HASHIMA

HRF-CR1

INSTRUCTION MANUAL

Read the QR code on the precautionary statement seal at the top of the machine sensor or the QR code on the machine number seal and move to the manual download page on the Hashima website.
It is possible to download the official version of the user manual from the Web site.

1st Edition 2024/1/9

Specifications

Model	HRF-CR1
RFID reader	UHF range RFID Reader (1W Type)
RFID Tag	UHF Tag
Data Method	SGTIN-96 format
Reading Performance	99% or more (*1 under specified conditions)
Pass-through width	600mm
Pass-through height	120mm (standard)
Alarm device	Alarm
Belt speed	40 to 15 m/min.
Power source	Single phase
Power consumption	200W
Dimensions	1598 (L) × 950 (W) × 903 (H)
Weight	200kg

※ Tested 10,000 round trips conveying 10 tags horizontally.

Precautions for use

1. Do not place products with RFID tags around the head to avoid the possibility of false detection.
2. When passing products, be sure to pass them within the guide width of the machine.
   It is recommended that the product be placed near the center of the belt and the tag be oriented horizontally.
3. Failure to read tags may occur due to overlapping tags or the material of the product being passed.
4. This RFID reading device requires an application for a radio station in the auditorium. For details, please refer to the radio wave utilization homepage of the Ministry of Internal Affairs and Communications.
5. Please clean the photoelectric sensor part of the product so that dust does not accumulate.
6. For thin products (1 cm or less in thickness) that cannot be recognized by the photoelectric sensor, please switch to the “Test card mode”.
7. This unit is a precision measuring equipment. Never attempt to disassemble or modify it.
   Do not give any shock to the unit.
   Do not hold the front and rear rollers when moving the equipment.

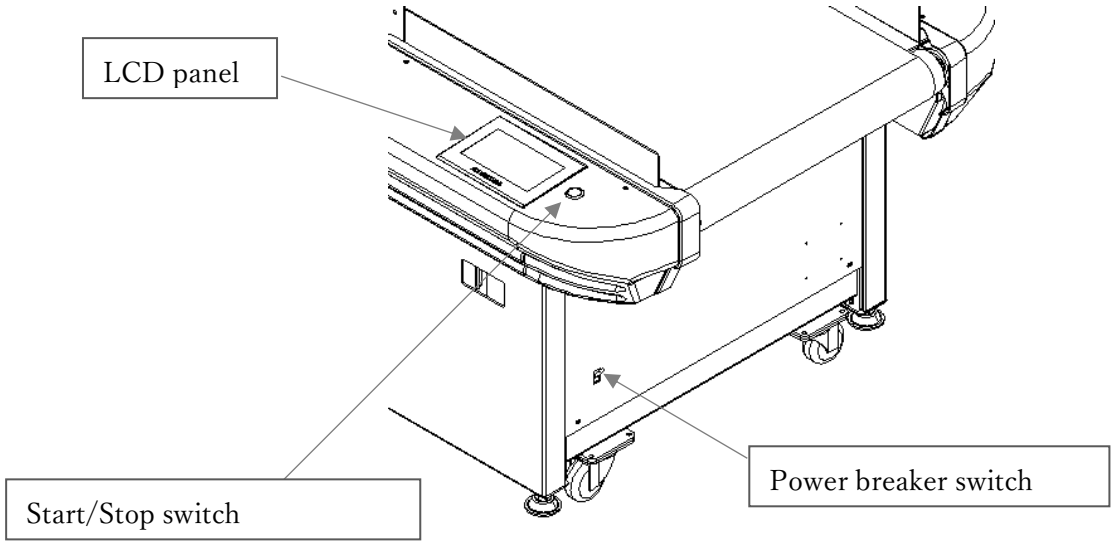
Installation Precautions

1.Install on a level surface free from vibration.
2.Fix the main unit horizontally with the four adjuster bolts on the main unit. (Large changes in the horizontal position may cause the conveyor belt to meander.)
Install the unit in a place where the ambient temperature is within 10℃ to 40℃ (no condensation).
If you have any questions, please contact your dealer or our company.

Operation

First, set the date and time.

1. Turn on the power breaker. (Located beneath the LCD panel)

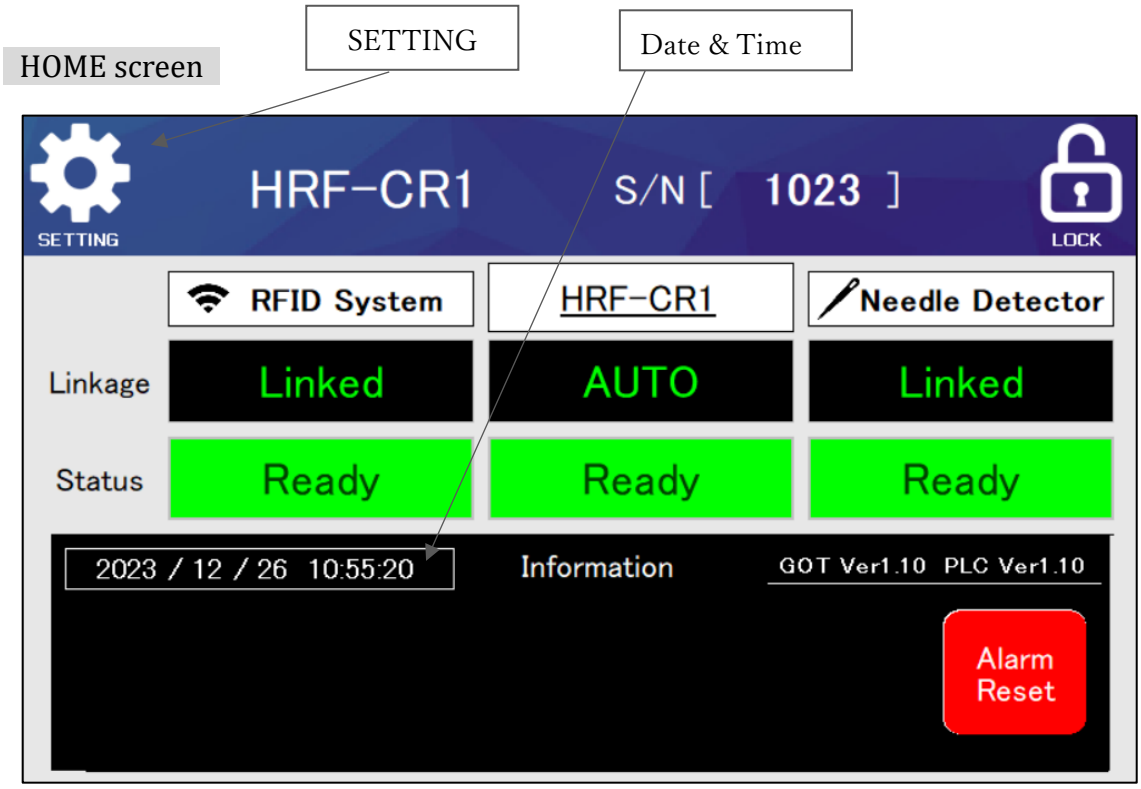


1. The system on the LCD panel will start up and display the HOME screen.

The year, month, day, hour, minute, and second are displayed on the screen.

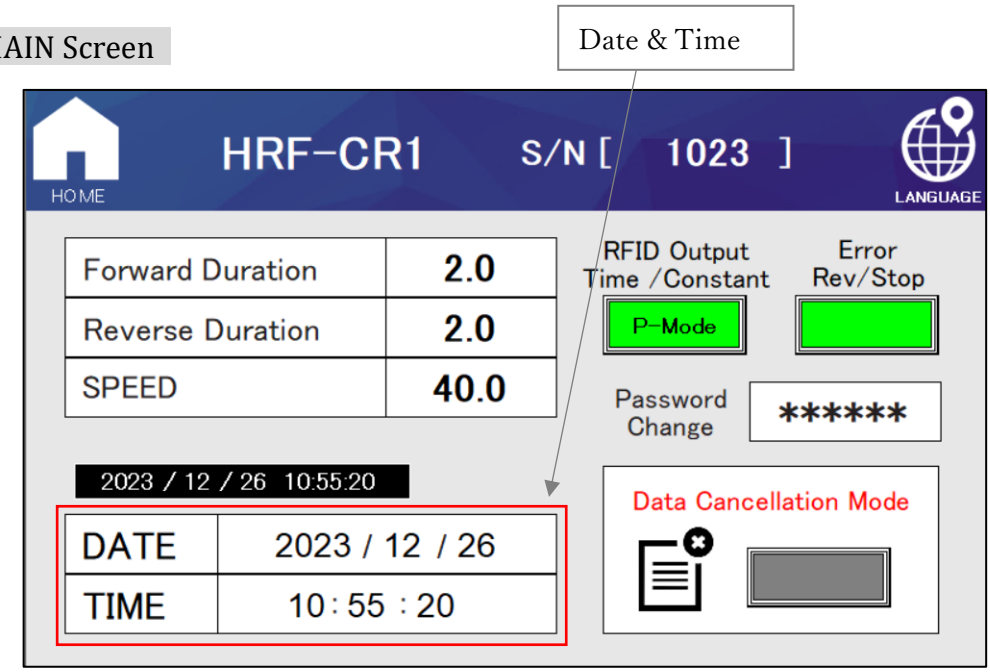
2.At least the year, month, day, hour, and minute should be set to the local time as accurately as possible.

3.If they do not match, touch "SETTING", enter the password, and then change it.



5. Touch the red frame at the bottom of the setting screen.

MAIN Screen



6. Touch a number to display the numeric keypad. Enter the correct number on the numeric keypad and press the ENT key to change it.

7. After all changes are made, touch "Home" to return to the HOME screen.

* The machine will operate normally even if the date and time settings are not made.
There is no time synchronization between this operation panel, PC, and front/rear devices,
so please adjust the time separately.

How to use

1.Turn on the power breaker. The LCD panel will start up and the HOME screen will appear.

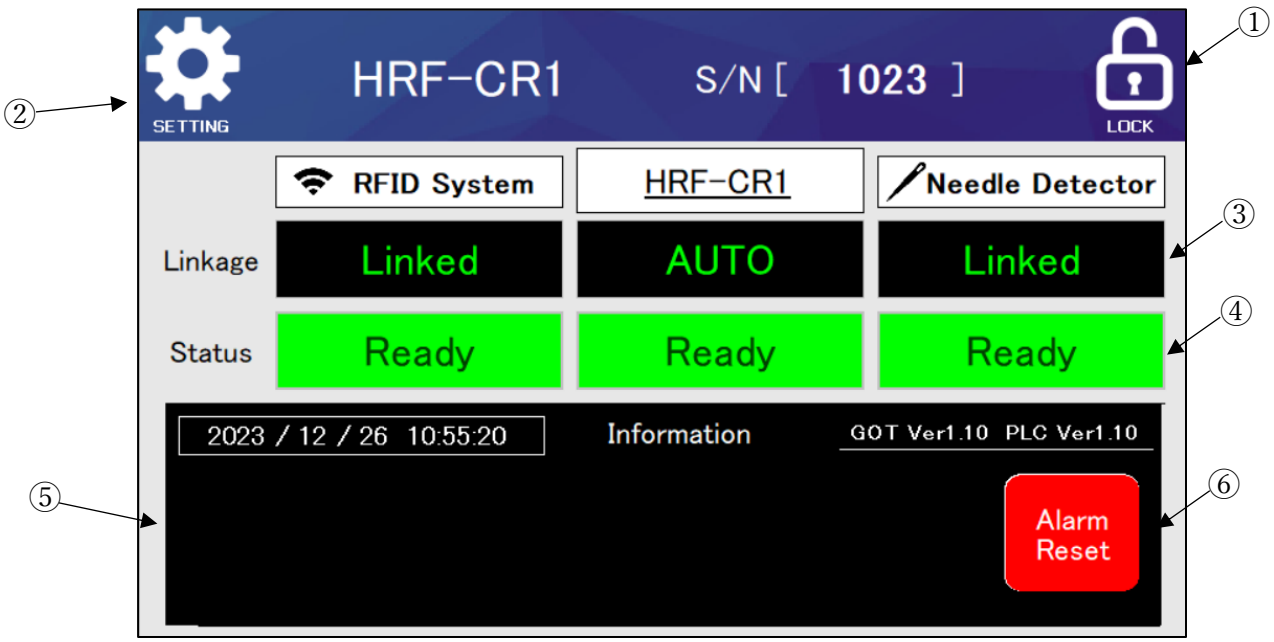
2.To use the RFID function, start the PC and launch the RFID application.

*Refer to the attached "RFID Software User's Manual" for details on RFID functions.

3.If all the linkage settings of the RIFD system and needle detector are set to "Ready", operation can be started by a start signal from the needle detector or startup operation from CR1.

4.If "Not Ready" is displayed on the status display, clear the status by referring to "Message Display.

HOME Screen



① Lock button ・・・ After entering the password, you can enable/disable the needle detector and RFID.

② Set button ・・・ After entering the password, you can move to the setting screen.

The initial value of the password is "0".

③ Linkage display ・・・ Displays the linkage of each unit. See [Details of linkage display] in the separate section.

④ Status display ・・・ Displays the status of each unit. See [Details of status display] in the separate section.

⑤ Message ・・・Displays the contents of errors and interlocks.

⑥ Alarm Reset・・・Resets alarms in the event of an error.

【Details of linkage display】

Display	Display location	Contents
	CR1	Standby for startup (with linkage w/needle detector)
		Startup in progress (with linkage w/ needle detector
		Standby for startup (without linkage w/needle detector) Operation of the device starts when the start button is pressed.
		Startup in progress (without linkage with needle detector) Operation of the device is stopped when the STOP button is pressed.
	RFID Needle Detector	Display when the linkage setting is set to "Enable" (Locked)
		Display when the linkage setting is set to “Disable” (Locked)
		Display when the linkage setting is set to "Enable" (unlocked)
		Display when the linkage setting is set to “Disable” (unlocked)

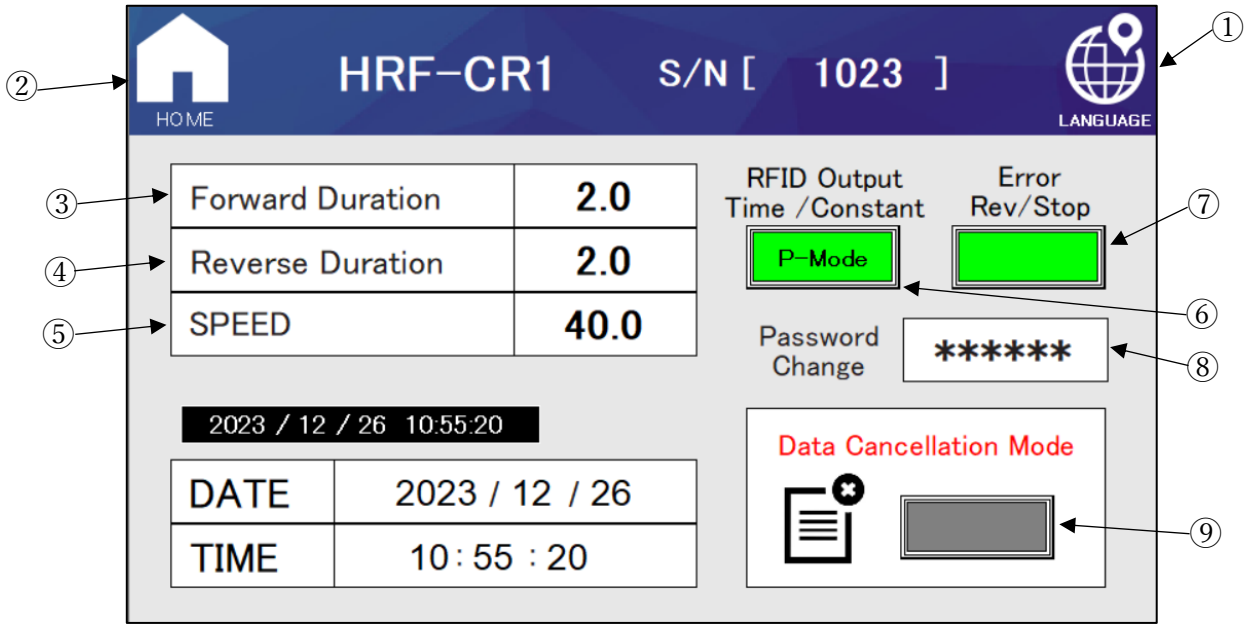
The operation of CR1 changes as follows depending on the linkage setting of RFID and needle detector.

Linkage w/needle detector	Linkage w/RFID system	CR1 operation
Enable	**Enable**	Linked with a needle detector to read RFID.
Enable	**Disable**	Linked only with conveyance of goods, not with reading of RFID
Disable	**Enable**	Not linked with the needle detector, but reads RFIDs of products that pass through.

【Details of status display】

Display	Display location	Contents
Ready	All units	Ready
Not Ready		Not ready （Check errors and interlock）
Error		Error
N/A	RFID Needle Detector	Linkage setting is Disable

MAIN Screen



① Language setting : Switches Japanese, English, and Chinese.
② Home button : Moves to the Home Screen
③ Forward Duration : Sets the FWD operation time after the needle detector stop signal.
④ Reverse Duration: : Sets the reverse operation time when an error occurs.
⑤ Speed : Sets the conveyor speed
⑥ RFID Output Setting : Output can be selected from ”Time” or “Constant”
⑦ Operation at error : You can select whether or not to return products when an error occurs.
⑧ Password change : Change the password.
⑨ RFID Data Cancellation Mode : You can delete the record of “passing”.

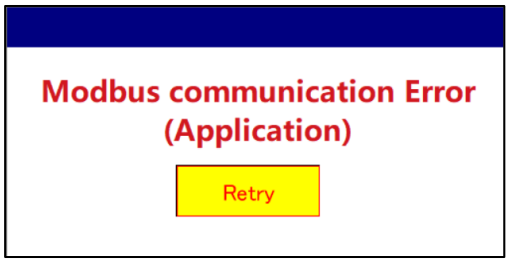
※The RFID data cancellation mode can be executed when the RFID linkage is "enabled" and the RFID system status is "Ready". After execution, the conveyor will start operating, and the product to be canceled will be passed through.

Products that are not in the count history on the RFID application cannot be canceled.

<u>*Please refer to the attached "RFID Software User's Manual" for RFID functions.</u>

List of Error Messages

【Error window】



When the above window occurs, communication with the RFID application has stopped due to a communication error.
Please check the startup of the application and retry to resume communication.

【Error message】
This error occurs during AUTO operation. The device will be stopped if an error occurs.

Err No	Error message	Details	Troubleshooting
01	Modbus communication error occurred during AUTO.	A communication error was detected during AUTO operation.	Check the linkage between the RFID application and the needle detector. Resume operation after the error is cleared.
02	An error has occurred in the RFID system.	An error signal was sent from the application during AUTO operation.	Check the error message on the application and restart after the error is cleared.
03	Photoelectric tube error at startup.	The photoelectric sensor on the conveyor is shielded at the startup.	Remove the obstruction, clear the error, and resume the operation.
04	Communication timeout occurred during AUTO (Needle detector)	Communication timeout occurred during AUTO operation.	Check the connection with the needle detector. Clear the error and resume the operation.
05	Communication timeout occurred during AUTO (Application)	Communication timeout occurred during AUTO operation.	Check the RFID application. Clear the error and resume the operation.

【Interlock message】

While this message is displayed, the corresponding unit is in "Not Ready" status,
AUTO operation cannot be started.

The interlock message will be automatically cancelled when the cause is cleared.

Interlock	Error message	Details	Troubleshooting
01	Error is occurring.	The error has not been cleared.	Remove the cause of the error, and then reset the error using Alarm Reset.
02	The Ready signal on the PLC control side is invalid.	CR1 is not ready for AUTO operation.	
03	The Ready signal of the Needle detector is invalid.	The status of the Needle detector is not ready for AUTO operation.	Check the status of the Needle detector: Is communication with CR1 established? Is the home screen displayed?
04	The RFID Ready signal is disabled.	The RFID application is not in AUTO operation ready status.	Is the RFID application ready to start? Is the main screen displayed?
05	Modbus communication error has occurred.	A communication error has been detected.	Check the linkage between the RFID application and the Needle detector.
06	Communication timeout has occurred (Needle detector)	Communication timeout has occurred.	Please check the connection with the Needle detector and software Ver.
07	Communication timeout has occurred (RFID system)	Communication timeout has occurred.	Check the startup of the RFID application.
08	Error message is displayed on the Needle detector.	Error message is displayed on the operation panel of the Needle detector.	Please close the message from the operation panel of the Needle detector.
09	The setting for interlocking with the Needle detector has not been completed.	The setting for interlocking with the Needle detector is valid, but the completion signal from the Needle detector is not returned.	Please check the connection with the Needle detector and the software Ver.

If the above does not improve the situation, restart the PC or Needle detector.

If you have any questions, please contact your dealer or our company.