

# CEYON RF-ID System



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# CHR1356LR-8HT

## (RFID Reader)



## 1. RF-ID Reader (CHR1356LR-8HT)

### 1.1. CHR1356LR-8HT Specifications

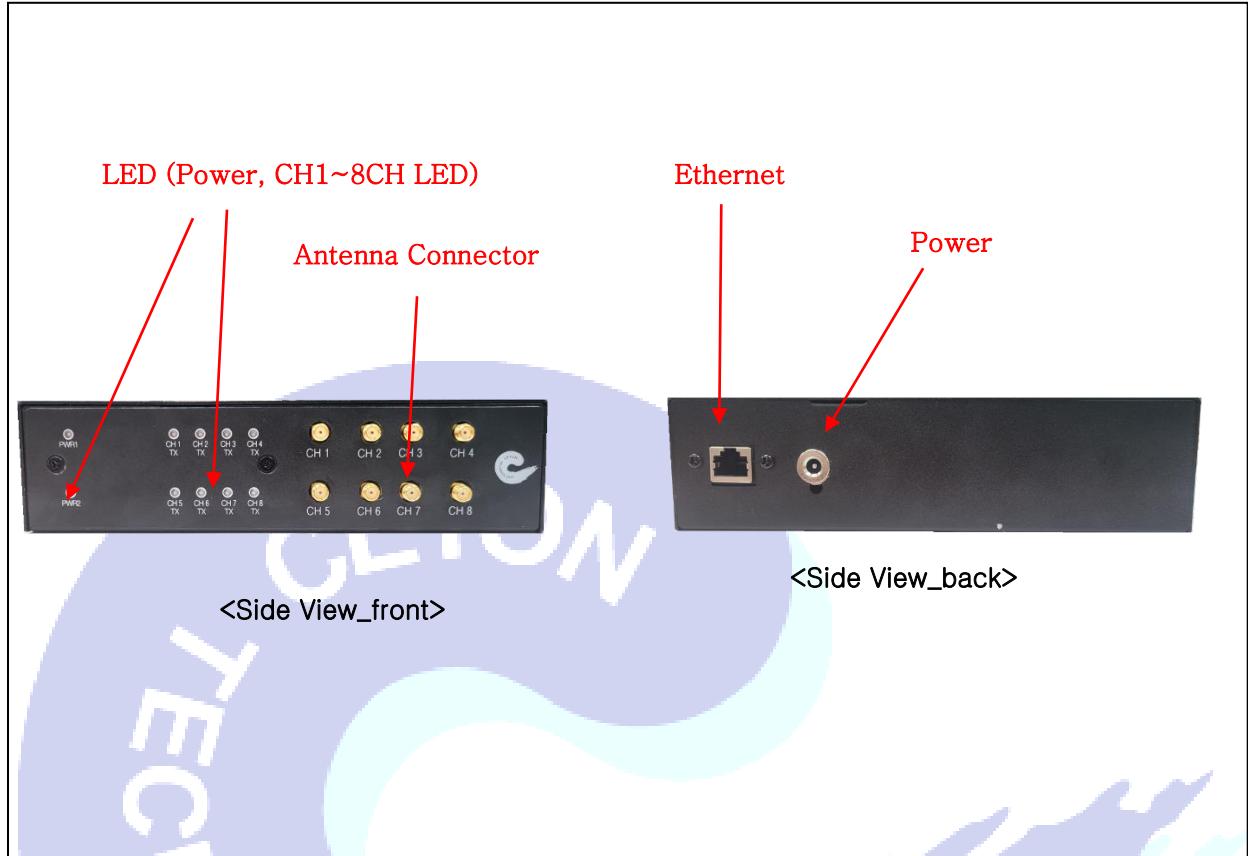
#### (1) Product Specifications

CHR1356LR-8HT	Parameter	Descriptions
	Model Name	CHR1356LR-8HT
	RFID Frequency	13.56MHz
	Operation Protocol	ISO15693
	Antenna & Channel	8 Channel
	Power	DC15V,
	Max Current	1.5A (max.)
	Dimension	120W x 120H x 35D (mm)
	Material	AL
	Host Device I/F	Ethernet
	Ethernet Spec.	10Base-T (MSS=536)
	Tag Reading Byte	4Bytes~112 Bytes
	LED Indicator	PWR,CH1~CH8

#### (2) Environmental Specifications

Items	Descriptions	Remark
Operating Condition	0°C to +50°C	
Operating Humidity Condition	10% ~ 60%	Direct Proportion (Temp & Humidity)
Storage Condition	-20°C to +60°C	
Storage Humidity Condition	10% ~ 60%	Direct Proportion (Temp & Humidity)

### 3) Product appearance



### 1.2. CHR1356LR-8HT Installation notes

- (1) CHR1356LR-8HT reader install as much as closer to host (PC or PLC)
- (2) Motor, high-voltage line, SMPS power supply, etc. may affect to reader distance. Install it where is no radio noise effect as possible.
- (3) Antenna cables must be installed individually
  - Do not bundle with various data cables and various power lines.
  - Also, do not bundle it with the other antenna cables of readers.

### 1.3. RFID Connecting to communication line

- (1) CHR1356LR-8HT reader with the host or LAN hub communication line connecting
- (2) Communication between the host(PC or PLC) and the reader used RS-232C and Ethernet standards. Please check the host interface specifications and refer to the pin diagram of the interface
- (3) The serial communication cable length should be within 5m and the TCP / IP communication cable length should be within 100m

(4) Recommend installing communication cable between host(PC or PLC)and reader cable length is as short as possible

In other words, install the CHR1356LR-8HT reader as close as the host(PC or PLC) as possible.

A. Ethernet [TCP/IP Communication method]

- Please make LAN cable as the standard of [Figure 2].
- Material specification.

☞Cable specification: LS Cable CAT .6E FTP CABLE

☞RJ45 Jack Specification: LS Cable CAT .5E/6 FTP RJ45

☞ LAN Tool Specification: LS cable LS-CT-SL1, Connecting work using RJ45 LAN Tool  
(When making LAN cable, becareful of do not to have any problem in deviceand communication. Make sure to cable length within 100m)

- Pin diagram

[XS-FTP CABLEconnect to ground]

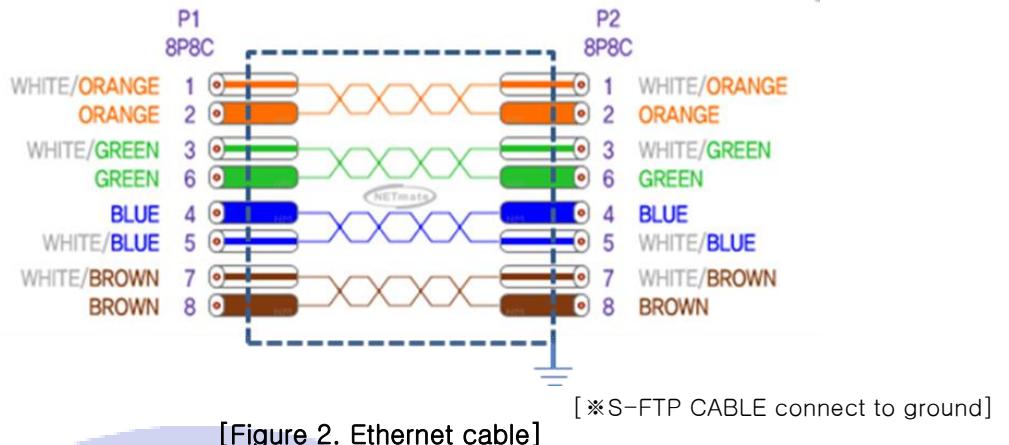
Pin number	Signal abbreviation	RJ45 Jack
1	TX+	
2	TX-	
3	RX+	
4 ~5	None	
6	RX-	
7 ~ 8	None	



< S-FTP Cable>



<FTP cable plug>



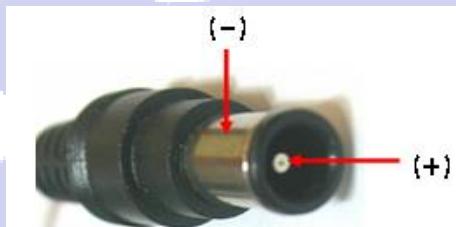
[Figure 2. Ethernet cable]

## 1.4. Power connection

- (1) If you are using an adapter, insert the adapter into the DC power jack on the side of the CHR1356LR-8HT.
- (2) When using the power supply from equipment, insert the power supply line from equipment into the terminal block in CHR1356LR-8HT
- (3) If the power is turned on normally, the POWER LED will be turn on.
- (4) If there is no change in the power lamp after turning on the power, there is a problem in the power supply and equipment. If this happens, you should proceedcheck as below,

### A. For adapter (DC15V)

- In case of abnormal operation, please check AC power and adapter
- Check if AC Power is okay then input adapter power is about DC15V



&lt;Check adapter power polarity&gt;

## 1.5. Connecting the reader to the antenna

- (1) Please install The CHR1356LR-8HT reader between host(PC or PLC) cable is as short as possible. Use an antenna coaxial cable to match the distance between the reader and the antenna
- (2) Incorrect connection of the antenna cable affects the tag reading performance of the reader.
- (3) Install the direction of antenna is same direction of the tag will be better reading performance

\* Caution:

- (1) Antenna cables must be installed individually  
Do not bundle it with the antenna cables of other readers.
- (2) If the antenna cable is laid with another cable or power line, there may be a problem with the reading performance about tag.
- (3) When the reader and antenna cable are not correctly connected, there may be a problem in the reader reading performance about tag.
- (4) Please make the antenna cable as following figure.  
Ex).



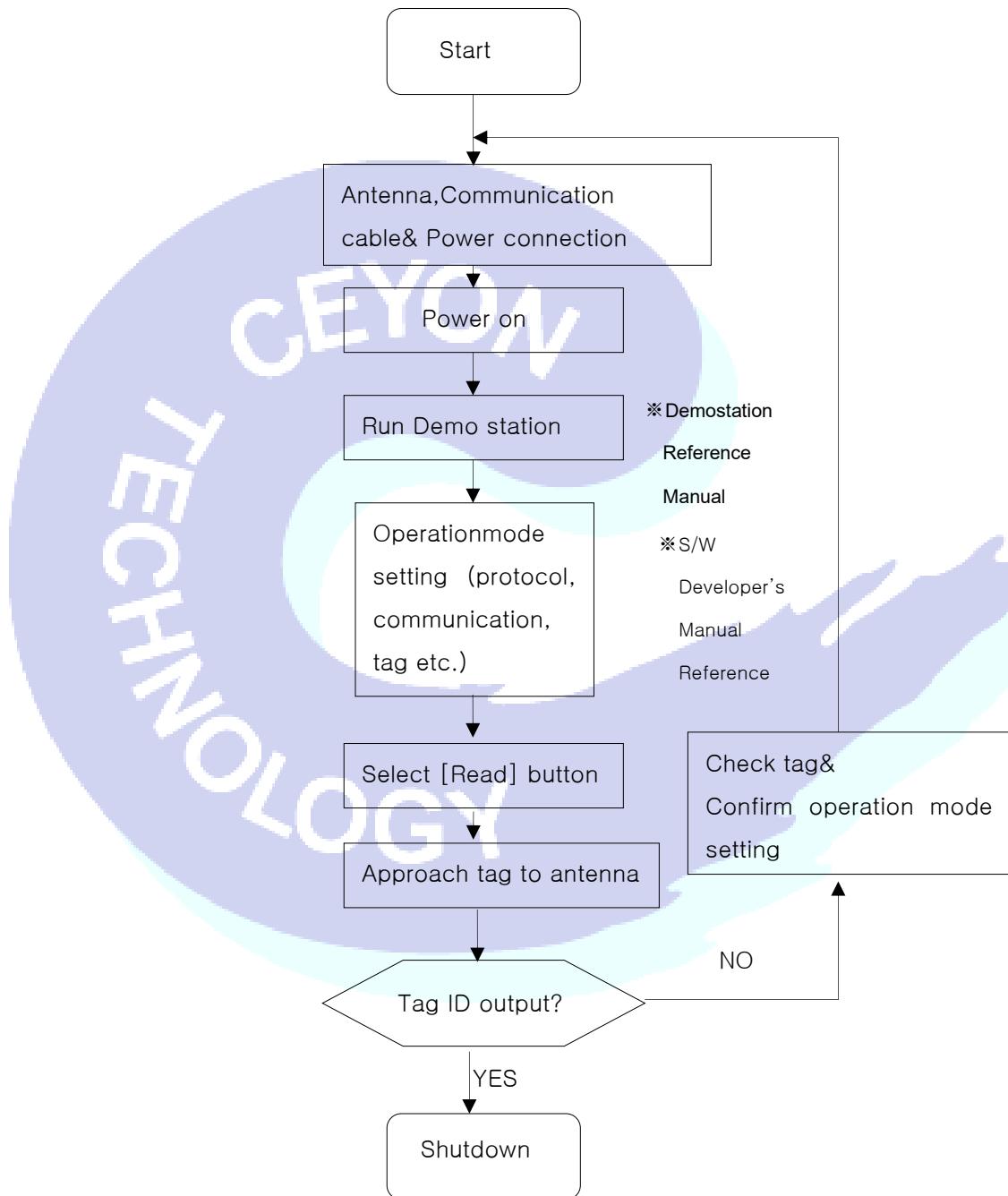
<Incorrect line cleaning>



<Correct line cleaning>

## 1.6. Operation Flow Chart

The tag read test shows the basic sequence for reading RFID tags using this equipment.  
For details, Please refer to the relevant documents such as the text and software manuals.



[ Figure4. Basic Operation Flow Chart ]

## 1.7. Problems and Solutions

Introduce to solution of every problem & issue.

### (1) Power-related problems

The following power-related problems can occur.

**Q1.** The power connector is plugged in but the system does not work.

**A1.** If you encounter this problem, check the following.

- A) Check for power adapter: If the DC power plug is loose then bad contact issue
- B) Check for facility power: Make sure that the DC power (+) and (-) polarities are properly connected.
- C) Check that the power supply's output is working properly. (DC 12V)
- D) Try to remove the power cable and reconnecting it after about 10 seconds, Restarting the CHR1356LR-8HT.

### (2) Problems with network access

The following connection problems may occur

**Q1.** No connection with RS-232.

**A1.** If you have experience as above problems, please check the following

- A) Make sure that the serial cable between the host and the CHR1356LR-8HT connector is not loose.
- B) Make sure that communication settings (COM port number, Baud rate, etc.) are correct.
- C) Check that you have used the proper cable. See Connecting to a Communication cable.
- D) Check the individual operation status of the host and CHR1356LR-8HT.

**Q2.** No Ethernet connection.

**A1.** If you have experience any above problems, please check the following

- A) Make sure the LAN cable is not loose.
- B) Make sure the network setting (IP address, Port number, etc.) are correct.
- C) Check that the proper cable is used. See Connecting to a Communication cable.
- D) Check the individual operation status of the host and CHR1356LR-8HT.

### (3) Problems about operation

**Q1.** Basic operation can't be performed.

**A1.** If you have experience any above problems, please check the following

- A) Check that the communication cable connection of the device is properly connected.
- B) Make sure that the power supply is working properly.

**Q2.** Communication and power line connection is completed, but reading tag does not work.

**A1.** Check the tag

- A) Please check whether it is normal tag of ISO15693 standard.
- B) Please try another tag with same standard.

**A2.** Check the antennas.

- A) Make sure that the antenna port connections are not loose. If the antenna is not connected or connection is not made properly, the internal diagnostic function does not work output of RF to the antenna.
- B) Make sure the selected antenna port is enabled.

**A3.** Check the communication issues.

- A) Check that the connection to the communication cable of the device is properly connected.

**Q3.** Tag reading speed is slow or unstable.

**A1.** Check the surrounding environment.

- A) Make sure that the antenna cables are laid out with various data cables and power cables. Also, verify that the leader's data cable is bundled together with another cable from the installation and a cable tie. The antenna cable and the reader's data cable laying way will affect the tag reading performance.

※ Please refer to the notes in [RFID communication connection] and [Reader and antenna connection]

- B) Make sure not you bundle it with other reader's antenna cables.

If the antenna cable is laid with other reader's antenna cable, radio interference may cause unstable reader reading performance.

- C) Check for metal objects between the tag and the antenna. The metal objects can interfere with the electromagnetic signal and may result in unrecognized or low performance.

**A2.**Check the tag performance

- A) Compare other tags to see tag performance differences.

**A3.**Check the antenna

- A) Ensure that the distance between the antenna and the tag is not too far.
- B) Ensure that the antenna cable is not loosely fastened to the connector on the reader.
- C) Connect the other antenna to check the tag recognition.

**A4.** Check the installation status of the CHR1356LR-8HT and the antenna cable or data installation.

- A) Make sure that the communication cable (S-FTP LAN CABLE) grounded is properly connected.

Please refer to [RFID communication cable connection]

**Q4.** If the tag is recognitionis not recognized and recognized without any action. It occurs while unspecified point.**A1.**Check if it is caused by a TCP / IP address conflict

- A) Ensure that the same TCP / IP address is assigned to the 2 point.

If the above problem does not solve by solution, immediately disconnect the power cable from the power input port and contact SEYEON TECHNOLOGY Co., Ltd. (82-2-3418-3030)

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 20 centimeters between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

a. Rule Part 15.19(a)(3): 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.

b. Rule Part 15.21: The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible 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

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