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Guntermann & Drunck
GmbH

Dynamic-UserCenter 32

Installation Guide

About this manual

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For damages which directly or indirectly result from the use of this manual as well as for incidental damages or consequential damages, G&D is liable only in cases of intent or gross negligence.

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- Are repaired or modified by unauthorized personnel.
- Show severe external damages that was not reported on the receipt of goods.
- Have been damaged by non G&D accessories.

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Table of contents

Safety instructions

Please read the following safety instructions carefully before you start operating the G&D product. The instructions well help in avoiding damages to the product and in preventing possible injuries.

Keep this manual handy for all persons who will be using this product.

Follow all warnings or operating instructions which are on the device or stated in this user manual.

⚠ **Beware of electric shocks**

To avoid the risk of electric shock, do not open the device or remove the covers. If service is required, please contact our technicians.

⚠ **Disconnect the main power plug or the power supply before installation**

Before installation, ensure that the device has been disconnected from the power source. Disconnect the main power plug or the power supply of the device.

⚠ **Ensure constant access to the power plugs**

During the installation of the devices, ensure that the power plugs remain accessible.

⚠ **Do not cover the ventilation openings**

Ventilation openings prevent the device from overheating. Do not cover them.

⚠ **Avoid tripping hazards**

Avoid tripping hazards while laying cables.

⚠ **Only use a grounded voltage source**

Operate this device by using a grounded voltage source.

⚠ **Use only the provided G&D power pack**

Operate this device with the provided G&D power pack or with the power pack listed in the manual.

⚠ **Operate the device only in designated areas.**

The devices are designed for indoor use. Avoid exposure to extreme cold, heat or humidity.

The expansion »Dynamic-UserCenter 32«

By applying the expansion *Dynamic-UserCenter 32*, you can connect different target modules to multiple G&D matrix switches.

IMPORTANT: The expansion *Dynamic-UserCenter 32* is compatible to the target modules of the *DVI-CPU* series and to the matrix switches of the *DVICenter* series.

ADVICE: The device's default settings allow you to connect user modules of the *DVI-CON* series instead of matrix switches to the *Cluster ports*.

You can change this setting under **Direct consoles** in the web application.

You can group and assign the ports of the *Dynamic-UserCenter 32* expansion according to your personal preferences. Each group consists of a *CPU port* to which you can connect a target module. In addition, you can add at least two *Cluster ports* to the group. Connect the matrix switches that can access the target module to these ports.

Package contents

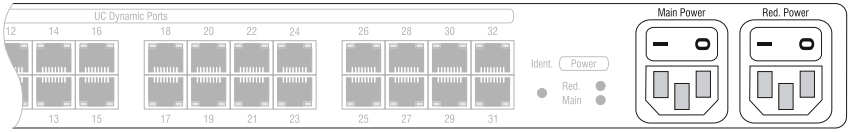
- 2 × power cable (PowerCable-2 Standard)
- 1 × rackmount set (19" RM-Set-435-1HE)
- 1 × manual »Installation Guide«
- 1 × manual »*Config Panel* web application«

Installation

NOTE: When choosing a place for the device, please ensure to comply with the ambient temperature limit (see *Technical data* on page 16) close to the device. The ambient temperature limit must not be influenced by other devices.

When installing the devices, make sure to only place a maximum of three devices directly on top of each other. This provides sufficient circulation of air and mutual thermal interference can be avoided. After having installed three devices, provide for a distance of at least 3cm.

Step 1: Establishing the power supply



Main Power: Plug one of the supplied power cable in this interface. Connect the power cable with a power outlet and turn the power button on.

Red. Power: If required, plug one of the supplied power cable in this interface to establish a redundant power supply. Connect the power cable with a power outlet of *another* power circuit and turn the power button on.

Step 2: Configuring the network settings

Configuring the *Dynamic Ports* requires the configuration of the network settings.

The following table lists the settings of network interface *Network A* in the default status:

IP allocation:	Static
IP address:	192.168.0.1
Subnet mask:	255.255.255.0
Connection type:	Auto

NOTE: In the default status the interface *Network B* is disabled.

How to configure the network settings:

1. Use a category 5e (or better) twisted pair cable to connect the network interface of any computer to the device's *Network A* interface.
2. Make sure the IP address of the computer's network interface is part of the subnet the device's IP address belongs to as well.

   NOTE: You can use the IP address *192.168.0.100*, for example.
3. Open the computer's web browser and enter the URL **192.168.0.1** in the address bar.
4. Log in to the web application.

   NOTE: These are the *default* access data to the administrator account:
   - **Username:** Admin
   - **Password:** 4658

   Change the default password immediately. Detailed information on how to change the administrator password is given in the manual of the web application.
5. Click the tool icon in the toolbar.
6. Click the **Network > Interfaces** tabs.
7. Enter the following data under **Interface A** and/or **Interface B**:

Operational mode:	Select the operational mode of **Interface A** or **Interface B**: ▪ **Off:** switches off network interface. ▪ **Static:** uses static settings. ▪ **DHCP:** obtains the settings from a DHCP server.
IP address:	Only if the *Static* operational mode is selected: Enter the interface IP address.
Netmask:	Only if the *Static* operational mode is selected: Enter the network netmask.
Connection type:	Select if the network interface and the remote station are to negotiate the connection type automatically (**Auto**) or if you want to use a connection type provided in the pull-down menu.

8. Enter the following data under **Global network settings**:

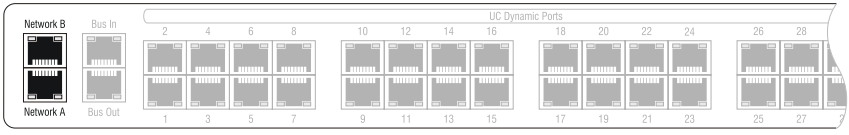
Operational mode:	Select the desired operational mode: ▪ **Static:** use static settings. ▪ **DHCP:** get settings from a DHCP server.
	The following settings are automatically obtained in the *DHCP* operating mode. Inputs are not possible.
Hostname:	Enter the device's hostname.
Domain:	Enter the domain the device is to belong to.
Gateway:	Enter the gateway IP address.
DNS Server 1:	Enter the DNS server IP address.
DNS Server 2:	Enter the IP address of another DNS server (optional).

9. Click **OK** to save your changes.

10. Click the **Logout** icon (see figure on the right) to close the active session in the web application.

11. Remove the twisted pair cable between computer and device.

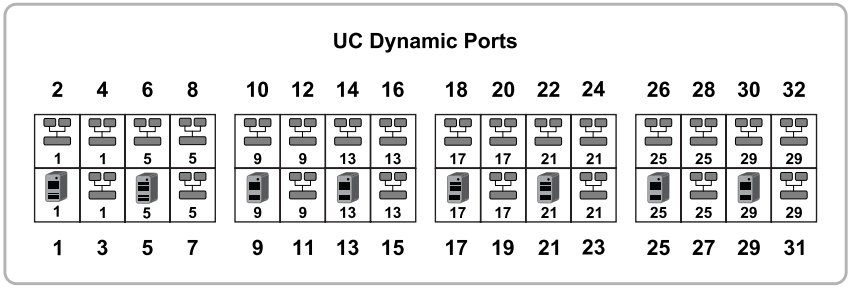
12. Use a category 5e (or better) twisted pair cable to connect the configured network interface(s) **Network A** or **Network B** to the network.



Step 3: Configuring »Dynamic Ports«

In the default setting, the Dynamic Ports are divided into eight groups. Each group lets you connect one target module and three matrix switches.

The following screenshot of the *Config Panel* web application shows the ports' default configuration:



The following information are shown for each port:

The computer icon highlights *CPU* ports.
Connect a target module of the *DVI-CPU* series to these ports.

The cluster icon highlights *Cluster* ports.
Connect a matrix switch of the *DVICenter* series to these ports.

17 Every assigned port belongs to a group. The group number is shown below the computer and cluster icons.
The numbers result from the number of the group's *CPU port*.

You can group and assign the ports of the *Dynamic-UserCenter 32* expansion according to your personal preferences. Each group consists of a *CPU port* to which you can connect a target module. In addition, you can add at least two *Cluster ports* to the group. Connect the matrix switches that can access the target module to these ports.

How to configure »Dynamic Ports«:

1. Start the web application and log in with a user account with *Superuser* rights.
2. Click the **Dynamic Port** icon (see figure on the right) in the tool bar of the web application.
3. The configuration dialogue shows the setting **Graph below table** (default) in the toolbar of the web application

   You can also choose between the options: **Table only**, **Graph next to table** or **Graph only.**
4. If desired, click on **Predefined configurations**.
   Here, you can choose one of the frequently used configurations (**1:3**, **1:7** or **1:15**), or you can reset the assignment of all ports (**Unassigned**).

5. You can also adjust the current port layout or one of the frequently used configurations as shown in the table below.

> **NOTE:** Select several ports by simultaneously pressing the left mouse key and **Shift** or **Ctrl**.

> **NOTE:** You can also carry out the actions shown in the table via drag & drop.

Carry out action in graph	Carry out action in table
TO CREATE A NEW PORT GROUP	
▪ Right-click an unassigned port that you want to use as *CPU port* of the new group. ▪ Select **New group** from the context menu.	▪ In the left column, click the *CPU port* you want to create for the new port group. ▪ Click  .
TO ASSIGN A CLUSTER PORT TO A PORT GROUP	
▪ Right-click an unassigned port that you want to add as *Cluster port* of a group. ▪ Select **Assign** from the context menu. ▪ Select the *CPU port* in whose group you want to add the *Cluster port*.	▪ In the left column, click the *Cluster port* you want to add. ▪ In the right column, click the group name or a port of the group to which you want to add the *Cluster port*. ▪ Click  .
TO DELETE A CLUSTER PORT FROM A PORT GROUP	
▪ Right-click the *Cluster port* you want to delete from the group. ▪ Select **Delete from group** from the context menu.	▪ In the right column, click the *Cluster port* you want to delete from the group. ▪ Click  .
TO DELETE A GROUP › Warning: All ports of a port group are deleted.	
▪ Right-click the *CPU port* whose group you want to delete. ▪ Select **Delete group** from the context menu.	▪ In the right column, click the *CPU port* whose group you want to delete. ▪ Click  .

> **NOTE:** Click **Print** to print a detailed list of all ports.

6. Click **Ok** to save any changes.

> **IMPORTANT:** After you change the port assignment, the matrix switch reboots.

7. Click the **Logout** icon (see figure on the right) to leave the active session of the web application.

Step 4: Connecting target modules and matrix switches

ADVICE: To facilitate installation, you can enable the port mode (see page 14).

NOTE: The maximum distance between a user module and a matrix switch can be 140 meters.

1. Use a category 5e (or better) twisted pair cable to connect each configured **CPU**-port with one target module.
2. Use a category 5e (or better) twisted pair cable to connect the configured **Cluster** ports of each port group to a free **CPU** port of the different matrix switches.

ADVICE: The device's default settings allow you to connect user modules of the *DVI-CON* series instead of matrix switches.

You can change this setting under **Direct consoles** in the web application.

Recommended twisted pair cables

The expansion *Dynamic-UserCenter 32* is installed as component of a *DVICenter* system. All signals within the system are transmitted over twisted pair cables (category 5e or better).

NOTE: It is permitted to connect several segments of a cable connection with patch panels and connection ports. It is, however, not permitted to connect active components such as network switches, hubs or repeaters are not permitted.

The data transmission is reliable over a distance of at least 80 metres using a regular standard twisted pair cable (category 5e or better).

The distance that can actually be bridged depends on the quality of the applied cable. High-quality S-STP cables with an AWG22 wire gauge coding can bridge a distance of up to 140 metres.

Patch cables with an AWG26 wire gauge coding can only bridge a maximum of 80 metres.

In order to ensure a reliable operation even in environments with interferences, installation cables with at least AWG24 coding have to be used for lengths over 80 metres:

Wire gauge	Cable type	Category	Recommendation
AWG22	Installation	5e, 6 or 7	Up to 140 m
AWG24	Installation	5e, 6 or 7	Up to 120 m
AWG26/27	Patch cable	5e, 6 or 7	Up to 80 m

NOTE: The lengths listed in the table above are the sum of all segments between the devices.

The following cables achieved the best results during test operation:

Up to 80 meters:	Dätwyler uninet® 7702 flex ›Patch cable
Up to 100 meters:	Dätwyler uninet® 5502 AWG24 S-STP ›Installationcable with sockets
Up to 140 meters:	Kerpen MegaLine® G12-150 S/F AWG22 ›Installation cable with sockets
	Dätwyler uninet® 7702 AWG 22 ›Installation cables with sockets

Reset button

The *Reset* button is placed between the *Identification* LED and the *RS485* interface on the device's front panel.

The button allows you to reset the default settings and disable the netfilter rules.

NOTE: To prevent you from pressing the button by accident, you need to use a thin, pointed object to press the button.

Resetting the default settings

Pressing and holding the button during the booting process resets the device's default settings.

NOTE: After the function has been carried out, the device's default settings apply again. However, the configured assignment of the *Dynamic Ports* remains unaltered.

How to reset the default settings of the central module:

1. Turn off both power packs of the central module.
2. Press and hold the *Reset* button on the front panel of the device.
3. Keep the button pressed and turn the device on.
4. Release the button when the green *Switch* LED starts blinking.

NOTE: You can also reset the default settings in the *Config Panel* web application.

Disabling netfilter rules temporarily

In the device's default status, all network computers have access to the device's IP address (open system access).

The web application enables you to create netfilter rules to control access to the device. If a netfilter rule is created, the open access to the system is disabled and all incoming data packets are compared to the netfilter rules.

If the currently adjusted netfilter rules prevent access to the web application, they can be can temporarily disabled in order to be edited.

How to disable netfilter rules temporarily:

1. If necessary, switch on the device and wait until the it is ready for operation.
2. Press and hold the *Reset* button on the device's front panel for 5 seconds.

   IMPORTANT: Now the open system access is enabled.

3. Use the *Config Panel* web application to edit the netfilter rules that are stored in the appliance and, afterwards, save these rules.

   IMPORTANT: The former settings are reactivated if no new netfilter rules are created within 15 minutes.

Status displays

LEDs on the front panel

The LEDs on the device's front panel allow you to monitor the operating status:

Section	LED	Status	Meaning
Ident.	**Ident.**	On	LED to identify the device in the web application is active.
		Blinking	Port type at Dynamic Ports is shown.
Power	**Red.**	On	The power pack is turned on and supplies the required voltage.
		Off	The power pack is turned off or the connection to the mains could not be established.
	Main	On	The power pack is turned on and supplies the required voltage.
		Off	The power pack is turned off or the connection to the mains could not be established.
Status	**Ready**	Blinking	The device is ready for operation.
		Off	The device is initialised.
	Switch	Blinking	The device booted successfully.

LEDs on the back panel

The device's back panel provides an additional status LED at *each* RJ45 interface. The LEDs have the following function:

Interface	LED	Status	Meaning
Network	**Yellow**	On	Active full duplex connection
		Blinking	Active half duplex connection
	Green	Blinking	Activity at network port
Dynamic Port	**Yellow**	On	‣ Status mode: A user is accessing the device. ‣ Port mode: The port is configured for the connection of a matrix switch (cluster port).
		Off	The port is not assigned.

Interface	LED	Status	Meaning
Dynamic Port	**Green**	On	‣ Status mode: Connection to matrix switch or to target module established. ‣ Port mode: The port is configured to connect a target module (CPU port).
		Off	A connection to the matrix switch or to the target module could not be established.
Ident.	**Ident.**	On	LED to identify the device in the web application is active.
		Blinking	Port type is shown at Dynamic Ports.
Power	**Red.**	On	The redundant power pack is turned on and supplies the required voltage.
		Off	The redundant power pack is turned off or the connection to the mains could not be established.
	Main	On	The main power pack is turned on and supplies the required voltage.
		Off	The main power pack is turned off or the connection to the mains could not be established.

Changing the view modes of »Dynamic Port« LEDs

In the device's default settings, the LEDs of the *Dynamic Ports* show the interface's status.

To facilitate the installation, you can switch the LEDs of the *Dynamic Ports* into *Port mode*. In Port mode, the *Dynamic Ports* to connect the matrix switches or the user modules are highlighted by green or yellow LEDs.

How to enable the Port mode of *Dynamic Ports:*

1. In the tree view, click **UserCenter**.
2. Right-click the device, and select **Dynamic Port LEDs > Show port type** from the menu.
3. Choose **System** to show the port modes of all ports, or choose the port group to which you want to limit the highlighting LEDs to.

   The LEDs of the *Dynamic Ports* highlight the current port mode (see table above).

> **NOTE:** If the port modes are active, the *Identification* LEDs on the device's front and back side are blinking.

How to enable the interface status of *Dynamic Ports:*

1. In the tree view, click **UserCenter**.
2. Right-click the device, and select **Dynamic Port LEDs > Show status** from the menu.
3. Choose **System** to show the port modes of all ports, or choose the port group to which you want to limit the highlighting LEDs to.

   The LEDs of the *Dynamic Ports* now highlight the current status of the single ports (see table above).

Technical data

Interfaces	Dynamic Ports:	32 × RJ45 socket
	Network connector:	2 × RJ45 socket
	RS 232 interface:	‣ without function
	RS 485 interface:	‣ without function
Division of Dynamic Ports	Minimum size of a group:	1 CPU port and 2 Cluster ports
	Max. number of groups:	10
	Default:	8 CPU ports (groups) with 3 Cluster ports each
Main power supply	Type:	Internal power pack
	Connector:	1 × IEC plug (IEC-320 C14)
	Power input:	100-240VAC/60-50Hz; 0.8A-0.3A
Redundant power supply	Type:	Internal power pack
	Connector:	1 × IEC plug (IEC-320 C14)
	Power input:	100-240VAC/60-50Hz; 0.8A-0.3A
Housing	Material:	Anodised aluminium
	Dimensions (W × H × D):	435 × 44 × 211 mm (Desktop) 19” × 1U × 211 mm (Rackmount)
	Weight:	Approx. 3 kg
Operational environment	Temperature:	+5 to +40 °C
	Air humidity:	< 80%, non condensing
Conformity		CE, RoHs

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