BLACK BOX®

ClimateCab Server and Data Cabinet

Climate-controlled protection enables you to install servers without additional cooling or costly infrastructure.

> Houses data equipment in dusty and dirty environments.
> Sealed against dripping water and dust and prevents air exchange.

Trademarks Used in this Manual

Black Box and the Double Diamond logo are registered trademarks, and ClimateCab is a trademark, of BB Technologies, Inc.

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Chapter 1: Specifications

1. Specifications

Table 1-1 lists specifications for the cabinet shown in Figures 1-1 and 1-2.

Table 1-1. Cabinet specifications.

RU	Part Number	Compatible Air Conditioner	Height*	Cabinet Width**	Cabinet + AC Width	Depth***	Cabinet + AC Weight	Cooling Capacity
14	RM5008EU	RMAC870EU	87.7 cm	68 cm	91.1 cm	80.0 cm	159.5 kg	2950 BTU (870 W)
24	RM5007EU	RMAC950EU-R2	132.1 cm	76.2 cm	101 cm	111.4 cm	225 kg	3240 BTU (950 W)
24	RM5007EU	RMAC1500EU-R2	132.1 cm	76.2 cm	101 cm	111.4 cm	228 kg	5120 BTU (1500 W)
42	RM5031EU	RMAC950EU-R2	212.1 cm	76.2 cm	101 cm	111.4 cm	295 kg	3240 BTU (950 W)
42	RM5031EU	RMAC1500EU-R2	212.1 cm	76.2 cm	101 cm	111.4 cm	298 kg	5120 BTU (1500 W)
42	RM5030EU	RMAC2000EU-R2	212.1 cm	76.2 cm	100.2 cm	111.4 cm	328 kg	6825 BTU (2000 W)

*Includes casters

**Does not include removable side panel handle (where handle is included)

***Does not include front and rear handles

NOTE: All cabinets ship with the AC panel on the right side and solid panels on the top "squeeze plate opening."
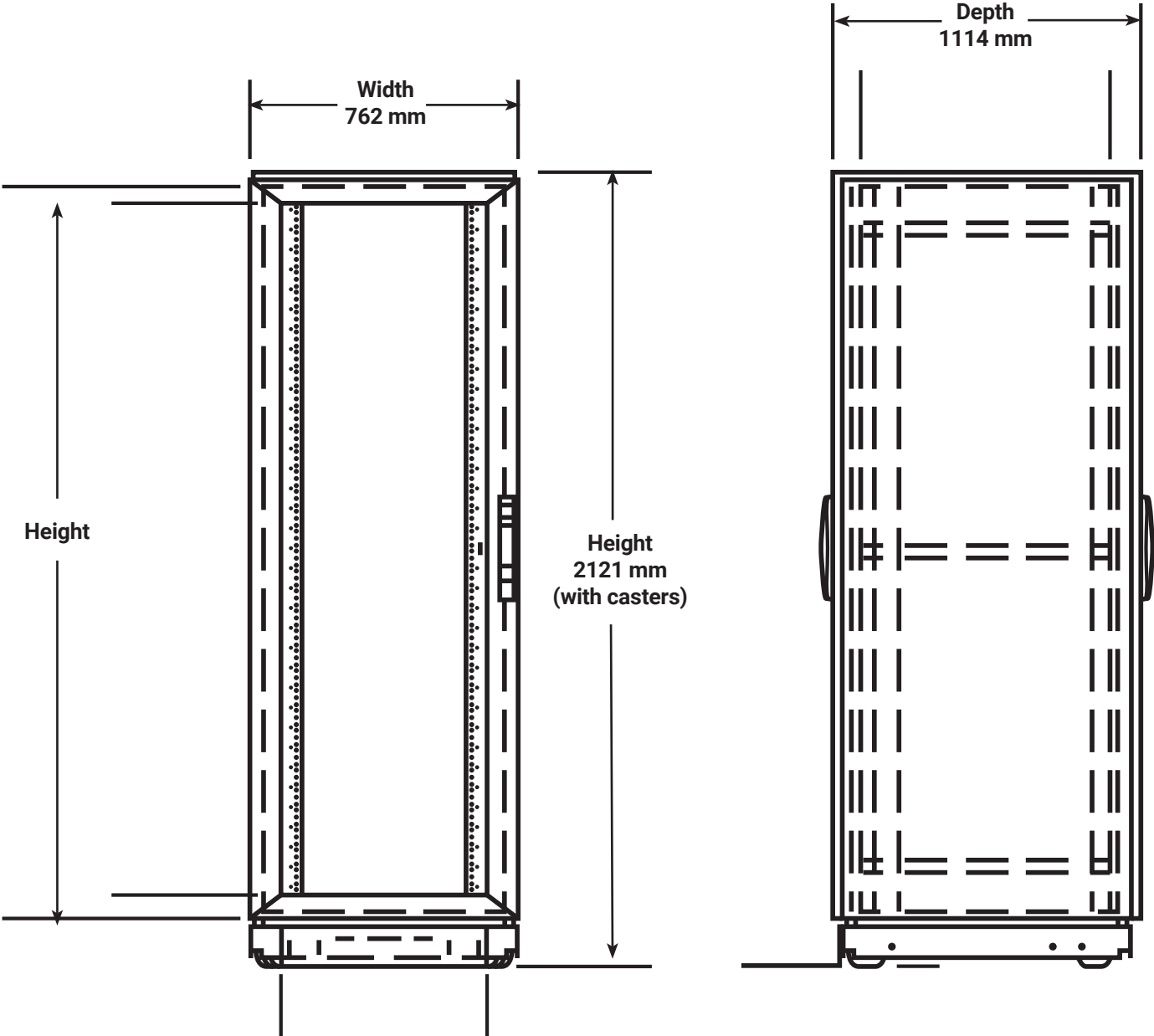
42U Cabinets

Figure 1-1. 42U cabinet dimensions.

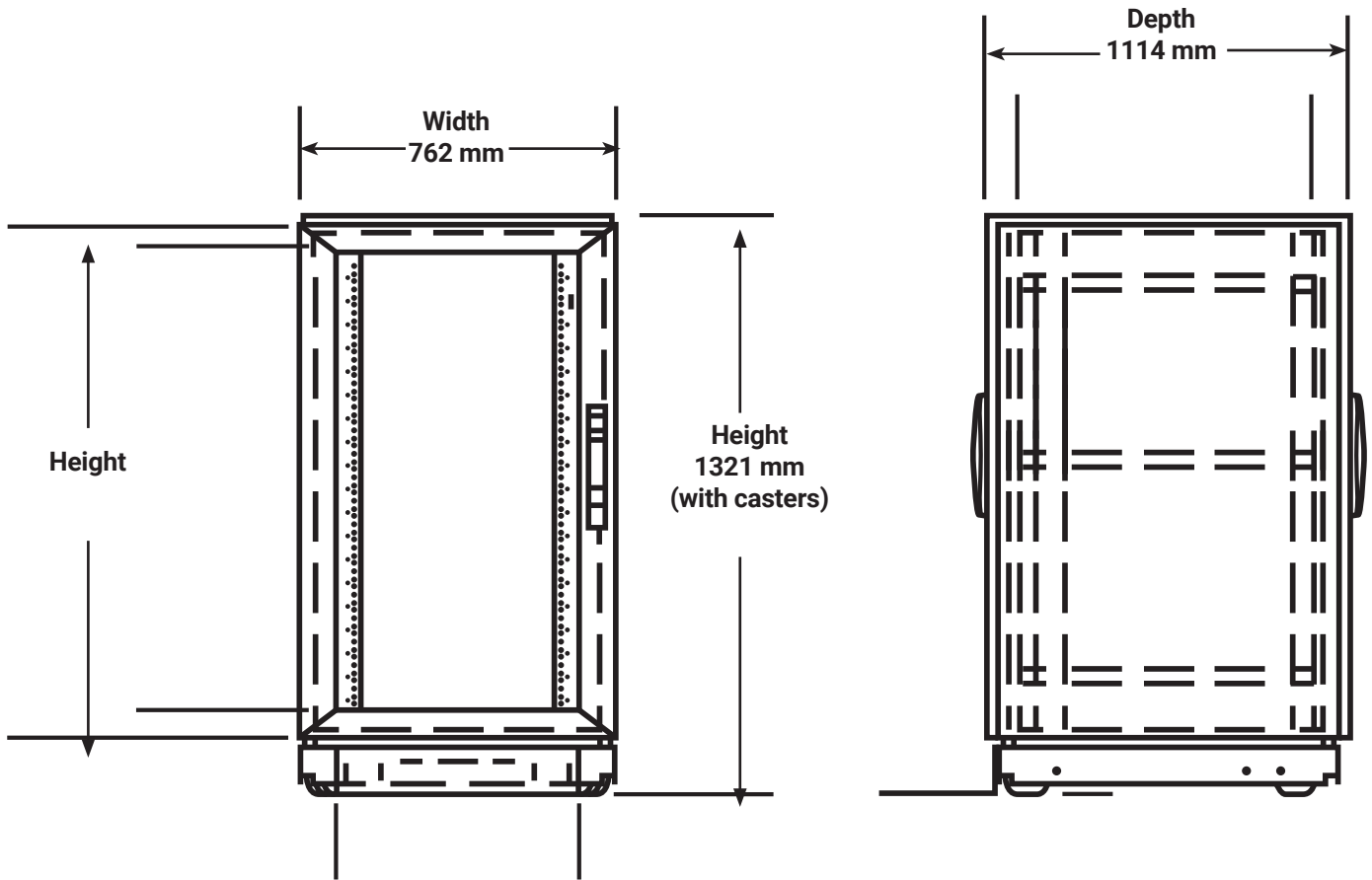*NOTE: For cabinet depths, see Table 1-1.*

24U Cabinets

Figure 1-2. 24U cabinet dimensions.

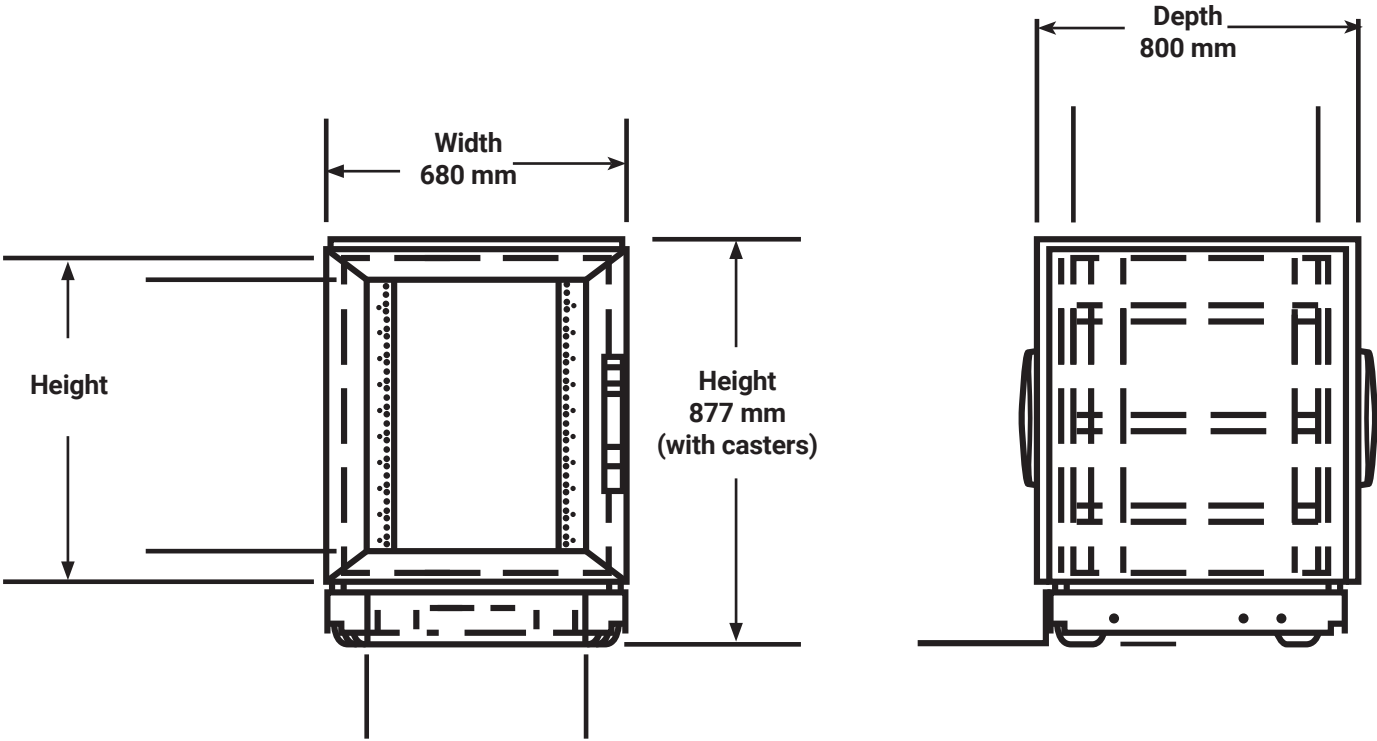*NOTE: For cabinet depths, see Table 1-1.*

14U Cabinets

Figure 1-2. 14U cabinet dimensions.

NOTE: For cabinet depths, see Table 1-1.

2. Overview

2.1 Introduction

The ClimateCab™ IP52/NEMA12 server and Data Cabinet houses data equipment in dusty and dirty environments. It's sealed against dripping water and dust and prevents air exchange. Use the cabinet to house an protect sensitive electronic equipment in an uncontrolled indoor environment.

2.2 Features

• Three-point handles with provisions for key lock on all doors provide easy but controlled access.

• Fully welded frame safely supports sensitive equipment.

• Fully gasketed to keep contaminants away from equipment, reducing maintenance costs.

• Two sets of 19-inch rack angles support both front and rear of equipment.

• Rack angles are infinitely adjustable from front to rear for positioning flexibility.

• Casters provide easy placement of cabinet.

• Levelers and anti-tip bracket secure cabinet to the floor.

2.3 What's Included

Your package should include the following items.

• (1) ClimateCab with leveling legs and casters (installed)

• (1) Hardware pack

• (2) 50-mm all-thread rods (used for side panel installation)

• (2) Handles

• (4) Bolts (for mounting AC side panel handles)

• (50) M6 Cage nuts and screws

• (1) 1.5-m length of grommet trim (used if any of the knockouts are removed)

• This user's manual

For ClimateCab sizes and specifications, see Table 1-1.

2.4 Top

The ClimateCab top has a cable access area with a solid panel in place.

2.5 Bottom

Casters and leveling legs are included with your ClimateCab.

3. Quick Installation Instructions

3.1 What's Included/Additional Items You Will Need
ClimateCabs ship as two separate subsystems:

• The Cabinet

• The Air Conditioning unit

The kits are fully inclusive but to complete the installation you will require:

• A 10-mm spanner

• A small screwdriver

• A qualified electrician

• An assistant to help lift the conditioner into position

• Power cable to reach from the electrical outlet into the cabinet

3.2 Unpacking
Unpack the Air Conditioner and check that you have all the contents.

• Air conditioner.

• (6) mounting bolts

• Rubber sealing strip

• (1) 6-position WAGO sensor connector block

• (1) 3-position WAGO power connector block

3.3 Precautions
• The air conditioning unit should be kept upright at all times.

• Refer connection of the electrical supply to a qualified electrician.

• Observe caution when lifting the air conditioner and seek assistance where necessary.
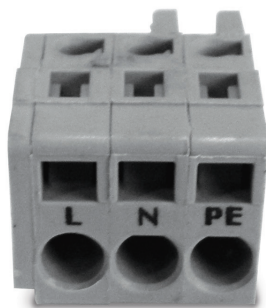
3.4 Connections
Power

The WAGO connector can be pre-wired and then pushed into the recess on the inner panel of the air conditioner.

L- Live – Brown Wire

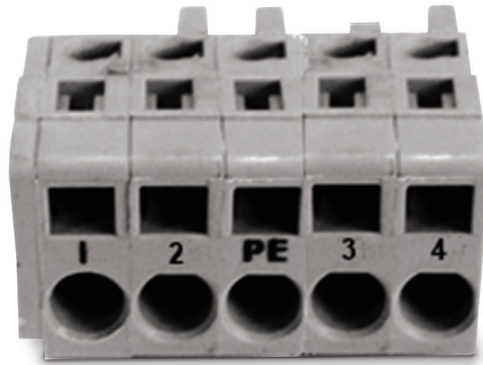N – Neutral – Blue Wire

PE – Earth – Green / Yellow Wire

Power connector.

Control

The air conditioner has a door open sensing feature that should be bridged to enable the air conditioner to operate. Bridge the connection between 3 and 4 on the control connector.

Control connector.

Connect wires by pushing them into the round holes while you release the clamp with a small screwdriver.

3.5 Configuration

Defaults

The air conditioner is set to start cooling at 35° C

The air conditioner alarm contacts are activated at 50° C

To change these settings:

1. Remove the cover from the inside of the air conditioning unit.

2. Locate the switch marked S1.

3. Adjust switch settings as appropriate.

4. Replace cover.

3.6 Mounting the Air Conditioner

1. Place the sealing rubber around the aperture(s) on the side of the cabinet.

2. Place the thread sections in the two upper locations on the air conditioner.

3. Safely lift the air conditioner into position, pushing the threads through the upper holes.

4. Place the nuts over the threads, and do up loosely by hand.

5. Insert the remaining bolts from the inside of the cabinet through to the air conditioner.

6. When satisfied with the position tighten the bolts and nuts.

7. Connect the control connector to the air conditioner.

8. Connect the power connector to the air conditioner.

4. Troubleshooting

Refer to the following chart to diagnose any issues.

Troubleshooting chart

Pos.	Unit characteristics	Technical causes	Fault remedy
1	Compressor: OFF Internal fan: OFF External fan: OFF Status LED: OFF Fault signal contact: Open	No voltage is supplied to the unit.	Check the backup fuse and/or conect the supply voltage.
2	Compressor: ON Internal fan: ON External fan: ON Status LED: flashing (seq. 3) Fault signal contact: Open	The unit's test mode is active and is set to the most recent setting after 60 seconds.	The unit switches to test mode once after each new connection to the power supply.
3	Compressor: OFF Internal fan: OFF External fan: OFF Status LED: flashing (seq. 1) Fault signal contact: Closed	The input for a door limit switch is open because a switch cabinet door is not closed or a bridge is not set.	Insert link, close the door contact switch, or, with an engaged door contact switch, close the door.
4	Compressor: OFF Internal fan: ON External fan: OFF (standard controller); ON: (comfort controller) Status LED: flashing (seq. 2) Fault signal contact: Open	High pressure pressostat or motor protection switch signals overheating. The compressor switches ON again automatically when the switch cools, with a delay of 30 seconds.	Clean filter mat or heat exchanger in the external circulation. Possibly check the power dissipation in the switch cabinet to the installed cooling capacity of the air conditioner.
5	Compressor: OFF Internal fan: OFF External fan: OFF Status LED: flashing (seq. 1) Fault signal contact: Open	You cannot adjust the unit via the coding switch. Change the unit setting.	Observe the operating instructions and note the coding key of the coding switch.
6	Compressor: ON Internal fan: ON External fan: ON Status LED: flashing (seq. 1) Fault signal contact: Open	The upper temperature limit of the switch cabinet has been exceeded.	Clean the filter mat or heat exchanger in the external circulation. Check the power dissipation in the switch cabinet to to the installed cooling capacity of the air conditioner.
7	Compressor: OFF Internal fan: ON External fan: OFF Status LED: flashing (seq. 1) Fault signal contact: Open	The lower temperature limit of the switch cabinet has been exceeded. or The water level in the condensate collection pan is too high (only with optional level monitoring). These faults can only occur with the cabinet controller.	Install a heater or a fan-forced heater if necessary. Check the drain for blockage or fouling. Check that the runoff tube is correctly installed. NOTE: Much condensate is produced if the switch cabinet is poorly sealed or the doors are constantly open.
8	Compressor: ON Internal fan: ON External fan: ON Status LED: flashing (seq. 2) Fault signal contact: Open	The temperature sensor is defective or has not been detected.	Replace the contact sensor or replace the complete electronic control with a fixed- wired temperature sensor. Contact technical support.
9	Compressor: normal control characteristics Internal fan: ON External fan: normal contrl characteristics Status LED: flashing (seq. 1) Fault signal contact: Open	If a short circuit occurs in the switch cabinet, the cabinet will not be cooled. Air conditioning is requested within short cycle times.	Relocate the power components in the switch cabinet or relocate the cooling unit. Select a top-mounting coollng unit or side-mounting cooling unit as an alternative, depending on the amount of space you have.

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About Black Box

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