

iMAN+ Manual

* There is a possibility of radio wave interference during the operation of corresponding radio equipment.

Revision 1.3
06. 19, 2023

Updated By: **SH. Lee**

Approval Signatures:	<input type="checkbox"/> Name (Job Position)	<input type="checkbox"/> Name (Job Position)	<input type="checkbox"/> Name (Job Position)
	Date:	Date:	Date:

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Revision History:

Rev	Date/Initials	Location	Description of Change
1.0	2020. 02. 20./ SH. Lee	All	- Initially Released
1.3	2023. 06. 19./ SH. Lee	Product Specification	- Add Content Environment and safety

1. Product Introduction

As a kind of TP, manual operation and monitoring of VHL can be done at once at site using IR, 2.4G RF or 5G RF radio communication. In order to use this function, wireless sensor of our company for VHL will be required.

2. Characteristics of the Product

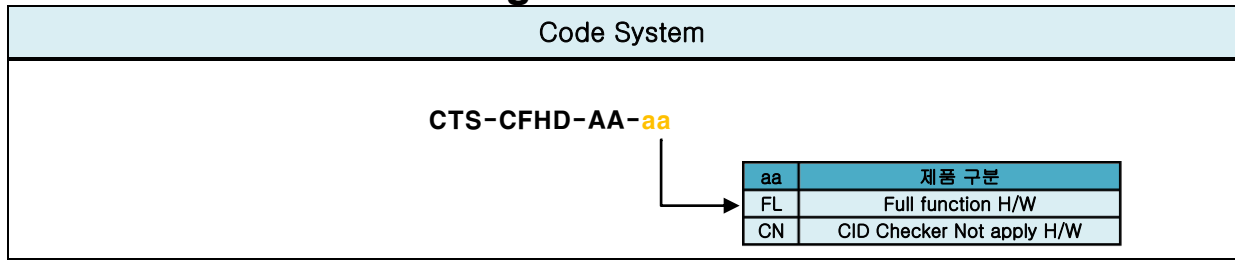
- **Compact design with easy to use and carry of recharging battery**
- **28x64 pixel of Graphic LCD is used.**
- **Capital and small letters of English, various symbols and fonts, user's images and fonts are available.**
- **21x8 size characters are available when using the standard fonts.**
- **Instantly useable E-STOP function for not linked VHLs.**
- **Both RF 2.4G and 5G can be used.**
- **Battery level indicated.**
- **Serial download function of firmware or management program update through RS-232 management port**
- **This is a product that can be used with the wireless sensors for VHL of our company.**

3. Product Code Configuration

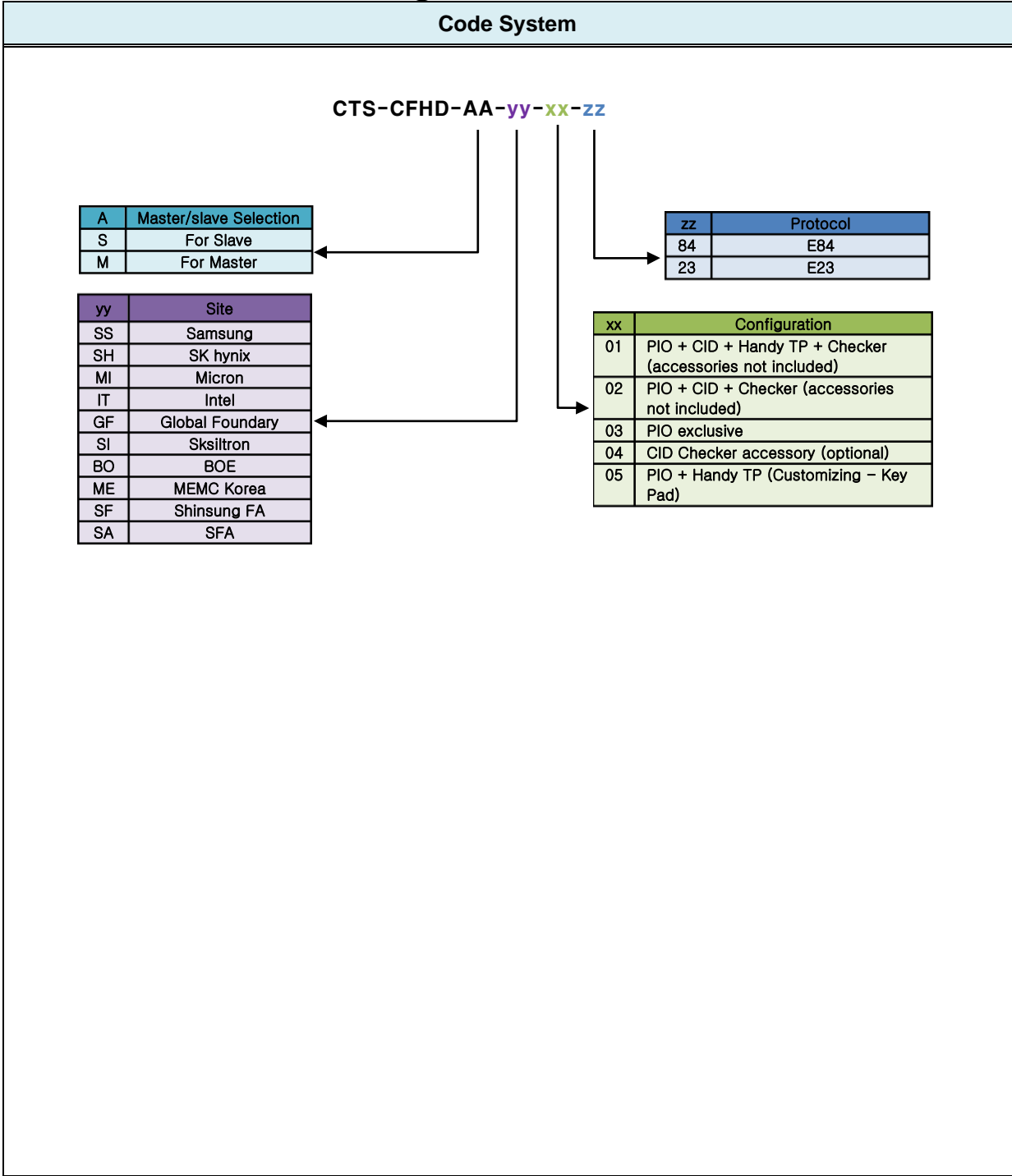
Code System

CTS-CFHD-AA-aa

aa	제품 구분
FL	Full function H/W
CN	CID Checker Not apply H/W



4. Product Code Configuration



Full connected



iMAN+



Adapter for Recharger



Serial Cable

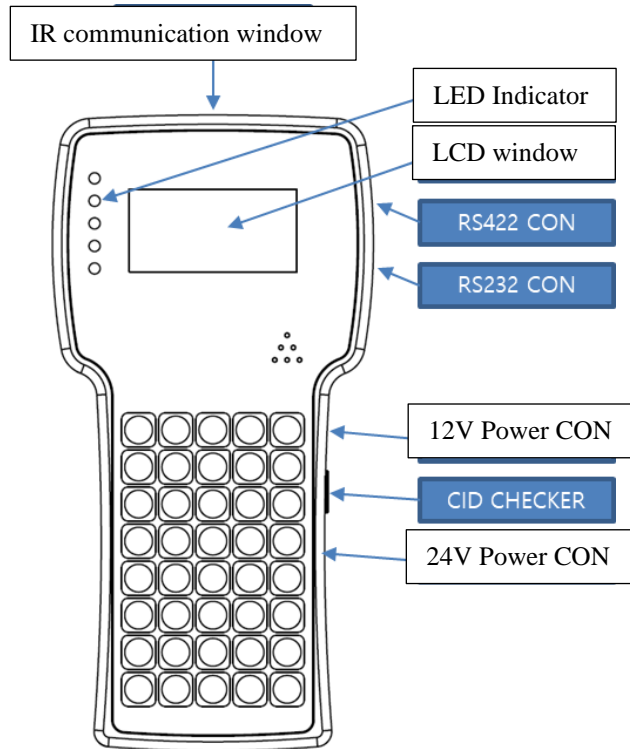


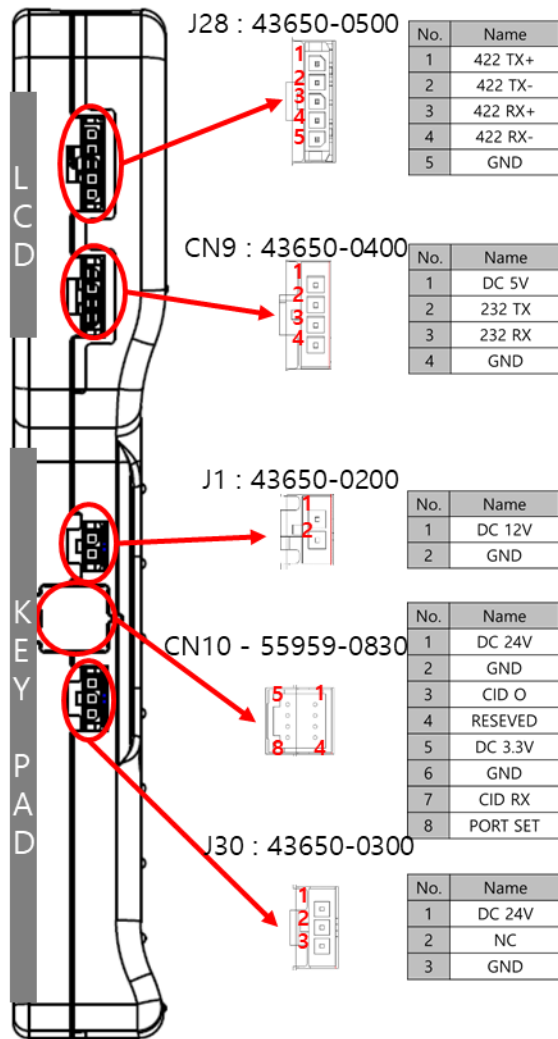
5. Product Specification

Classification	Details	Contents
Communication Specification	Communication method	IR, RF, RS-422
	IR Communication Specification	PM modulation, Approx. 10KHz of frequency band, Communication distance is less than 5m
	RF Communication Specification	Inner Antenna 2.4GHz, 5.8GHz, Communication within 5m available.
	RS-232 Specification Speed	Standard 115,200 bps
Display	Resolution	128 x 64 [pixel]
	Pixel Size	0.41 x 041 [mm]
	Pixel Arrangement Area Size	55.02 x 27.5 [mm]
	LCD mode	FSTN Positive, Mono
	Polarizer mode	Transflective
Key-pad	Type	Polydome switch
	Number of Keys	8 x 5 = 40 keys
Additional Functions	E-STOP	Emergency stop signal can be transferred using IR
	Buzzer	Various alarm can be indicated
	Indicator LED	Low Battery, Power On, RF LINK, Functions, etc. can be indicated
	Logging	Log storage memory is bigger than 64KB
	Battery Level Indicator	Indicated with 4 levels
	CID Checker	Normal operation can be verified by connecting with CID sensor
	+24V Output power	For CID-R power supply (24V/200mA) ※ iMAN operation time will be reduced if it is used for extended time
Environment and safety	Storage & Operation environment	Temperature : 0 ~ 40°C Humidity : 35~85% (however, no condensation is allowed)
Power	+12V Input Rating	Exclusive adaptor is used, DC 12V 2.0A
	Built-in type battery	Li-ion 2cell (DC 7.2V, 3350mAh)

Size (W×H×D)	104 × 206 × 30 mm
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6. Appearance of the Product






7. Input/Output Connector Pin Specification

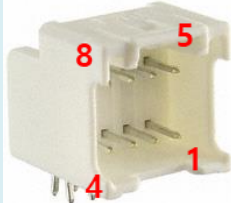
- **Serial (43650-0500) :** RS-422 communication is supported using RS-222 driver IC, and the arrangement of the connectors to connect with the external devices and also, the arrangement of used connectors and pins would be as follows.

			
NO	Signal Name	I/O	Function
1	TX+	Out	Serial output pin
2	TX-	Out	Serial output pin
3	RX+	In	Serial input pin
4	RX-	In	Serial input pin
5	GND	GND	Ground

- **Power (43650-0200) :** Arrangement of connectors to connect with the exclusive adaptor, used connectors and pins would be as follows.

			
NO	Signal Name	I/O	Function
1	+12V	+12V	+12V power pin
2	GND	GND	Ground

CID Checker (55959-0830) : This is a connector to connect with the external device to check if it operates correctly by supplying the power to CID-R. Arrangement of used connectors and pins would be as follows.

			
NO	Signal Name	I/O	Function
1	GND	GND	Ground
2	RxD	In	Serial input pin
3	TxD	Out	Serial output pin
4	VCC	VCC	+5V power pin

- **Power (43650-0300) : This is a connector to supply 24V of power to external device. Arrangement of used connectors and pins would be as follows.**

NO	Signal Name	I/O	Function
1	+24V	+24V	+24V power pin
2	NC	NC	Will not be used.
3	GND	GND	Ground

8. FCC Statement

FCC Part 15.19

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.

FCC Part 15.21

Any changes or modifications (including the antennas) to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC RF Radiation Exposure Statement:

This equipment complies with FCC RF Radiation exposure limits set forth for an uncontrolled environment.

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

***) Specification of this product is subject to be changed without notice to improve the performance of the product.**