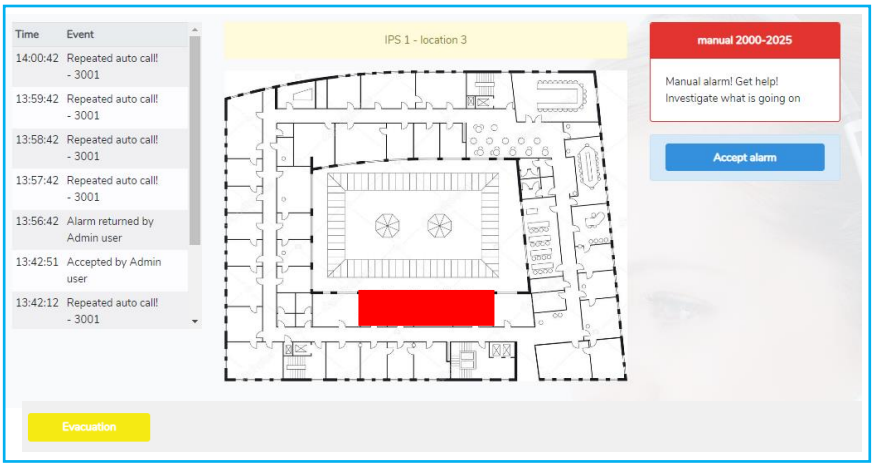
Data sheet Communication Server

DS_DP_Server_En_21.22



- Professional rack mounted or standalone server
- VMWare ESXi virtual server environment
- Linux based server software
- Flexible system architecture
- Guarded system infrastructure
- Integral system redundancy

- Manned and unmanned work mode
- Designed to handle critical messaging and Personal Security applications
- Suitable for Dutch NEN2575 applications
- Detailed logging and reporting facilities
- Different authorisations to log on to secure system performance.

- ESPA 4.4.4 coupling
- I/O contact coupling with voltage free Input and output contacts
- RS485 coupling therefore compatible with the LBB5843/01 Multiple Purpose Coupler

- Designed to integrate multiple DP6000 sites with one server
- Web based (multi-platform) with simultaneous access for multiple operators
- Remote Maintenance through protected Web based access

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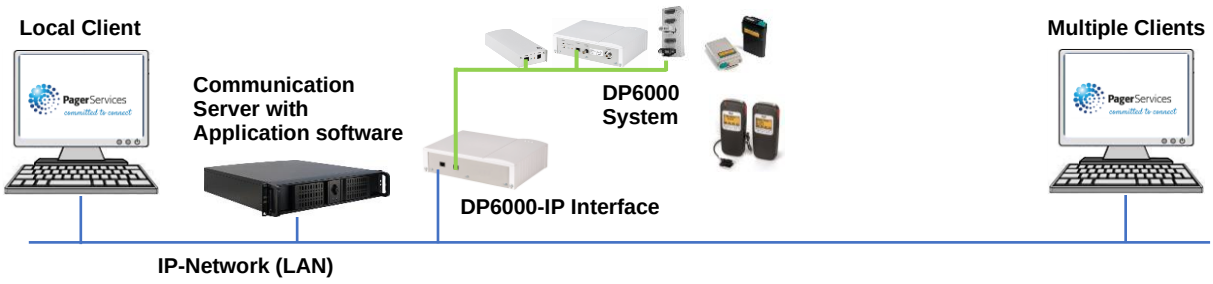
1 Introduction

The Communication Server in combination with the DP6000-IP interface replaces the former Alpha-desk and Atus Commander. Several new functions, a graphical user interface and new application possibilities are implemented to meet today's functional demands. Thanks to the newly designed system architecture it is easier to create redundancy and if desired the application software is available as a VM image in case the server software should run on the customer's virtual environment.
The Communication Server is standard delivered with pre-installed server software on a professional server from PagerServices and is together with the DP6000-IP interface unit fully compatible with the DP6000/PS6000 concept known for its high reliability.



1.1 Commercial items

Several options are available to offer a solution for each customers' requirement. The overview below shows all options of hardware and licences. For availability and pricing please refer to our website.

Description Hardware	12NC	Type nr	Remark
Communication Server PC	8900 800 00001	LBB 8000/00	This server PC includes the basic software package
DP6000-IP Interface	8900 800 10001	LBB 8001/00	For each DP6000 (sub) system 1 unit is needed.
Input Contact Module	8900 590 10001	LBB 5901/00	One module has 4 input contacts.
Output Contact Module	8900 590 20001	LBB 5902/00	One module has 2 output contacts.
ESPA 4.4.4. Interface Module	8900 590 30001	LBB 5903/00	Max. 3 ESPA ports possible on 1 DP6000-IP unit.
RS485 Interface Module	8900 590 40001	LBB 5904/00	To couple up to 5 LBB5843/01 MPC's
Cable set (set of 2)	8900 800 30001	LBB 8003/00	Required for 2 internal contacts
Description Licenses	**12NC**	**Type nr**	**Remark**
Image Basic Software Package	8900 800 00101	LBB 8000/01	For Upgrades or to be installed on 3rd party server PC
Activation Logging	8900 860 00001	LBB 8600/00	
Activation Personal Security	8900 860 10001	LBB 8601/00	
Activation Multi Users	8900 860 20001	LBB 8602/00	additional 3 concurrent users (standard 1 user)
Activation Multi Site	8900 860 30001	LBB 8603/00	
Activation 3rd Party Connection	8900 860 80001	LBB 8608/00	Needed if connection with e.g. a BMS is needed.
Description Services	**12NC**	**Type nr**	**Remark**
Maintenance Agreement	8900 860 90001	LBB 8609/00	Inform with your commercial contact for details.

1.2 Server packages

Next to the above mentioned items several server packages are made available. Each server package is defined to cover a specific basic function. See chapter "Server Packages explained" for more details.

Description	12NC	Type nr	Remark
Basic Messaging Server	8900 800 01001	LBB 8000/10	Message handling, ESPA, I/O, Logging
Basic Personal Security Server	8900 800 02001	LBB 8000/20	LBB8000/10 + Personal Security, Multi users
Extended Communication Server	8900 800 03001	LBB 8000/30	LBB8000/20 + MPC, Multisite, 3rd Party

2 Hardware description

2.1 Communication Server; LBB8000/00

The Communication Server is a dedicated computer, all functions are driven by the pre-installed application software at this computer. The Communication Server communicates with one or more DP6000-IP interfaces through guarded IP-interconnections. A warning signal can be generated in case the IP connection is lost.
Through a web browser it is possible to log on using a PC, laptop, tablet and even using a smartphone.
When logged on, several authorization levels prevent unwanted use. (Operator, Manager Administrator).
In case the basic software is installed on a 3rd party system only the Image Basic Software Package is needed**.**

2.2 DP6000-IP interface; LBB8001/00

To communicate with the DP6000 system a DP6000-IP Interface is required. The DP6000-IP interface controls the paging- and talk-back lines of the DP6000 bus. For further processing all received calls and calls to be transmitted are communicated between the Communication Server and DP6000-IP interface. For reliability purposes the DP6000-IP interface is equipped to operate stand-alone for some basic functions in case the IP-connection with the Communication Server is interrupted. Multiple DP6000-IP Interfaces are needed for applications where one Communication Server controls multiple DP6000-IP Interfaces.
The DP6000-IP interface can send a pre-defined call in case the IP connection with the server is lost.

2.3 Input contact module; LBB5901/00

- The DP6000-IP Interface can handle a maximum of 3 input contact modules.
- With this maximum, also the total number of present output contact modules must be taken in account: the total sum of both is limited to 4.
- Each Input contact module has 4 analogue input contacts, therefore a resistor network must be connected to the input.
- The individual contacts can be set as ‘guarded input contacts’; Guarded input contacts are required to meet the Dutch NEN 2575 standard, where it is required to detect interrupted- and short circuited wires that are connected to an input contact.

- De Communication Server can handle internal and external I/O contacts.
- The input contact , LBB5901/00, is used to handle ‘internal input contacts’.
- The output contact module, LBB5902/00, is used to handle ‘internal output contacts’.
- External I/O contacts are used e.g. when applying one or more MPCs; LBB5843/01.
  If for ‘external contacts’ an LBB5843/01 is used, an RS485 interface module is needed.

2.4 Output contact module; LBB5902/00

- The DP6000-IP Interface can handle one output contact module.
- With this maximum also the total number of present input contact modules must be taken in account: the total sum of both is limited to 4.
- Each output contact module has 2 relays, controlling an individual voltage free contact. (NO or NC).
- Output contacts can become active in case a system-, technical- and/or Personal Security alarm occurs.

2.5 ESPA 4.4.4. interface module; LBB5903/00

One DP6000-IP interface can be equipped optionally with max. 3 pcs ESPA 4.4.4. interface modules.
Standard these are “ESPA-in” interfaces, meaning that incoming information through the ESPA interface is converted to the DP6000 system that is connected to the DP6000-IP interface, thus generating paging calls this way.

- ESPA port nr 3 has as special option: it can work as an “ESPA-out” port and will present the same ESPA data as received from ESPA port 1.
- Depending on the programmed settings, a notification at the operator’s screen will appear.
- In case the IP-connection between Communication Server and DP6000-IP Interface is lost, each ESPA-in port will continue in a basic mode; only transferring incoming ESPA calls to the DP6000 system, no calls can be lost.

2.6 RS485 interface module

- This module takes one of the ESPA 4.4.4. interface positions.
- In case a system has more than one (geographical) location, multiple DP6000-IP-interfaces can be used and therefore more RS485 interface modules can be used. This method offers the possibility to handle the contacts of several locations/buildings/sites with one Communication Server.
- Per DP6000-IP Interface max 320 input and/or 320 output contacts (max 5 MPC’s) can be handled, by using multiple DP6000-IP Interfaces the number if I/O contacts to be handled by one server is virtually unlimited.

2.7 Cable set (set of 2); LBB 8003/00

Each input contact, at the LBB5901/00 module, requires a resistor network. With one cable set, 2 input contacts can be equipped with such resistor network. If all 4 contacts of an input contact module are in use, 2 cable sets are needed. This cable set is necessary.

3 Description Software and Licences

The Basic Software Package is pre-installed on the PagerServices server, but can also be ordered separately without a server PC. Software licences are needed to activate extra options. The licences are individually applicable for each Server in the system, regardless if the server is delivered by PagerServices or a 3rd party. If no valid licence is present, options will activated for 72 hours.

3.1 Image Basic software Package; LBB8000/01

The Image Basic Software Package can be used for:

- Customers who needs to upgrade the software with a newer version.
- For systems where the basic SW is installed on a (virtual) 3rd party server PC.

3.2 Activation Logging; LBB 8600/00

If activated, all events that occur in the system are logged for further analyses:

- Source: Which calls were initiated by which operator, which mobile user, which ESPA 4.4.4. interface etc.
- Handling: Who made which alarm, which locations were passed during the alarm state etc.
- The actions taken by the central operator to handle the alarm.
- Next to 'what happened', the source of the generated calls is logged.
- Filtered log data can be 'exported' as CSV-format to focus on specific events and/or time frames.

3.2.1 Activation Personal Security; LBB 8601/00

If activated, the system is able to handle the Personal Security functionality, including:

- Work mode: manned and/or unmanned mode.
- Location detection
- Alarm handling
- Periodically scanning of PS-Pagers
- Generating several technical and/or Personal Security alarm indicators and follow-up.
- Active system guarding and alarming options in case of malfunction

3.2.2 Activation Multi Users; LBB 8602/00

- A person can log-on using individual credentials. Depending on a given authorisation operator actions or (remote) maintenance etc. can take place.
- At delivery only one person can be logged in at the same time. This is independent of the persons authorisation/role.
- Log-on goes via a web browser installed on a PC/laptop/tablet/smartphone.
- If multiple persons need to be logged-on simultaneously, one or more Multi User Activation license(s) are needed.
- Each Multi User Activation license increases the maximum of persons that can be logged-on simultaneously by 3.

3.2.3 Activation Multi Site; LBB 8603/00

It is possible to control more than one DP6000-IP Interface with one Communication Server.
This is the so called Multi-Site Application. Some application tips:

- Integrate several local DP6000 systems which are handled by one central Communication Server.
- Integrate several geographical separated DP6000 systems as one system, with the possibility to handle each as an individual system. The advantage here is that there is one central point where programming or maintenance can be executed.
- An extra DP6000-IP Interface which is connected parallel to another one, can be programmed such that works as redundant unit.

3.2.4 Activation 3rd Party Connection; LBB8608/00

On project basis this license offers the possibility to connect a 3rd party system to communicate directly, through an IP-Interface, with the Communication Server. This is useful if functions of the Communication Server needs to be integrated e.g. with a Building Management System.

- After implementing the Activation 3rd Party Connection license, a 3rd party can integrate the messages and system statuses in his own application e.g. from/to a communication integration platform, Building Management System etc.
- The Application Programming Interface (API) is described in the "Athena API manual" which is made available, after reaching a non-disclosure agreement (NDA). Inform with your commercial contact if needed.

3.2.5 Maintenance agreement; LBB 8609/00

It is possible to include an SLA to cover software maintenance for the system.
If included, a yearly fee will be charged. Contact us for details and conditions.

4 Functions

Depending on the options chosen, the Communication Server can perform different functions. The overview below describes a number of main functions.

4.1 Messaging

The Communication server can be used for paging calls by either selecting a name from a name list or by entering the address digits of the mobile. Further selectable digits and characters making up the message to be sent.
More than one receiver can be called by making a serial call or by making a group call. Depending on the type of receiver used, calls can be transmitted with alphanumeric and/or numeric messages. Alphanumeric messages and numeric information can be freely typed in using the Clients' keyboard, pre-programmed messages or numeric information can be selected from a list.
Pre-programmable fast buttons, who can have each their individual colour, can be used to send predefined calls to individuals or a group of pagers.

4.2 Absent conversion

This feature allows to forward calls to a substitute mobile in case a mobile is absent. The original content of the call is not changed when a message is forwarded.

4.3 Out of range

The Communication server can send an automatic signal to trigger the mobile which is in range of the system.
If the mobile cannot receive this trigger because it is out of range, the receiver alerts the user that the mobile is out of range of the systems' transmitter(s).

4.4 Personal Security

The personal Security functionality can handle all alarms, such as manual-, tear off-, no move-, not vertical alarms, received from PS-pagers and PS-micro mobiles.

- In unmanned work mode all alarm handling is executed without any operator intervention.
- In manned work mode an operator is able to open the alarm screen to handle the alarm.
  - Once an operator accepts the alarm he/she becomes the owner of the alarm until an accepted reset request.
  - During the alarm handling, the operator has a real-time overview of the alarm status and updated location information.
  - If an operator is no longer able to handle the alarm anymore, a possibility is provided to 'return the alarm to the system', to be handled further by another operator or to start (another) automatic escalation procedure.
  - In the alarm screen also the handling of technical alarms is possible.

4.5 Location detection

In combination with Personal Security alarms and technical system alarms, actual locations can be assigned to events and types of alarms.

- In case of a Personal Security alarm, the location of the people in danger can be followed in real time.
- A periodical functional check of location transmitters can optionally be set.
- It is also possible to define guard tours, in which guards walk a specific control route where certain location beacons must be passed. Delays in the route or missed locations will trigger an alarm.
- In case of technical malfunction of central equipment, a (real or virtual) location can be assigned to the device that causes the error which makes it easier to trace back its position.

4.6 Logging

This feature enables to log all calls that are sent through the paging lines and calls that are received from the talkback lines.
The logged data includes messages, alarms- and location calls from the mobiles and calls generated due to technical alarms in case of malfunction. The data can be exported as CSV file for extensive or selective analyses.
The exported file can be imported in an EXCEL file and printed from the operator PC that is logged in as client.

4.7 Contacts interface

A DP6000-IP interface can handle 'internal' as well as 'external' input and output contacts.
The contact interface modules are assembled in the housing of the DP6000-IP interface. These 'internal' contacts are analogue contacts which can be set as 'normal-open' or 'normal-closed' contact. Furthermore these input contacts can be programmed such that it can be detected if the connected wires are interrupted or short-circuited, in which case an emergency call can be sent, e.g. to technicians.

4.8 ESPA 4.4.4

Each DP6000-IP Interface can handle 3 separate RS232 (ESPA 4.4.4) interfaces for connecting external systems such as Fire systems, nurse call systems and DECT systems.
These external systems can be connected directly to this interface. Only parameters to specify the communication protocol have to be set. Port 3 can be set such that it works as an output port which will follow the input received on Port 1.

4.9 RS485

To support the ‘external’ I/O contacts, which are signaled by MPCs (LBB5843/01), each DP6000-IP interface can optionally be equipped with one RS485 interface module.

- The RS485 interface module takes the position of 1 ESPA 4.4.4. interface module.
- In case of multi-site systems, multiple DP6000-IP interfaces can be equipped with an RS485 interface module, allowing the contacts of multiple sites/buildings to be controlled with one Communication Server.

4.10 Parts included

Each DP6000-IP Interface unit includes a 1.5 meter system cable to be connected between the DP6000 system and the DP6000-IP Interface.

5 Server Packages explained

Next to the standard products, several packages are made available. Each server package is defined depending on its basic functionality.

Description	12NC	Type nr	Remark
Basic Messaging Server	8900 800 01001	LBB 8000/10	Message handling, ESPA, I/O, Logging
Basic Personal Security Server	8900 800 02001	LBB 8000/20	LBB8000/10 + Personal Security, Multi users
Extended Communication Server	8900 800 03001	LBB 8000/30	LBB8000/20 + MPC, Multisite, 3rth Party

5.1 Basic Messaging Server

The content of the Basic Messaging Server package is such that it covers the function for critical messaging including out of range indication, absent detection, low battery indication. To ease the handling by an operator, call forwarding in case of absent, making
group calls and the use of fast dial buttons can be programmed. Of course the handling of all calls is logged.
In addition to this, the technical functionality of e.g. ESPA connections, input- and output contacts and IP-infrastructure are monitored.

5.2 Basic personal Security Server

Next to the functions described in the Basic Message Server package, the Basic Personal Security package includes extended monitoring of system equipment, processing of Personal Security alarms from mobiles and its handling, location detection, guard-tour and logging of alarm handling and all incoming and outgoing messages.

5.3 Extended Communication server

Next to the functions described in the Basic Message Server and Basic Personal Security Server package, the extended Communication server package includes an RS458 connection for max. 5 MPC contact couplers, Multi-site to control multiple sub-sites with one central Server and the possibility to connect (and integrate with) 3rd party systems.

6 Technical Specifications

6.1 Server PC

Refer to the datasheet of computer supplier.

6.2 DP6000-IP Interface

6.2.1 Electrical

External Supply voltage:	12V DC ± 5%
External Supply current:	typically; 270mA, Measured; - Connected with IP-network and Pagingbus - Without optional modules
Code output level (Paging lines):	2,0 to 2,2Vpp
Code input level (TB lines):	≥ 0,2Vpp

6.2.2 Mechanical

Dimensions (H x W x D)	81.5 x 270 x 190 mm
Weight:	1,032 kg
Dust and waterproof:	IP40 (intended for indoor use)

6.2.3 Environmental

Operating temperature:	0°C to +55°C
Storage temperature:	-40°C to +80°C
Relative Humidity:	≤ 70%

6.2.4 Quality

MTBF	60,000 hours

6.2.5 Certification and approvals

Region	**Certification**
Europe	CE
CE marking	acc. to 2014/35/EU
Safety	acc. to IEC/EN 62368-1
EMC	acc. to EN61000-6-1 acc. to EN61000-6-3
ESD	acc. to EN61000-4-2 Contact; 4kV Air; 8kV

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International Pager Services B.V.
Willem de Haasstraat 5
5421 TN Gemert
The Netherlands
https://www.pagerservices.nl

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