

Relative humidity	< 90% non-condensing
Altitude	< 3000m / 9,000ft ⁴
Noise emission	< 60dBA per AT300 blade in Frames FR_1RU, FR_2RU, FR_3RU < 50dBA per AT300 blade in Frames FR_2RU_LN
Airflow	max 76cbm/h per AT300 blade
Safety	EN 62368-1:2014 + A11:2017, AS/NZS 62368-1:2018
Electromagnetic environment	Emission E4, Immunity E2 (EN55103-1,-2) Class A min.3dB margin

Power

Connector	2x IEC redundant
Consumption frame	3 RU < 1100W, 2RU < 750W, 1RU < 300W
Consumption AT300	< 125W
per QSFP28	max 5W

Input Voltage

AC Nominal	100 - 240 VAC +/- 10%
AC frequency	50/60Hz +/- 5%

(Frame) Mechanics

Width	482mm(19“) gross (incl. rack ears)
Depth	535mm net (without design front and excess length screws/handles)
Height	3RU/2RU/1RU
Weight	9kg/6.5kg/4.1kg 3RU/2RU/1RU frame without options/modules
Power Supply Front-End	hot swappable, weight 1.1 - 1.4kg
AT300 blade	hot swappable, weight 1.2kg
IO Module BNC	hot swappable, weight 250g - 370g
IO Module MGMT	hot swappable, weight 160g
Ventilation/airflow	front to back cooling

⁴ altitude max. operating temperature derating of 1.0°C per 300m/900ft

Computer System Requirements

To control parameters you will need an external computer, connected to **BLADE//runner** network and running a web browser session or a control system application.

Installation Checklist

To get your system operational, please complete each of the following steps:

- Unpack and check the contents of the shipping box.
- Fit any optical port QSFP28 transceivers. Please take care not to mix up the transceiver types.
- Mount the unit.
- Connect and turn on the power.
- Connect and configure the network connection to your computer.
- Start a **web browser session**.
- Check the software revision and, if necessary, **update your unit**.
- Connect the remaining video, audio and reference signals.
- Configure the reference settings for your installation.

The rest of this chapter covers these steps in more detail.

QSFP28 Module Installation

Only optical QSFP28 transceivers and/or QSFP28 active optical cables are supported.

The customer is responsible for selecting and installing the Class 1 laser transceiver and for insuring that the Class 1 AEL (Allowable Emission Limit) per EN/IEC 60825-1, CSA E60825-1, and Code of Federal Regulations 21 CFR 1040 is not exceeded after the laser transceivers have been installed. **DO NOT** install laser products whose class rating is greater than 1. Refer to all safety instructions that accompanied the transceiver prior to installation. Only Class 1 laser devices certified for use in the country of installation by the cognizant agency are to be utilized in this product.

Frame Installation

BLADE//runner can be mounted either in a 19" equipment rack or on a table top as follows:

- **19" Rack-Mounting** - fix the rack-mounting brackets to the front of the chassis. Then attach to a standard 19" equipment rack. Please install a supporting rack mount kit to hold the weight of the unit.
- **Table Top** - the unit should be laid on a flat, horizontal surface.

Plug-in connectors are located at both the front and rear. Therefore, make sure that all connectors are accessible. When using 19" racks with doors please leave enough room for the cables!

Device is foreseen for indoor use in dust-free ambiance. Unit is foreseen to be installed in 19 Inch Racks. Device must be mounted horizontally.

Blade Installation

BLADE//runner frames are manufactured without EMI stripes in processing slots. V_matrix frames are manufactured without EMI stripes in processing slots since mid 2022. EMI stripes in processing slots of older V_matrix frames need to be removed before installing AT300 blades.

Air Guides

BLADE//runner comes with short air guides, long air guides are optional. Both air guide types have specific use cases:

- **Long air guide**
 - For 1RU, 2RU, 3RU frames. Due to the longer guidance, the air reaches higher speeds, resulting in better heat dissipation.
- **Short air guide**
 - **REQUIRED** in 2RU_LN low-noise frames. The shorter air guide does not block air supply from the additional fans and prevents them from being damaged.
 - Can be used in 1RU, 2RU, 3RU frames as well.

Dimensions and Weight

1RU: Detailed pdf here

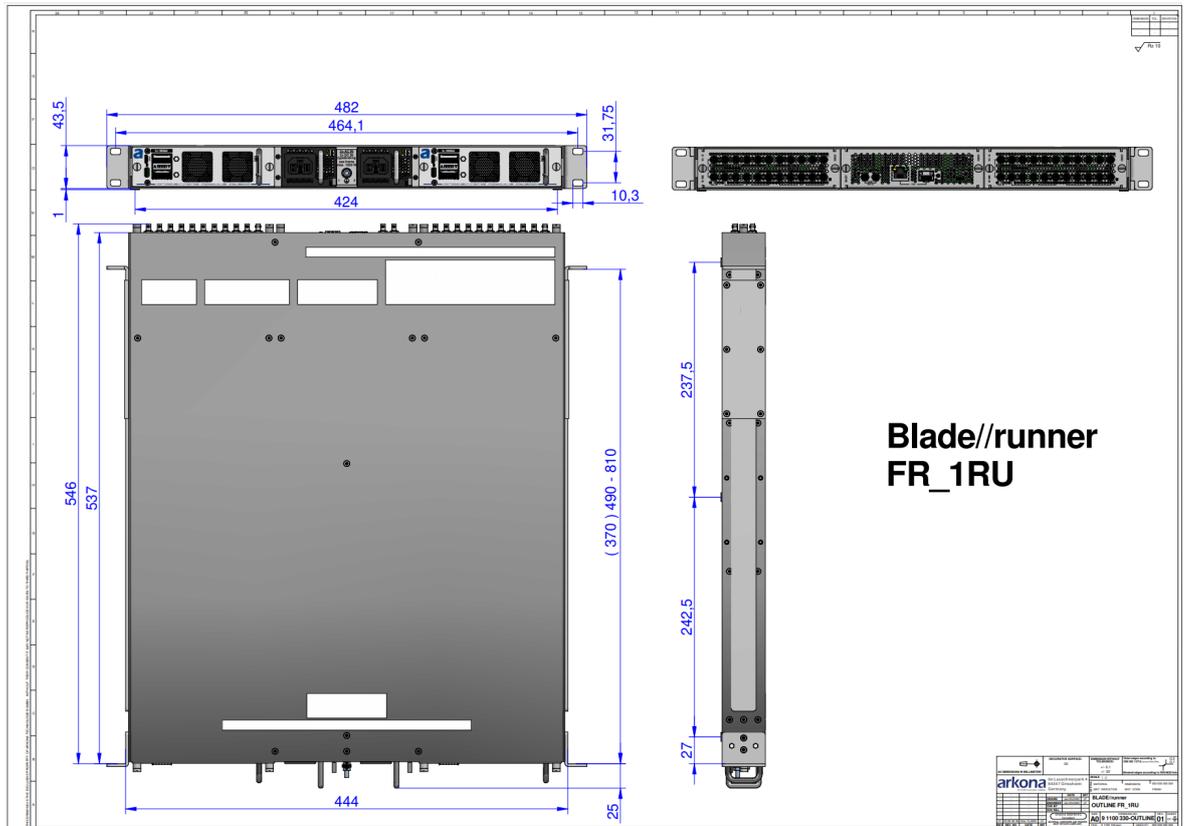


Figure 21 Frame 1RU Outline

2RU: Detailed pdf here

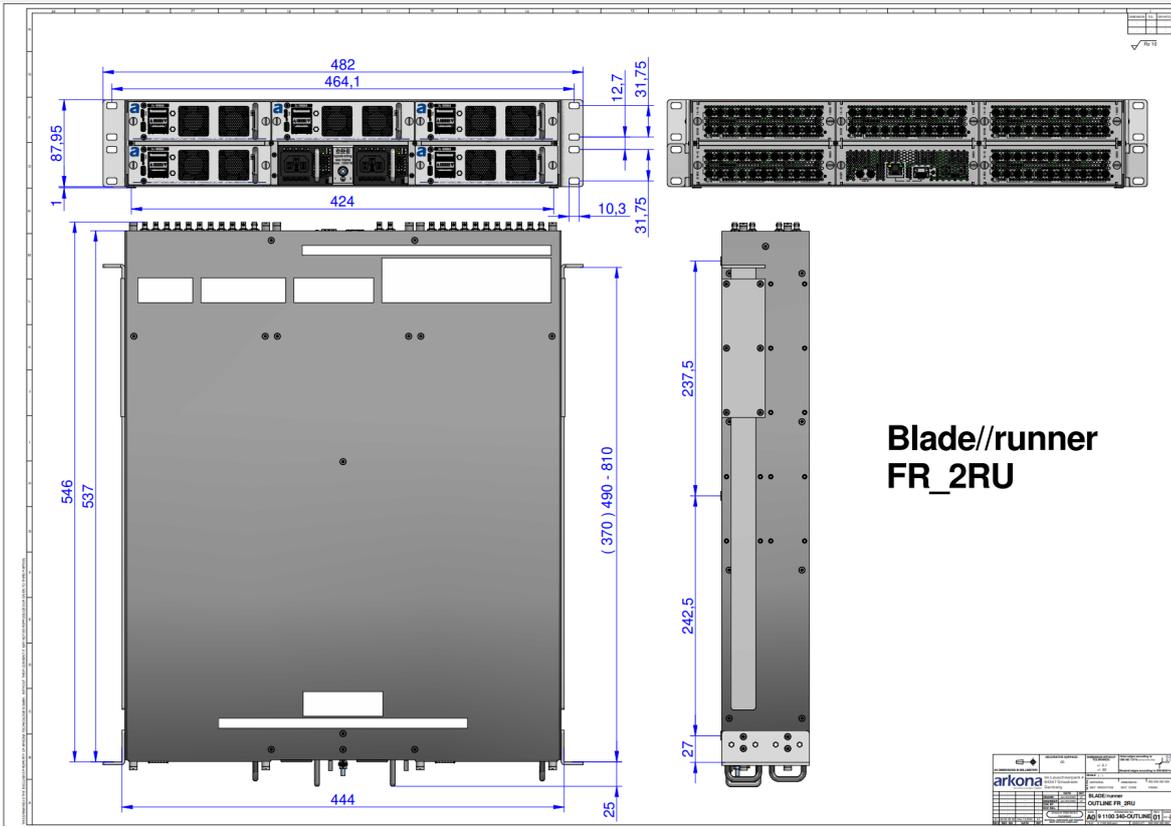


Figure 22 Frame 2RU Outline