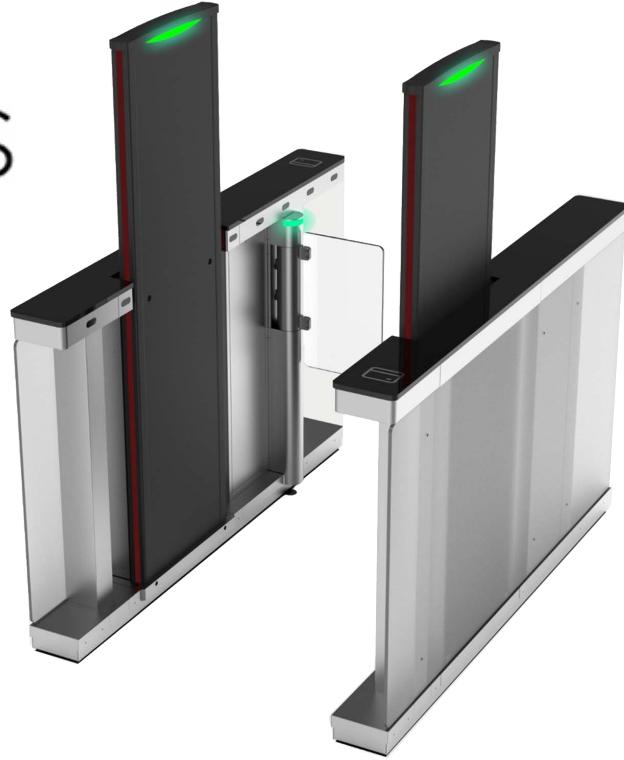




TURNSTILES.us

SECURING THE U.S. and the GLOBE since 1989

CR  NUS



USER MANUAL

Date: January 2022 | Doc Version: 1.0

Disclaimer

This manual contains information on the proper operation and maintenance of the Cronus turnstile. The copyright in all the documents, drawings, etc. in relation to vests in and is the property of TURNSTILES.us.

The contents of this manual should be read before starting the operation and maintenance of the Cronus turnstile. If any of the content of the manual seems unclear or incomplete, please contact us before starting the operation.

TURNSTILES.us reserves the right to add, delete, amend, or modify the information contained in the manual from time to time in the form of circulars, letters, notes, etc. for better operation and safety of the Cronus turnstile.

Additions or amendments are meant for improvement /operation of Cronus. TURNSTILES.us shall in no way be responsible (i) in case Cronus malfunctions due to any non-compliance of the instructions contained in this manual, (ii) in case of operation of Cronus beyond its rate limits, and (iii) in case of operation of Cronus in environmental conditions different from the conditions prescribed in the manual.

Backend will be updated from time to time without prior notice. The latest operation procedures and relevant documents are available on <https://www.TURNSTILES.us>

If there is any issue related to Cronus, please contact us.

TURNSTILES.us, Inc.

www.TURNSTILES.us

For business-related queries, please write to us:

patrick.mcallister@TURNSTILES.us.

About The Company

TURNSTILES.us is a leading integrator, installer, and supplier of safety & security products which incorporate advanced biometric hardware & software solutions.

About The Manual

This manual advises on proper operation of the Cronus turnstile. All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual system components.

Document Conventions

Conventions used in this manual are listed below:

GUI Conventions

Convention	Description
< >	Button or key names for devices. For example, press <OK>.
[]	Window names, menu items, data table, and field names are inside square brackets. For example, [New User] window will pop-up.
/	Multi-level menus are separated by forward slashes. For example, [File/Create/Folder].

Symbols

Convention	Description
	Instructions worthy of special attention
	General information which aids in operation
	Important instructions
	Take caution to prevent problems.
	Pay extra special attention.

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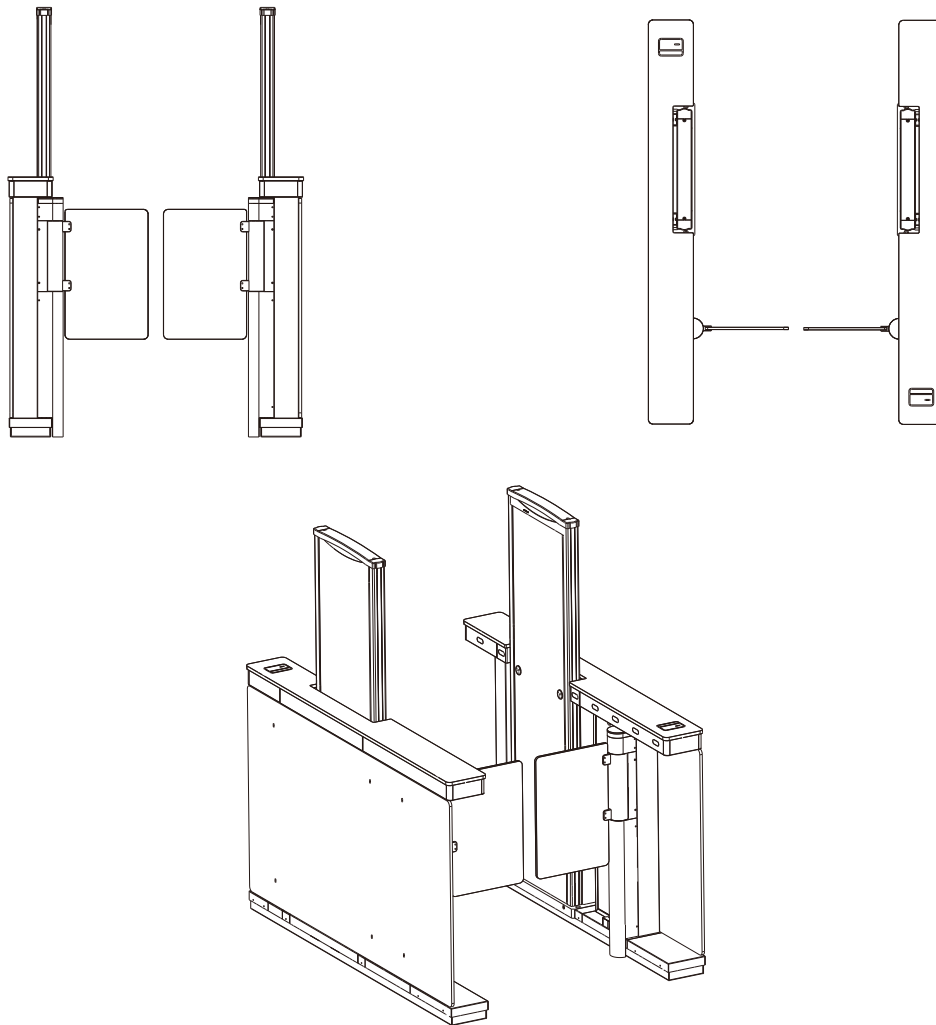
1. OVERVIEW

Cronus is a one -of-a-kind innovative turnstile with integrated metal detection . Being able to quickly and precisely search for concealed metal objects hidden in pedestrians' pockets or clothes can dramatically boost the efficiency & safety of security checks.

When pedestrians approach Cronus, verify their identity (card, phone, biometric, etc.), and have no metal items, the traffic indicator of the turnstile will turn green and open automatically so that pedestrians can access the secured area on the other side of the turnstile.

If however, the Cronus turnstile detects pedestrians carrying metal objects whose detected-sizes are larger than the pre-set values, the turnstile will immediately trigger an alarm, and an Alarm Zone LED will turn red. Cronus will remain locked so that the pedestrian cannot access the secured area on the other side of the turnstile.

By combining metal detection and access control, Cronus enhances the effectiveness of any security system. This also helps automate the screening process, which lessens the dependency on paid security guards. The Cronus turnstile is ideally installed before any entrance and exit requiring security inspection, such as retail distribution centers & warehouses, government buildings, metro stations, airports, offices, and schools.



◆ 1.1 FEATURES

1. **Stylish Design** includes rugged swing barriers which restrict pedestrian access
2. **Integrated** 15-zone metal detector provides safety & security while also preventing employee theft.
3. **Double Verification:** Card/Phone/Biometric authentication and Metal Detection
4. **Small 5 x 6 ft (1.5 x 2 meters) footprint** achieved by combining a turnstile PLUS a metal detector into one compact integrated device.
5. Can be ordered with integrated **RFID or biometric access control readers**
6. **Brushless DC motor** (MCBF 10 million)
7. **Durable:** SUS304 stainless steel case that ensures long-lasting operation.
8. **15 overlapping metal detection zones;** 250+ adjustable sensitivity levels for each zone.

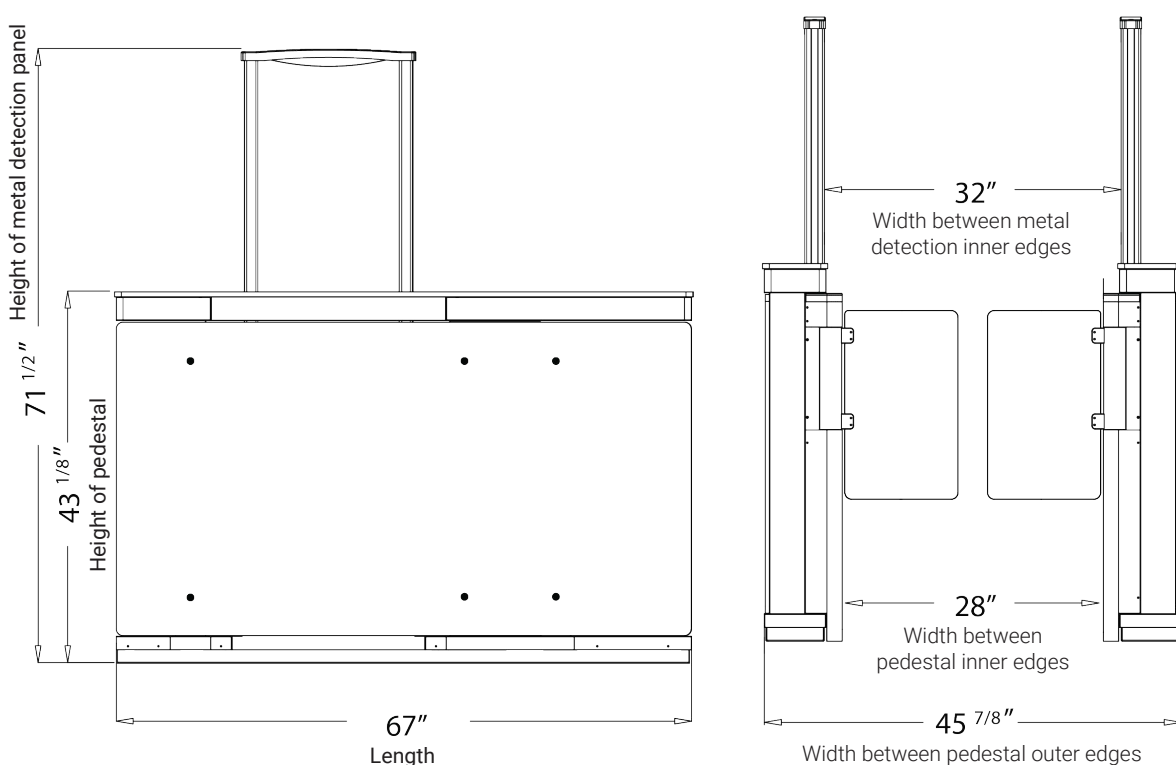
9. **Multiple LEDs** allow security personnel to quickly & precisely locate and remove concealed metal objects from pedestrians. This reduces pedestrian wait time standing in line to be screened.
10. **Safe:** Harmless to heart pacemakers, pregnant women, magnetic floppy disks, recording tapes, etc.
11. **Digital Pulse Technology:** Excellent anti-interference performance combining digital signal processing and filtering system.

◆ 1.2 DIAGRAM AND SYSTEM COMPONENTS

The frame and most of the Cronus components are made of SUS304 stainless steel, making the turnstile rust-proof, durable, and robust. The acrylic metal-detection panels have a simple and beautiful design with corrosion protection. Cronus provides safe, secure and orderly passage for pedestrians and/or authorized personnel.

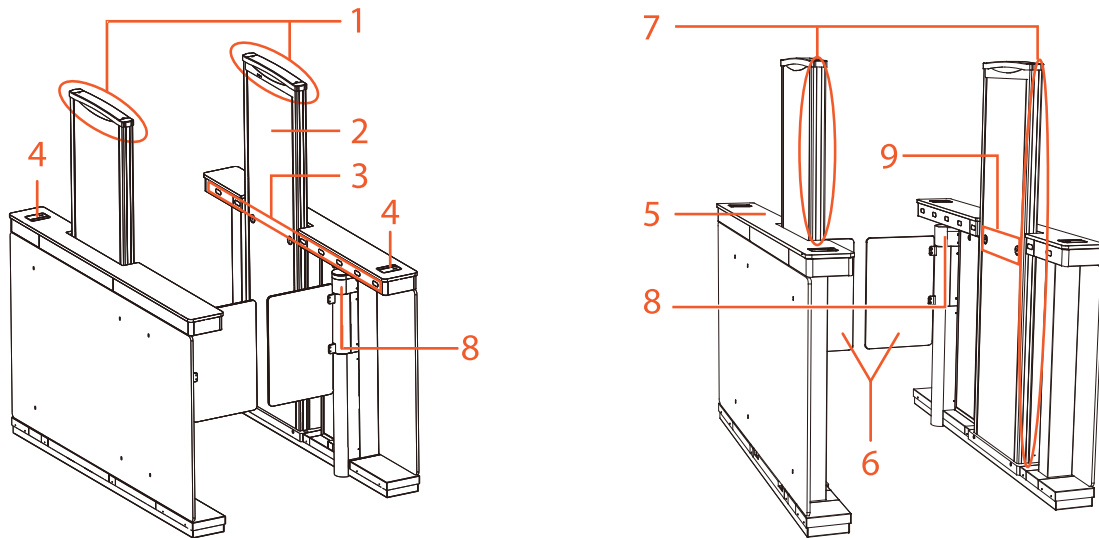
In case of emergencies, Cronus' swing-barriers automatically release and allow pedestrians to freely exit the premises.

Cronus design and dimensions are shown below:



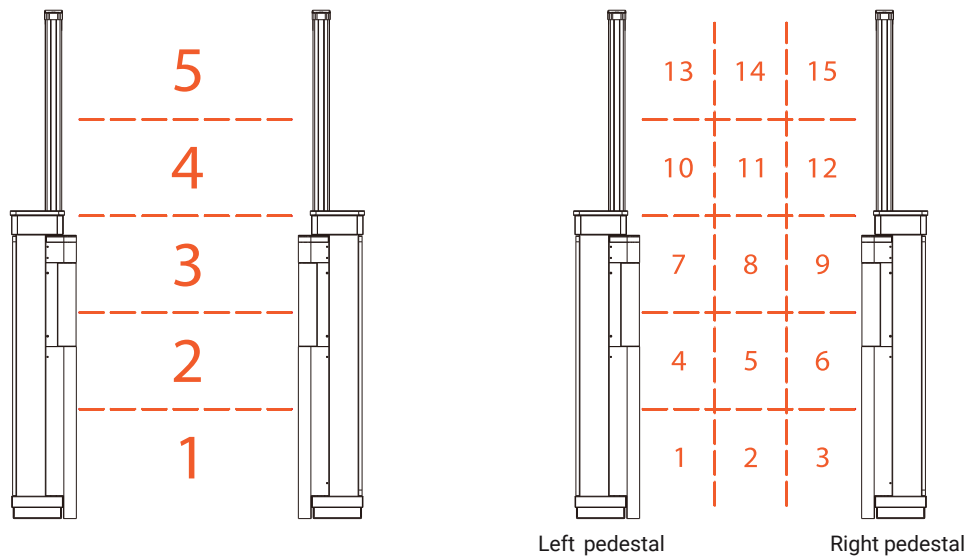
System Components

Cronus system components are shown below:



1. Alarm Indicator	2. Walk-Through Metal Detector Panel
3. Turnstile Infrared Sensors	4. Option for Integrated 3rd Party Access Control Reader (for cards, phone, biometric, etc)
5. Turnstile Pedestal	6. Swing-Barrier
7. Alarm Zone LEDs	8. Traffic Direction Indicator
9. Walk-Through Metal Detector Infrared Sensors	

Alarm Zone LEDs



There are five unique sets of precision LEDs distributed evenly on each metal detection panel. Each panel is divided into 3 parts, resulting in a total of 15 overlapping metal detection zones (from bottom to top is zone 1, zone 2, zone 3, zone 4, zone 5).

When a pedestrian carries metal objects through the Cronus' metal detector, the corresponding Alarm Zone LED on the panel will turn red and the alarm will sound simultaneously. For example, if metal is detected by the **LEFT PANEL**, corresponding LEDs in zones 1,4,7,10 or 13 will light RED. If however, metal is detected by the **RIGHT PANEL**, corresponding LEDs in zones 3,6,9,12,15 will light RED. And if metal is detected by **BOTH** panels (middle zones 2,5,8,11,14, corresponding LEDs in BOTH PANELS will light red.

Walk-Through Metal Detector's Infrared Sensors

When pedestrians or objects move through Cronus' walk-through metal detector, the infrared sensors will accurately count pedestrians/passages and trigger the alarm whenever metal is detected.

Turnstile Infrared Sensors

Once connected to the power supply, Cronus will start operating. Cronus' turnstile infrared sensors continually detect the position of pedestrians in the turnstile lane. The IR sensors play a major roll in controlling the swing barriers and preventing them from making incidental contact (aka "pinch") with pedestrians. During installation, ensure the turnstile pedestals are properly positioned because the IR sensors need to be in correct alignment so the IR sensors can properly detect pedestrians passing through the turnstile.

◆ 1.3 MECHANICAL SYSTEM

Walk-Through Metal Detector

The mechanical system of Cronus's Walk-Through Metal Detector is enclosed inside Cronus's turnstile pedestals. The pedestals enclose the Alarm Indicators, Infrared Sensors, Antennas, Alarm Zone LEDs, and Buzzers.

Swing Barrier Turnstile

The mechanical system of the Swing Barrier Turnstile is also enclosed inside the pedestals, along with the Traffic Indicator, Turnstile Control Board, Infrared Sensors, Motor, Frame, Bearing, and Swing-Barrier.

◆ 1.4 ELECTRONIC CONTROL SYSTEM

Walk-Through Metal Detector

The electrical system of the Walk-Through Metal Detector is comprised of Alarm Indicators, Antennas, Infrared Sensors, Alarm Zone LEDs, and Buzzers.

Swing Barrier Turnstile: Normal - green; Alarm - red.

Antenna: Once Cronus is connected to the power supply, the copper coils installed inside metal detector panels will generate a magnetic field. When pedestrians carrying metal objects pass in-between the panels, the magnetic field will induce eddy currents inside the metal objects. These new currents generate an additional magnetic field, which subsequently interferes with the original magnetic field and triggers Cronus to send visual and audio alarm signals, accordingly.

Alarm Zone LED: Alarm Zone LEDs installed on both sides of each Walk-Through Metal Detector Panel accurately display the location of metal objects concealed in the clothes or pockets of pedestrians.

Buzzer: If a pedestrian carries metal objects of a size exceeding a preset parameter value, Cronus will trigger an audible alarm.

Swing Barrier Turnstile

The electronic control system of the Swing Barrier Turnstile is comprised of an optional 3rd party Access Control Reader (i.e. card, phone, biometric, Turnstile Control Board, Infrared Sensor and Traffic Indicator. The pedestal has additional space for an Access Control Panel.

Access Control Reader: Cronus supports a wide variety of 3rd party access control readers capable of recognizing ID cards, PIN codes, fingerprints, faces, palms, mobile phone Bluetooth certificates, QR codes and other type user-credentials.

Turnstile Control Board: Communicates with 3rd party access control panels. Accordingly, the Control Board performs logical calculations and processes signals while simultaneously sending commands to the Traffic Indicator, Electric Motor, and the alarm.

Infrared Sensor: Detects the pedestrian's position inside the turnstile lane to ensure the swing-barrier will not make incidental contact (aka "pinch") with the pedestrian. It also acts as the trigger when the turnstile lane is programmed for free egress (for exiting the premises).

Traffic Indicator: Cronus will light up its red LED indicator whenever the swing-barrier receives a "deny entry" command. Conversely, whenever a pedestrian successfully passes the verification process (i.e. presents valid credentials and/or isn't carrying metal), Cronus will light up its green LED indicator and open its swing-barrier. This LED indicator also displays the path direction and guides pedestrians to walk through the turnstile lane safely and orderly.



1.5 WORKING PRINCIPLE

1. When you power on the Turnstile Control Board, Cronus performs a one-minute self-test.
When a valid credential (card, phone, biometric) is verified by the 3rd
2. party access control reader and the size of the detected metal object is less than the pre-set value, Cronus' Traffic Indicator will turn green, indicating that the pedestrian's identity has been successfully verified. The 3rd party Access Control Reader then sends a signal to the 3rd party access control panel instructing Cronus to open its swing-barriers.

3. After Cronus receives the signal from the 3rd party access control panel, Cronus's Turnstile Control Board will send valid control signals to the Traffic Indicator and Cronus Turnstile's electric motor.
4. Pedestrians pass through turnstile lane according to the Traffic Indicator. Infrared Sensors will detect the movement of the pedestrian and continue sending signals to its Turnstile Control Board until the pedestrian passes completely through the turnstile lane.
5. If a pedestrian enters the turnstile lane, but forgets to verify his or her identity, or if their user credential is invalid, or if the metal object's dimensions are larger than the pre-set values, Cronus will trigger audible and visual alarms and deny the pedestrian passage. Pedestrians can only pass through the turnstile lane if they are not carrying metal objects and have successfully verified with a valid credential (card, phone, biometric).

Outbound Direction

Pedestrians only need to verify their identity when they are Inbound. When traveling Outbound, if Cronus Walk-Through Metal Detector triggers an alarm, the security guard can subsequently inspect the pedestrian with a Handheld Metal Detector (sold separately).

1.6 TECHNICAL SPECIFICATIONS

Features	Specifications
Communication	TCP/IP, RS485
Power Supply	100 to 240V, 50/60Hz
Work Frequency	5.7kHz to 9.6kHz
Metal Detection	15 overlapping zones

Alarm Type	Audible and visual indicators
Sensitivity	250+ adjustable increments
Relative Humidity	<93% (non-condensing)
Working Temperature	32°F to 114°F (0°C to 45°C)
Motor	Brushless DC
Infrared Sensors	Swing-Barrier: 7 pairs Walk-Through Metal Detector: 2 pairs
Working Environment	Indoor-use ONLY
Turnstile Lane Dimensions (L*W*H)	67 x 28 x 71 ^{1/2} in. (1703 x 711 x 1816 mm.)
External Chassis Dimensions (L*W*H)	67 x 45 ^{7/8} x 71 ^{1/2} in. (1703 x 1164 x 1816 mm)
Certification	FCC

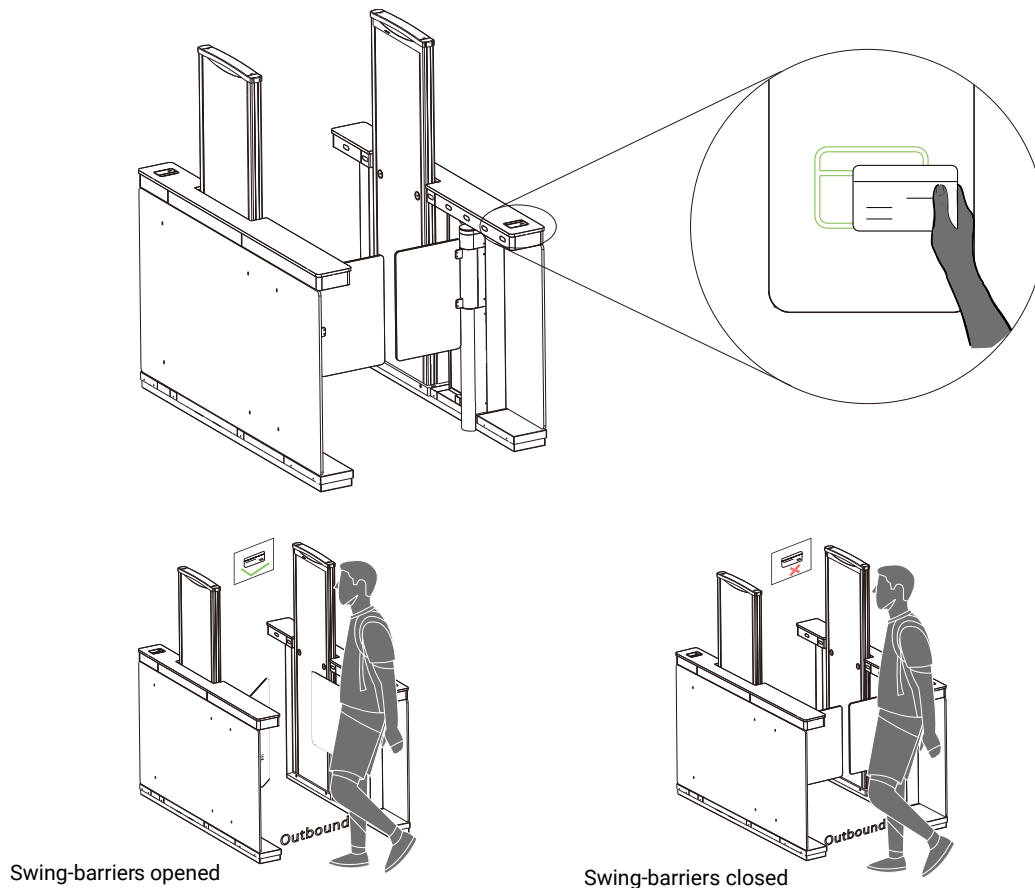
2 FUNCTION INTRODUCTION

◆ 2.1 PEDESTRIAN'S CARD (also phone & biometric) VERIFICATION

The Card Verification mode compares the card number read by the optional 3rd party **CARD READER** with the 3rd party external **ACCESS CONTROL PANEL**. If the panel recognizes the card number, the panel will signal the turnstile control board (installed in the Cronus pedestal) to open the swing-barrier.

Cronus enters Card Verification mode only when a pedestrian presents his/her card at the card reading area. Option available for other 3rd party phone, biometric, and types of readers and credentials.

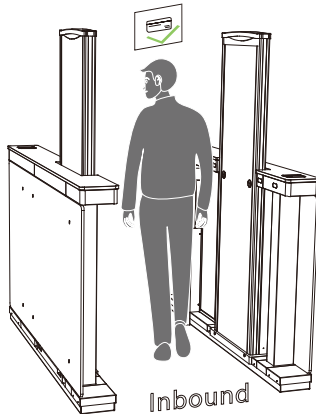
Note: For Inbound direction, before the swing-barrier will open, there must be no metal items with sizes over the pre-set value detected by the Walk- Through Metal Detector.



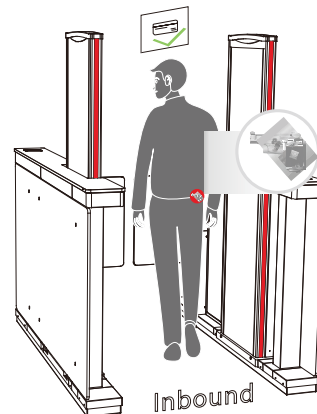
2.2 WALK-THROUGH METAL DETECTION

When a card has been verified and the pedestrian has entered the turnstile lane, the Walk-Through Metal Detector will sense whether there are metal objects whose size exceeds the pre-set limit. If no metal is detected, the swing-barriers will open for the pedestrian to pass through. Conversely, if pedestrians are detected carrying metal objects whose size exceeds the pre-set value, Cronus will immediately trigger the alarm, the Alarm Zone LEDs will turn red, and the swing-barriers will remain closed.

Identification: Successful
Metal Detector: No Alarms
Swing-barriers: Open



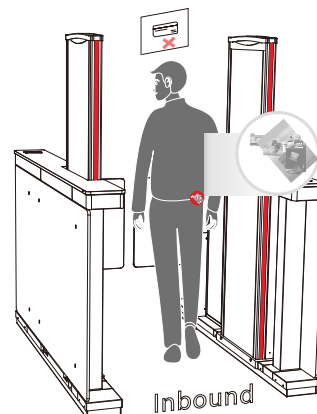
Identification: Successful
Metal Detector: Alarms (note red LEDs)
Swing-barriers: Closed



Identification: Failed (note card rejected)
Metal Detector: No Alarms
Swing-barriers: Closed



Identification: Failed (note card rejected)
Metal Detector: Alarms (note red LEDs)
Swing-barriers: Closed



◆ 2.3 DETECTION SETTING

1. Pedestals must be installed in a stable position in order to achieve optimal metal detection results. To check for proper stability, perform the following steps:
 - a) Power on Cronus and make sure it is not shaking after one minute.
 - b) There must be no alarm triggered when a testing person walks the metal detector and is NOT carrying metal through

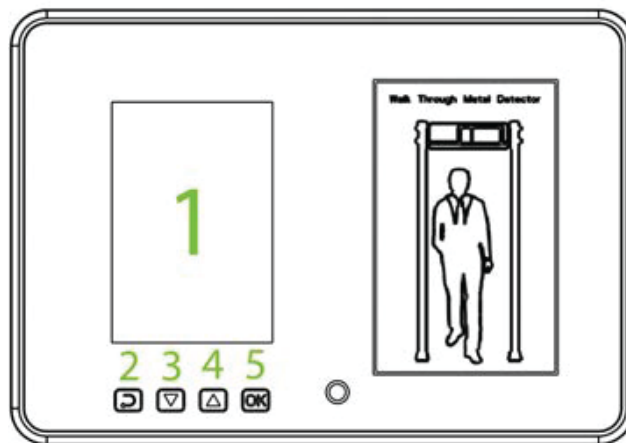
2. You can reduce false metal detection alarms caused by small metal objects such as rings, keys, belt buckle, shoes, and so on by following the steps given below:
 - a) Choose a small piece of metal as a sample (Ex. small screw driver). Increase the sensitivity on the metal detector so that when the testing person carries the sample through the metal detector, it triggers the alarm and correctly lights up the red LED in the corresponding metal detection panel.
 - b) Decrease the sensitivity a little, have the testing person carry the SAME metal sample and walk through the detector again. If the alarm continues to sound, once again, reduce the sensitivity until the metal detector's alarms stop triggering when the metal sample is passed through.

Note: You can adjust the sensitivity for each metal detection zone. After implementing the above adjustments, the metal objects smaller than the sample will not trigger the alarm. Still however, metal objects larger than the sample will be detected and will trigger the alarm, accordingly.

3 CONTROL PANEL

Walk-Through Metal Detector

"The Cronus Control Panel is enclosed inside the "master pedestal".
The sensitivity and working frequency of Cronus must be programmed **BEFORE** use, and it cannot be modified **DURING** use.



The components of the Control Panel are given below:

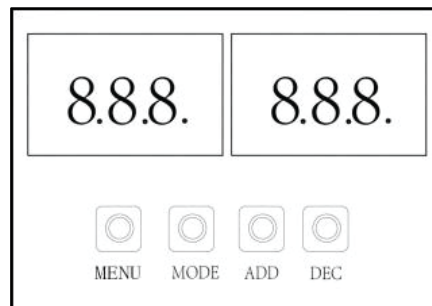
1. **LCD:** It displays the Pedestrian Passage Count, Alarm Count, Password settings, and other information.
2. **ESC:** Press to discard the settings and exit the menu
3. ▽: Decrease the parameter values.
4. △: Increase the parameter values.
5. **OK:** Opens the menu, saves the settings, and exits the menu.

Swing Barrier Turnstile

There are 4 keys on the control panel, "MENU", "MODE", "ADD" and "DEC".

1. **MENU:** It is used to enter the Settings menu and to confirm the current modified value.

2. **MODE:** It is used to go back to the previous menu and discard the current operation.
3. **ADD:** It is used for navigating to the upper menu item and increasing the value
4. **DEC:** It is used for navigating to the lower menu item and decreasing the value.



4. MENU INTRODUCTION

There are two primary menus:

- 1) Walk-Through Metal Detector menu
- 2) Swing Barrier Turnstile menu

◆ 4.1 WALK-THROUGH METAL DETECTOR MENU

◆ 4.1.1 OPERATIONAL PROCEDURE

1. Connect the power supply to Cronus. After 2 seconds of initialization, you can perform the following operations.
2. Press the **OK** button on the Control Panel to open the main menu.

MENU
Sensitivity
Channel
Buzzer
Alarm Time
Date & Time
SensRange
Application
Storage
Relay
Password
Network
Restore
About

◆ 4.1.2 SENSITIVITY ADJUSTMENT

1. On the main menu, select Sensitivity and press OK to program the sensitivity level of each detection zone.
2. Press “▽” and “△” to select the detection zone and then press **OK** to confirm. Then press “▽” and “△” to change the sensitivity levels.
3. The higher the sensitivity value, the higher the sensitivity.
4. Then press **OK** to save the settings.

Sensitivity
Overall: 186
Zone ALL: 220
Zone 10: 220
Zone 9: 220

◆ 4.1.3 OPERATING FREQUENCY

In the main menu, select **Channel** and then press **OK**. The channel range is from 1 to 40. The default value is 14. Press “**Δ**” and “**▽**” to select the Channel and then press **OK** to save the settings.

Channel
01 ----- 40

◆ 4.1.4 BUZZER SETTINGS

1. In the main menu, select **Buzzer** and then press **OK** to confirm.
2. Press “**▽**” and “**Δ**” to select whether to turn on or off the buzzer.
3. Press **OK** to save the settings.

Buzzer
OFF
ON

◆ 4.1.5 ALARM TIME

1. In the main menu, select **Alarm Time** and then press **OK** to confirm.
2. The default alarm time is 1 second.
3. Press “**▽**” and “**Δ**” to select the alarm time as per your requirements

Alarm Time
0.5s
1.0s
1.5s
2.0s
10.0s

◆ 4.1.6 DATE AND TIME

1. In the main menu, select **Date & Time** and then press **OK** to open the time and date setting interface
2. Press “▽” and “△” to adjust the time.
3. Press **OK** after setting the time.
4. Press **ESC** and then switch to date.
5. Program the date and then press **OK** to save the changes.

Date & Time
2020-07-10
12:00

◆ 4.1.7 SENSITIVITY RANGE

1. In the main menu, select **Sens Range** and then press **OK** to program the intensity of the sensitivity levels.
2. Press “▽” and “△” to select the sensitivity settings for all the zones.
3. Press **OK** to save the settings.

Sense Range
High
Medium
Low

◆ 4.1.8 APPLICATION

1. In the main menu, select **Application** and then press **OK** to confirm.
2. Press “▽” and “△” to adjust your application environment (or closest approximation).
3. Press **OK** after setting the application environment.

Application	
Airport	Conference
Customs	Train Station
Port	Motor Station
Prison	Police Office
Detention	School

◆ 4.1.9 DATA STORAGE

1. In the main menu, select **Storage** to open the data storage interface.
2. Use the “▽” and “△” to select whether or not to save the data.
3. You can also delete the Pedestrian/Passage Count and Alarm count.
4. Press the **OK** to save the settings.

Storage
Save
Don't Save
Clear Pass (Clear Pedestrian Count)
Clear Alarm (Clear Alarm Count)

◆ 4.1.10 RELAY SETTINGS

1. In the main menu, select **Relay** to open the extended output interface
2. Use the “▽” and “▽” to select the required function.

3. When “**Close**” is selected, the relay function will be disabled and the turnstile will always open, regardless if a pedestrian has valid credentials or if metal is detected).
4. When “**No Metal**” is selected, Cronus WILL send a signal to the relay. This happens when the pedestrian does not carry any metal during detection.
5. When “**With Metal**” is selected, Cronus WILL send a signal to the relay. This happens when the pedestrian carries any metal during detection.
6. Then press **OK** to save the changes.

Relay
Close
No Metal
With Metal

◆ 4.1.11 LOGIN PASSWORD

In the main menu, select Password to configure the Password. Press “**Δ**” and “**▽**” to program the password, and press **ESC** to clear the entered value. Press **OK** to save the settings.

Password
New Password
* * * * *

◆ 4.1.12 NETWORK SETTINGS

1. In the main menu, select **Network** to open the network setting interface.
2. Use the “**▽**” and “**Δ**” buttons to select the Device Name, Network Address, and Gateway Address.
3. Press **OK** to enter the next digit, or **ESC** to modify the previous digit.
4. After the last digit is modified, press **OK** to save the settings.

Network
Name F00001
IP 255.255.255.255
GWIP 192.168. 1. 1

Note:

The Factory Default IP address is shown in the above picture. If DHCP is enabled, the server will automatically assign an IP address to Cronus. However, if the server does not have DHCP function enabled, you need to manually program the Cronus IP address, server IP address, and gateway IP address.

4.1.13 RESTORE



In the main menu, select **Restore** to restore the factory settings. Select **"Yes"** and press **OK** to restore the original factory settings. Select **"Cancel"** or press **ESC** to cancel the operation.

Restore
Cancel Yes



4.1.14 ABOUT

Show firmware version number and IP.

About
Ver:TD-05-1.1.4.6
Name:F00001
IP:192.168.161.168
GWIP:192.168.161.1
MASK:255.255.255.0

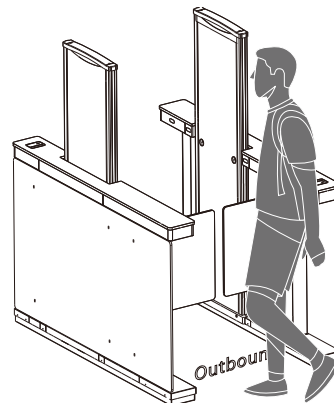
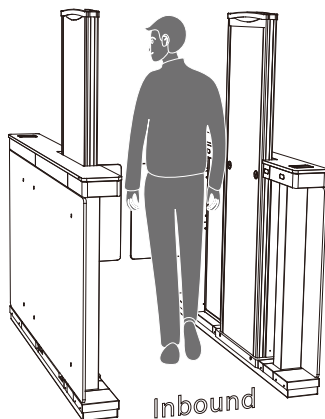
◆ 4.2 SWING BARRIER TURNSTILE MENU

Display Mode (01EXXX)

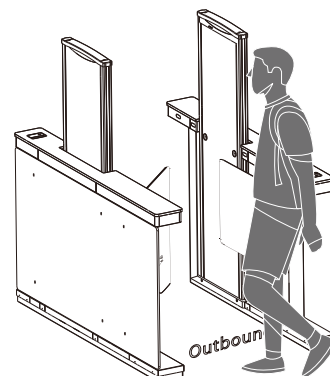
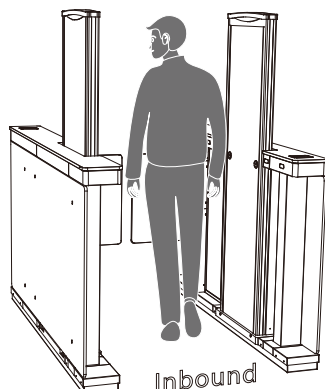
- (01E000) Displays current position of the swing-barrier.
- (01E001) Displays Infrared input signal.
- (01E002) Controls input signal.
- (01E003) Test mode (the digital LED displays "---" in the test mode).
- (01E004) Displays version number.

Passage Modes (02EXXX)

- **(02E001) MODE 1 (default) - High Security**
Scans pedestrians BOTH inbound AND outbound for valid credentials and metal objects. Deters workplace violence and prevents both unauthorized access & employee theft.

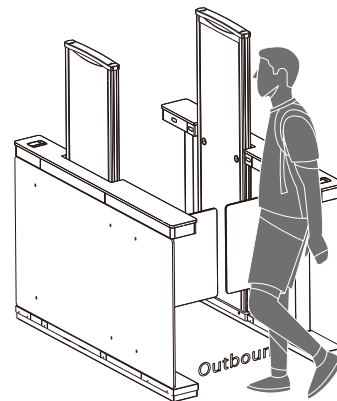
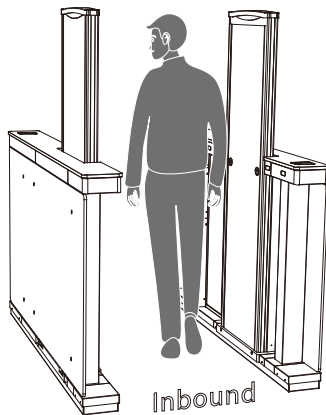


- **(02E002) MODE 2 - Medium Security**
Only scans INBOUND pedestrians for valid credentials and metal objects. Deters workplace violence and prevents unauthorized access.



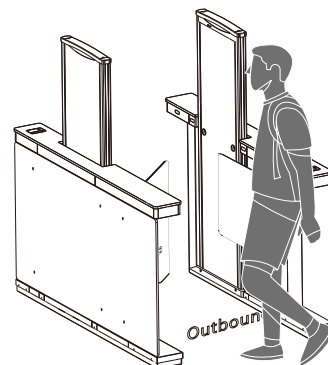
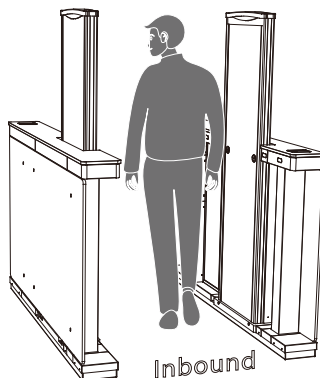
- **(02E003) MODE 3 - Medium Security**

Scans only OUTBOUND pedestrians for valid credentials and/or metal objects. Prevents employee theft.



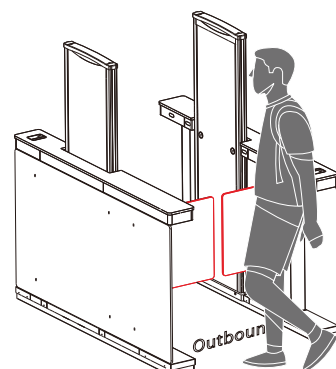
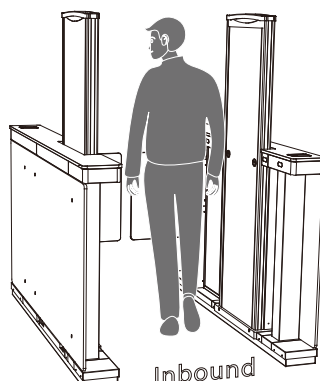
- **(02E004) MODE 4 - Low Security**

Scans neither inbound nor outbound pedestrians. Swing barriers open whenever IR sensors detect a pedestrian entering the turnstile lane. Used to slow down and channel pedestrian traffic, or when emergencies arise which necessitate quick evacuation.



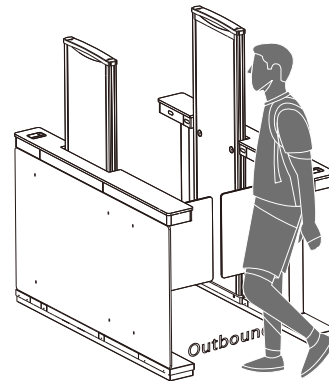
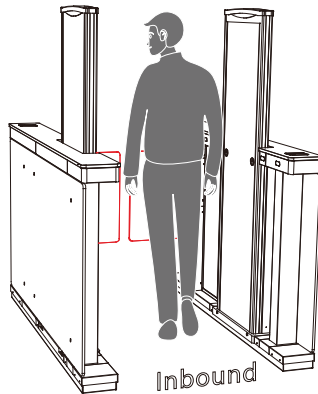
- **(02E005) MODE 5 - High Security**

Scans inbound pedestrians for valid credentials and metal objects. Restricts ALL outbound pedestrians. Used in lockdown scenarios.



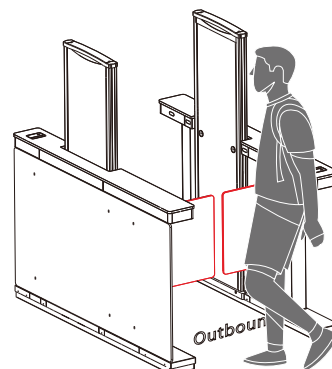
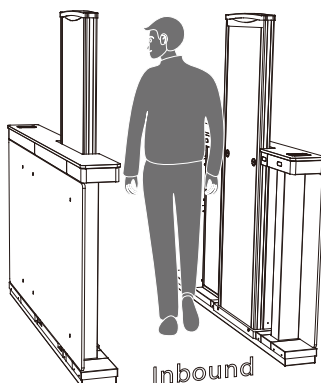
- **(02E006) MODE 6 - High Security**

Restricts all pedestrians from entering, regardless if they have valid credentials or not carrying metal objects. Outbound pedestrians are permitted to exit if they are authorized and/or carrying no metal objects.



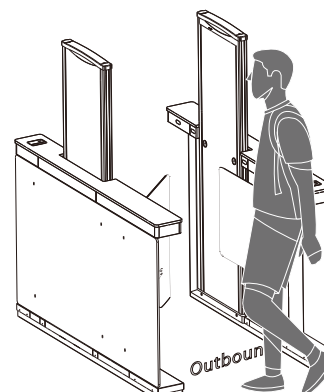
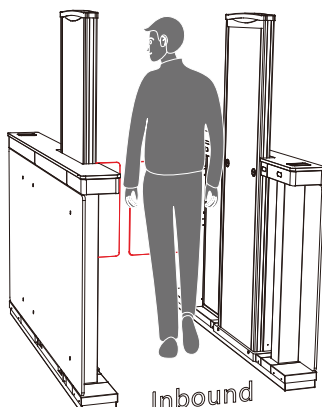
- **(02E007) MODE 7 - High Security**

Allows all pedestrians to enter, regardless if they are authorized or carrying metal objects. All outbound pedestrians are denied exit, regardless if they have valid credentials or carrying metal objects. Used when someone inside the building is suspected of wrong-doing and needs to be prevented from escaping.



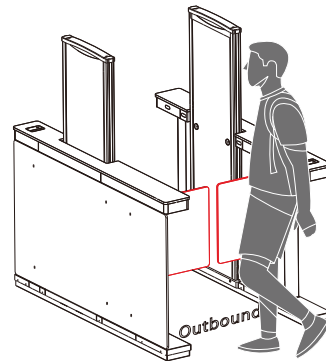
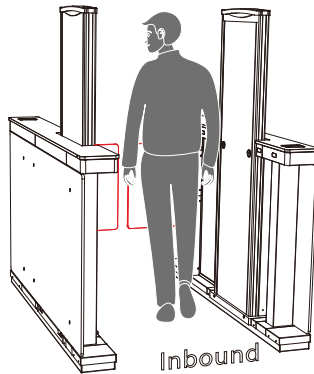
- **(02E008) MODE 8 - High Security**

Denies entry to pedestrians, regardless if they are authorized or not carrying metal objects. All outbound pedestrians are NOT scanned and are free to exit. Used when emergencies arise which necessitate quick evacuation.



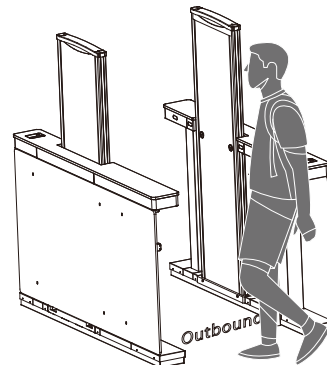
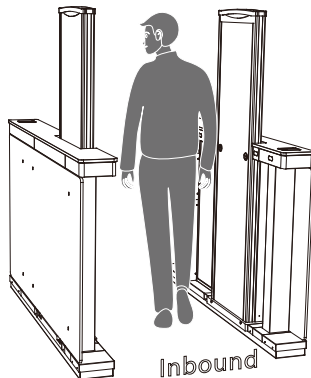
- **(02E009) MODE 9 - Highest Security**

Denies BOTH inbound AND outbound pedestrians BOTH entry AND exit. Used during lockdown scenarios.



- **(02E010) MODE 10 - NO Security**

Scans neither inbound nor outbound pedestrians. Swing barriers always REMAIN OPEN. Used to slow down and channel pedestrian traffic, or when emergencies arise which necessitate quick evacuation.



Swing-Barrier Opening Speed (03EXXX)

Swing-Barrier Opening Speed controls the speed at which the swing-barrier opens. The lower the number is programmed, the faster the opening speed. The Swing-Barrier Opening Speed value can be programmed anywhere between 5 to 30 seconds and the default value is 23s.

Swing-Barrier Opening Deceleration Speed (04EXXX)

The higher the number, the longer the deceleration time and the more stable the swing-barrier operation. The Swing-Barrier Opening Deceleration Speed can be programmed between 0 to 50 seconds and the default value is 20s.

Swing-Barrier Opening Compensation Speed (05EXXX)

It can be programmed when the swing-barrier cannot open to the limit or shakes. The higher the number is programmed, the faster the compensation speed. The Swing-Barrier Opening Compensation Speed value can be programmed between 0 to 50 seconds and the default value is 9s.

Swing-Barrier Closing Speed (06EXXX)

Swing-Barrier Closing Speed controls the speed at which the swing-barrier closes. The lower the number is programmed, the faster the speed. The Swing-Barrier Closing Speed value can be programmed between 5 to 30 seconds and the default value is 20s.

Swing-Barrier Closing Deceleration Speed (07EXXX)

The higher the number, the longer the deceleration time and the more stable the swing-barrier operation becomes. The Swing-Barrier Closing Deceleration Speed value can be programmed between 0 to 50 seconds and the default value is 20s.

Swing-Barrier Closing Compensation Speed (08EXXX)

Controls the speed at which the swing-barrier closes. The lower the number is programmed, the faster the speed. The Swing-barrier Closing Speed value can be programmed anywhere between 5 to 30 seconds and the default value is 23s.

Master/ Slave Turnstile Pedestal Setting (09EXXX)

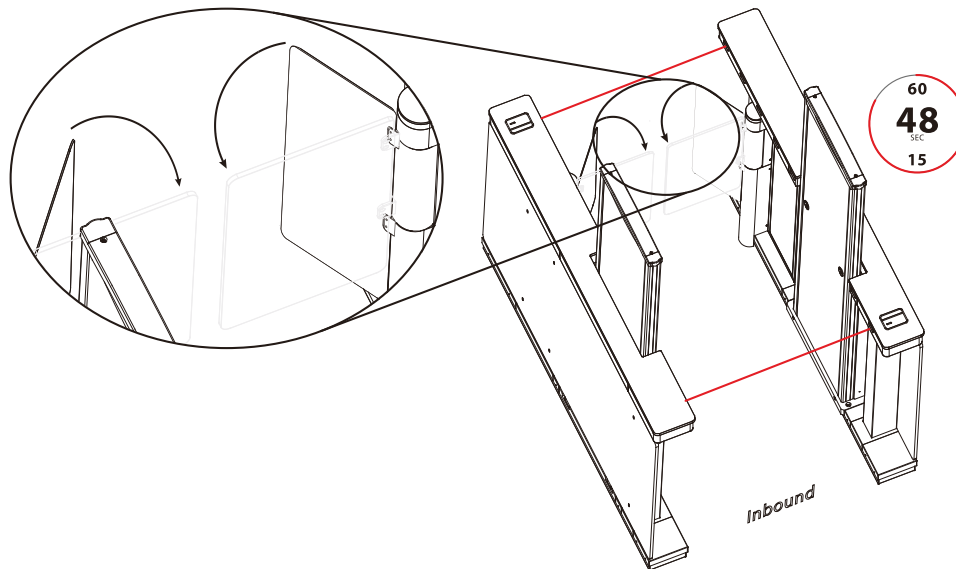
- (09E000) Master
- (09E001) Slave

RS485 Address (10EXXX)

It can be programmed between 0 to 254 and the default value is 0.

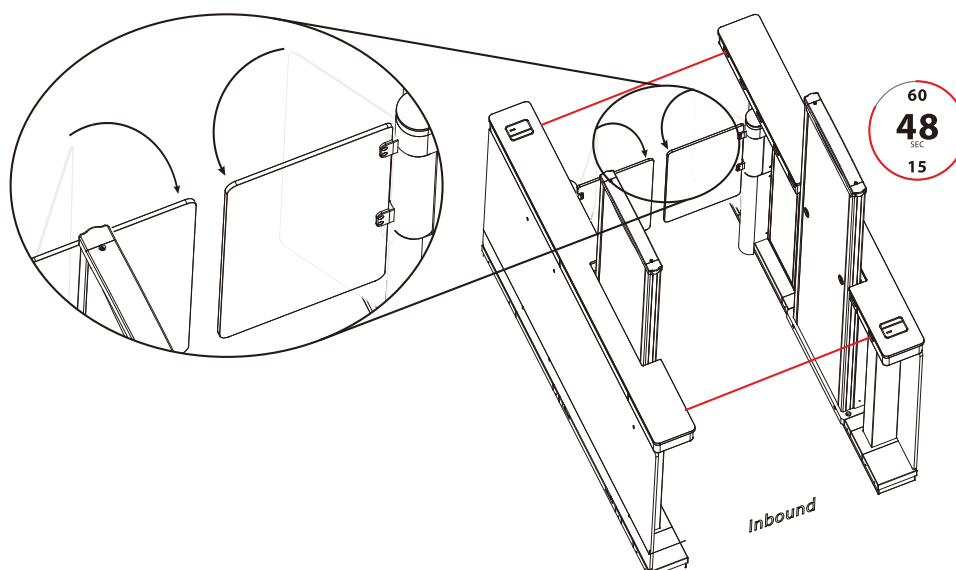
Open Duration Time (11EXXX)

Open Duration Time controls how long the swing-barriers remain open after a pedestrian is allowed passage. Upon arriving at the programmed time, the swing-barriers will close automatically. The value can be programmed between 2 to 60 seconds and the default value is 5s.



Swing-Barrier Closing Delay Time (12EXXX)

Swing-Barrier Closing Delay Time controls how quickly the swing-barriers will close once a pedestrian completely exits the turnstile lane. The value for Swing-barrier Closing Delay Time can be programmed between 0 to 60 seconds and the default value is 0s.



Correct Swing-Barrier Position Setting (13EXXX)

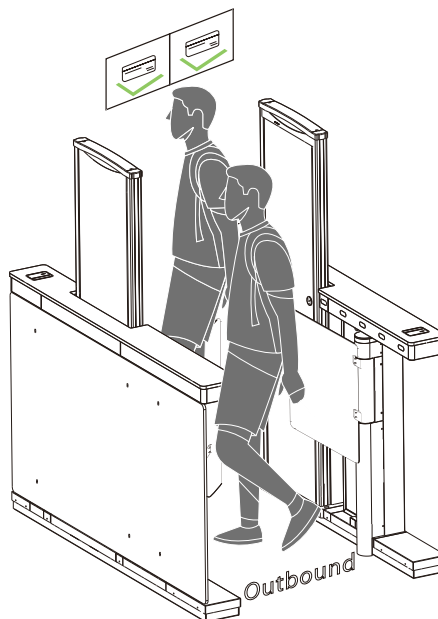
- (13E001) Zero position
- (13E002) Right position
- (13E003) Left position
- (13E004) Slave position

1. Adjust the position only after Cronus is installed properly.
2. When adjusting the zero swing arm barrier position, you can manually push the swing-barrier for fine-tuning. If the swing-barrier exceeds a certain angle, it will be invalid. (At this time, the digital LED displays 13E000).

Swing-Barrier Opening Memory (14EXXX)

- (14E000) Close (default)
- (14E001) Open

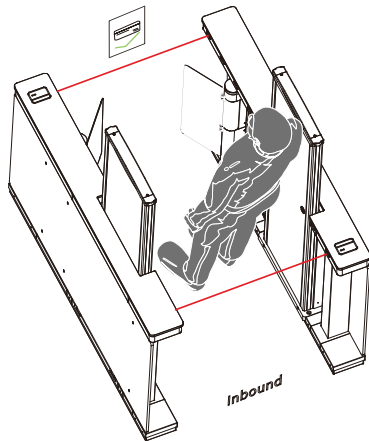
When it detects two pedestrians' valid passage requests simultaneously (including the same direction and the opposite direction), the unit will record and process both passage requests.



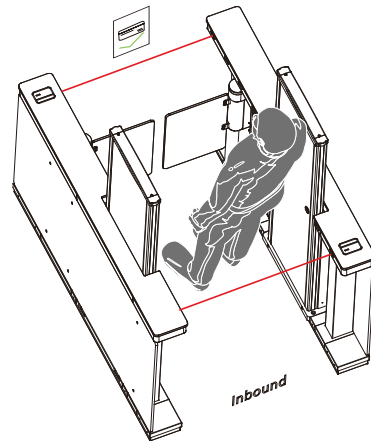
Authentication in Turnstile Lane (15EXXX)

Will allow user verification while the IR sensors are triggered.

(15E000) Allow (default)



(15E001) Forbidden



Volume Setting (16EXXX)

Volume Setting is used for adjusting the volume of Cronus audio alerts. The higher the number is programmed, the louder the volume. The Volume Setting can be programmed between 1 to 100 and the default value is 0.

Disable Alarm (17EXXX)

When the alarm is disabled, Cronus will not trigger an alarm, regardless the situation.

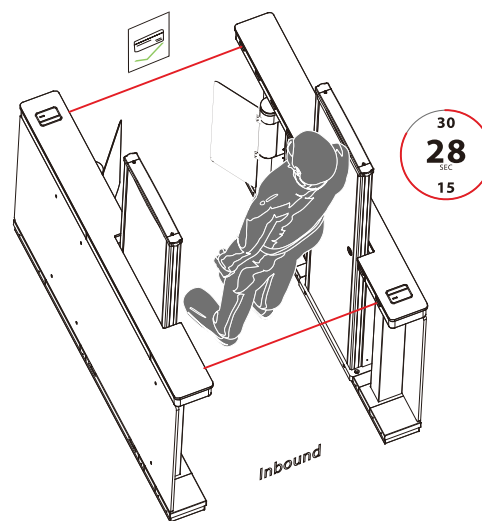
- (17E000) Close
- (17E001) Open (default)

Delay between successful user authentication and swing-barrier opening (18EXXX)

Program the time delay between successful user authentication and when Cronus swing barriers will open. Time delay can be programmed between 1 and 60 seconds, and the default value is 2s.

Pedestrian Permitted Time in Turnstile Lane (19EXXX)

Program how long a pedestrian is permitted to remain in the turnstile lane before Cronus triggers an alarm. Duration Time can be programmed between 5 to 30 seconds and the default value is 10s.



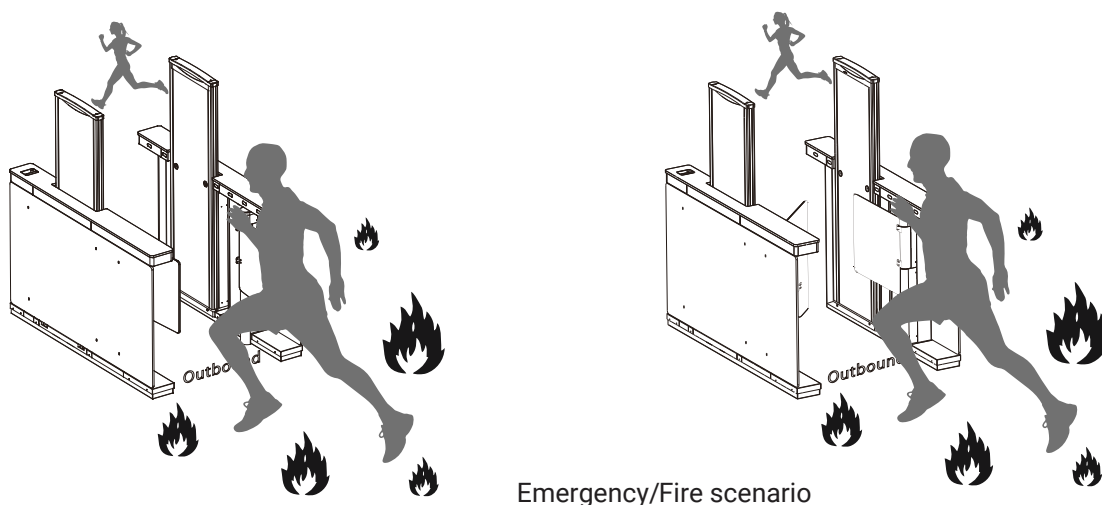
Force/Resistance Setting (20EXXX)

The higher the number, the greater the resistance of the swing-barrier opening and closing force when pedestrians press against it. Force/Resistance Setting can be programmed between 10 to 60 and the default value is 40.

Emergency Opening Direction (21EXXX)

According to the emergency, select the corresponding type of trigger mode.

- (21E000) Right Open (default)
- (21E001) Left Open



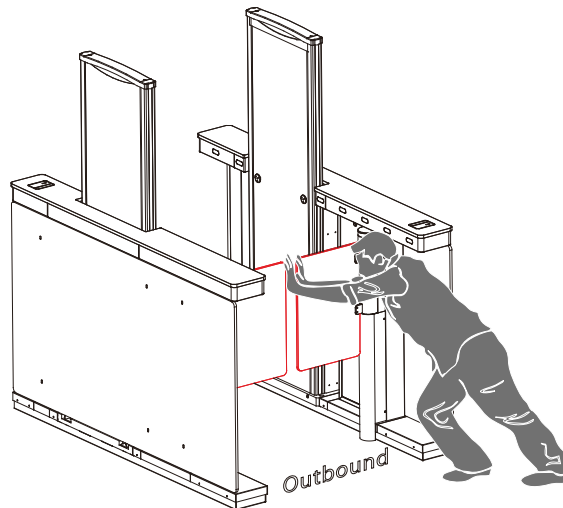
Clutch Start Angle (22EXXX)

Program the angle at which the clutch starts. The higher the number, the larger the angle. The value for Clutch Start Angle can be programmed between 0 to 99, and the default value is 0.

Clutch Alarm Setting (23EXXX)

When the swing-barrier is unlocked in an unauthorized manner, the clutch locks automatically. The Clutch Alarm Setting can be programmed as:

- (23E000) Delayed unlock (default)
- (23E001) Authentication to unlock.

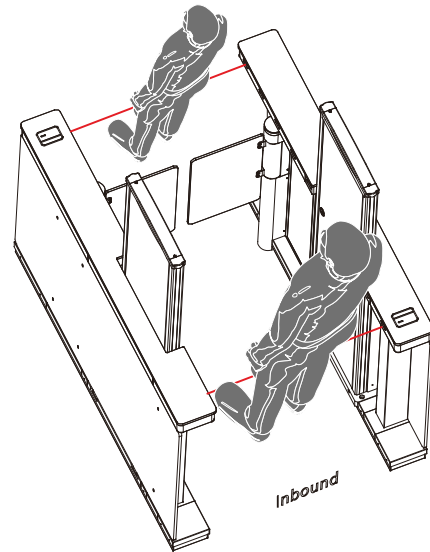
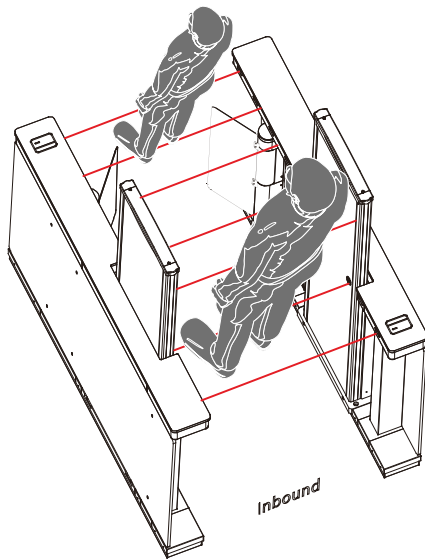


Restore Factory Settings (24EXXX)

- (24E001) Restore factory settings

Anti-pinch (incidental pedestrian contact) Area Setting (25EXXX)

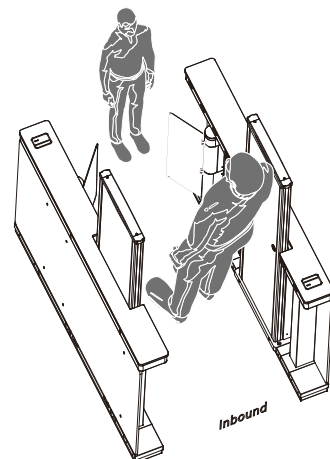
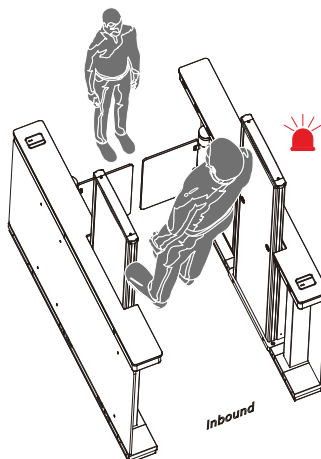
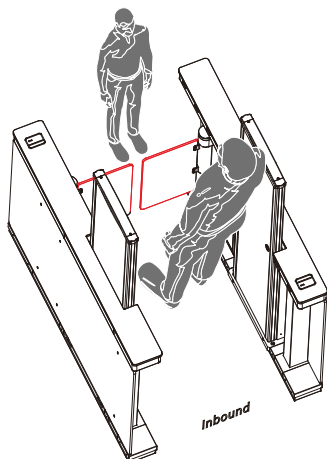
- (25E000) All infrared sensors can signal Anti-pinch (default)
- (25E001) First and last pair of infrared sensors cannot signal Anti-pinch.



False Direction Entry (26EXXX)

When the Anti-pinch Area Setting needs to be programmed to (25E001) only, the False Direction Entry (26E000) becomes effective.

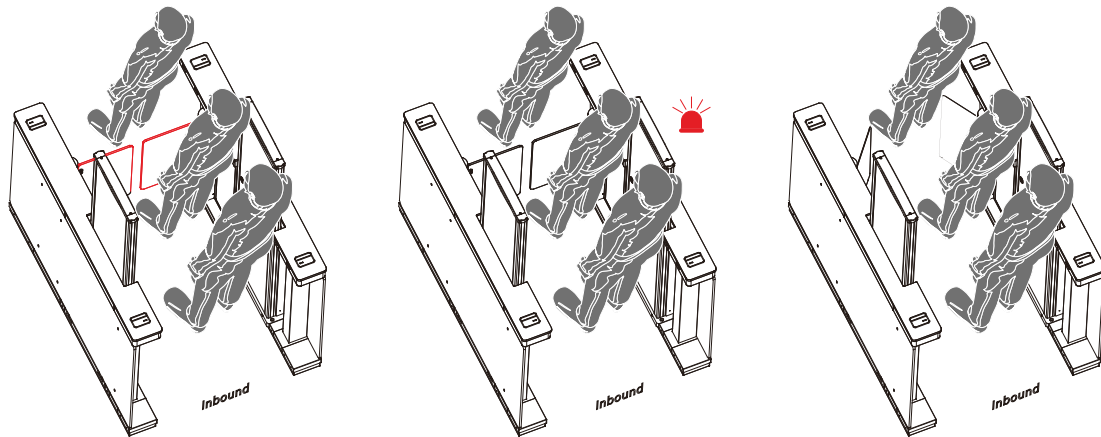
- (26E000) Close
- (26E001) Only alarm (default)
- (26E002) No detection



Anti-tailgate Setting (27EXXX)

Settings include Close the swing-barrier, Only Alarm (not close the swing-barrier), or Disable Anti-Tailgate detection.

- (27E000) Close
- (27E001) Only alarm (default)
- (27E002) No detection



The Anti-pinch (incidental pedestrian contact) Area Setting needs to be programmed to (25E001) for the Anti-tailgate Setting (27E000) to be effective.

Swing-Barrier Closing Position (28EXXX)

- (28E000) Last pair (default)
- (28E001) Next-to-last pair

The Anti-pinch (incidental pedestrian contact) Area Setting needs to be programmed to (25E001) for the Swing-Barrier Closing Position (28E001) to be effective.

Anti-pinch (incidental pedestrian contact) Action Setting (29EXXX)

Settings include Stop, Open or Close the swing-barrier

- (29E000) Stop (default)
- (29E001) Open
- (29E002) Close

Walk-Through Metal Detector Enablement (30EXXX)

When the Cronus Walk-Through Metal Detector "Enablement" is programmed for "INVALID", only user authentication (card swiping, phone, biometric is required to open the swing-barrier. But if "Enablement" is programmed for "EFFECTIVE" then DOUBLE VERIFICATION (user authentication PLUS negative metal detection is required to open the swing-barrier.

- (30E000) Invalid
- (30E001) Effective (default)

Function of the Last Pair of Infrared Sensors (31EXXX)

- (31E000) Infrared Sensors invalid (Sensors will not trigger a response)
- (31E001) Infrared Sensors will open swing-barrier
- (31E002) Prevent anti-tailgate (Sensors will signal to close swing-barrier/trigger alarm)

Swing-Barrier Type (32EXXX)

- (32E000) Common-size swing-barrier
- (default)(32E001) Larger-size swing-barrier

Right/Master Pedestal Synchronous Setting (33EXXX)

You can adjust the synchronization of the Right/Master pedestal and 3rd party access control panels through this menu. The higher the value, the faster the response of the Right/Master pedestal to open its swing barrier. Setting ranges between 30-200, and the default value is 100.

Left/Slave Pedestal Synchronous Setting (34EXXX)

You can adjust the synchronization of the Left/Slave pedestal and 3rd party access control panels through this menu. The higher the value, the faster the response of the Left/Slave pedestal to open its swing barrier. Setting ranges between 30-200, and the default value is 100.

◆ 4.3 DEFAULT PARAMETERS

- Walk-Through Metal Detector

Parameter	Default Value
Sensitivity	235
Channel	14
Buzzer	ON
AlarmTime	1s
ApplicationArea	TrainStation

Data Saving	Save
System Password	100000
Relay Settings	Open
Network Settings	Name: F00001 IP: 255.255.255.255 Gateway IP: 192.168.1.1

- **Swing Barrier Turnstile**

Parameter	Default Value
Passage Mode (02EXXX)	Two-way control (02E001)
Swing-Barrier Opening Speed (03EXXX)	23
Swing-Barrier Opening Deceleration Distance (04EXXX)	20
Swing-Barrier Opening Compensation Speed (05EXXX)	9
Swing-Barrier Closing Speed (06EXXX)	20
Swing-Barrier Closing Deceleration Distance (07EXXX)	20
Swing-Barrier Closing Compensation Speed (08EXXX)	9
RS485 Address (10EXXX)	0
Open Duration Time (11EXXX)	5s

Swing-Barrier Closing Delay Time (12EXXX)	0s
Swing-Barrier Opening Memory (14EXXX)	Close (14E000)
Authentication in Lane (15EXXX)	Allow (15E000)
Volume Setting (16EXXX)	0
Close Alarm Tone (17EXXX)	Open (17E001)
Valid Time for Card Swipe (18EXXX)	20s
Stay Duration Time (19EXXX)	10s
Force Adjustment (20EXXX)	40
Fire Opening Direction (21EXXX)	Right open (21E000)
Clutch Start Angle (22EXXX)	0
Clutch Alarm Setting (23EXXX)	Delayed unlock (23E000)
Anti-pinch Area Setting (25EXXX)	All infrared anti-pinch (25E000)
False Direction Entry (26EXXX)	Only alarm (26E001)
Anti-tailgate Setting (27EXXX)	Only alarm (27E001)
Swing-Barrier Closing Position (28EXXX)	Last pair (28E000)
Anti-pinch Action Setting (29EXXX)	Stop (29E000)
Walk-Through Metal Detector Enablement (30EXXX)	Effective (30E001)

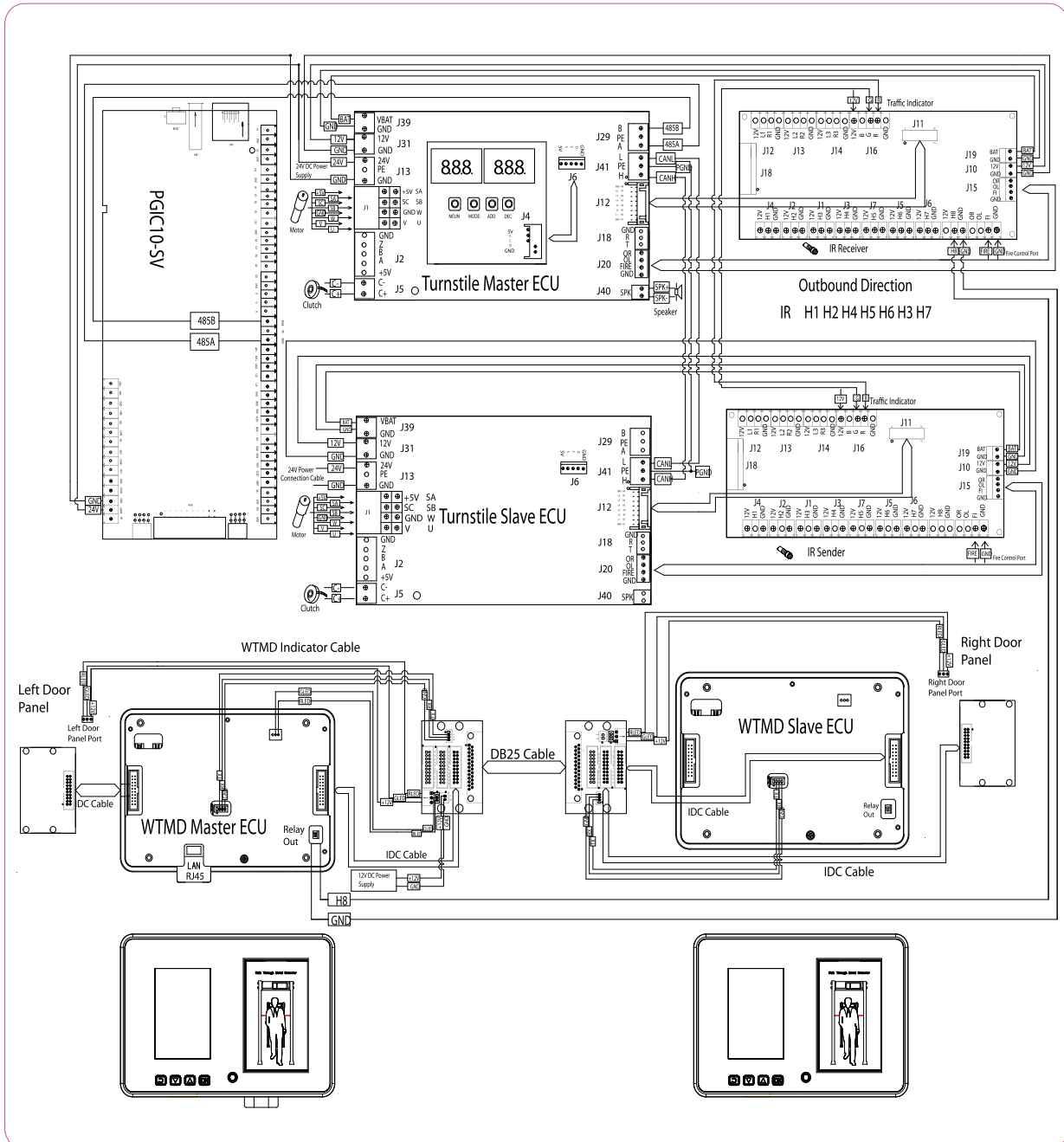
Swing-Barrier Type (32EXXX)	0s
Right Synchronous Setting (33EXXX)	100
Left Synchronous Setting (34EXXX)	100

4.4 ERROR CODES FOR Cronus

Error Code	Cause
ER0002	Power-on Self-test failure, Hall Limit Detection Error
ER0004	Run Timeout
ER0008	Clutch Locked
ER016	The code disk detection failed.
ER032	Electric Motor Shaft Lock Protection failure

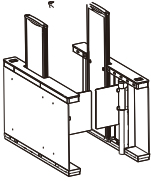
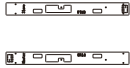
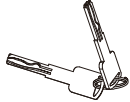
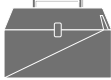
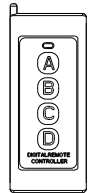
5 WIRING DIAGRAM

Check circuit according to the following wiring diagram:



6 PARTS INCLUDED IN PACKAGING

The package consists of the following items:

Features	Specifications
 Cronus	1
 Anchor Plate	2
 Key	2
 Expansion Screw M12*150	12
 Torx Screwdriver	1
 Wrench	1
 Screwdriver	1
 Knife	1
 Stainless Steel Maintenance Wipes	4
 Toolbox	1
 Wireless Remote Control	1

	User Manual	1
	Installation Guide	1

APPENDIX

Convention	Description
Turnstile IR	Turnstile Infrared Sensor
Walk-Through Metal Detector IR	Walk-Through Metal Detector Infrared Sensor
IR Receiver	Infrared Sensor Receiver
IR Sender	Infrared Sensor Sender
IDC Cable	Internet Data Center Cable

WARRANTY CARD

- 1. Please keep your warranty card safe and readily available when requesting service/maintenance.

Model Number	
ID	
Date of Purchase	
User	
Post Code	
Address	
Customer's Phone Number	
Customer's Fax Number	

Date of Maintenance	Record of Maintenance	Technician