5. Installation

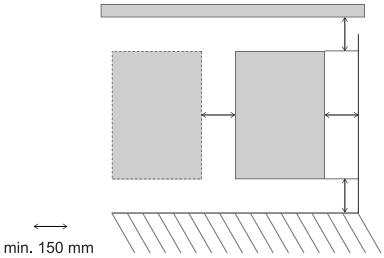
5.1 Wall mount

5.1.1 Important considerations for installation

RDM is a device that allows for different types of installation. Before proceeding, check:

- if the fans are equipped with asynchronous motors that are voltage adjustable, meaning high speed
- if the maximum rated load current is less than or equal to the rated current of the selected RDM model

5.1.2 Guarantee cooling



***NOTICE**: the air must circulate freely in the dissipater without obstacles (below and above the dissipater). Leave a free area between the device and the walls or between several devices in series.*

***NOTICE**: over temperature. In the case of vertical installation of multiple controllers, always measure the air temperature to which the highest controller is subjected.*

5.1.3 Outdoor installation

Only models with IP55 protection rating can be installed in the open. The controller can withstand temperatures below zero only if it is powered. Avoid exposure to direct sunlight.

***NOTICE**: temperature changes. Defective operation. Store the controller at room temperature before installation to avoid condensation.*

5.1.4 Installation in the electric panel

Models with protection ratings IP20 and IP00 must be installed inside an electric panel. Containers of models IP20 have holes which allow air circulation.

5.1.5 Installation in farms

***NOTICE**: ammonia vapors. Avoid installing the controller in the stable. Install it in a separate room.*

5.1.6 Warnings

***NOTICE**: for IP55 and IP20 models, secure the device closed to prevent screws from falling and remaining inside. Always close the unused holes with the plugs. Install the controller vertically with the cable clamps at the bottom.*

5.1.7 Fix devices with IP55 protection ratings to walls

1. Insert the cable clamps or plugs.
2. Drill holes at the fins or fixing holes, according to these instructions:

For RDM	Hole dimensions
308	6 mm
312, 320 (1/4 outputs)	5 mm
320 (2/8 outputs), 328	5 mm

3. Secure the appliance using four screws (not supplied) suited to the wall thickness.

5.1.8 Fix devices with IP20 protection ratings in the electric panel

1. Insert the cable clamps or plugs.
2. Fix the device to the panel using four screws (not supplied).

5.1.9 Fix devices with IP00 protection ratings in the electric panel

***NOTICE**: damages to components. Defective operation. Handle with care and fix the device in a position protected from impact.*
Fix the device to the panel using four screws (not supplied).

5.2 Electrical installation



Operation reserved for an electrician. Has substantial knowledge in the electrical field. Can understand wiring diagrams and work on live electrical panels, shunt boxes and control devices.

5.2.1 Warnings



WARNING! Live parts. Electric shock. If you have to work on the powered controller, always do it in the presence of a second person. Block remote controls and any power switches.

5.2.2 Ground



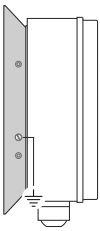
WARNING! Electrocution. Do not power the controller if it is not grounded.

***NOTICE**: if a circuit breaker is installed on the power supply, use a device with a threshold over 100 mA and with a short delay to prevent inopportune power outages*

5.2.3 Connect secondary grounding

To increase the electromagnetic compatibility of the controller, connect the secondary grounding.

For RDM320 (2/8 outputs) and RDM328, to connect the secondary grounding, connect a grounding cable to the dissipater screw.



5.2.4 Protection for short-circuits on load

To protect the controller power modules from severe short-circuits or overloads, it is imperative to use semiconductor protection fuses with a suitable I2t value fitted upstream of the controller.

For additional protection, a circuit breaker with a C-curve can be used, mounted upstream of the partializer.

The installer must install these protections.

Model	Circuit breaker (A)	Fuses			
		A	V ac	Format	I2t semiconductor max (A 2s)
RDM308	16	12	690 V	10 x 38	145
RDM312	20	16			145
RDM320	32	25		14 x 51	470
RDM328	40	32			550

5.2.5 Power cables separate from signal cables

Install the power cables (power and load) separately from the signal cables (analog inputs and auxiliary On/Off inputs/outputs) and keep the maximum distance possible between the cables.

In case of intersection, install with a 90° angle.

5.2.6 Connecting loads and by-passes

The controller allows you to connect three-phase loads without having to connect the neutral. This simplifies installation and allows for a load triangle configuration. Prepare a by-pass switch in order to operate the load even in the event of partializer failure (emergency by-pass).

5.2.7 Warnings for connection and by-pass use

Match phases to avoid destructive short circuits and keep the motor running.

Before powering the load to the maximum voltage, disconnect the power supply to the controller, therefore:

- use a three-position manual shunt as a switching device
- if you use the automatic switch using contactors, ensure a delay of at least two seconds between turning off the controller and turning on the load.