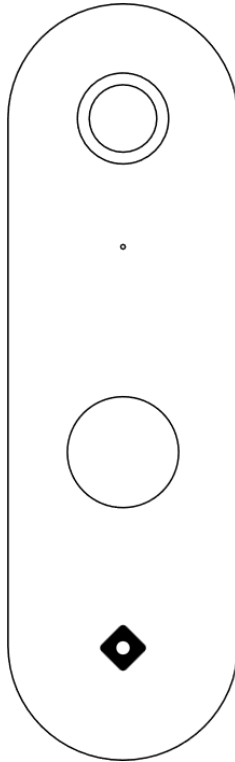


DR40 Video Intercom

User Manual



Contents

System Overview	04
Mounting Instructions	05
Recommended Wiring	06
Operation	08
Registration	08
Specifications	09
Troubleshooting	10
Appendix	11

Date	Revision	Notes
9/22/2023	A	Initial Release
12/20/2023	B	Addition of UL 294 statement

Service and installation should only be performed by trained personnel.

WARNING messages will be fully boxed as shown here. Failing to follow instruction may result in damage to the DR40 or other connected components.

UL 294 Compliance

The DR40 Video Intercom is intended for indoor operation.

The equipment is defined for these performance levels:

- Attack Level: Level I
- Endurance Level: Level I
- Line Security Level: Level I
- Standby Power Level: Level I

CAN/ULC-60839-11-1 Grade assignment:
Grade 1

Only use with Power Sourcing Equipment certified by UL 62368-1 (compliant with LPS), or by UL294 (Power-Limited Class 2).

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

IC Compliance Statement

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

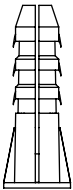
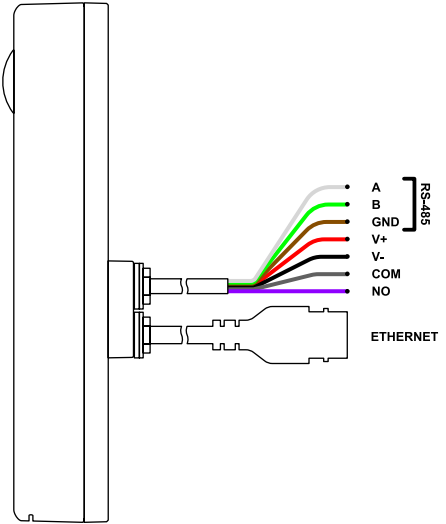
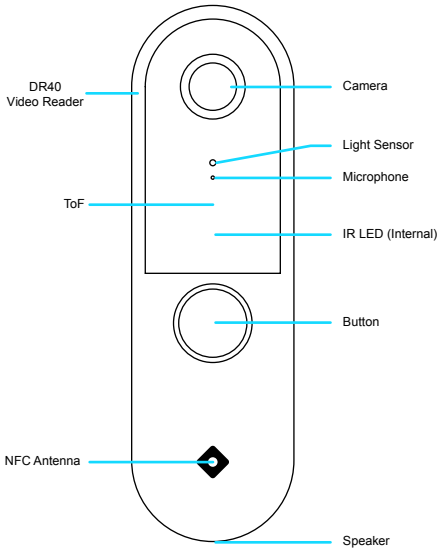
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) L'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement

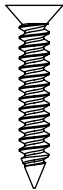
L'appareil a été évalué pour répondre aux exigences générales en matière d'exposition aux RF. L'appareil peut être utilisé en condition d'exposition portable sans restriction.

DR40 Overview

Equipped with a door reader, camera, and intercom, the DR40 makes it easy to monitor entry events, grant access, and seamlessly communicate with visitors.



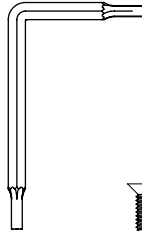
x3



x3



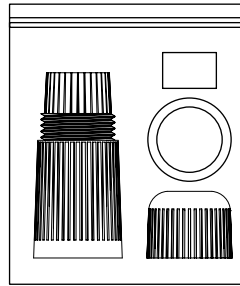
x3



x1



x1



x1

Included in the Box:

- DR40 Door Reader
- (2) Wall anchors
- (2) #8 FH wall screws
- (2) 8-32 outlet box screws
- (1) T6 Torx Key
- (1) Waterproofing Kit

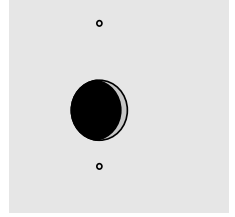
Tools You'll Need:

- Phillips #2 screwdriver
- Pen or pencil for marking drill locations
- Power drill and 1/4" drill bit for wall anchors or 1/8" drill bit for screw pilot
- 1-3/8" hole saw

Mounting the DR40

STEP 1

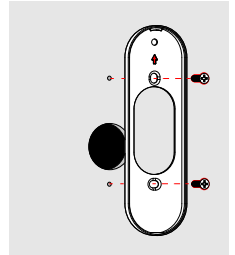
To install, pre-drill pilot holes into the desired mounting surface in accordance with the mounting specifications provided (see Appendix). Note that a 3/16" pilot hole is required if using the wall anchors..



STEP 2

Remove the mounting bracket from the reader by unscrewing the T6 screw at the bottom of the device.

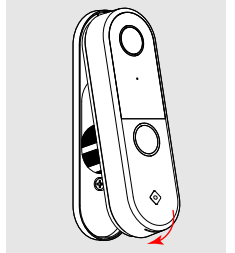
Fasten the mounting bracket to the surface using the included wall screws and ensure that the arrow symbol on the bracket is pointing up.



STEP 3

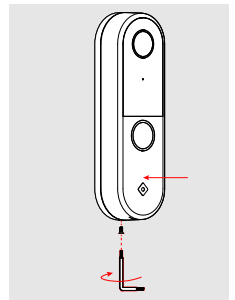
After wiring is completed, pass the DR40 cables through the hole and slide the reader into the mounting bracket.

Ensure that the tab at the top of the mounting bracket is inserted into the top slot of the DR40.



STEP 4

While holding the DR40 in place, insert and tighten the T6 screw into the bottom of the bracket using the torx key provided.



Recommended Wiring

Wiring methods used shall be in accordance with the National Electrical Code, ANSI/NFPA 70.

All wiring of the DR40 should be performed prior to connecting power. Power should be removed before attempting to service the DR40 or any of its connected devices.

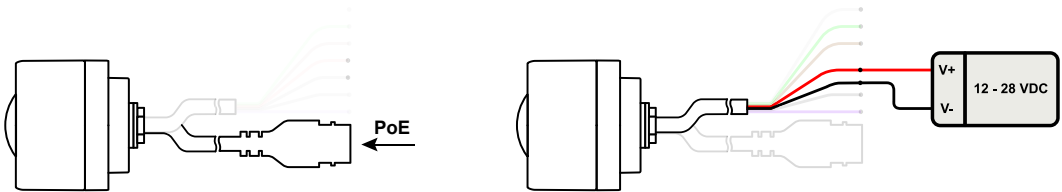
WARNING: Failure to remove power prior to servicing the DR40 may result in damage to connected devices.

Wire Type and Size

	Wire Type	Twisted Pair	Shielded	Minimum Size	Maximum Length
Reader Power	Solid or Stranded	—	Yes	18 AWG	300 ft
Reader Data (RS-485)	Solid or Stranded	Yes	Yes	24 AWG	300 ft
Ethernet Line	—	—	—	—	328 ft

Video Intercom

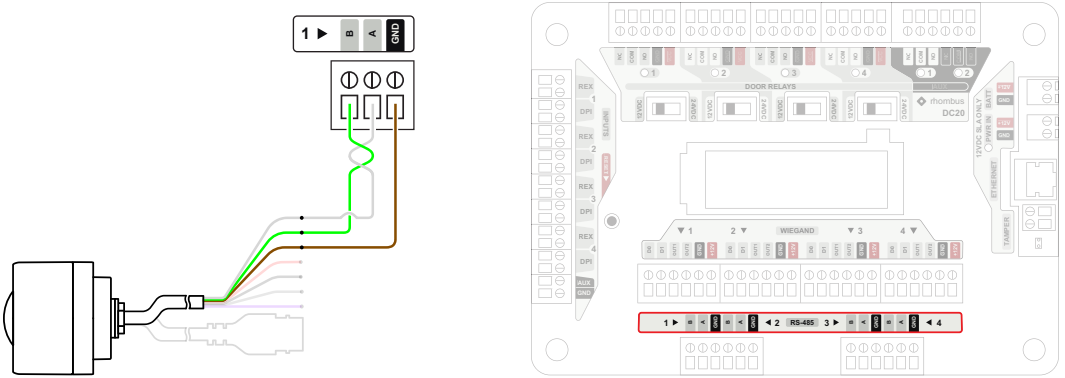
If access control is not required, DR40 can be used as a standalone device to capture audio and video events. The DR40 can be powered using POE or a 12-28VDC, 12W power source.



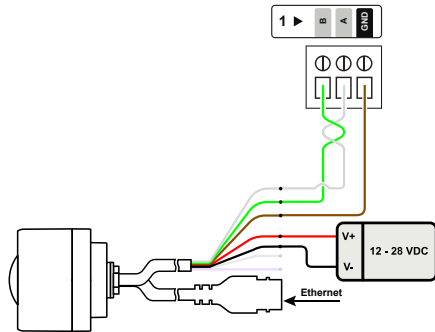
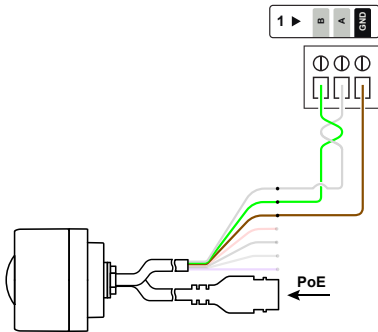
If powered remotely, the DR40 can connect to the network through ethernet or Wi-Fi. Use a CAT5 or CAT6 cable with RJ45 connector and plug into the DR40 pigtail cable for ethernet use.

Video Door Reader

DR40 is compatible with the Rhombus DC20 Door Controller and communicates using OSDP protocol over RS-485. Connect the [A], [B] and [GND] lines of the DR40 to the corresponding terminals in the DC20.

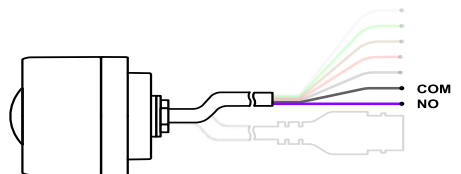


Power to the reader can be supplied using POE or a 12-28VDC external power source. DR40 has a maximum current rating of 791 mA at 12VDC, so should not be power directly by the DC20. Always check the power requirements of the door controller prior to installation. If PoE is not used, an Ethernet or Wi-Fi connection is required. Refer to Recommended Wire Type and Size table above for more wiring detail.



Relay

DR40 is equipped with one dry contact Normally Open (NO) relay that can be used to control externally powered devices such as door chimes or lights rated up to 30 VAC/DC, 1A max. Relay events can be configured in the Rhombus Console after registration.



Operation

Proximity Sensor

The DR40 proximity sensor allows for touch-free access using Bluetooth if set-up on the mobile app.

Accepted Credentials

DR40 is compatible with most NFC card types including mobile NFC for iPhone® and Android® devices. DR40 also facilitates Touchless Entry with your mobile device's Bluetooth, Location, and other onboard services.

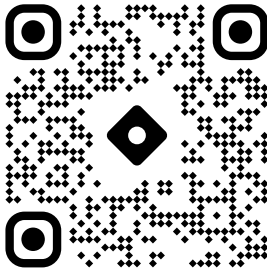
Offline Mode

During a network disconnection, the DR40 will continue to record and save the footage to the on board storage, while power is present. Access Control functionality is also preserved, however, user grants and schedules cannot be updated. Once the network connection has been restored, all alerts, movements, and access control configurations will be updated automatically.

Registration

Getting Started

To get started, scan the QR code provided with the DR40 or visit www.rhombus.com/setup/dr40



Specifications

General

Dimensions: Mullion 50 mm x 165 mm x 35.1 mm [1.97 in x 6.5 in x 1.38 in]

Weight: 0.40kg (0.9lbs)

Mounting: Wood/drywall screws Included

Credential

Frequency: 13.56 MHz

Credential Compatibility: Rhombus Badge, ISO 14443A (CSN), Rhombus Key app

Connectivity/Power

Controller Compatibility: DC20

Input Voltage: 802.3af or 11-28VDC

Power Consumption MAX: 9.3W

Environmental

Operating Temperature: -40°C to 50°C [-40°F to 122°F]

Operating Humidity: 10%-90% RH

Weather Resistance: IP65

Camera

Image Sensor: 5MP sensor, 2688 x 1944 resolution

Field of View: 155.2° Diagonal FoV, 118.4° Horizontal FoV, 86.4° FoV

FCC, CE, RCM, AUS and NZ Compliant

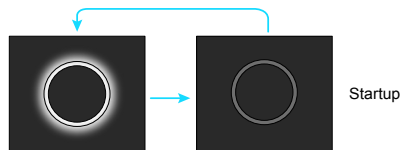
Troubleshooting

Power Cycling

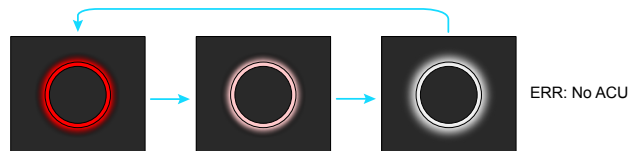
If the DR40 needs to be power cycled, remove the reader from the mounting bracket and unplug the device from the power source. Leave unplugged for around 30 seconds before reconnecting.

LED Indicators

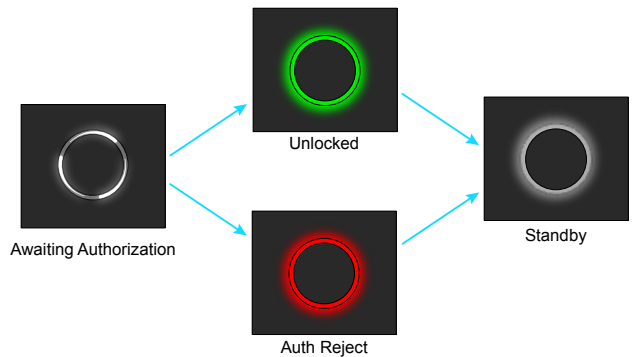
The DR40 LED will fade from white to "OFF" when initially connecting.



The LED will fade from red to white when the RS485 connection is down or if the reader is not connected to an Access Control Unit (ACU).



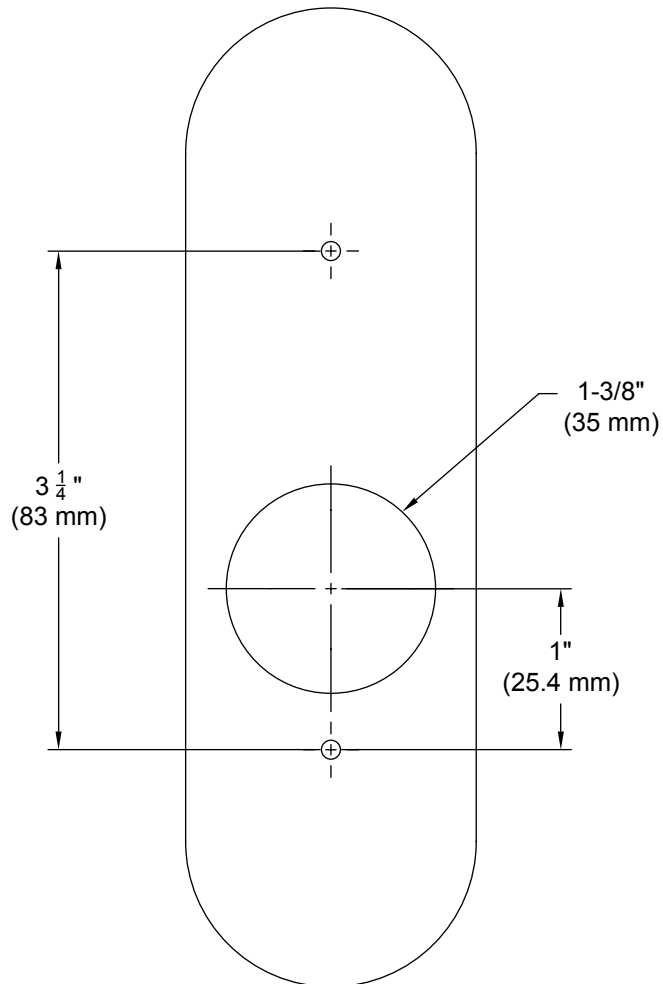
The LED will spin white when awaiting authorization. It will momentarily turn green if access is granted or red if authorization is denied.



See the appendix for a complete list of DR40 LED ring patterns.

Appendix

Mounting Dimensions



DR40 LED Ring Patterns

Color Pattern	Feedback Name	Feedback Description
White / OFF fade	Starting Up	Initial connection period, not yet fully available.
Blue / OFF fade	Unregistered	-
Red / White fade	ERR: No ACU	RS485 connection is down.
Blue / OFF, fast fade	ERR: No network	Unable to access the internet.
Blue / white, fast fade	ERR: No cloud	Able to access the internet, but not able to reach Rhombus.
Dim white, steady	Await intent	-
Spinning white	Awaiting authorization	-
Single red flash	Authorization rejected	-
Single blue / OFF fade	Doorbell pressed	-