



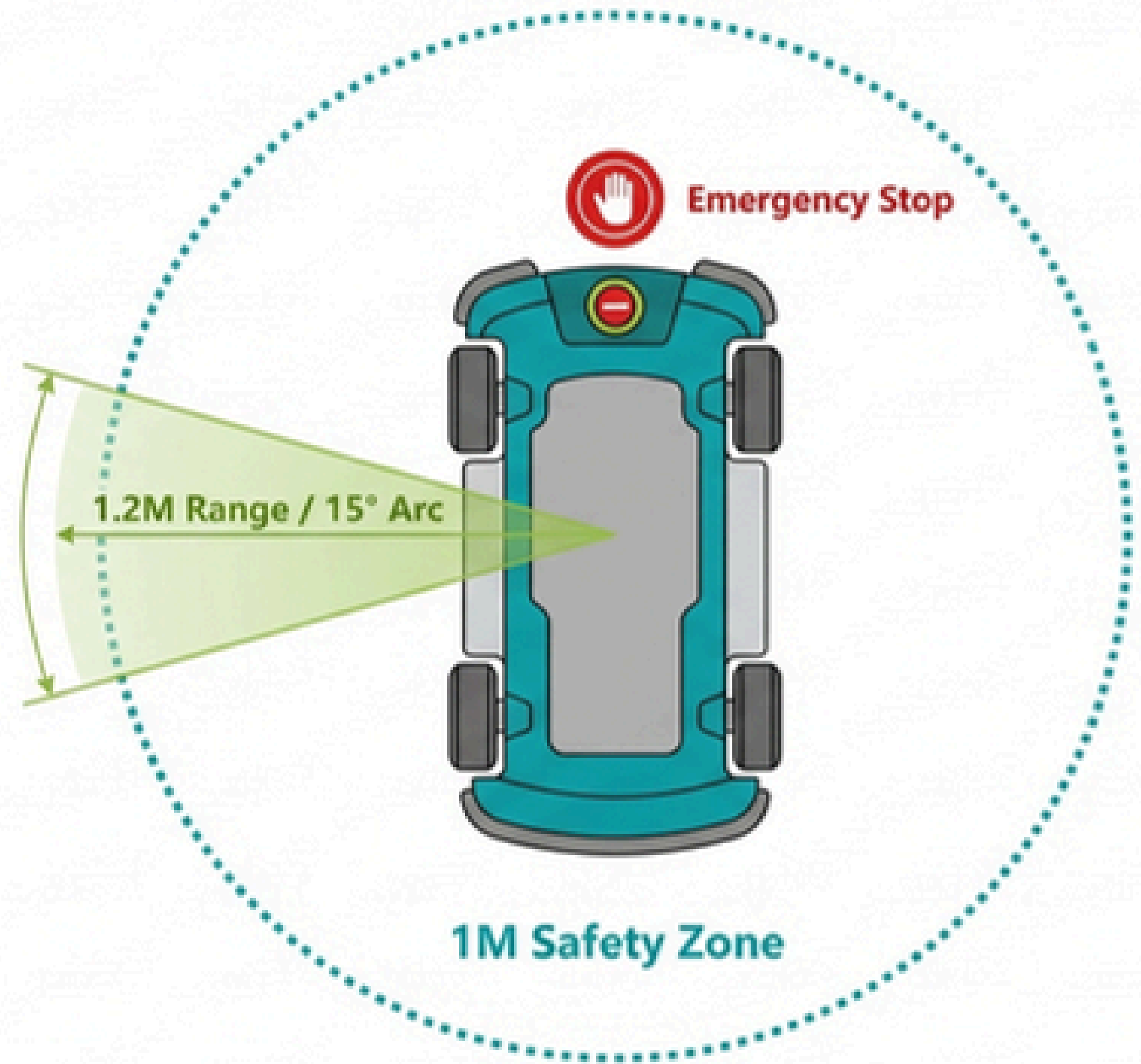
Mastering SFY03 Route Configuration

Precision Logistics for SMT
Assembly Lines

Operational Safety & Environment Protocols

Verify environmental clearance before power-on.

- **Pedestrian Clearance:** Maintain 1-meter safe distance.
- **Obstacle Detection:** Front laser covers 15° arc / 1.2M range.
- **Emergency:** Press Urgent Stop Knob. Rotate to reset.
- **Chassis Clearance:** Keep floor free of debris (25mm clearance).



Laying the Navigation Path

Install magnetic strips to define the physical route. Surface must be clean and dry.

Stopping Point Installation



Intermediate Site Installation



Technical Note

Material: 30mm (Default) or 50mm Magnetic Strip.

Polarity: N-pole face up.

Station Definition via RFID

Bridging the Physical Floor to the Digital Map



The physical card on the floor becomes the Digital Site Number in the system.
Cards trigger Operations like Stop, Turn, or Speed Change.

Accessing the Control System

Power on via Mains Switch. Interface orientation matches forward vehicle direction.

2024/10/09 16:55:37

Automated Guided Vehicle

0.000 V
0.000 A

0.00

Current route 0

Current site 0

Operation wait 0.000 S 0.000 M

Motion state stop forward straight

Front obstacle 0

Rear obstacle 0

Set speed 0.00 M/S

Current speed 0.00 M/S

Operation number 0

Operation index 0

Operation status idle

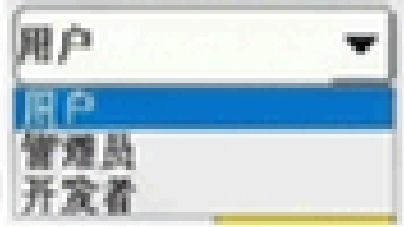
Operation wait 0

Car No. 0

cart mode

User switch

Login Workflow

1. Navigate to 'User Switch' menu.
2. Select Level: User (Operator), Admin (Manager), or Developer (Technician).
3. Enter password to unlock editing.

Registering Physical Sites

2024/10/09
17:03:20

Card reader Monitor & Site Editor

0.000 V
0.000 A

0.00

Exercise stop

Instructions:

1. The site number is the RFID card number.
2. The target RFID card needs to be placed in the reading area of the card reader when writing the card.

Current Site/Card No.

0

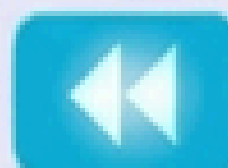
1

1. Place target RFID card in reader area.

2. Input Write Site/Card No.
Site Number.

2

0



Write result

4

None

Write card

3

4. Verify 'Write Success' message.

3. Press to Execute.

Homepage

Return

The Route Editor Interface

Concept: Mapping physical actions to digital site numbers.

OpCode: The specific action (Stop, Turn, Speed).

2024/10/09 17:07:55

Route Station Operation Editor - Forward

0.000 V 0.00
0.000 A Exercise

Opcode-Forward		D0	D1	D2	D3	Opcode-Forward		D0	D1	D3
0	Null operation	0	0	0	0	5	Null operation	0	0	0
1	Null operation	0	0	0	0	6	Null operation	0	0	0
2	Null operation	0	0	0	0	7	Null operation	0	0	0
3	Null operation	0	0	0	0	8	Null operation	0	0	0
4	Null operation	0	0	0	0	9	Null operation	0	0	0

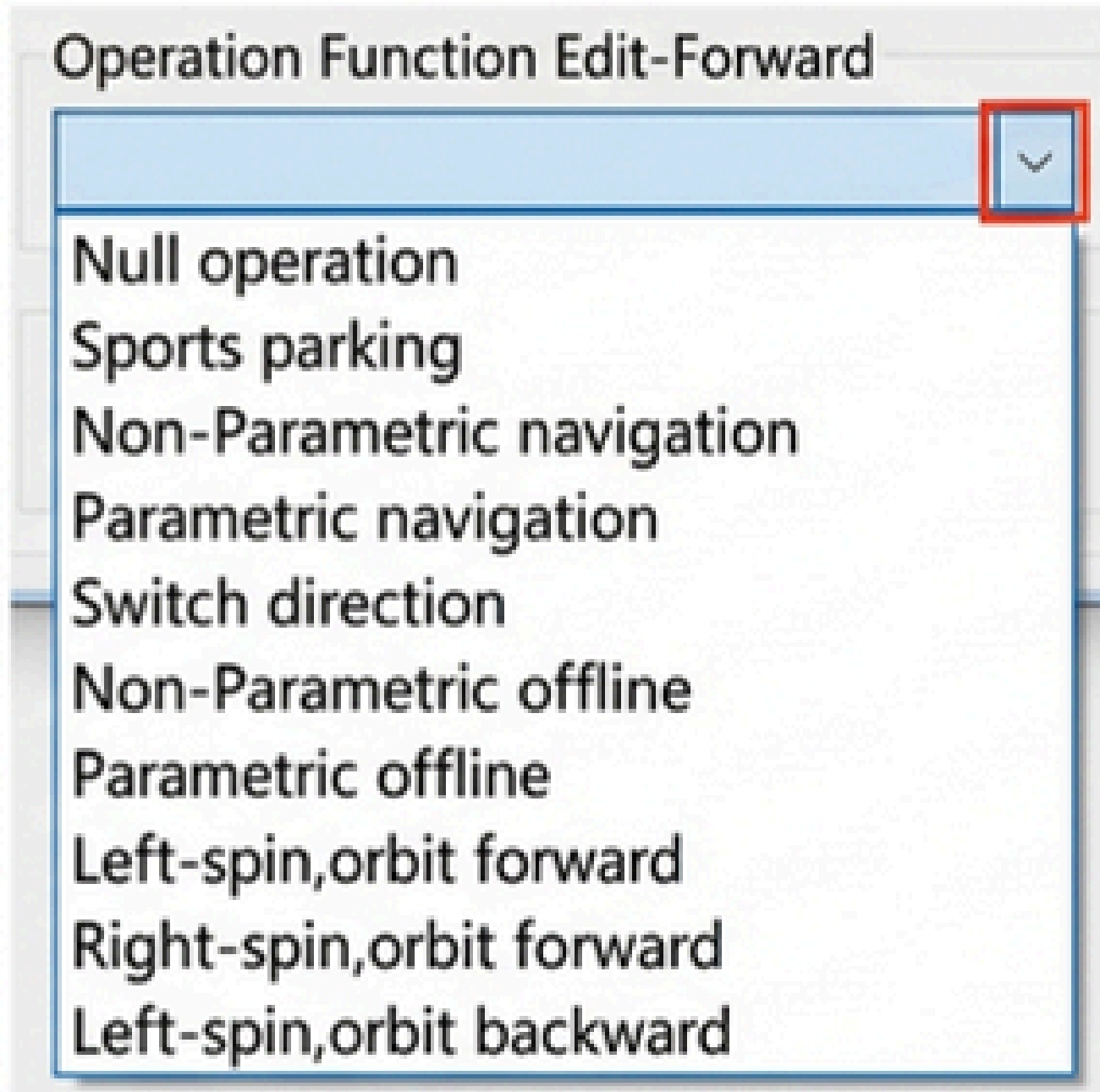
Operational tips

Route number Site number

Parameters: Values for Speed, Time, or Distance.

Location ID:
Matches the physical RFID tag.

Understanding Operation Codes (OpCodes)



OpCode	Function
Null Operation	Pass through without action.
Sports Parking	Stop at the station.
Parametric Navigation	Change speed or behavior settings.
Switch Direction	Toggle from Forward to Backward state.
Spin	Execute in-place rotation.

Programming Logic: Speed Control Example

Scenario: At Station 11, slow down to 0.1 M/S for precision docking, continuing for 3 meters.

Route Station Operation Editor - Forward						
Row	Opcode-Forward	D0	D1	D2	D3	
1	Null operation	0	0	0	0	
2	Null operation	0	0	0	0	
3	Parametric Navigation	0.1	0	0	3000	
4	Null operation	0	0	0	0	
5	Null operation		0	0	0	
6	Null operation		0	0	0	
	Null operation			0		
	Null operation			0		
	Null operation	0	0	0		
10	Null operation	0	0	0	0	
11	Null operation	0	0	0	0	

OpCode:
Parametric Navigation

D0 (Speed): 0.1

D3 (Distance):
3000 (mm)

Site editor
Switch to backward
Erase Operation
Save Operations
Homepage

Route number
Site number

Precise parameter tuning allows for smooth deceleration before docking.

Configuring the Backward Loop

Routes must be programmed for both Forward and Backward travel to complete the logistics cycle.

2024/10/09 17:08:55

Route Station Operation Editor - Backward 0.000 V 0.000 A 0.00

Opcode-Backward	D0	D1	D2	D3	Opcode-Backward	D0	D1	D2	D3
0	Null operation	0	0	0	5	Null operation	0	0	0
1	Null operation	0	0	0	6	Null operation	0	0	0
2	Null operation	0	0	0	7	Null operation	0	0	0
3	Null operation	0	0	0	8	Null operation	0	0	0
4	Null operation	0	0	0	9	Null operation	0	0	0

Operational tips Route number 0 Site number 0

Site editor Switch to forward Erase Operation Save Operations Homepage

Logic Rule: If AGV is in 'Backward' motion state, it ignores all 'Forward' instructions.

Always use 'Switch Direction' OpCode at line ends.

Global Parameter Tuning

2024/10/09 17:09:18

Run Monitor

0.000 V 0.00
0.000 A

Front 14 0

Rear 1 15

Run mode stop

Run Forward Backward

Turn Left Middle Right

Set speed 0.00 M/S

System music

User music

Music channel

Music volume

Front obstacle 0

Rear obstacle 0

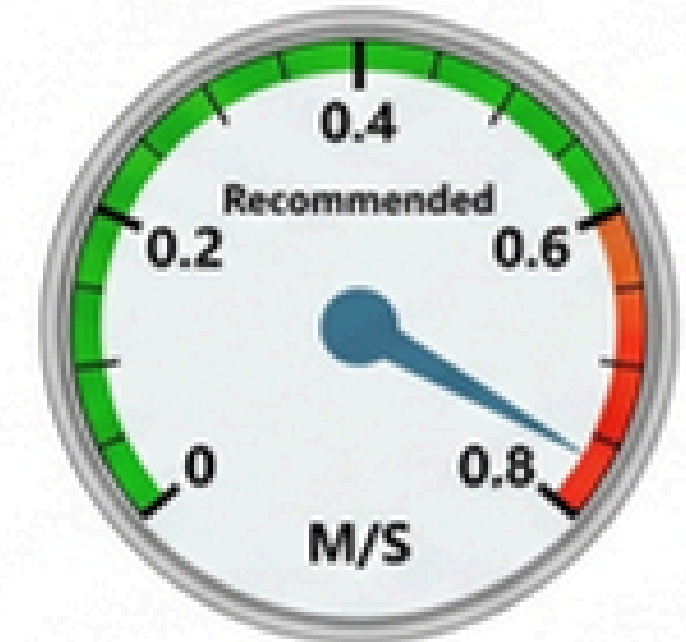
Current route 0

Current site 0

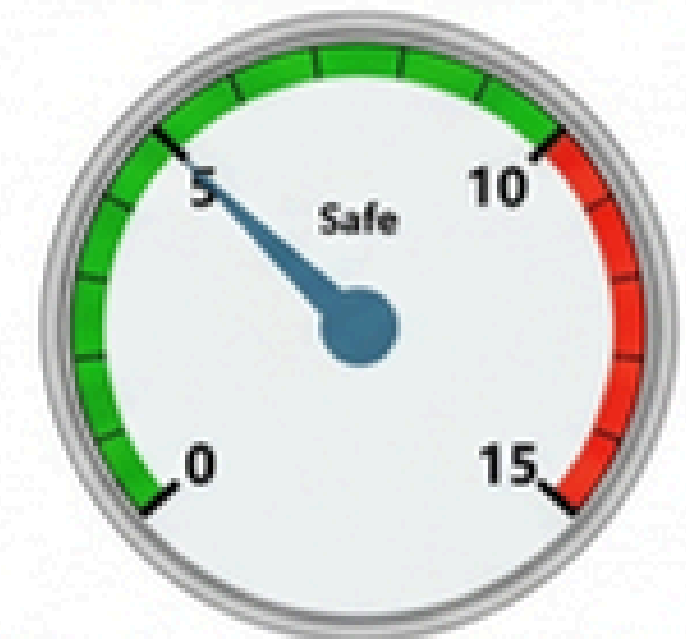
Site redo

Return

Speed Limit



Obstacle Zone



Forced Close: Value 50 disables detection. Use only in controlled docking bays.

Initializing the Logistics Mission

The screenshot shows the 'Run Monitor' interface with the following elements:

- Top Left:** Date and time: 2024/10/09 17:09:18.
- Top Center:** Title 'Run Monitor'.
- Top Right:** Voltage and current readings: 0.000 V and 0.000 A, with a battery icon showing 0.00.
- Front/Rear Status:** A row of 14 buttons for 'Front' (labeled 14) and 15 buttons for 'Rear' (labeled 1). A vertical bar is positioned between the 7th and 8th buttons in each row.
- Run mode:** A dropdown menu currently set to 'stop'.
- Run controls:** 'Forward' and 'Backward' buttons. The 'Forward' button is highlighted in green.
- Turn controls:** 'Left', 'Middle', and 'Right' buttons. The 'Middle' button is highlighted in green.
- Set speed:** A text input field showing '0.00 M/S'.
- System music controls:** 'System music', 'User music', 'Music channel', and 'Music volume' labels.
- Obstacle and Route controls:** 'Front obstacle', 'Rear obstacle', 'Current route', and 'Current site' labels, each with a corresponding input field.
- Buttons:** 'Site redo' (cyan) and 'Return' (blue).

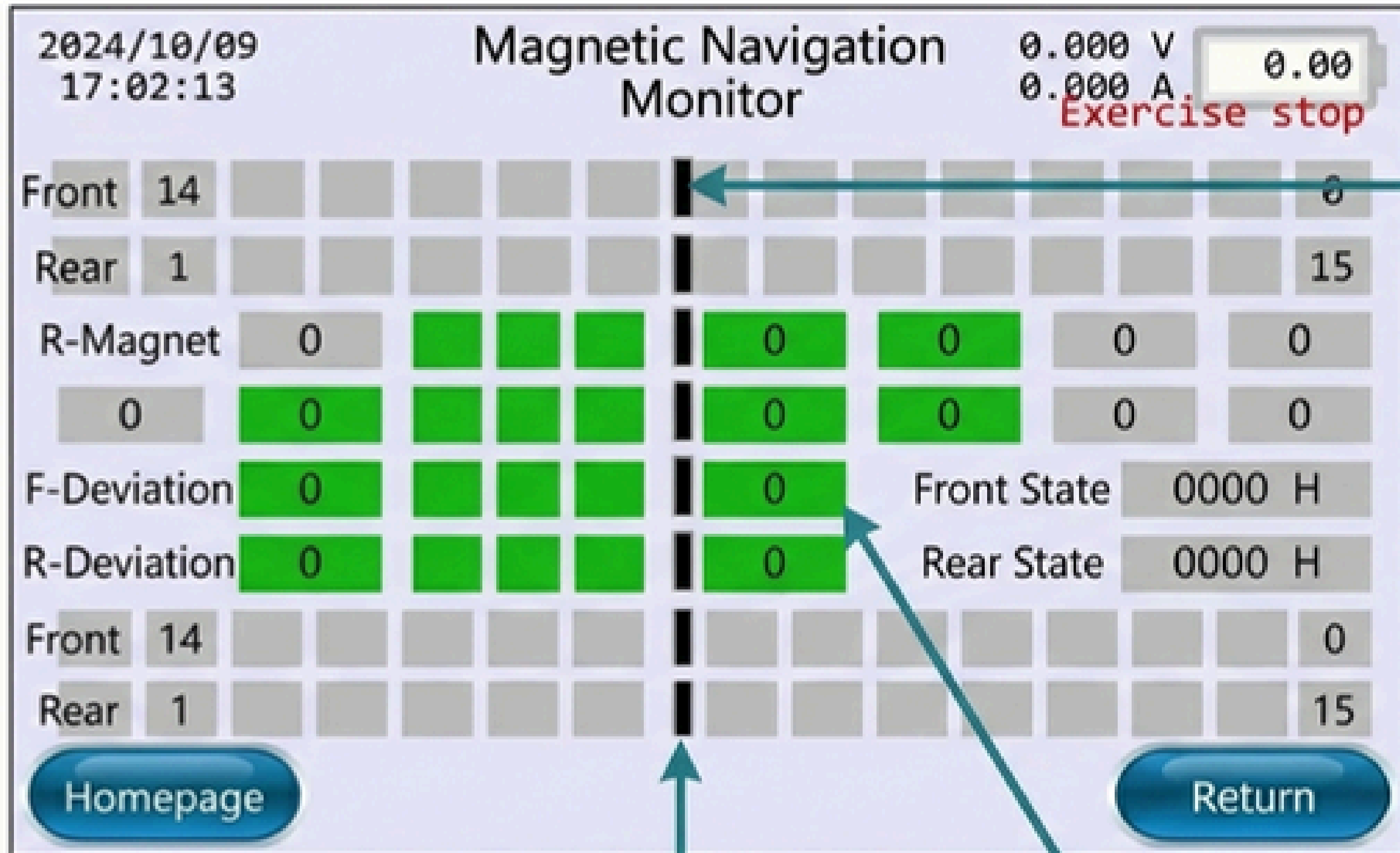
1 Input Route Number (e.g., 1).

3 Toggle to Navigation.

2 Input Start Site (e.g., 0).

4 Confirm Forward/Backward orientation.

Real-Time Diagnostics & Monitoring




NOTE

Deviation Bar: Must remain Optimal Battery Voltage (24V System) to prevent mid-route shutdown.

- 1 Deviation
- 2 Active Sensor Status.

Troubleshooting Common Anomalies

Symptom	Likely Cause	Corrective Action
AGV Offline / Stops	Lost magnetic strip	Switch to "Cart  ", manually push to strip, reset.
Obstacle Stop (Clear Path)	Dust on laser or Zone too large	Clean lens or adjust 'Obstacle Area' value.
Read Failure (Skip Station)	RFID card misalignment	Check card is centered under reader path.

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Call to Action: Contact us for custom OpCode development and integration.