Explorer Series

Model: EP30CF

All Weather Outdoor Biometric Multi-tech Smart Reader

Quick Start Guide
Version 1.8

www.armatura.us

The EP3XCF series reader is one of the most versatile biometric (fingerprint) + card readers available that supports fingerprint and over 100 RFID card types and both NFC and Bluetooth Low Energy credentials.

Supplied Parts

Make sure your box contains everything listed. If any pieces are missing, contact your distributor. Please save the original box and packing materials for return shipping in case of any issues.

- EP30CF Reader (1pc) and Mounting Backbox
- Quick Start Guide (1pc) and Mounting Template (2pcs)
- Philips Countersunk self tapping screws (4pcs) and Anchors (4pcs) for installing the reader directly in a wall(Embedded Installation) or for installing the Mounting backbox for wall/surface mounted installation
- Philips Countersunk machine screws (4pcs) – for surface installation to secure the reader in the backbox
- Inner-hexagon screw (4pcs) – spare screws for securing the front panel
- H0.9 Hex Wrench (1pc)
- Screwdriver (1pc)

Recommended Parts (not supplied)

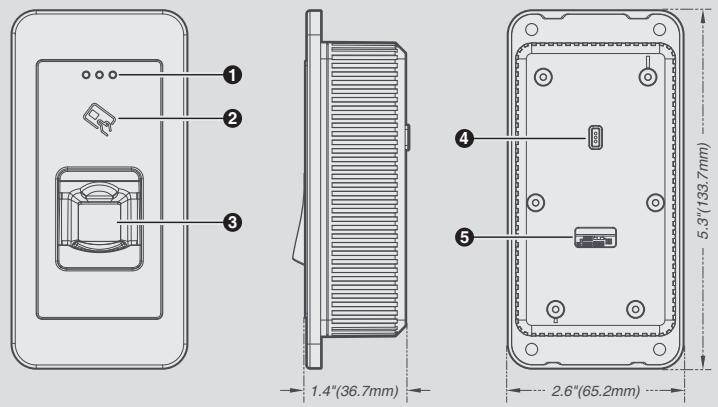
- Cable
  4 conductor Twisted Pair Over-All Shield and
  UL approved, Belden 3107A or equivalent (OSDP)
- Certified LPS DC power supply
- Metal or plastic junction box
- Drill with various bits for mounting hardware
- Mounting hardware

Level

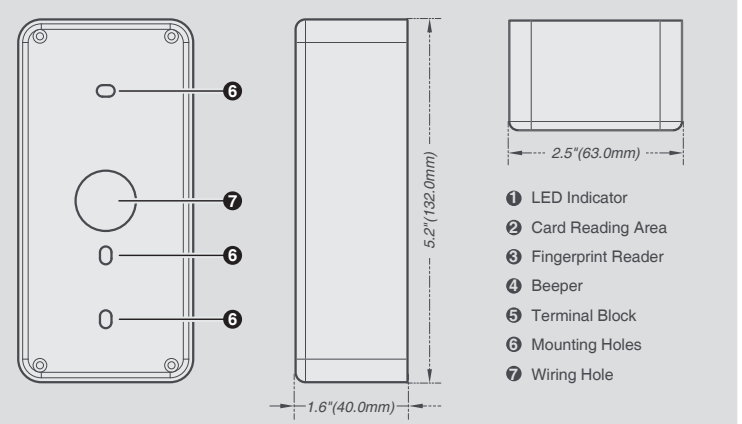
- Destructive attack level: I
- Line security level: II
- Endurance level: IV
- Standby power level: I

1 Product Overview

EP30CF



Mounting Backbox

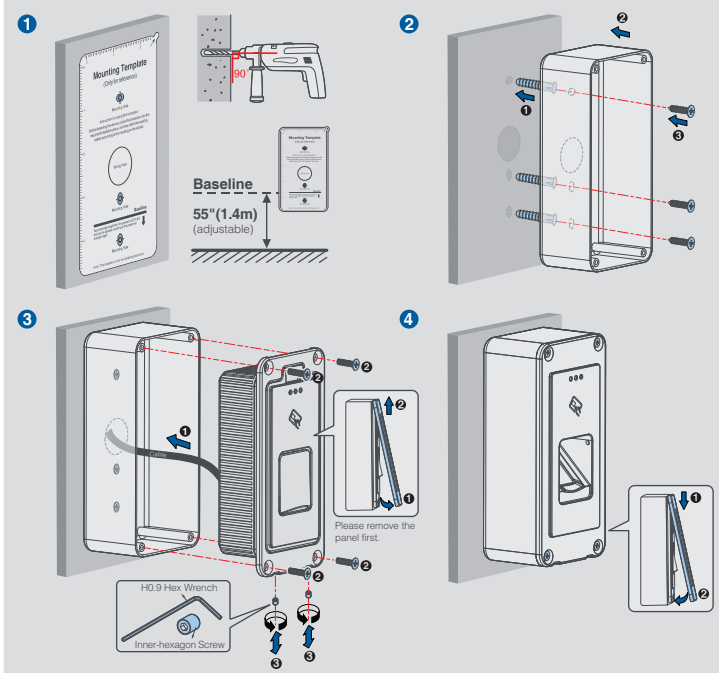


1. LED Indicator
2. Card Reading Area
3. Fingerprint Reader
4. Beeper
5. Terminal Block
6. Mounting Holes
7. Wiring Hole

2 Installation Methods

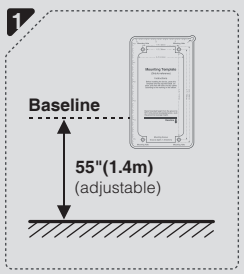
Method 1: Surface Installation with Backbox

1. Attach the mounting template sticker for the surface mount to the wall **55 inches** from the ground and drill holes according to the mounting tamplate.
2. Secure the mounting backbox with Anchors and screws.
3. Remove the two inner-hexagon screws at the bottom of the panel and keep them nearby.
4. Refer to the **4 Wiring Legend** correctly wire the reader to the controller.
5. Pass the cable through the wire hole.
6. Attach the front panel to the main plate following the directions indicated by the arrows in the picture. Finally, fully secure the inner hexagon screws with the H0.9 hex wrench.

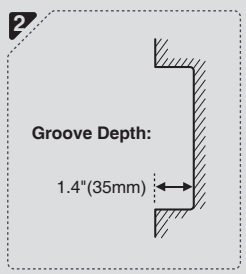


2 Installation Methods

Method 2: Embedded Installation

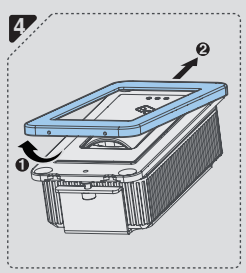


1. Attach the mounting template sticker for Embedded Installation to the wall **55 inches** from the ground and drill holes according to the mounting template.

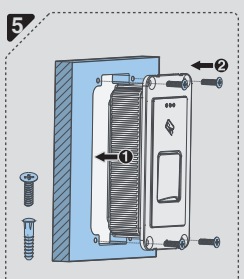


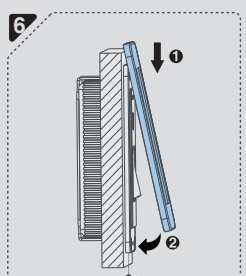
2. Dig a groove according to the the mounting template,ensure that the groove for the EP30CF is **1.4 inches(35mm)** deep.

3. Remove the two inner-hexagon screws with the H0.9 hex wrench at the bottom of the panel and keep them properly.
4. Take out the front panel by the arrows in the picture.



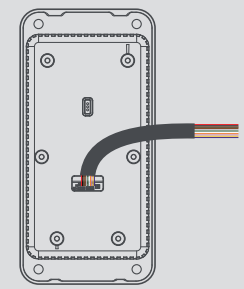
5. Place the Anchors in the holes beforehand. Refer to the **4 Wiring Legend** correctly wire the reader to the controller. Insert the main plate into the groove, and fix it into the holes with4pcs Philips Countersunk self tapping screws.





6. Attach the front panel to the main plate following the directions indicated by the arrows in the picture. Finally, fully secure the inner hexagon screws with the H0.9 hex wrench.

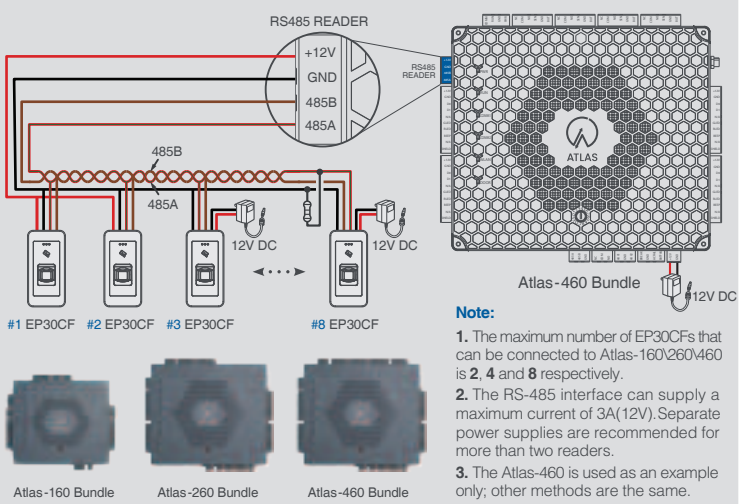
3 Terminal Block



Pigtail	Interface	Description
Red	+9-24V DC	Power Input
Black	Ground	
Red/Green	RS-485 A	RS-485
Brown	RS-485 B	
Bare	Reserved	Reserved
Green		
White		
Orange		
Pink		
Yellow		
Violet		

4 Wiring Legend

Wiring to a ZKTeco Atlas x60 Series Controller

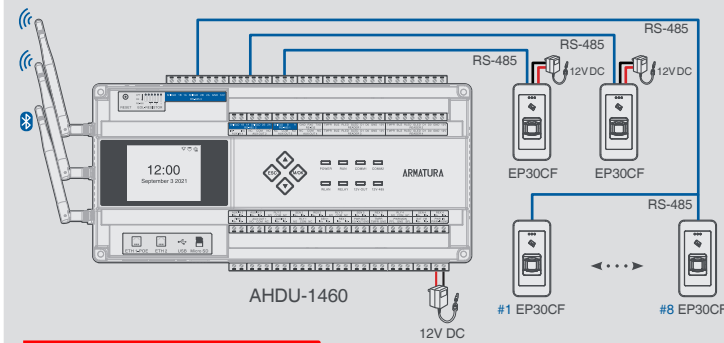


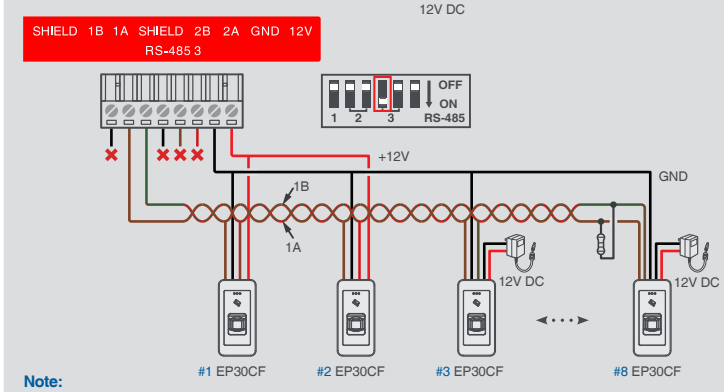
Note:

1. The maximum number of EP30CFs that can be connected to Atlas-160\260\460 is **2**, **4** and **8** respectively.
2. The RS-485 interface can supply a maximum current of 3A(12V).Separate power supplies are recommended for more than two readers.
3. The Atlas-460 is used as an example only; other methods are the same.

4 Wiring Legend

Wiring with an AHSC-1000 / AHDU Series Controller



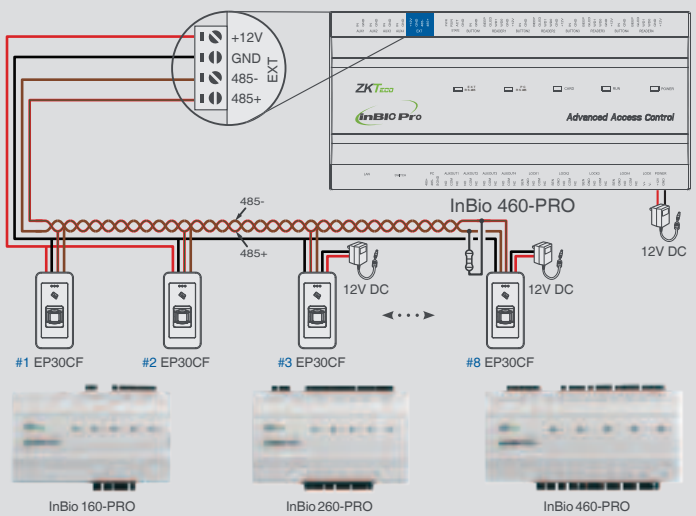


Note:

1. When using RS-485 redundant backup mode, ensure that the DIP switches of the connected ports are simultaneously turned to the **ON** position. When the DIP switch is set to the **ON** position, it is the equivalent to adding a **120** ohm terminal resistor between the 485+ and 485- terminals.
2. The RS-485 interface can supply a maximum current of 3A(12V). Separate power supplies are recommended for more than two readers.
3. Readers can be connected to ports RS-485 1, RS-485 2 and RS-485 3. AHSC-1000 and AHDU series controllers use RS-485 3 by default, and here we only take RS-485 3 interface as an example; if you need to use other RS-485 interfaces, please make sure that the **Setting of Reader** in the controller is changed to the corresponding RS-485 Port; please refer to the user's manual for more details.

4 Wiring Legend

Wiring to an InBio Pro Series Controller



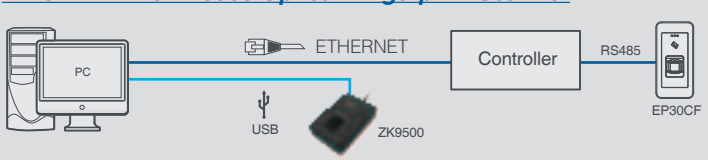
Note:

1. The maximum number of EP30CFs that can be connected to an InBio 160\260\460-PRO is **2**, **4** and **8**.

2. The RS-485 interface can supply a maximum current of 3A(12V). Separate power supplies are recommended for more than two readers.

3. Only InBio 460-PRO Controller is used as an example for illustration, the wiring method is the same for other models.

Enroll with the ZK9500 Optical Fingerprint Scanner



Note: To connect the controller directly to a PC, use a straight network cable connection. Fingerprint capture is recommended using the ZK9500 optial fingerprint scanner, or refer to your service provider's recommendations.

5 Reader Configuration

Users need to set the RS485 parameters through Armatura Connect APP to configure the reader to communicate with the controller. The specific steps are as follows.

1.Connecting The Reader

1. Open and login to the Armatura Connect App.
2. Click ☰ icon > [**Parameter**] to enter the parameter interface.
3. Turn on the bluetooth function of the mobile phone. Click 🔍 icon to search the reader.
4. Find the reader closest to you and click 📍 icon to open the locate window. Click 🔔 button to confirm the reader. Then click [**Connect**] to connect the reader.

2.Configuring The Communication

1. Enter the device detail interface and click [**Configuration**] to enter the parameter setting interface.
2. Then click [**Communication**] > [**Communication Type**] to select the communication type as RS-485.

5 Reader Configuration

3. Click [**Save**] to save the current settings.
4. When connecting EP30CF to different controllers, refer to **Table 1** to properly set the RS485 configuration, including Protocol, Baudrate, and RS-485 Address.
5. After completing the settings, click [**Save**] to save and exit.

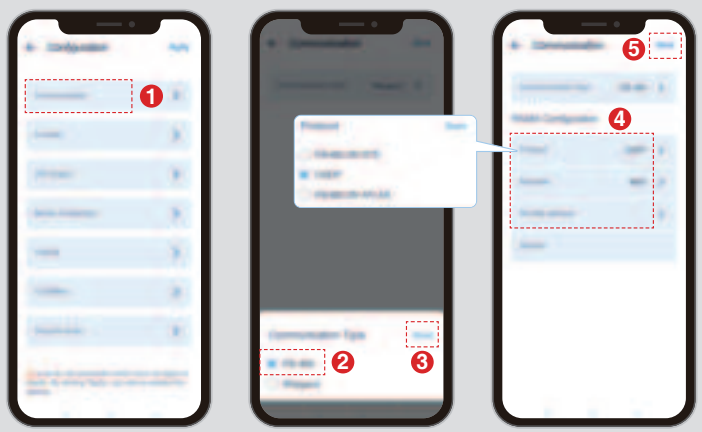


Table 1 Parameterization of EP30CF when interfacing with different controllers

Controller	Protocol	Protocol of EP30CF	Baudrate of EP30CF
ZKTeco Atlas x60 Series	OSDP	OSDP	9600
	ZK485	RS485-ZK-ATLAS	115200
InBio Pro Series	OSDP	OSDP	115200
	ZK485	RS485-ZK-STD	115200
AHSC-1000 / AHDU Series	OSDP	OSDP	Same as the controller

Note: When the EP30CF is interfaced with an AHSC-1000 / AHDU series controller, there is only one communication protocol mode.
Refer to the relevant user manual for more detailed information.

5 Reader Configuration

3.Configuring The UID Output

When the EP30CF is connected to the RS-485 protocol, the parameters for ISO14443A and EM in the UID Output configuration do not need to be altered. The Mobile Credential parameter should be adjusted according to the type of controller the EP30 reader is connected to and the communication protocol selected.

1. Then click [**UID Output**] and refer to **Table 2** to set the related parameters.
2. Ensure that ISO14443A and EM Settings in UID Output are default, refer to **Table 3**.
3. Click [**Save**] to save and exit when setting are complete.

Table 2 Mobile credential settings when connecting with different controllers

Controller	Protocol of EP30CF	Parameters of Mobile Credential
ZKTeco Atlas x60 Series	OSDP	RAW / 8 Bytes / MSB or Wiegand / Wiegand 66 / MSB
	RS485-ZK-ATLAS	RAW / 8 Bytes / LSB or Wiegand / Wiegand 66 / MSB
InBio Pro Series	OSDP	RAW / 8 Bytes / MSB or Wiegand / Wiegand 66 / MSB
	RS485-ZK-STD	RAW / 8 Bytes / LSB or Wiegand / Wiegand 66 / MSB
AHSC-1000 / AHDU Series	OSDP	Keep the default parameters.

Table 3 Default Values for ISO14443A and EM Settings in UID Output

ISO14443A	**UID Output:** Wiegand	**Wiegand:** Wiegand 34	**MSB/LSB:** MSB
EM	**UID Output:** Wiegand	**Wiegand:** Wiegand 34	**MSB/LSB:** LSB

6 Testing The Reader

Power the reader, the reader will beep and the LED's will flash.

Present the virtual card face-on to the reader until you hear a "beep". Reader is now working correctly.

7 Frequency Bands And Maximum Output Power

Frequency bands	Maximum output power
2402MHz - 2480MHz	7.08dBm
125kHz	-24.83dBuA/m@10m
13.56MHz	4.21dBuA/m@10m

8 Certifications

9 FCC And CE

"Hereby, Armatura LLC declares that this Product is in compliance with the essential re- quirements and other relevant provisions of Directive 2014/ 53/ EU. The full text of the EU declaration of conformity is available at the following internet address: https://armatura.us/ product.

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party respon- sible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

"This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
This equipment should be installed and operated with a minimum distance of 7.87 inches (20cm) between the radiator and your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter."

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