DESCRIPTION

The Densité² Frame is a 2-RU housing frame, designed for high density and low cost. The basic configuration includes one power supply unit, and a basic controller card with front panel controls for card adjustments. Up to 20 cards can be installed within a single frame. The Densité² frame offers full flexibility and integration of a variety of functions and signal types; also, all components are hot-swappable and can be quickly configured. The frame is air-cooled, the PSUs and fans are monitored and status reporting is available. Each card has a multicolored LED (visible with the door closed) for status reporting as well. Remote control via Ethernet is available with an optional controller.

FEATURES

- 2 RU with 19” rack mount
- Up to 20 cards
- 1 hot-swappable PSU with optional 2nd redundant PSU
- Basic controller with front panel for card configuration
- Optional controller with ethernet port

SPECIFICATIONS

MECHANICAL
Dimensions: 2RU x 19” W (485 mm) x 11.25” D (286 mm) with connectors
Weight: 7 lbs (3.2 kg) with 1 PSU and no cards installed

POWER
Input Range: AC 100-120, 200-240V 60-50 Hz
Rating: 300 W max
Oper. Temp. Range: 0-40°C
Alarm: GPI contact

COOLING
Fans: 2 on frame 1 on each PSU
**Densité² Housing Frame**
**Guide to Installation and Operation**

**INSTALLATION**

**Unpacking**

Make sure the following items have been shipped with your Densité² frame:
- Densité² frame, including 1 Power Supply unit (AC in),
  1 basic controller card and blank rear panels
- An AC power cord
- Densité series cards (per order)
- A second power supply and AC cord (optional)

**Mounting the Frame**

The Densité² frame should be installed directly into a rack using 4 standard rack-mounting screws through the four holes in the corners of the front mounting flange.

**Opening the front panel**

The front panel of the Densité² frame is attached by swivel brackets. Two multi-turn knobs secure the panel in the closed position. To open the panel, turn the knobs to the open position and pull gently on them until the panel is in the desired position.

If required, the door can easily be detached from the frame. Push inward on the two support arms until they release from the frame body. There are no electrical connections to the panel. Reinstall the panel by pushing the support arms inward until the bracket ends can be inserted into the mounting holes on the frame.

**Installing Cards in the Densité² Frame**

Each card comes with a rear connector panel which must be installed at the same time.

All cards and rear panels can be installed with the frame power on. The card has connectors which plug into a mid-frame mother board for distribution of power and for connection to the controller card, and a second connector which plugs directly into the rear connector panel for input and output.

*The rear connector panel should be installed with the card out of the frame.*
To install the connector panel:

- If a card is installed in the slot whose rear panel is being changed, remove it as described below.

- Remove the existing panel (either blank or belonging to an existing card that is being changed) by releasing the captive screw(s) at the bottom.

- Position the new panel and secure it in place with the captive screw(s) at the bottom.

To install the card:

- Open the front panel of the frame

- To remove an existing card from the slot, tilt up the swivel handle on the front of the card to lever the connectors apart, then use the handle to pull the card straight out of the slot.

- Slide the new card into the slot and push gently on the handle to seat the connectors. If the card requires a double-width rear panel to accommodate many connectors, it should be inserted into the right-hand slot. Inserting the card into the wrong slot will not damage the card, and will be flagged by the on-card status LED flashing red to indicate that there is no connection to the rear panel.

- Close the front panel of the frame.

Changing the Power Supply

The Densité² frame supports dual redundant hot-swappable power supplies. The basic configuration includes a single supply, plus an empty slot for the optional second supply. Installing a second power supply module and applying power to it automatically engages the redundant supply mode. Each power supply has its own power socket on the rear panel, and should be connected to the AC supply using the supplied power cord or other approved cord.

Replacing or Upgrading the Controller Card

The Controller card is located to the right of the power supply slots at the center of the frame. To replace the card, proceed as follows:

- Hook your finger through the opening at the top of the card. Pull gently until the card is released from the rear connector, then slide the card out of the frame.

NOTE: do not pull the card out using the hinged control panel.

- Slide the new card into the controller slot, and push gently on the card edge to engage the rear connectors. The connectors will not engage if the card is accidentally inserted in the wrong slot.
**MAINTENANCE**

**Ventilation**

Ventilation for the frame is provided by two fans mounted in the center of the rear panel, one behind each of the two power supply slots. These fans draw air through the frame and exhaust it to the rear. Ventilation slots are provided in the front panel to allow air to flow into the frame, and an air filter is mounted in the frame door.

The frame-mounted fans are supplemented by a fan mounted in each power supply.

Ensure that the front panel ventilation slots are not obstructed. Check the air filter regularly to ensure that it is not plugged up with debris. The filter may be cleaned by rinsing in warm water. Dry thoroughly before replacing it in the frame.

**Replacing the air filter**

To remove the air filter for cleaning or replacement, proceed as follows:

- Open the front panel of the frame
- Grasp the top of the filter installed on the rear of the door, and pull it gently out of its mounting slot

To install a filter, proceed as follows:

- Slide the filter into the slot at the bottom of the front panel door. Ensure that the filter is not bunched or folded.
- Close the front panel of the frame

**SAFETY COMPLIANCE**

This equipment complies with:
- CSA C22.2 No. 60950-1-03 / Safety of Information Technology Equipment, Including Electrical Business Equipment.

**CAUTION**

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

**WARNING**

An appropriately listed/certified mains supply power cord must be used for the connection of the equipment to the mains voltage at either 120V or 240V.

**ELECTROMAGNETIC COMPATIBILITY**

- This equipment has been tested for verification of compliance with FCC Part 15, Subpart B, class A requirements for Digital Devices.
- This equipment complies with the requirements of:
  - EN 55022 Class A, Electromagnetic Emissions,
  - EN 61000-3-2 & -3-3, Disturbance in Supply Systems
  - EN 61000-4-2, -3, -4, -5, -6, -8 & -11 Electromagnetic Immunity
  - EN 55024 Electromagnetic Immunity

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