 g
- Height 184 mm
- Width 175 mm
- Depth 72 mm (without sealing)

Pluggable modules

2G/3G modem characteristics

- Dual-band UMTS: 900/2100 MHz
- Dual-band GSM: 900/1800 MHz
- UMTS 3GPP release 5
- GSM release 99/release 4
- EDGE (E-GPRS) multi-slot class 10
- GPRS multi-slot class 10
- SIM card interface 1.8 V and 3 V
- SMA connector for the antenna

Approved antennas*

2G/3G Antennas GSM 900/1800, UMTS 900/2100

- 2G/3G Antenna no. P000217710 (SMA male stub antenna delivered with the module):
Taoglas ref. TG.22.0111
- Flat Antenna GSM 900/1800 no. 74 507 0097 0 (SMA male connector, cable 3.0 m):
ANTENNENSYSYSTEME – 700 449 402, SMA(m), 3.0 m
- Flat Antenna GSM 900/1800 no. 74 507 0098 0 (SMA male connector, cable 10 m):
ANTENNENSYSYSTEME – 700 449 404, SMA(m), 10.0 m

***The use of any other antenna is prohibited.**

2G/3G/4G modem characteristics

- Penta-band LTE: 800/900/1800/2100/2600 MHz
- Dual-band UMTS: 900/2100 MHz
- Dual-band GSM: 900/1800 MHz
- LTE FDD, 3GPP release 9 compliant
- GSM/EDGE and UMTS/HSPA fallback support
- GPRS/EGPRS multi-slot class 33
- GPRS multi-slot class 10
- SIM card interface 1.8 V and 3 V
- SMA connector for the antenna

Approved antennas*

2G/3G/4G Antennas (LTE bands B1, B3, B7, B8, B20 & B28)

- AMC-ANT234GTB01-A (stub antenna delivered with the module)
- External LTE antenna no. P000348220 Smarteq LP701 with SMA(m) connector and 3.0 m cable
- External LTE antenna no. P000348540 Smarteq LP701 with SMA(m) connector and 10.0 m cable

***The use of any other antenna is prohibited.**

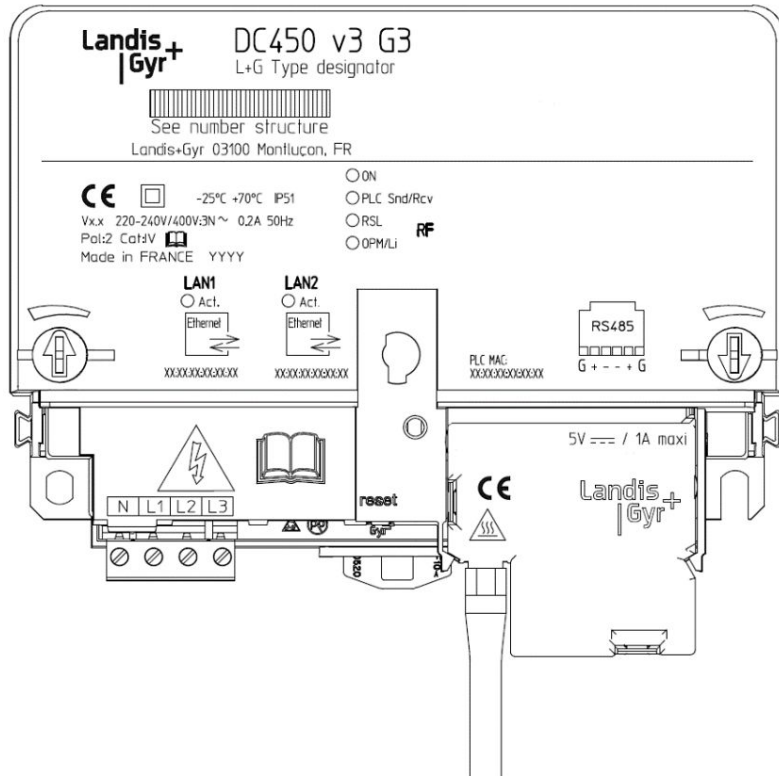


Figure 1. DC450 faceplate

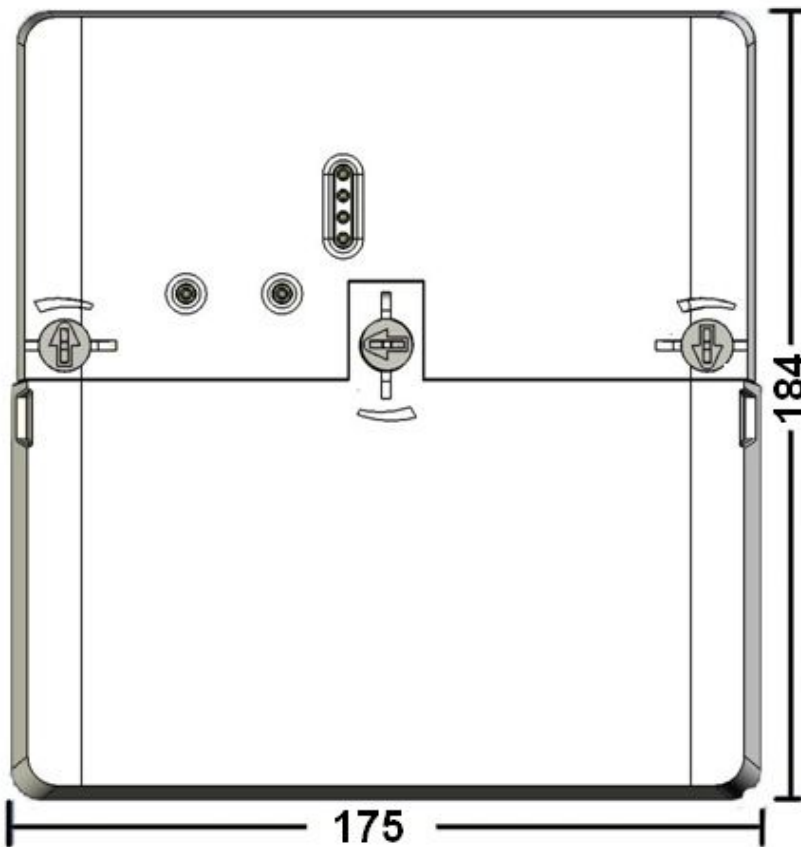


Figure 2. DC450 dimensions

DC450v3 G3-PLC Type designation

Example	F	E	U	J	0	0	0	v3
<p>A: PLC technology F: G3-PLC for the CENELEC A or G3-500 band</p>								
<p>B: Interface to metering system (fixed line) E: Ethernet</p>								
<p>C: Interface to metering system (RF interface) 0: None U: 2G/3G, GPRS and UMTS L: LTE modem</p>								
<p>D: Type of metering system attached to the DC J: DC with Java API for third-party systems</p>								
<p>E: Special features (for general use) 0: None (standard Data Concentrator)</p>								
<p>F: Smart Grid functions 0: Default standard board for the EMEA market with RS-485</p>								
<p>G: Major market version 0: Default (EMEA version)</p>								
<p>H: Hardware variant of the DC (CPU board) v3: DC450 HW v3</p>								

Contact:

Landis+Gyr AG
Theilerstrasse 1
CH-6301 Zug
Switzerland
Phone: +41 41 935 6000
www.landisgyr.com

Landis+
Gyr+
manage energy better