

MXK250W

System_설치 메뉴얼



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1. General Specification

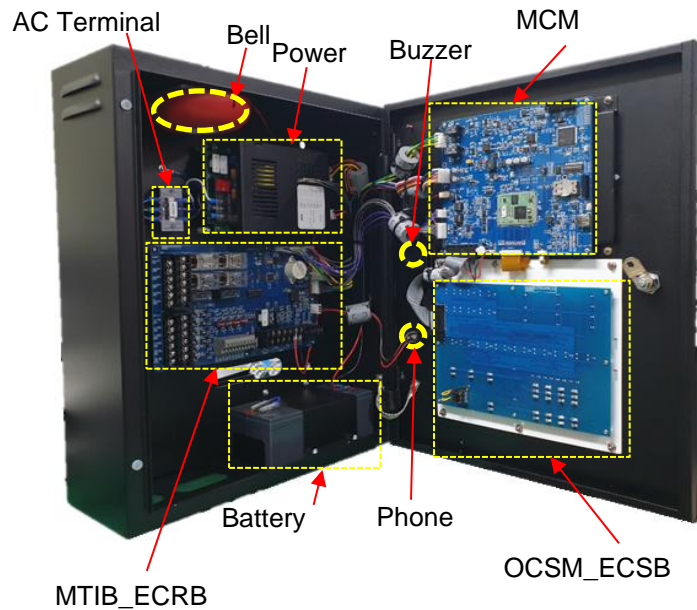
Item	Sub-Item	Description
Main Power	A.C Input	AC 220V/50~60Hz
	D.C Output	27V/3.5A, 5V/2A
Battery	Capacity	24V / 4A
Display	Type	10.1inch TFT LCD
	Resolution	1024 x 600
Touch Screen	Type	10.1inch Resistive Touch
Housing	Size	400W*500H*160D
	Materials	SPCC(1.2t)
Loop capacity	Panel network	N/A Only 1 panel
	Transponder	N/A Only embedded Loop card
	Loop & Address	1 Loop, 250 Addresses
	Circuit(2/2 IO)	500 In / 500 Out
	Circuit(4/4 IO)	1000 In / 1000 Out
KEY	System Key	5 Keys
	Equipment Key	8 Keys
	Pump Control Key	4 Keys
LED	System LED	15 LEDs
	Equipment LED	8 LEDs
	Pump LED	4 LEDs
Communication	RS485	Emergency broadcasting
	USB	Map down/upload, Firmware Upgrade
Phone/Call Point	Connecting method	MTIB phone call point terminal
Configuration Tool	U-Consys	MXK250W Consys

2. Product Composition

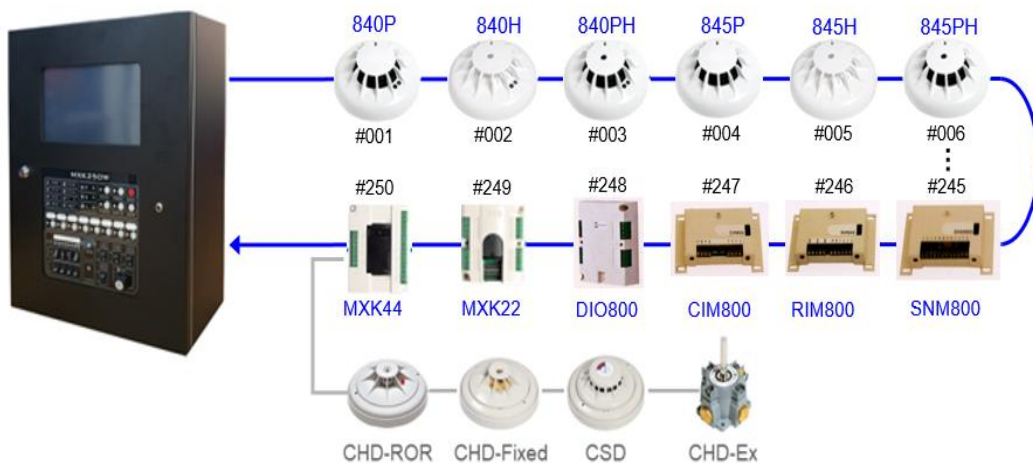
MXK250W System is a standalone panel without additional accessories.

* The phone is optional.

✓ **Inside**



✓ **Network**



3. Installation

MXK250W System is delivered to a site after finishing all the basic tests. The system can be used after configuring CPS functions and customizing keys and In/Output map. All the configuration process involves discussion between the customer and JCI's technical team to determine the optimal settings for the site.

✓ Placement

Panels are protected by packing boxes and protective vinyl.

Remove the packaging of the product after moving the panel to a place where you want to install the system (a fire control room, a security room, other control rooms, etc.).

The environment in which the panel is installed shall be maintained at temperature of 0°C to 40 °C and humidity of 85 % or less.

If there is serious indoor contamination with dust, etc. due to a construction, keep the product without removing the packaging. Then, clean the contamination by air ventilation, and remove the packaging of the product before using it.

There are no restrictions on the location of the panel installation in the management room, so choose a location that is convenient for the administrator to manage the panel. However, you should choose a suitable place where wire connection is easy because the panel must be connected to transponders and I/O modules through external wires.

✓ Power Supply

Caution before Power Supply

Do a visual inspection of the product before the power is supplied.

Long-term shipping and the consequent vibration may cause the assembly to become loose.

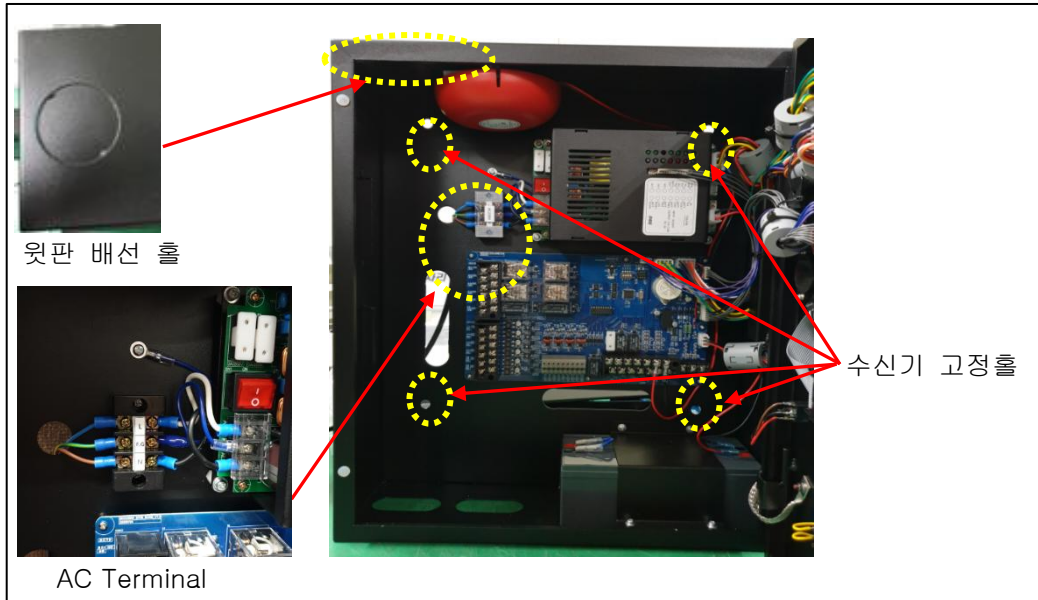
Applying power to an abnormal assembly causes physical damage to the product. Before turning on the product, do a visual inspection for connectors or connections to check that they are OK, and then apply AC power.

If visual inspection shows that the connectors are missing or abnormal, check the AC connection and please call the A/S center.

Connecting Power Lines

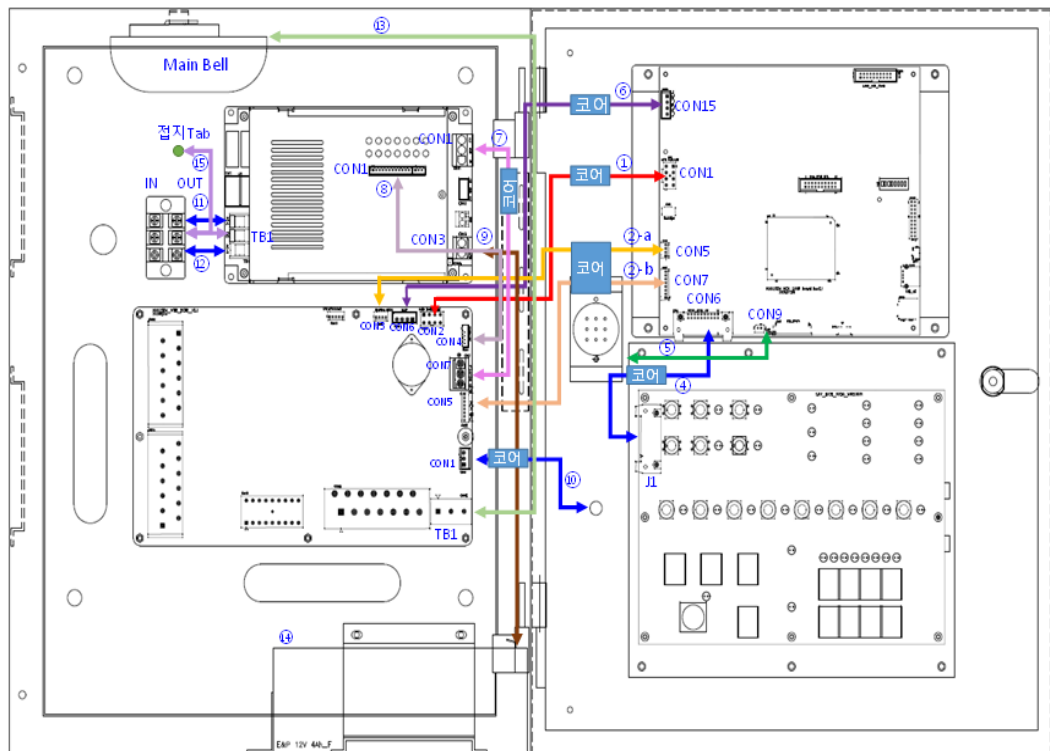
When connecting the power line to the panel, work with the power supply cut off.

Working unblocked can lead to the risk of life loss. It can also cause product failure. The AC power line at the site is connected to the AC terminal through the routing path below the panel enclosure.



Inside wirings

- Inside wirings



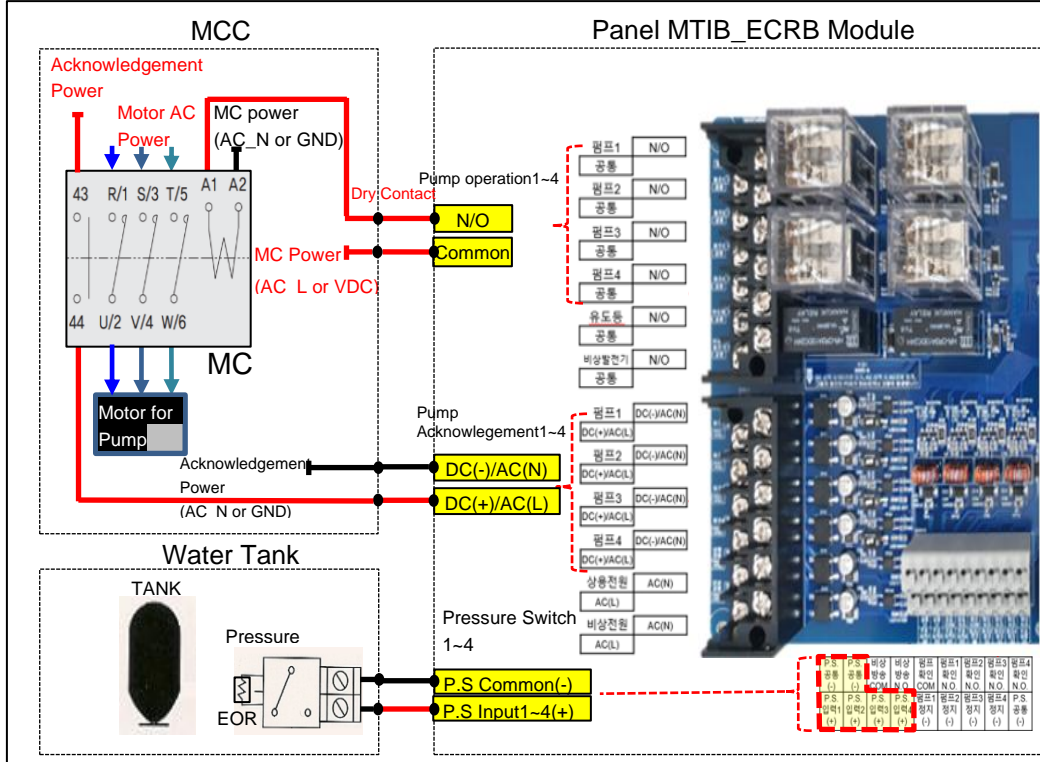
- **Inside wiring cable list**

Number	Part No.	Function
1	E511-5030	27V, 5V power, AC,BATT Fault
2-a	E511-5031	Connects ECRB/ Emergency Broadcasting RS485
2-b		Connects Phone/Call-point/ Fire signal
4	E511-5032	Connects data of OCSM_EC SB keys and LED
5	E511-5033	Connects main bell's signal
6	E511-5034	Connects loop communication signal
7	E511-5035	Connects 27V/ 5V
8	E511-5036	Connects status signal of PSU150 AC / Battery
9	E511-5037	Connects battery power
10	E511-5038	Connects phone signal of the panel
11	E511-4371	Connects AC220V-L power
12	E511-4371	Connects AC220V-N power
13	E511-5039	Connects output signal of main alarm
14	E511-4123	Connects battery power
15	E511-5040	Connects ground

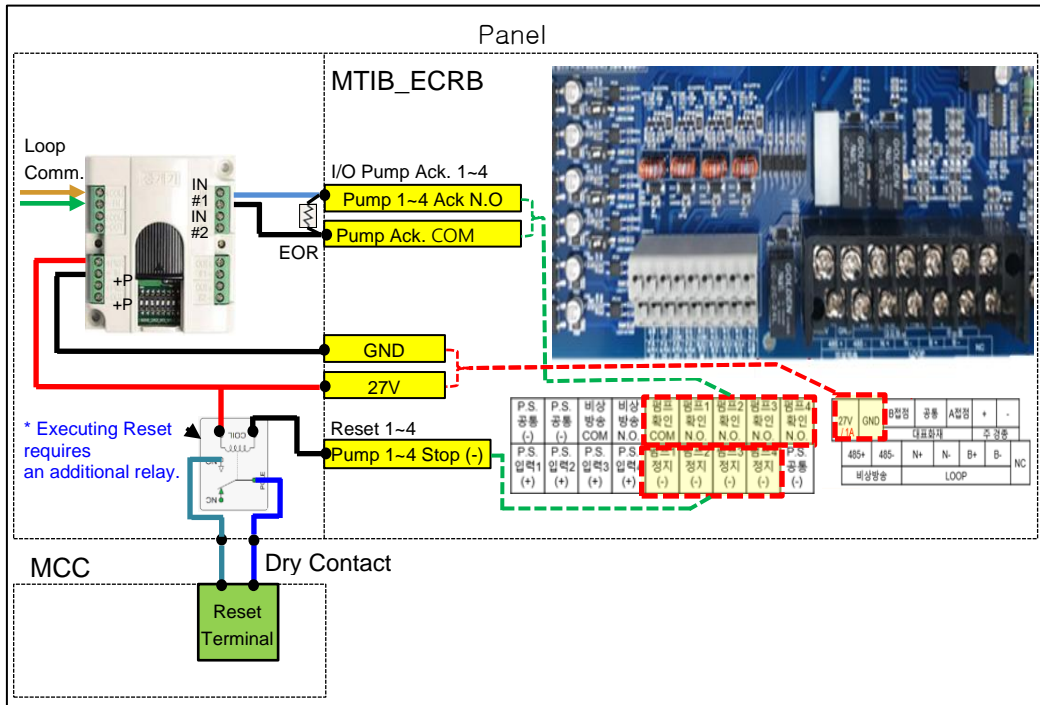
External wirings

- Connecting pump operation, pump acknowledgement, **PS application**

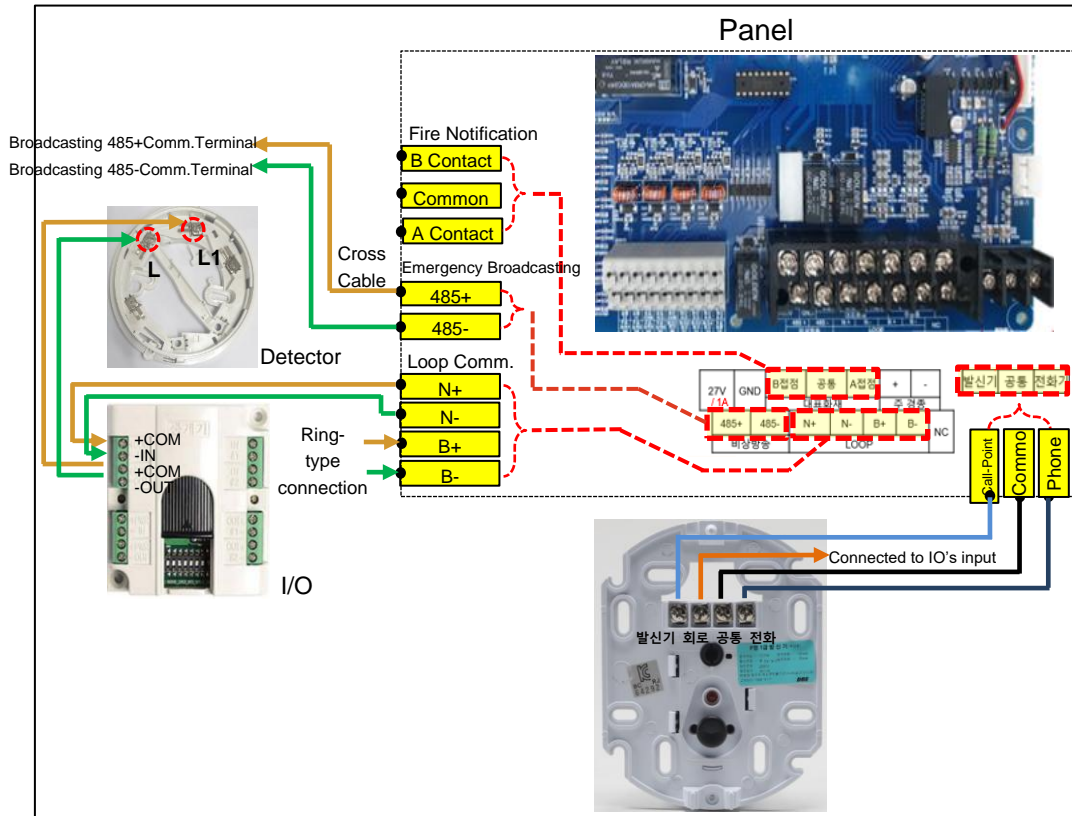
Ensure that on – site wiring is performed cautiously to avoid short circuits. Refer to the following image for proper guidance.



- Connecting I/O pump acknowledgement, and pump stop (Reset)



- **Connecting Loop communication, Emergency Broadcasting, Representative fire, and Call-points**



Panel Status Check

Ensure the AC power line and external wirings are all connected. Turn on the main power switch on the panel and check its status.

Verify the followings:

- The AC power LED on the front panel is illuminated as expected.
- The CPU RUN LED is flashing normally.
- The panel screen is booting properly.

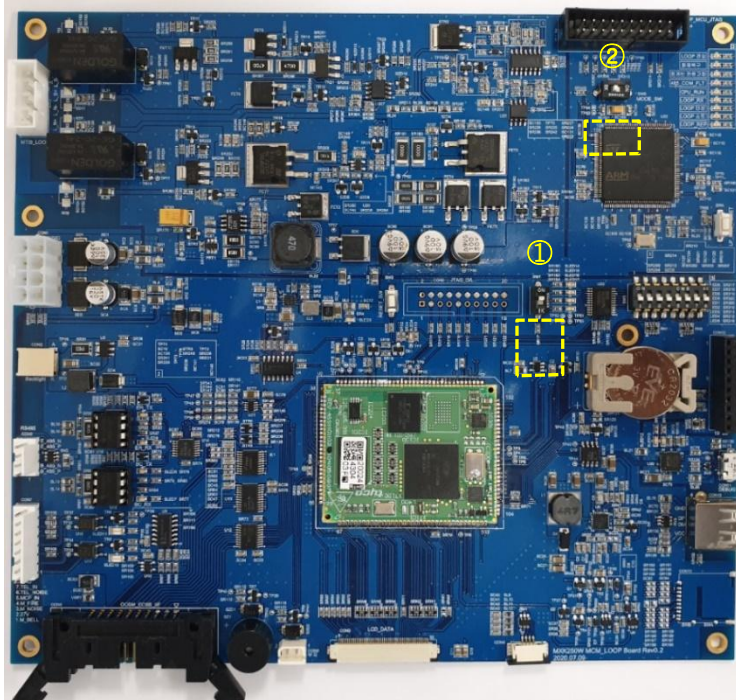
Under normal circumstances, the screen should display the default image used during product shipment.

Note that during manufacturing, an Input/Output map is used for testing purposes. If the on-site I/Os or detectors are disconnected, the panel may display multiple error messages.

✓ Panel Settings

DIP Switches

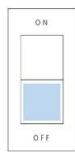
Ensure that the DIP switches are set after the panel has been installed. No additional address configuration is required.



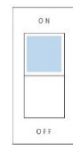
Switch

Place	Comp. No.	Function	ON	OFF
①	SW1	Setting execution mode	Debug	Execution
②	SW5	Setting a check cycle for communication faults	Fast	Normal

* SW1 must be set to "OFF" under normal conditions as follows:



OFF(Execution)

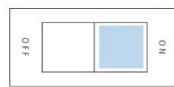


ON(Debug)

* SW5 is set to "On" to check whether Loop has a communication fault for the first time on-site, and set to "Off" under normal conditions.



OFF(Normal)



ON(Fast)

Map Settings

All setup files required for panel settings, such as input/output maps, panel equipment keys & LEDs, and network IPs, are managed all together by Johnson Controls International Korea's Product Technology Team.

You can request the product technology team the customized files (maps) for each site. Before making a request of a map file to Product Technical Team, you should discuss with your manager how to operate the system in the field including links for detectors and I/Os, location of keys, and background images of the system. Then, request it to Product Technical Team.

You can download the map file that you receive from the product technical team to the panel.

For instructions on how to download the map, see the following article, "Map Download & Uploads."

4. Map Download & Upload

✓ Types of map files

Map Type	Function
1system_cfg.ini	Equipment Keys and LEDs, Site name
adio_in_cfg.dat	I/O module, analog detector input settings
adio_out_cfg.dat	I/O module, analog detector output settings
fcp_type_cfg.dat	Selecting type of relay panel
logic_cfg.dat	Input/Output links (AND map)
matrix_cfg.dat	Input/output links (Point)
mxkecsb-data	ECSB Keys and LEDs
home_pic.png	Panel Home(site image) screen

✓ Map Download to Panel

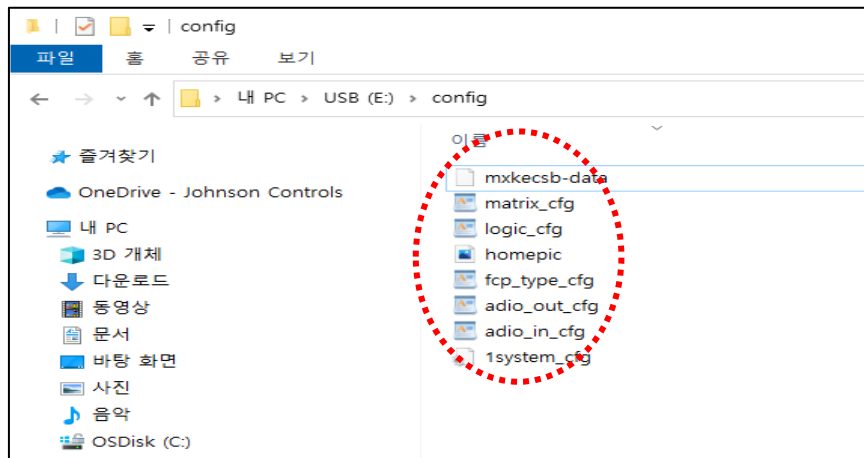
① Create a folder named "config" at Root directory of a USB drive.

(Memoery Capacity: 32GB and less, Type: FAT)



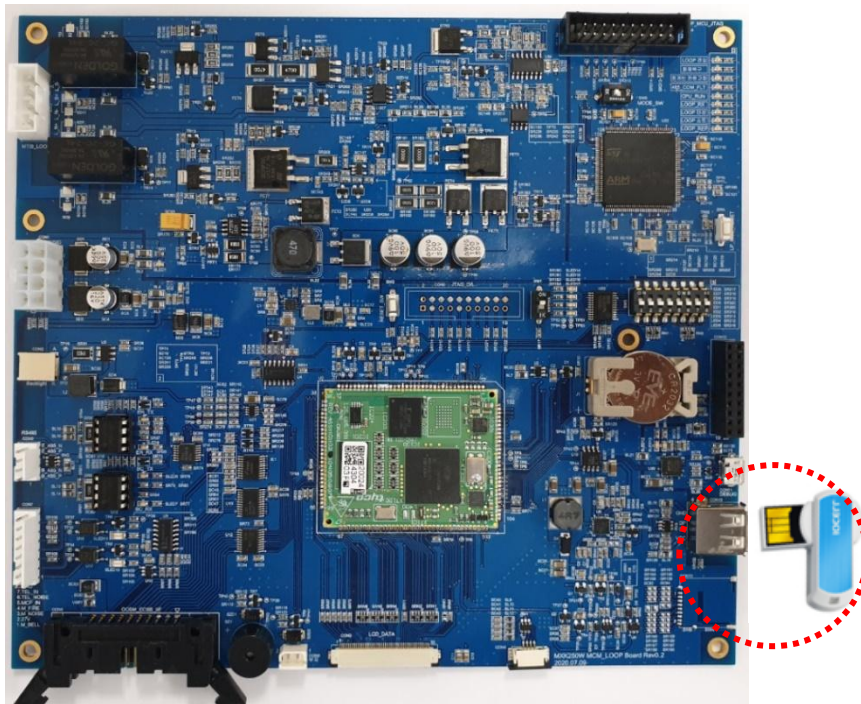
<Image 4.1. Creating config folder>

② Save the map files you want to download in the "config" folder.



<Image 4.2. Saving map files >

③ After saving files at the USB drive, insert the USB drive into the USB port of the MCM module on the panel.

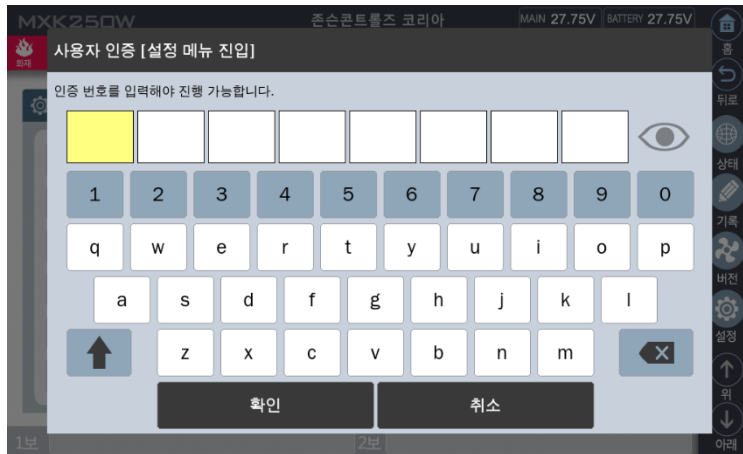


<Image 4.3 Inserting a USB drive to MCM module>

④ Download files directly on the panel's screen, including some files as you want.

Navigate to: HOME → Set-up→ User Certification → Map for I/O program

*** Certified Number: 1 Z x c v b n m (Case sensitive)**



<Image 4.4. User Certification >



<Image 4.5. Map for I/O program >

Once the download progress bar reaches 100 % and disappears, the download is complete.

Reboot the panel to ensure the map is properly installed before use.

✓ **Map download to USB**

To download a map to a USB drive from the panel.

- ① Empty the 'Root directory:/config' folder.
- ② Plug the USB into the USB port on the MCM.
- ③ Click "Download to USB"

✓ System reset (Reboot)

To perform a firmware update due to a system error or to reboot the system after downloading a map, ensure the system is safely shut down before proceeding.

Navigate to :HOME → Set-Up → User Certification → System Reset



<Image 4.4. System Reset >

Type	Password
Reboot	4 9 3 5

Forcing a power shutdown to the MCM board during system operation can result in system failure. Always use the system reset function before shutting off the power.

Exception: in unavoidable situations, such as screen freeze or unresponsive touch controls, a forced power shutdown may be performed as a last resort.

5. Panel Firmware Upgrade

✓ Program Type

Firmware type	Name	Function
Application	p_analog	Processes analog detector data
	p_bms	Processes emergency broadcasting data
	p_config	Saves panel setting information
	p_event	Processes events from detectors or I/O devices
	p_fcp	Processes loop card data
	p_init	Initializes system data
	p_io	Links input and output processes
	p_logic	Handles linked output process of I/Os and detectors
	p_main	Manages overall processes
	p_mc	Checks data log
	p_mmi	User interface for the screen
Device Driver	p_record	Saves event records for the panel
	dev_mxk_etc.ko	Driver for MCU input/output data processing
	mxk250w_ocsm_keypad.ko	Control driver for OCSM keys and LEDs

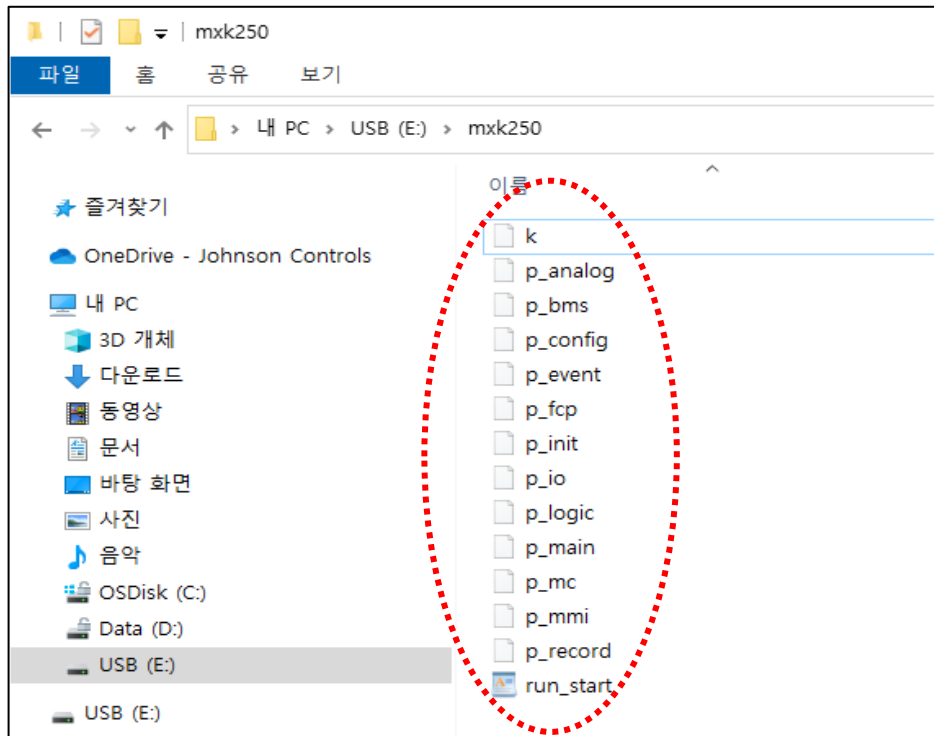
✓ Firmware Upgrade

① To upgrade a firmware, create a folder named “**mxk250**” on a USB drive.



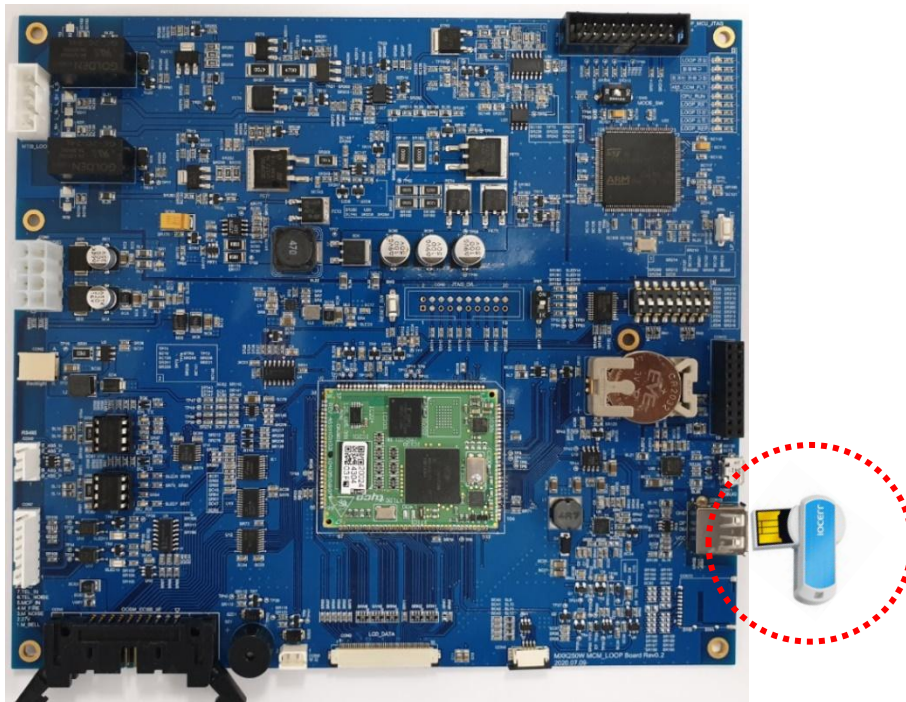
<Image 5.1 Creating a folder to save update files >

② Save the upgraded firmware files in the “mxk250” folder



<Image 5.2. Saving updated files >

③ Insert the USB drive into the USB port of MCM on the panel



<Image 5.3. Inserting the USB drive into the USB port of MCM>

④ Reboot the panel while the USB drive is connected. The firmware will update automatically. Note that the panel may take longer to boot as the new firmware is applied to the panel.

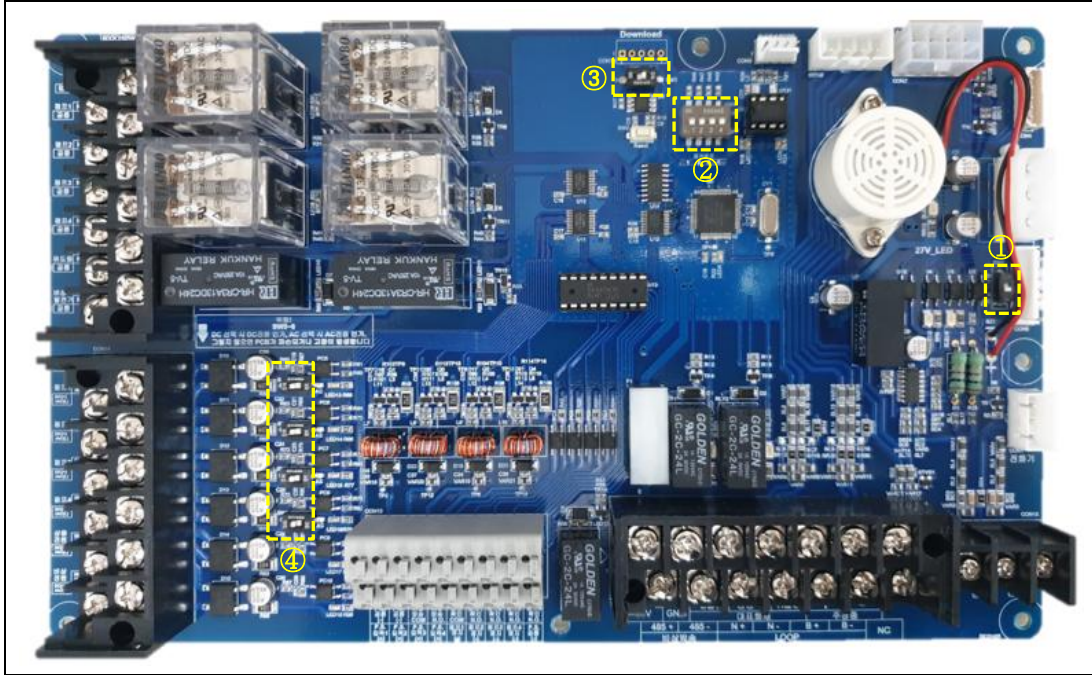
Once booting is complete, navigate to the **System Check** screen. Check the Version to confirm that the new firmware has been successfully applied.

Navigate to : **HOME → Version**



6. MTIB & ECRB modules – Loops, Call-points, Pumps

6.1. Location of DIP Switches



6.2. DIP Switches

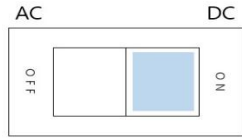
Location	Comp. No.	Function	ON	OFF
①	SW1	Select whether to use phone input signal	Use	Not used
②	SW4	Maintain output of pump 1~4	Set	Not set
③	SW3	Set firmware mode: download or execution	Execution	Download
④	SW5~8	Select AC or DC based on input voltage for Pump 1~4 operation acknowledgement	DC	AC

*** SW4: A switch to maintain output status**

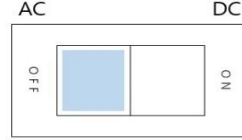
- When the switch is “ON”, the pump output remains active even if the power supply signal is input and then cleared just once. When the switch is “OFF”, the pump output stops as soon as the power supply signal is cleared.

(Press the operation key labeled “Stop” to stop the output)

*** SW5~8: Select AC or DC of input voltage for pump operation acknowledgement**
- Except determined power, other voltage must not be input, and the switches must be set when power is shut down.

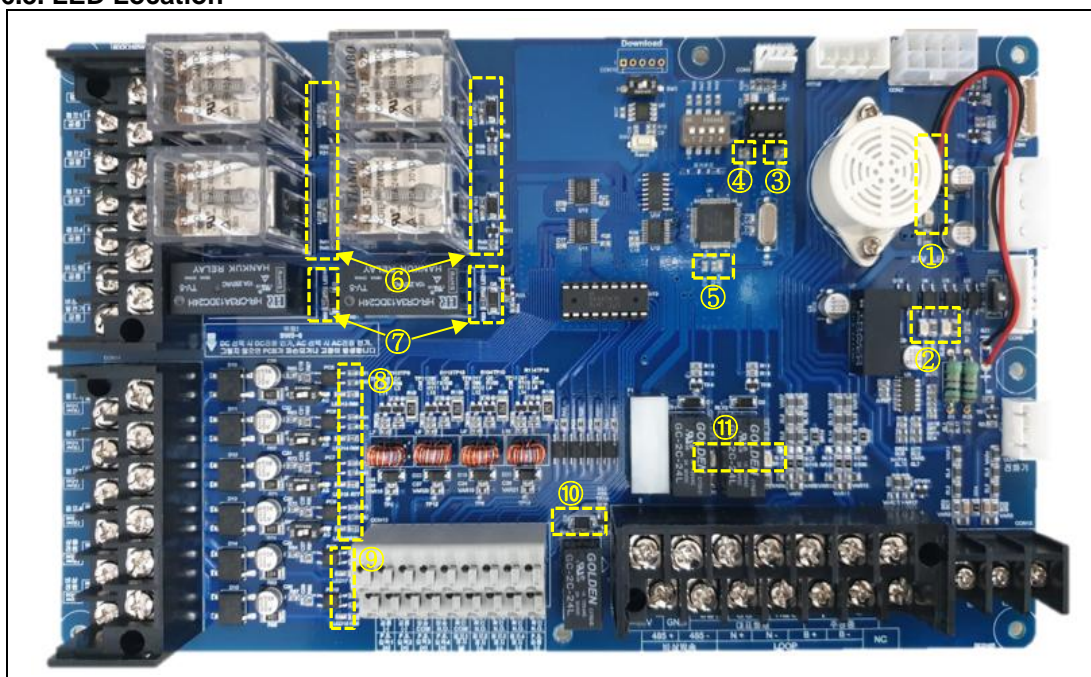


Set to DC24V



Set to AC220V

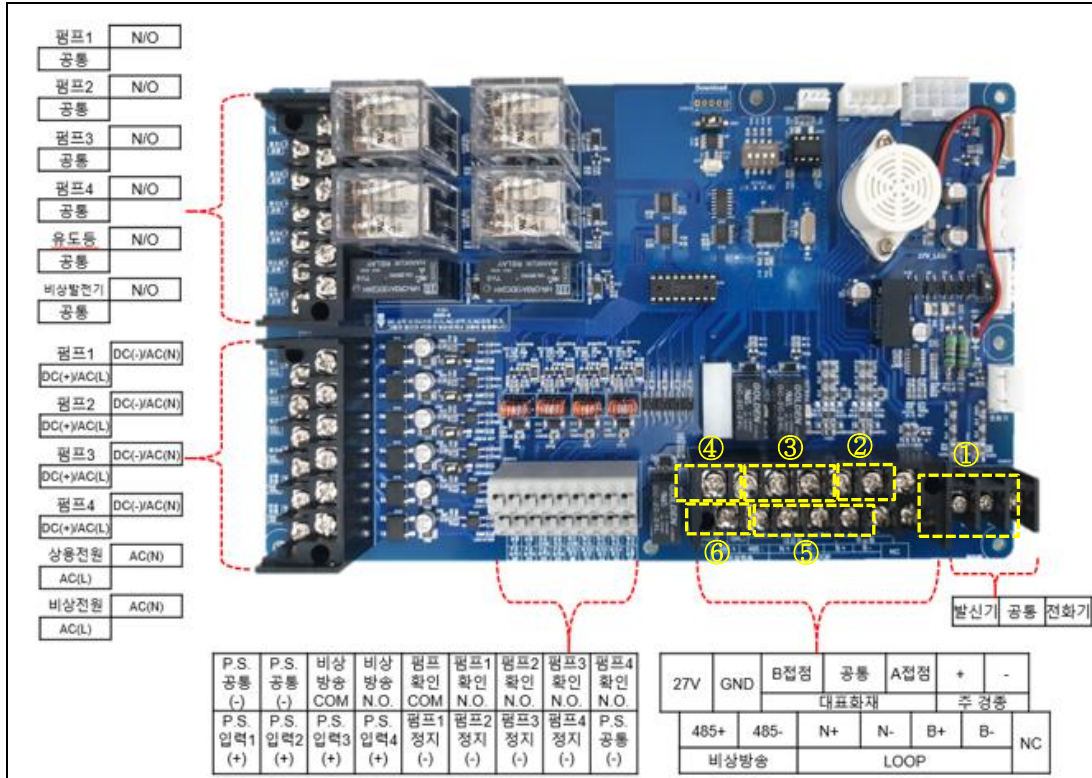
6.3. LED Location



6.4. LED function

Location	Part No.	Color	Function
①	SLED4,SLED6	GREEN	Power input (SLED4: 27V, SLED6: 5V)
②	SLED3,SLED5	RED	Noise input to phone/call-points (SLED3: Call point, SLED5: Phone)
③	LED5	RED	RS485 comm. transferring status (ECRB -> MCM)
④	LED3	GREEN	RS485 comm. receiving status (ECRB <- MCM)
⑤	LED4	GREEN	MCU normal operation (flickering ever y1sec cycle)
⑥	LED6~9	RED	Relay operation for pump1~4 output (LED6: pump 1, LED7: pump 2, LED8: pump 3, LED9: pump 4)
⑦	LED10~11	RED	Relay operation for exit signs, and emergency generator (LED10: Exit sign, LED11: emergency generator)
⑧	LED13~16	RED	Input status of Pump 1~4 operation acknowledgement (LED13: Pump 1, LED14: Pump 2, LED15: Pump 3, LED16: Pump 4)
⑨	LED17~18	RED	Input status of commercial power or emergency power (SLED17: Commercial, SLED17: Emergency)
⑩	LED12	RED	Relay operation for emergency broadcasting
⑪	SLED1~2	RED	Output status for representative fire or main alarm, (SLED1: Fire, SLED2: main alarm)

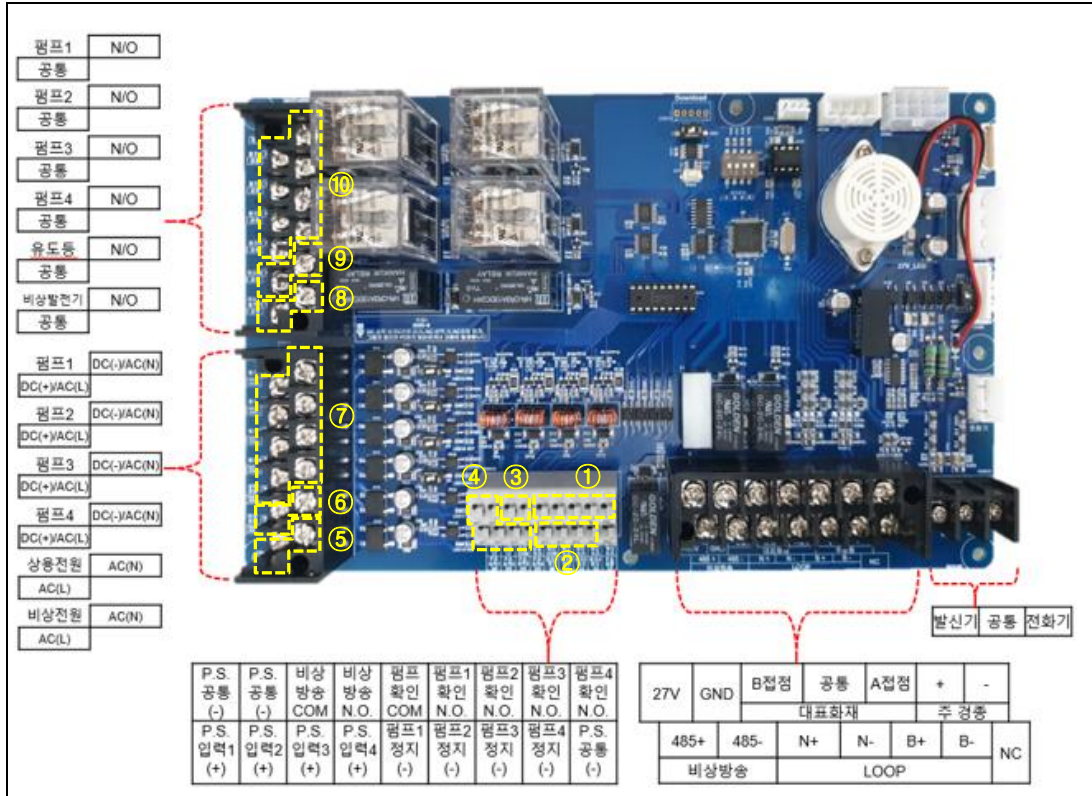
6.5. MTIB Terminal Location



6.6. MTIB Terminal Function

Location	Part No.	Terminal Name	Function
①	CON15	Phone/Call-point	Input of phone/callpoint
②	TB1_13~14	Main Alarm	Output of main alarm
③	TB1_10~12	Representative Fire	Dry contact output of fire
④	TB1_8~9	27V power(1A)	27V/1A power output
⑤	TB1_3~6	LOOP comm.	NORMAL, BACK Loop comm.
⑥	TB1_1~2	Emergency broadcasting comm.	Emergency broadcasting RS485 comm.

6.7. FIM Terminal Location

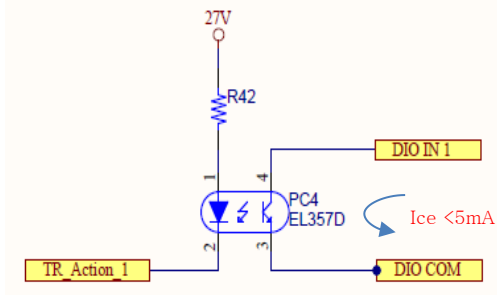


6.8. FIM Terminal Function

Location	Part No.	Terminal Name	Function
①	CON13_13~10	Pump Ack.(DIO Output)	Signal output to I/O for pump acknowledgement (DIO_1~DIO_4)
②	CON13_5~8	Pump Stop	Signal output about Pump1~4 Stop
③	CON13_15~16	Emergency Broadcasting contact	Relay contact output for emergency broadcasting
④	CON13_1~4	P.S. input	Signal input of Pump Pressure Switch
⑤	CON14_1~2	Emergency Broadcasting	Connects emergency power / AC power
⑥	CON14_3~4	Commercial Power	Connects commercial power / AC power
⑦	CON14_5~12	Pump Ack.	Signal input for Pump 1~4 operation acknowledgement (AC220 or DC24V)
⑧	CON12_11~12	Emergency generator Output	Signal output for emergency generator operation (Contact capacity 10A)
⑨	CON12_9~10	Exit sign Output	Signal output for exit sign operation (Contact capacity 10A)

⑩	CON12_1~8	Pump output	Signal output for Pump1~4 operation (Contact capacity 10A)
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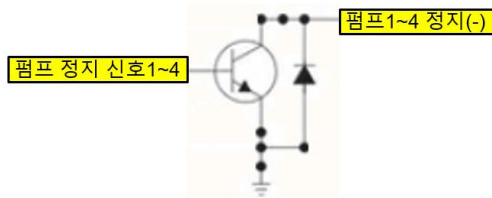
*** Pump Acknowledgement(Pump1 ~4) Circuit**



The terminal of Pump 1 Ack.N.O ~ Pump 4 Ack. N.O is designed to allow a current flow of less than 5mA on an external line.

The DIO COM is connected to the "Pump Ack. COM" terminal

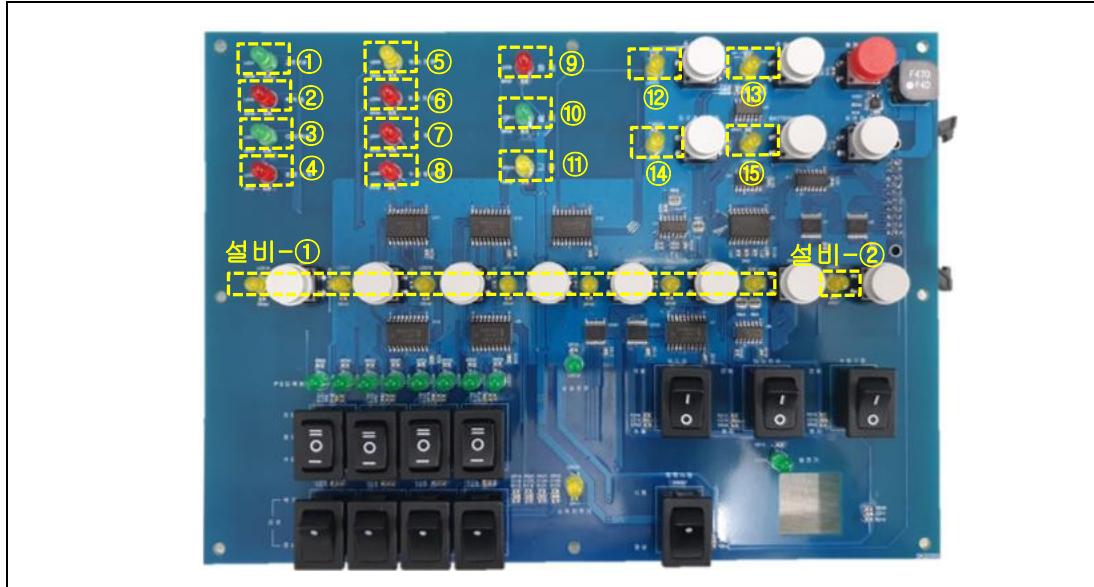
*** Pump Stop (Pump 1 ~4) Circuit**



It is designed to allow a current flow of less than 300mA. The GND is connected to the common P.S.

7. OCSM & ECSB Module– Keys and LEDs

7.1. OCSM LED Location



7.2. OCSM LED Function

Location	Part No.	Color	Function
①	LED1	Green	AC power status LED (Fault:OFF, Normal:ON)
②	LED2	Red	Accumulation event on the panel (Occur :ON, Clear:OFF)
③	LED3	Green	CPU normal operation (Normal: flickering, Fault:ON or OFF)
④	LED4	Red	Circuit test operation (Test:ON, Clear:OFF)
⑤	LED5	Yellow	Battery connection status (Normal: OFF, Not connected: ON)
⑥	LED6	Red	Circuit isolation status (Isolation: ON, Clear: OFF)
⑦	LED7	Red	Phone input status (Input: ON, Clear: OFF)
⑧	LED8	Red	Manual call point input status (Input: ON, Clear: OFF)
⑨	LED9	Red	Fire input of I.O / Detectors (Input: ON, Clear: OFF)
⑩	LED11	Green	Equipment input (Input: ON, Clear: OFF)
⑪	LED10	Yellow	Panel Fault (Fault: ON, Normal: OFF)
⑫	LED12	Yellow	Main alarm stop key (Stop: Flickering, Clear: OFF)
⑬	LED14	Yellow	Main alarm stop key (Stop: Flickering, Clear: OFF)
⑭	LED15	Yellow	Local alarm stop key (Stop: Flickering, Clear: OFF)
⑮	LED13	Yellow	Battery Test (Test :ON, No-test:OFF)
Equip.-①	LED16~22	Yellow	Equipment1~7 stop key (Stop: Flickering, Clear: OFF)
Equip.-②	LED23	Yellow	Abort Key LED, When Abort Key is pressed, "LED ON"

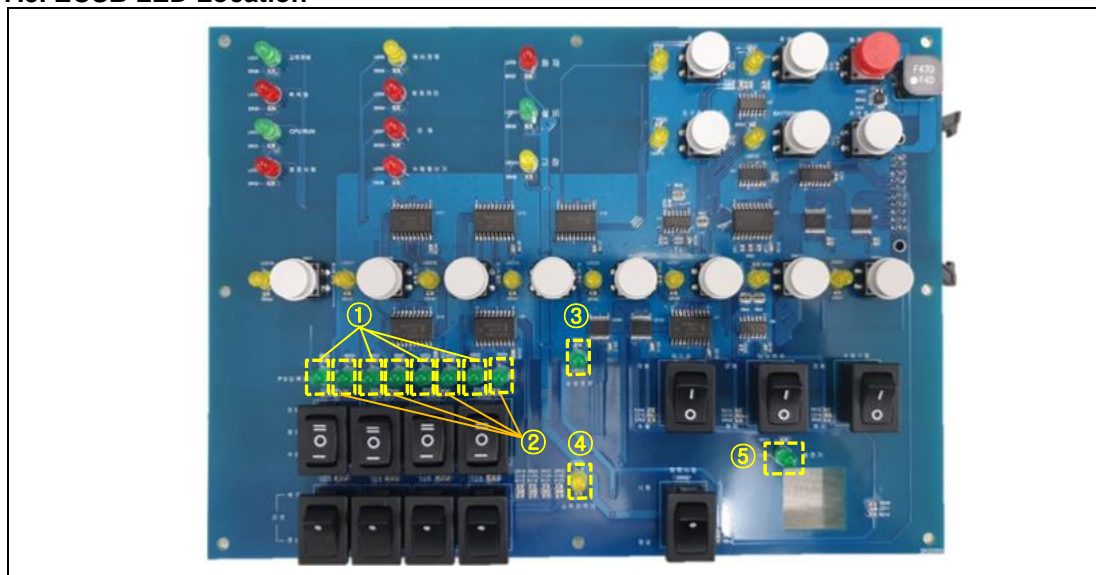
7.3. OCSM KEY Location



7.4. OCSM KEY Function

Locations	Part No.	Function
①	SW1	Sets main bell stop(Stop, Clear)
②	SW2	Sets main alarm stop (Stop, Clear)
③	SW3	Sets system restoration (Stop, Clear)
④	SW5	Sets local alarm (Stop, Clear)
⑤	SW4	Sets battery test (Stop, Clear)
⑥	SW6	Sets touch screen coordinates (Stop, Clear))
설비-①	SW7~SW13	Sets equipment1~7 on the map and their keys (Stop, Clear)
설비-②	SW14	Sets abort key for extinguishing agent. (Pressed: Stop, Not-pressed: Clear)

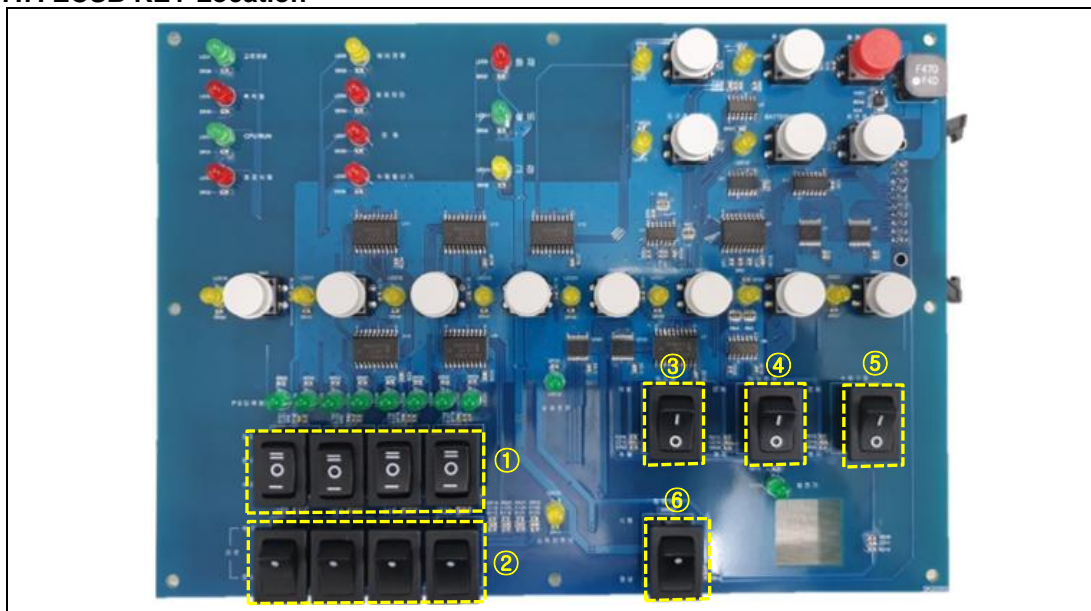
7.5. ECSB LED Location



7.6. ECSB LED Function

Location	Part No.	Color	Function
①	LED24~27	Green	Input status for Pump power 1~4 (Input:ON, Clear:OFF)
②	LED28~31	Green	Input status for pump operation acknowledgement (Input:ON, Clear:OFF)
③	LED32	Green	Input status for commercial power (Input:ON, Clear:OFF)
④	LED33	Green	Caution for Pump Operation (Stop: Flickering, Auto or Manual: OFF)
⑤	LED34	Green	Input status of generator (Input:ON, Clear :OFF)

7.7. ECSB KEY Location



7.8. ECSB KEY Function

Location	Part No.	Function
①	SW101~104	Sets Pump 1~4 operation, Auto(Power supply, Pump output), Stop, Manual(Pump Output)
②	SW109~112	Sets Pump1~4 reset signal output(Restore, Normal)
③	SW205	Sets exit sign output mode(Auto, Manual)
④	SW206	Sets emergency broadcasting contact output (Link, Stop)
⑤	SW208A	Sets manual operation of pump (Link, Stop)
⑥	SW207	Circuit Test

* The output/ stop of the pump is controlled by the ECSB's pump switch and operates within 1.5 seconds.

* The pump functions within 1.5 second after power supply signal is either input or cleared.

8. Q&A

Does the product not power on?

1. Check AC Power Input: Ensure that the AC power input to the product is functioning normally.
2. Verify MCM_Main Board power: Confirm that MCM_Main Board is properly powered. Ensure that MCM Main power LED is turned on.

Is the screen not displaying while front key LEDs are operating?

1. Inspect the Back Light.
The back light is located at the rear of TFT_LCD panel. If the back light is not illuminated, the screen will remain black even when the panel is running.
2. Check the power supply: Ensure main power supply of 27voltage is normal.
A lack of 27V power is faulty prevents the back light from turning on.
If LCD module is faulty, it will also fail to light up.

Is the linked map output not working?

1. Check the equipment shutdown key: verify whether the key is active. If so, release it.
2. Review the map file of I/O links in the panel and check the map excel sheet file.
3. If the map is configured but links fail, the I/O module may be defective. To test this,
 - Disconnect the loop wire connected to the corresponding output's I/P odule.
 - Connect the I/O module directly to the panel.
 - Perform a test to determine if the output functions normally.
 - If the output works, a failure of the I/O at the site may be the cause.