

# Application Note – Replacing ACC Controller in Cluster Mode



FREUND R&D department is doing their best to make a long lasting and reliable products, but like with all electronics, faulty devices are possible anywhere.

Following text will describe how to replace a faulty Master and Slave access controller in a Cluster Mode.


## Master Controller replacement

You can use **IP-INTEGRA Network Configurator** to find all the devices on the network.

If master controller has failed, easiest way to have a new master is to **upgrade** the slave controller to master controller.

### Step 1

**Log in** to web interface of **Slave controller**. Go to **Devices** and confirm that **Master controller** status is **offline/failed**.

 You are currently running in Slave Mode. Any changes you make CANNOT be saved and applied.  
Please switch to Master.

Devices *Overview of connected devices*

| Type | Device Name                                | Host Name | IP Address                       | Cluster Info           | Version | Doors                            | Status | Actions |
|------|--|-----------|----------------------------------|------------------------|---------|----------------------------------|--------|---------|
| >    | INT4D-186119<br><small>This device</small> | facc1338  | 192.168.200.111<br>77.78.204.154 | Alem Cluster Test 28 S | v1.15.1 | Door 1  Door 2<br>Door 3  Door 4 | OK     |         |
| >    | INT4D-207525                               | facc305   | 192.168.200.112<br>77.78.204.154 | Alem Cluster Test 25 M | v1.15.1 | Door 1  Door 2<br>Door 3  Door 4 | FAILED |         |
| >    | INT4D-217039                               | facc332   | 192.168.200.103<br>77.78.204.154 | Alem Cluster Test 28 S | v1.15.1 | Door 1  Door 2<br>Door 3  Door 4 | OK     |         |

### Step 2

Extract license USB stick from **Master controller** and plug it in the USB slot on the **Slave controller** that you want to upgrade to Master controller.

### Step 3

In the web interface of **Slave controller**, confirm on the Dashboard that the **Cluster license ID has been recognized**.

You are currently running in Slave Mode. Any changes you make CANNOT be saved and applied. Please switch to Master.

Currently running as Slave ACCESS CONTROLLER FACC1338 18.01.2023 12:47 sysadmin

Accounts 5 Cards 5 Groups 1 Zones 1

#### SYSTEM STATUS

12:47:10 12:47:20 12:47:30 12:47:40

Disk Usage: 11.73% (12.82 GB Free)  
Mem. Usage: 34% (0.32 GB Free)  
CPU Usage: 14.5%

| Door   | Reader A | Reader B |
|--------|----------|----------|
| Door 1 | Reader A | Reader B |
| Door 2 | Reader A | Reader B |
| Door 3 | Reader A | Reader B |
| Door 4 | Reader A | Reader B |

#### SYSTEM INFO

|                             |                                 |
|-----------------------------|---------------------------------|
| HWID                        | 05D4FF3B2035374157196119        |
| Firmware / Hardware Version | 1.23 / INT4D v1.2               |
| MAC Address                 | 02:81:14:38:a4:9e               |
| IP Address                  | 192.168.200.111 / 27.76.204.154 |
| Cluster Mode                | Slave                           |
| Remote Support              | Disabled                        |
| Proxy Server                | Disabled / Not Connected        |
| Power Source                | PoE                             |
| Battery Status              | Not Connected                   |

#### LICENSE INFO

|                      |                          |
|----------------------|--------------------------|
| FQDN                 | facc1338.cloud.freund.ba |
| Version              | v1.15.1                  |
| Base License         | Enabled                  |
| Additional License   | Lic-facc-cl1720-00113    |
| Max Accounts         | 60                       |
| Max Cards            | 60                       |
| Max External Devices | 5                        |
| Cluster System       | Enabled                  |
| Cluster License ID   | facc-cl1720              |


Zones Access Times Access Rules Access Logs

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| LICENSE INFO         |                          |
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| FQDN                 | facc1338.cloud.freund.ba |
| Version              | v1.15.1                  |
| Base License         | Enabled                  |
| Additional License   | Lic-facc-cl1720-00113    |
| Max Accounts         | 60                       |
| Max Cards            | 60                       |
| Max External Devices | 5                        |
| Cluster System       | Enabled                  |
| Cluster License ID   | facc-cl1720              |

## Step 4

Go to **Settings – Cluster Settings** and click on **Upgrade to Master**. Confirmation dialogue will appear. Click **Yes** to confirm the upgrade.

 You are currently running in Slave Mode. Any changes you make CANNOT be saved and applied.  
Please switch to Master.

Cluster Settings *Cluster Settings control panel*

|   |   |   |      |                   |      |       |           |                 |
|---|---|---|------|-------------------|------|-------|-----------|-----------------|
| <b>Create</b><br>Cluster       | <b>Join</b><br>To Cluster    | <b>Cluster Info</b> <table><tbody><tr><td>Name</td><td>Alem Cluster Test</td></tr><tr><td>Mode</td><td>Slave</td></tr><tr><td>Master IP</td><td>192.168.200.111</td></tr></tbody></table> | Name | Alem Cluster Test | Mode | Slave | Master IP | 192.168.200.111 |
| Name  | Alem Cluster Test   |   |      |                   |      |       |           |                 |
| Mode  | Slave   |   |      |                   |      |       |           |                 |
| Master IP   | 192.168.200.111   |   |      |                   |      |       |           |                 |
| <b>Unlink</b><br>From Cluster  | <b>Upgrade</b><br>To Master  |   |      |                   |      |       |           |                 |
| <b>Downgrade</b><br>To Slave   | <b>Change</b><br>Master IP   |   |      |                   |      |       |           |                 |

**NOTE:** If the Upgrade to Master button is unavailable, make sure that the USB stick is properly inserted into the correct controller. Alternatively, make sure you are logged in to the correct controller if there are multiple Slave devices in a cluster.

## Step 5

Confirm that the upgrade process has been successful. On the Dashboard in the top left corner you should see the message **Currently running as Master**.

The screenshot displays the dashboard for an Access Controller FACC1338. The top navigation bar shows the status "Currently running as Master" and the device name "ACCESS CONTROLLER FACC1338". The date and time are 18.01.2023 12:50, and the user is sysadmin.

**SYSTEM STATUS**

The system status section includes a line graph showing a decreasing trend from approximately 17.5% to 15.5% over time. Below the graph are three circular gauges for resource usage:

- Disk Usage: 11.73% (12.82 GB Free)
- Mem. Usage: 33% (0.32 GB Free)
- CPU Usage: 15%

At the bottom of the status section, there are four door entries (Door 1 to Door 4), each with two red buttons labeled "Reader A" and "Reader B".

**SYSTEM INFO**

The system info section lists various hardware and software details:

- HWD: 05D4FF383033574157186119
- Firmware / Hardware Version: 1.23 / INT4D v1.2
- MAC Address: 02:81:f4:38:a4:9e
- IP Address: 192.168.200.111 / 77.78.204.154
- Cluster Mode: Master
- Remote Support: Disabled
- Proxy Server: Disabled, Not Connected
- Power Source: PoE
- Battery Status: Not Connected

**LICENSE INFO**

The license info section provides details about the system's licensing:

- FQDN: facc1338.cloud.freund.ba
- Version: v1.15.1
- Base License: Enabled
- Additional License: LIC-facc-cl1720-00113
- Max Accounts: 80
- Max Cards: 80
- Max External Devices: 5
- Cluster System: Enabled
- Cluster License ID: facc-cl1720

At the bottom of the dashboard, there are four large green buttons for navigation: "Zones", "Access Times", "Access Rules", and "Access Logs".

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# Slave Controller replacement

You can use **IP-INTEGRA Network Configurator** to find all the devices on the network.

## Step 1

Locate the **master controller** and log in to the web interface. In the menu on the left side of the screen click on **Devices**. The defective controller will display status **Failed**.

Devices *Overview of connected devices*

Devices Scan Devices

| Type | Device Name                                | Host Name | IP Address                       | Cluster Info                  | Version  | Doors  | Status | Actions |
|------|--|-----------|----------------------------------|-------------------------------|----------|--|--------|---------|
| >    | INT4D-207520                               | facc332   | 192.168.200.103<br>77.78.204.154 | FREUND Demo Cluster 102 S     | v1.15.28 | Door 1 A D<br>Door 2 A D<br>Door 3 A D<br>Door 4 A D | FAILED | 🔄 ✎ ⚙️  |
| >    | INT4D-076113                               | facc763   | 192.168.200.121<br>77.78.204.154 | FREUND Demo Cluster 102 S     | v1.15.28 | Door 1 A D<br>Door 2 A D                             | OK     | 🔄 ✎ ⚙️  |
| >    | INT4D-195435                               | facc326   | 192.168.1.199<br>77.78.204.154   | FREUND Demo Cluster 102 S / E | v1.15.28 | Door 1 A D<br>Door 2 A D<br>Door 3 A D<br>Door 4 A D | OK     | 🔄 ✎ ⚙️  |
| >    | INT4D-186119<br><small>This device</small> | facc1338  | 192.168.200.111<br>77.78.204.154 | FREUND Demo Cluster 102 M     | v1.15.28 | Door 1 A D<br>Door 2 A D<br>Door 3 A D<br>Door 4 A D | OK     | ✎ ⚙️    |

## Step 2

Install the new slave controller and power it on.

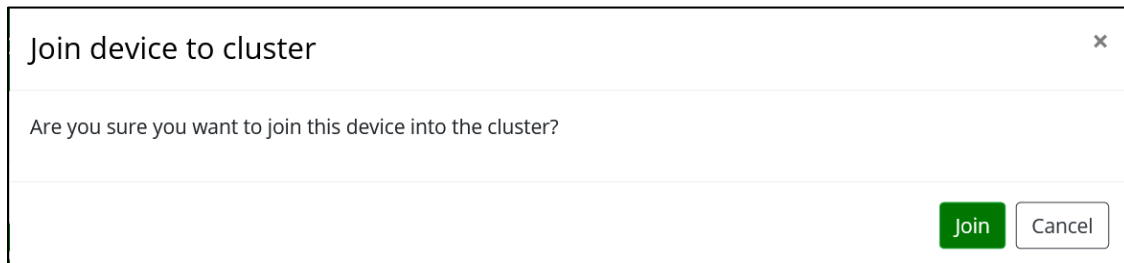
## Step 3

On the **master** web interface, click on **Devices** in the left side menu and then click on Scan Devices in the top right corner. Following screen will appear:

Scanned devices Export CSV

| # | Host Name | IP Address      | Cluster Mode | Cluster Name | Software Version | DB Increment | Door count | Device State | Actions               |
|---|-----------|-----------------|--------------|--------------|------------------|--------------|------------|--------------|-----------------------|
| 0 | facc1338  | 192.168.200.111 | Master       | Test Cluster | v1.15.0          | 24           | 4          | OK           | No actions available. |
| 1 | facc332   | 192.168.200.103 | Stand Alone  | None         | v1.15.0          | 1            | 4          | OK           | ➔                     |
| 2 | facc321   | 192.168.200.131 | Stand Alone  | None         | v1.14.11         | 1            | 2          | OK           | ➔                     |

Under **Actions**, click on **Join Device** button. The dialogue asking for confirmation will appear, click on **Join** to confirm.



During the process, the device might restart a couple of times and readers may produce a beeping sound. This is normal behavior during the cluster joining process.

#### Step 4

After the new slave controller has been added to the cluster, we need to **initiate the swap** for the broken controller.

In the **Devices** list, locate the **broken Slave controller**. Under **actions tab** you can find a **“Substitute”** button, marked in the picture bellow:

| Type | Device Name                                | Host Name | IP Address                       | Cluster Info               | Version  | Doors  | Status | Actions                   |
|------|--|-----------|----------------------------------|----------------------------|----------|--|--------|---------------------------|
| >    | INT4D-207520                               | facc782   | 192.168.200.166<br>77.78.204.154 | FREUND Demo Cluster 88 S   | v1.15.28 | Door 1 (A) Door 2 (A)<br>Door 3 (A) Door 4 (A) | FAILED | 🔄 ⚙️ <b>Substitute</b> ⚙️ |
| >    | INT4D-076113                               | facc763   | 192.168.200.121<br>77.78.204.154 | FREUND Demo Cluster 88 S   | v1.15.28 | Door 1 (A) Door 2 (A)                          | OK     | 🔄 ⚙️ ⚙️                   |
| >    | INT4D-195435                               | facc326   | 192.168.1.199<br>77.78.204.154   | FREUND Demo Cluster 88 S/E | v1.15.28 | Door 1 (A) Door 2 (A)<br>Door 3 (A) Door 4 (A) | OK     | 🔄 ⚙️ ⚙️                   |
| >    | INT4D-186119<br><small>This device</small> | facc1338  | 192.168.200.111<br>77.78.204.154 | FREUND Demo Cluster 88 M   | v1.15.28 | Door 1 (A) Door 2 (A)<br>Door 3 (A) Door 4 (A) | OK     | 🔄 ⚙️ ⚙️                   |

Click the **Substitute** button and a new prompt will open allowing you to select the replacement device, one we have just added in **Step 3**.

**NOTE:** 4-door controller can only be swapped for another 4-door controller!

Finally, **save the changes and apply them**. Allow the system to reconfigure the controllers, after which the new slave controller will inherit the settings from the broken one. No further action is required.

## Step 5

To remove the defective controller from cluster, in the **Devices** section click on the **Remove device from cluster** button marked in the picture below located under **Actions** tab.

| Devices <i>Overview of connected devices</i>                |  |           |                                  |                   |         |  |        |         |  |
|---|--|-----------|----------------------------------|-------------------|---------|--|--------|---------|--|
| Devices <span style="float: right;">Q Scan Devices ▾</span> |  |           |                                  |                   |         |  |        |         |  |
| Type  | Device Name ⓘ                              | Host Name | IP Address                       | Cluster Info      | Version | Doors  | Status | Actions |  |
| >   | INT4D-125727<br><small>This device</small> | facc1338  | 192.168.200.111<br>77.78.204.154 | Test Cluster 23 M | v1.15.0 | Door 1 A B<br>Door 2 A B<br>Door 3 A B<br>Door 4 A B | OK     |         |  |
| >   | INT4D-207525                               | facc305   | 192.168.200.112<br>77.78.204.154 | Test Cluster 23 S | v1.15.0 | Door 1 A B<br>Door 2 A B<br>Door 3 A B<br>Door 4 A B | FAILED |         |  |
| >   | INT4D-217039                               | facc332   | 192.168.200.103<br>77.78.204.154 | Test Cluster 23 S | v1.15.0 | Door 1 A B<br>Door 2 A B<br>Door 3 A B<br>Door 4 A B | OK     |         |  |