

IR PIO

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CanTops



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1. IR-PIO Intro (1)

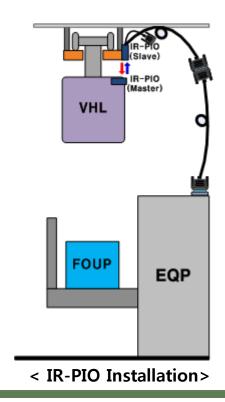
1) System Specification

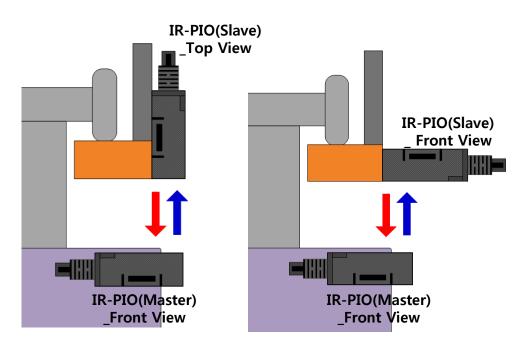
• EQ PIO: E84 Communication Device

• PMAN (PIO Manager): PIO Multi Function Hand Terminal

• WinPMAN : PIO Communication Analysis Program

Emulator : E84 PIO Sequence Tester (Manual / Auto)





< IR-PIO Communication Direction >

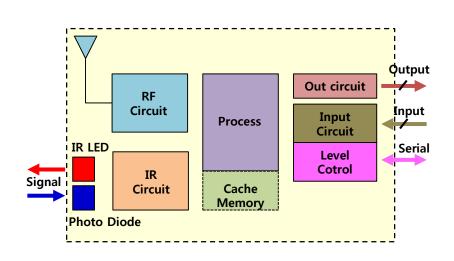




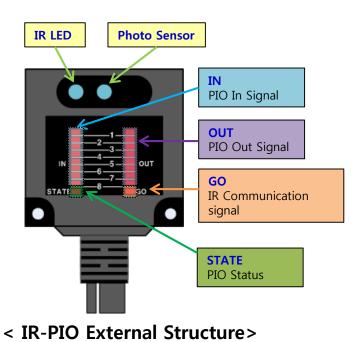
1. IR-PIO Intro (2)

2) PIO Internal Structure

- IR Transmitter/Receiver Circuit: Compatible with existing product.
- RF Transmitter/Receiver Circuit: 2.4GHz WIFI, Data, F/W transmitter-receiver.
- Cache Memory: Save Approximately 130~190 communication line.
- Process: Control PIO, Save Communication Wave in process memory
- Serial : Set up PIO & Data Transmitter/Receiver channel.
- Display LED : GO LED, Status LED



< IR-PIO Internal Structure>







1. IR-PIO (3)

3) Product Feature

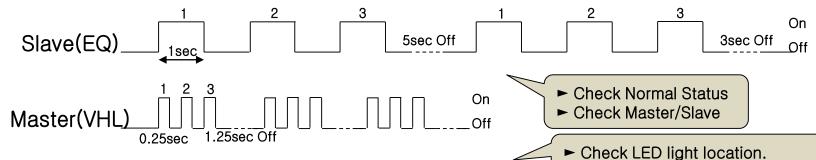
- It works stable in the environment of high frequency noise from fluorescent lamp
- It has superior tolerability about electromagnetic waves.
- It has safety verification. (Tested in variety of environment)
- 2.4GHz wireless communication: It can upload/download data without high place work.
- Provide E84 communication error analysis.
 - ❖ We have experience of e84 communication analysis by installing RF PIO for many years
 - Support Easy Analysis program and Log Data
 - Support Saving 190 Line Log data with sufficient memory
 - Easy to check signal timing error and provide noise analysis
 (F/W Download : Function/Performance improvement (Wireless or RS-232)
- Real time saving data of Communication : RS-232C
- High performance control signal by rapid CPU and sufficient memory
- Sub Device : PMAN, E84 Emulator, WinPMAN
- Caution Installation
 - Align PIO sensors, VHL and tools
 - Check the surrounding noise from fluorescent lamp
 - ❖ Do not allow any metals near RF antenna



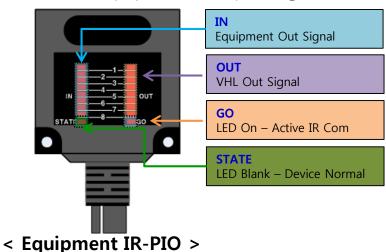


2. IR-PIO Function(1)

1) Status of Turn On: State LED



- 2) IR-PIO Communication Status (Equipment PIO)
 - GO LED: Start E84 PIO between VHL and Equipment E84
 - OUT LED: VHL Output Signal
 - IN LED : Equipment Output Signal





► Check normal photo sensor on/off

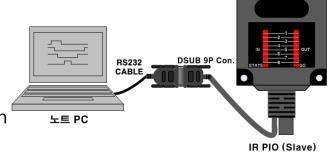


2. IR-PIO Function(2)

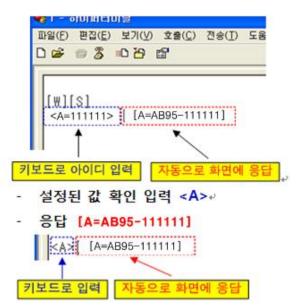
- 3) PIO Main Function Set up (Serial Command)
 - Set up Port : RS-232 Port
 - Serial default Value
 - ❖ 8bit, No Parity, Baud rate 57600, Stop bit 1
 - Function : Wireless com ID set up, Time set up, Version
 - 4) Serial Command
 - Data Format

Func	Command (PC)	Check Value	Response (PIO)
ID	<a=123456></a=123456>	<a>	[A=AB95-123456]
Channel	<c=16></c=16>	<c></c>	[C=16]
Time	<t=14 09="" 29<br="">09:23:20></t=14>	<t></t>	[T=14/09/29 09:23:20]
F/W Version	-	<v></v>	[2.31]
Debuggi ng	<d=0></d=0>	<d></d>	[D=0]
	<d=1></d=1>	<d></d>	[D=1]

Use hyper terminal to transfer a command.



< PIO Hardware>



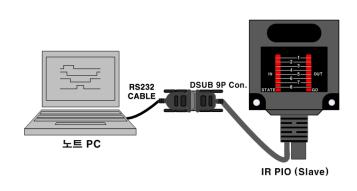
< Example ID set up>



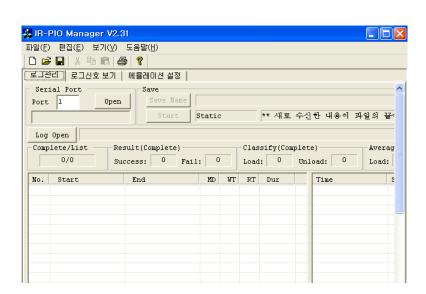


2. IR-PIO Function(3)

- 5) Down load Communication Data
 - Connect PIO Sensor to PC by RS232C.
 - Time Compensation Function : Auto Time Compensation from PMAN.
 - Down load Data from IR-WinPMAN program
 - IO Status Checking (Power & Com Status)
 - Check real time data between VHL to equipment by Saved data from Equipment PIO.
 - Analyze Communication Error by Noise or Others.





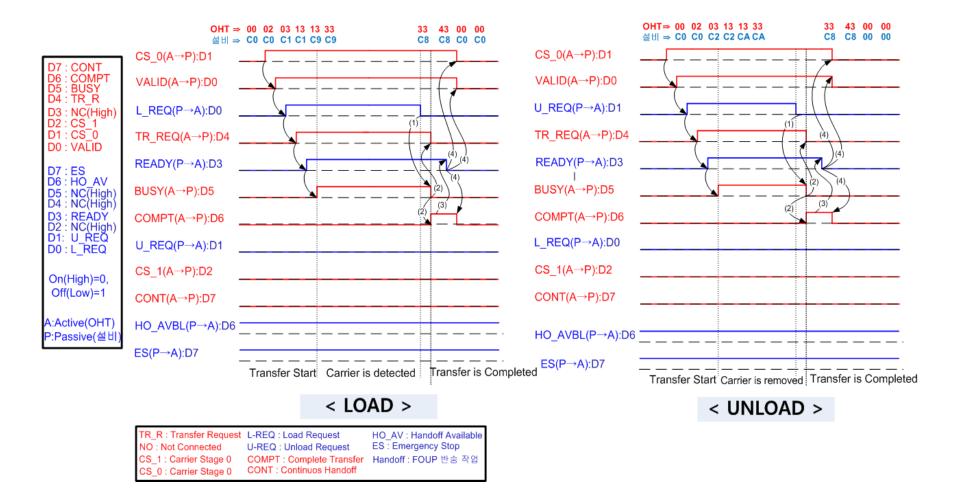


< Data Analysis Program >





3. IR-PIO E84 Sequence Chart



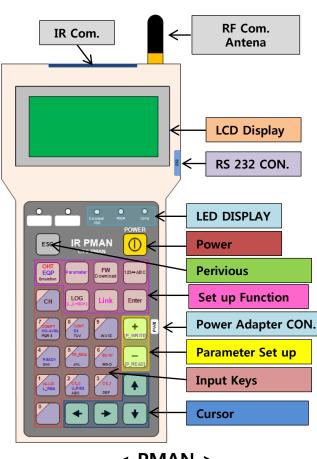




4. IR-PMAN

1) Feature & Function

- PIO Status checking by Wireless Communication
- Control E84 Communication by IR & RF.
 - Easy to control PIO signal in Long distance.
 - Save time to check PIO signal.
- Download PIO log from Device.
 - Download transfer communication data by wireless
- F/W Download
 - Easy to update Firmware without hardware exchanging
- Set up Parameter
 - PIO F/W Version, RTC set up, Monitoring,.. Etc.
- OHT/EQP Emulator
 - Auto/Manual SEMI-E84 EMULATION
 - E84 Signal Timing Set up for EMULATION



< PMAN >

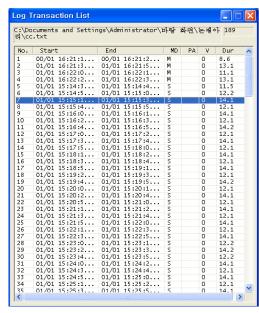




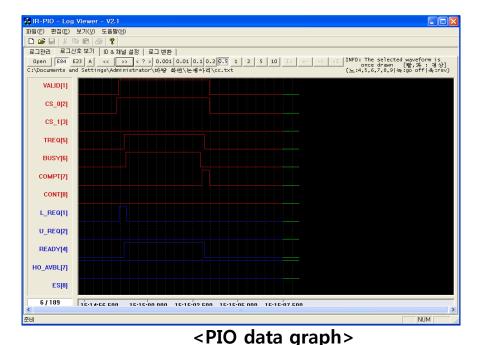
5. WinPMAN

1) Data Analysis Program

- Viewer Program (WinPMAN) Check E84 Signal Sequence.
 - Statistical Analysis : Min/Max Time, Avg. Time, Sorting, etc.
 - ❖ Error table : Sorts out Timing error and IR error
 - Analyze external light and noise in addition to active signal (Noise signals with yellow)
- PIO data log: Save up to 190 FOUP handling data
- PIO data graph : Display PIO sequences



<PIO data log>



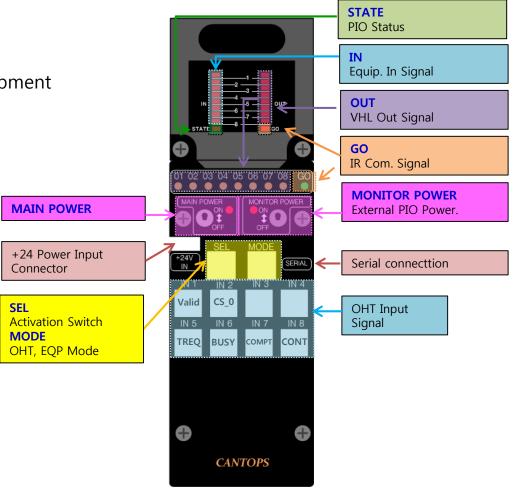
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6. Emulator

1) PIO Signal Generator

Virtual simulation without VHL or equipment following the regulations of SEMI-E84



< PIO SIGNAL GENERATOR >

