



ISO 9001
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Addressable Fire Alarm Control Panel

System Design and Equipment Introduction



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1. All kinds of Yun-Yang Addressable Fire Alarm Control Panel



Addressable Fire Alarm Control Panel – Wall-Mounted



Addressable Fire Alarm Control Panel with region telephone

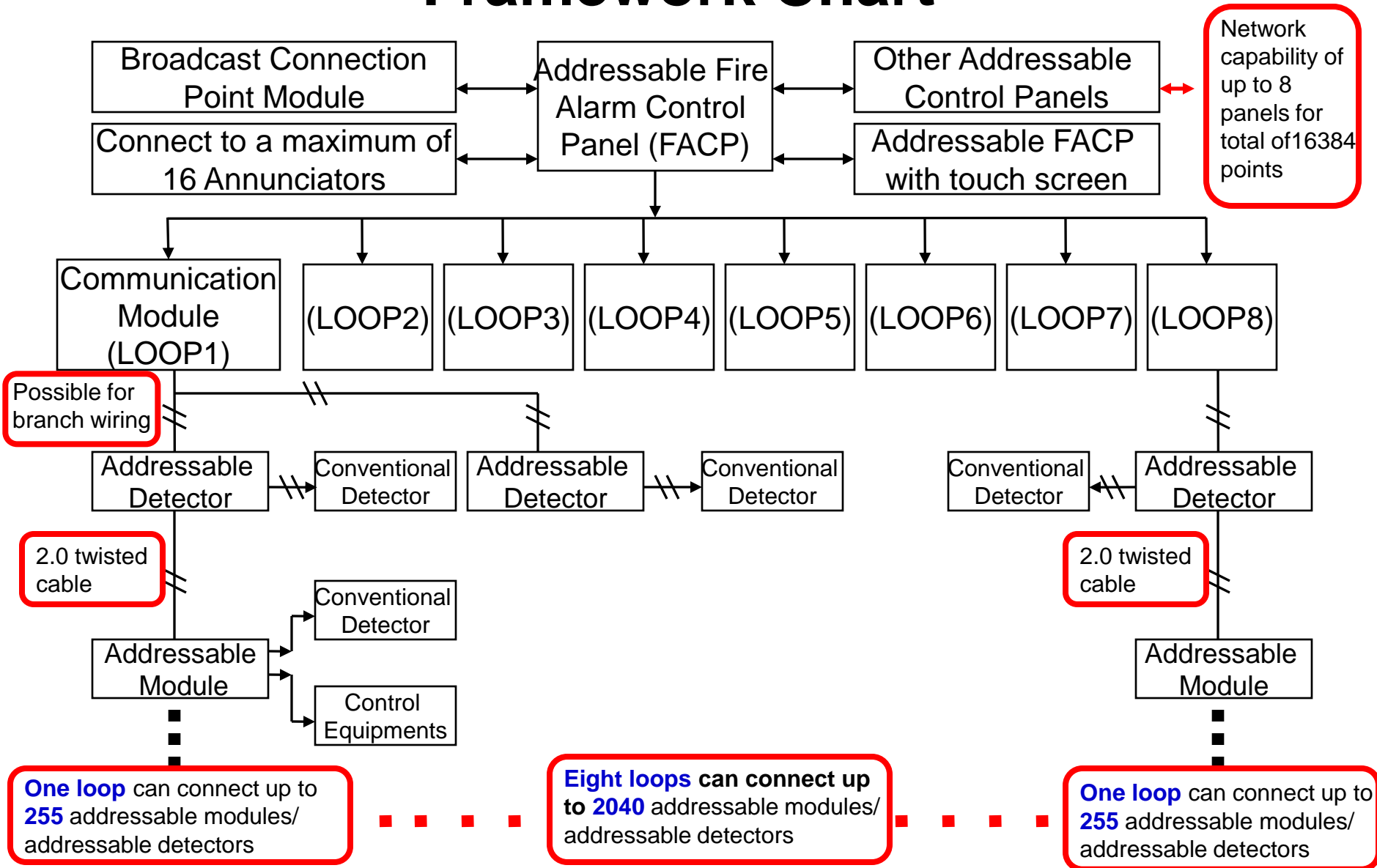


Addressable Fire Alarm Control Panel – Floor Standing



Addressable Fire Alarm Control Panel with Touch LCD Screen and editor software

2. Addressable Fire Alarm System Framework Chart



3. Addressable Annunciator – Wall Mounted (YFR-S1)

Function Explanation

◎ Large Clear LCD Screen

Annunciator has a **large clear LCD screen** that can

- **Synchronously display** the same information with the main control panel
- **Informs operator** from a remote distance
- **Resets and control** the main control panel's voice functions remotely

◎ Communication Error Indicator

When the connection between main control panel and annunciator has error, the error indicator will flash or the human-voice announcement will inform operators

- ◎ **RS485 bus** provides communication with the main control panel

◎ Annunciator Functions

- a. Fire indicator, power indicator, communication error indicator, error indicator, line indicator, local telephone indicator, voltmeter, main voice buttons, operation buttons, reset button.
- b. LCD backlight protection function
- c. Sound synthesis alarm function
- d. Modules' status chart



YFR-S1

4. High-rise Building Control Panel YFR-CCM

◎ **Cost saving fire prevention center control module**
Modularity design, easy to install and maintain , no need for additional wiring and addressable equipments, saving user's cost and time.

◎ **Integrated monitor/control functions**
Build-in equipments for monitor and control functions, including error, short circuit indicator, operating indicator, power indicator, operating start-up indicator, operating confirmation indicator, water-short indicator, as well as open or close gate, windmill, pumper, electromagnetic valve, iron coil gate, and other fireproof equipments

◎ **Protected on/off switch to prevent startup by mistake, when turning off, it only monitors, control buttons have no effect**



YFR-CCM

Zm International™
use technology get digital life

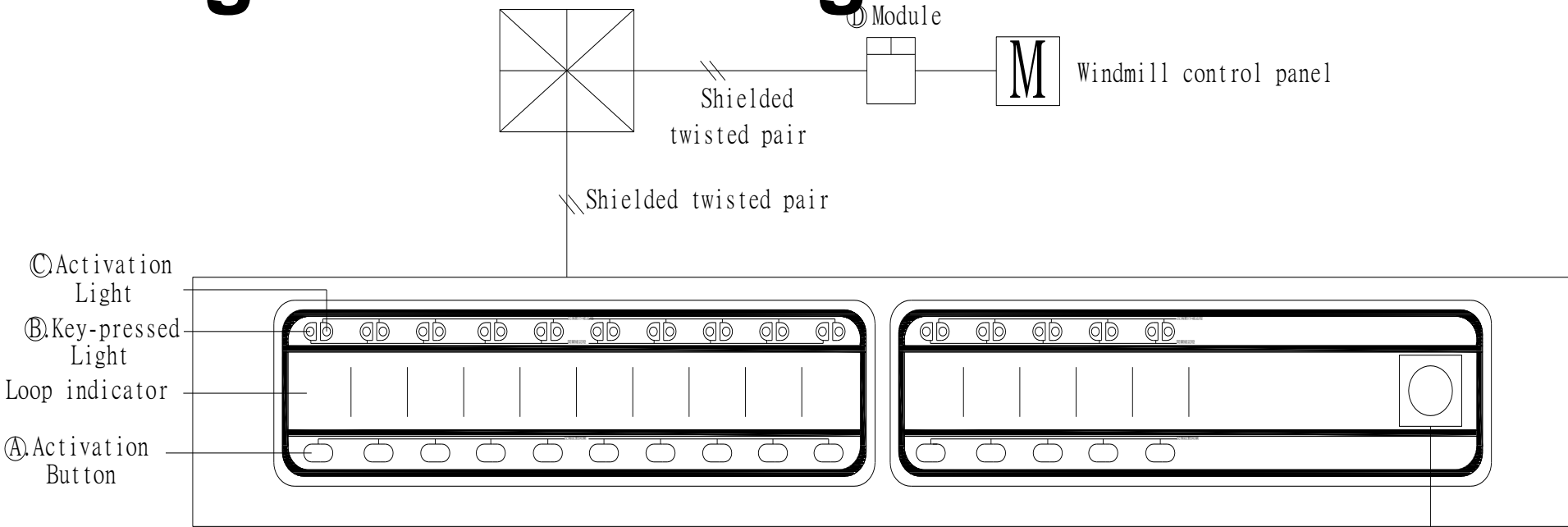
Quality
Price
Service



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High-rise Building Control Panel



Operation Steps :

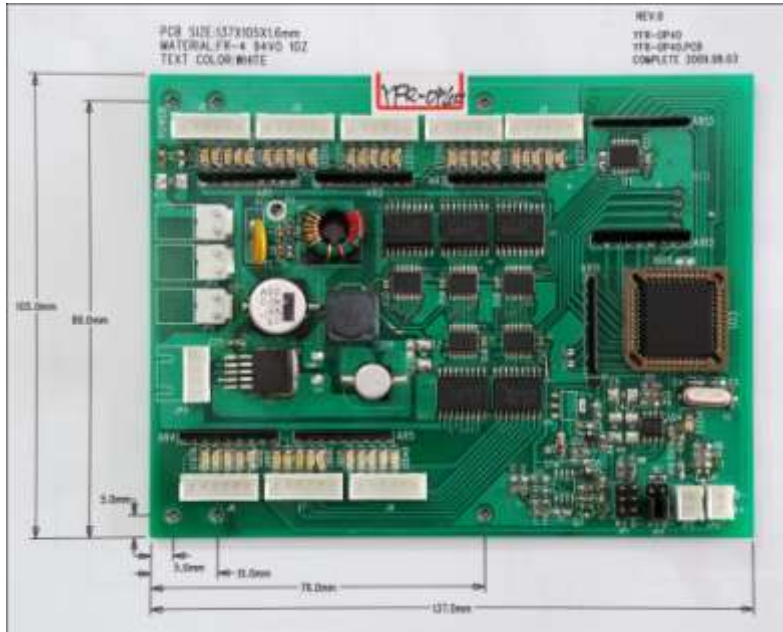
1. Turn on Power Switch (when turning off the switch, the control panel only can monitor, not control. This is to protect the control panel from disoperation).
2. Pressing the Activation Button A, the Key-pressed Light B will light on, the signal transmits through addressable FACP to Windmill's module D to activate the windmill M.
3. After the windmill is activated, the returned signal is transferred to module's M contact.
4. The returned signal from Module's M contact through FACP will turn the Activation Light C on.

Power Switch

Quality
Price
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5. Broadcast Reporting Module (YFR-OP40/OP80)



Item	Specification	
Model	Model: YFR-OP40	Model : YFR-OP80
Product name	Broadcast Reporting Module	
Function explanation	40 connection points	80 connection points, expandable to 2040 connection points
Compatible system	Yun-Yang YFR-1 R-Type Control Panel Series	
Applicable equipment	Emergency Broadcast Host, Monitoring/Controlling System, LED panel	
Power Supply	DC24V/ by Addressable Control Panel supplies	
Transmission Method	RS-485 bus to connect to panels	
Output	500mA/DC30V	
Functions	Can use software to set operation method	
Wiring	20AWG-3 shielding wire/RS-485 communication 、 1.2-2/DC24V power supply	
Operating Environment	0°C~50°C below 95% relative humidity	
Dimension	137x105x16mm(WxHxD)	163x105x16mm(WxHxD)

6. Yun-Yang Addressable Control Panel Features

1. User-friendly allocation:

Possible to configure as customer's requirements (like Fire Alarm/Broadcast 2-in-1; or Fire Alarm/High-rise Monitoring/Controlling 2-in-1; or Fire Alarm/Broadcast/Emergency Telephone 3-in-1; or n-in-1,...)

2. Communication cable:

Addressable Control Panel uses only one communication cable to connect with Broadcast Host (SEP-1). It's no need for decoding panel, so can save wiring and cost.

3. Built-in browsing table:

For monitoring all addressable equipments (can display 255 points at the same time)

4. All use only 2-wire cable:

For very long distance transmission (distance between control panel and modules can be up to 2km)

5. Fire alarm sound synthesis functions:

Using human-sound fire alarm informs staffs

6. Modules/detectors:

Can be fragment-isolated (50 points * 5 fragments) or single point isolated [general isolation (when reset, isolation signal can be cleared; perpetual isolation (when reset, signal can be cleared)]

Addressable modules and detectors all can connect to conventional detectors, no need for another DC24V power supply for conventional detectors, Its able to connect to 25 smoke detectors and no limit for heat detectors

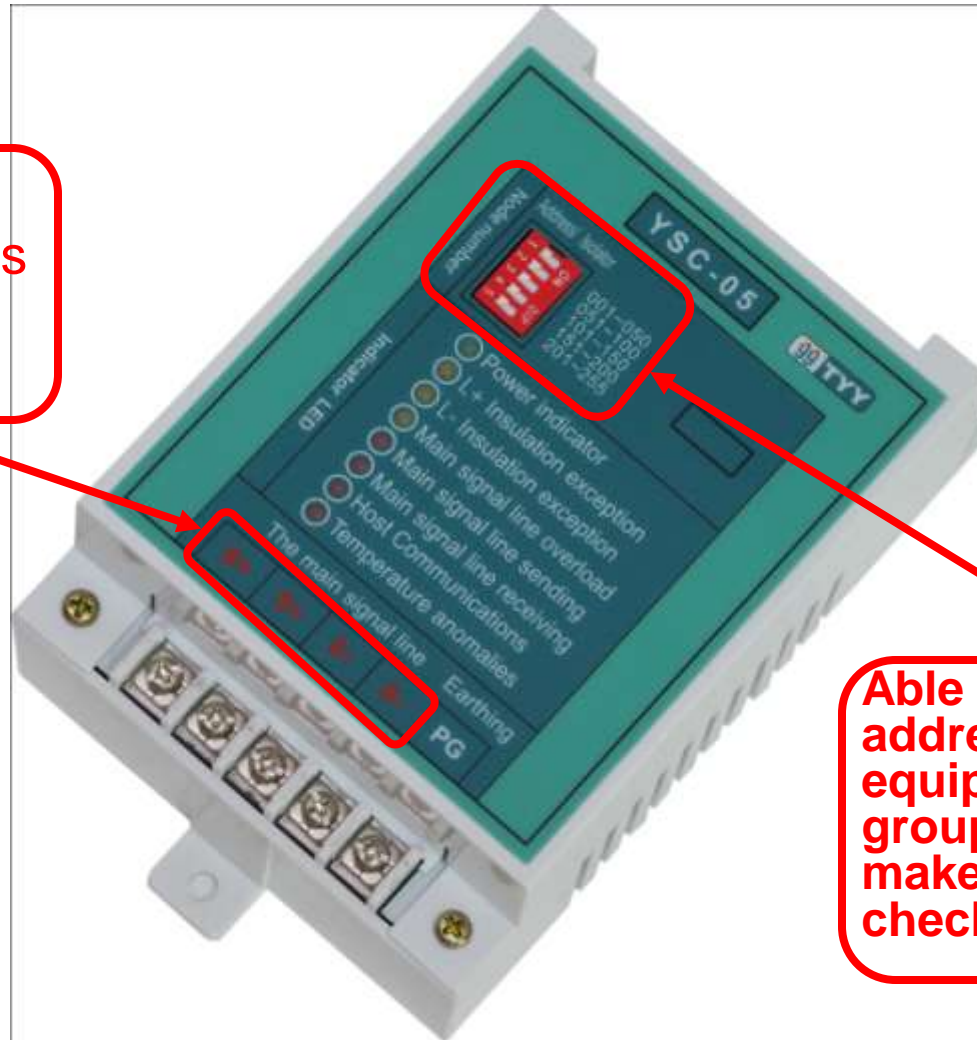
7. Addressable Communication Module / Module and Detector Introduction

- a. Communication Module **YSC05** Function Explanation
- b. Monitor/ Control (Voltage Output) Module **YRR-02/ YRR-0602**
- c. Monitoring Module **YRR-01/ YRR-0601**
- d. Addressable Manual Call Point **YRR-04**
- e. Communication Isolation Module **YRR-21**
- f. Communication Isolation Module Wiring
- g. Relay Module **RY-01 /RY-02**

7.a. Communication Module **YSC-05** Functions Explanation

Communication Module Segment - Isolation Function

S+ S- Base to connect to modules and addressable detectors



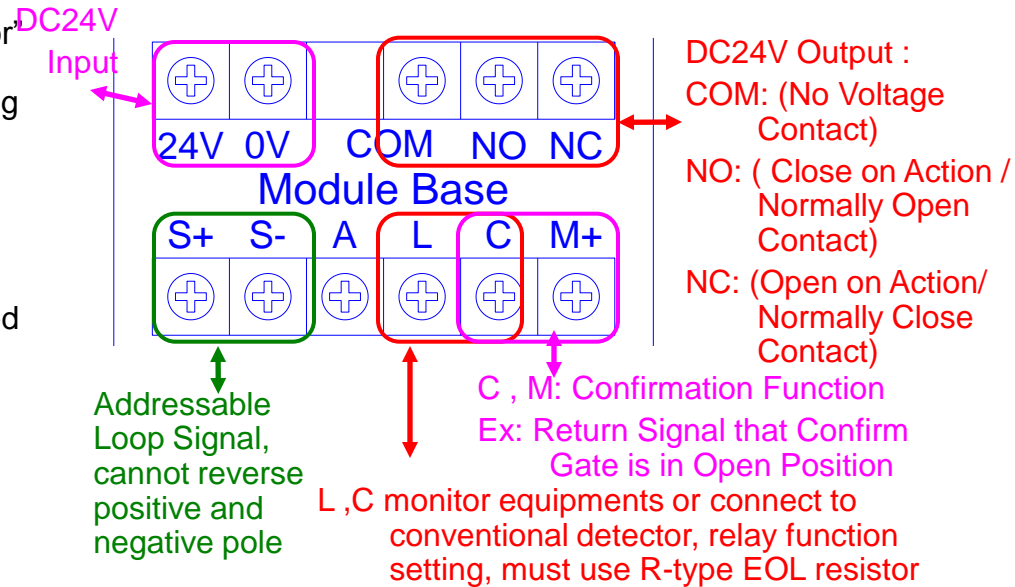
Able to isolate addressable equipments based on groups of 50 points, make it easy for wire-checking

7.b. Monitor/ Control (Voltage Output) Module

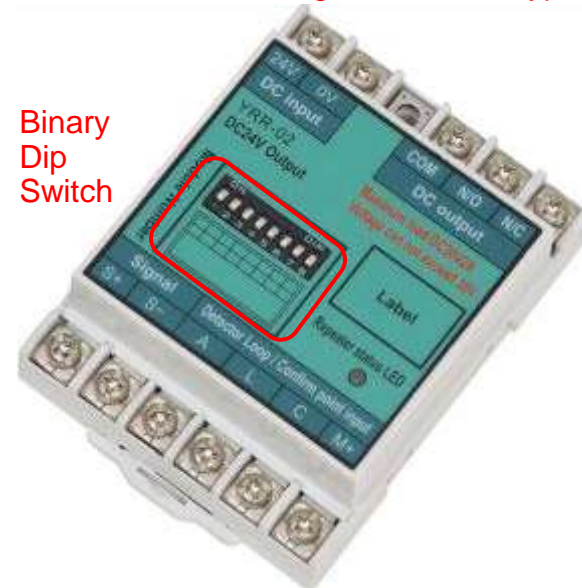
YRR-02 (YRR-0602 Short-circuit Isolation Function)

Functions:

- ✓ On-board status indicators for “Monitoring,” Activate,” “Error” and “Isolating.”
- ✓ Address coding by binary coded dip switch for easier setting
- ✓ Two-wires multi-transmission
- ✓ Stable communication with rejection to noise and disturbances
- ✓ Self-test functions for circuit disconnection and activation
- ✓ Expandable to connect with photoelectric smoke, rate of rise heat and fixed temperature heat detectors, and no need for external power supply
- ✓ **DC24V voltage control output, can connect directly to equipments, action confirmation, communication functions**
- ✓ Light indication pattern (fire: red light constantly on, disconnection: red light flashing, monitoring: red light flashing once per 2.5s)
- ✓ Alumina rail lock structure, easy to install
- ✓ **When short-circuit happens, auto-isolate the error part with the main communication line (only YRR-0602 series have this function)**



Function	Circuit Input and Voltage Control Output
EOL Resistor	Below 10 Ω / master line
Ambient Temperature	-10°C ~ 50°C Relative Humidity below 95 %
Monitored Current	420μA/DC24V
Output Voltage	DC24V
Operating Voltage	DC16~30V
Material	Fire-proof plastic
Dimension	80(L)×60(M)×30(H)mm
Note	Addressable professional EOL resistor



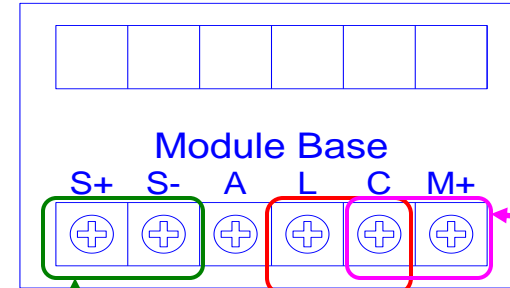
7.c. Monitor Module

YRR-01 / YRR-0601(Short Circuit Isolation Function)

Functions:

- ✓ Status indicators for “Monitoring,” Activate,” “Error” and “Isolating.”
- ✓ Address coding by binary coded dip switch for easier setting
- ✓ Two-wires multi-transmission
- ✓ Stable communication with rejection to noise and disturbances
- ✓ Self-test functions for circuit disconnection and activation
- ✓ Expandable to connect with photoelectric smoke, rate of rise heat and fixed temperature heat detectors, and no need for external power supply
- ✓ Light indication pattern (fire: red light constantly on, disconnection: red light flashing, monitoring: red light flashing once per 2.5s)
- ✓ Alumina rail lock structure, easy to install
- ✓ **When short-circuit happens, auto-isolate the error part with the main communication line (only YRR-0601 series have this function)**

Function	Circuit Input
EOL Resistor	Below 10 Ω / master line
Ambient Temperature	-10°C ~ 50°C Relative Humidity below 95 %
Monitored Current	420μA/DC24V
Output Voltage	DC24V
Operating Voltage	DC16~30V
Material	Fire-proof plastic
Dimension	80(L)×60(M)×30(H)mm
Note	Addressable professional EOL resistor



Addressable Loop Signal, cannot reverse positive and negative pole

L, C monitor equipments or connect to conventional detector, relay function setting, must use R-type EOL resistor

C, M: Confirmation Function
Ex: Return Signal that Confirm Gate is in Open Position

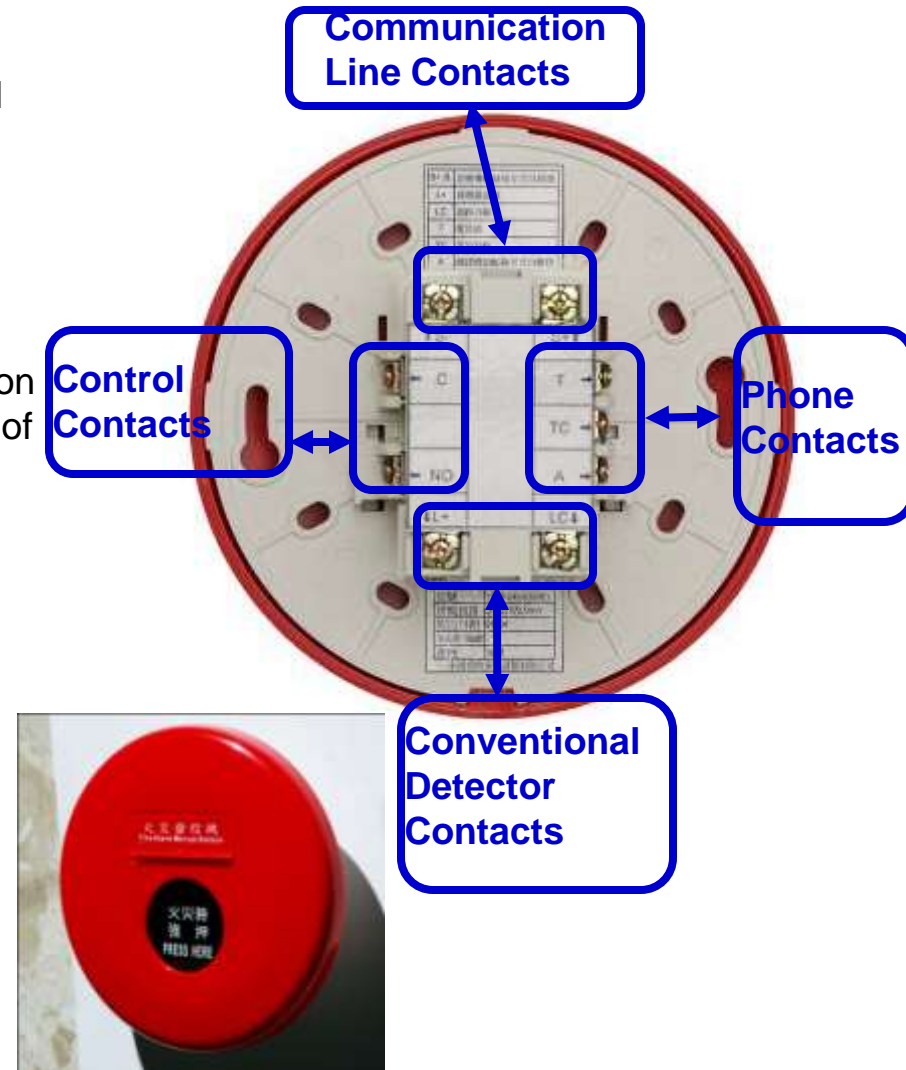


7.d. Addressable Fire Manual Call Point (Control Output) YRR-04

Functions:

- ✓ Status indicators for “Monitoring,” Activate,” “Error” and “Isolating.”
- ✓ Address coding by binary coded dip switch for easier setting
- ✓ Two-wires multi-transmission
- ✓ Stable communication with rejection to noise and disturbances
- ✓ Self-test functions for circuit disconnection and activation
- ✓ Expandable to connect with photoelectric smoke, rate of rise heat and fixed temperature heat detectors, and no need for external power supply
- ✓ Voltage control output, action confirmation, communication functions

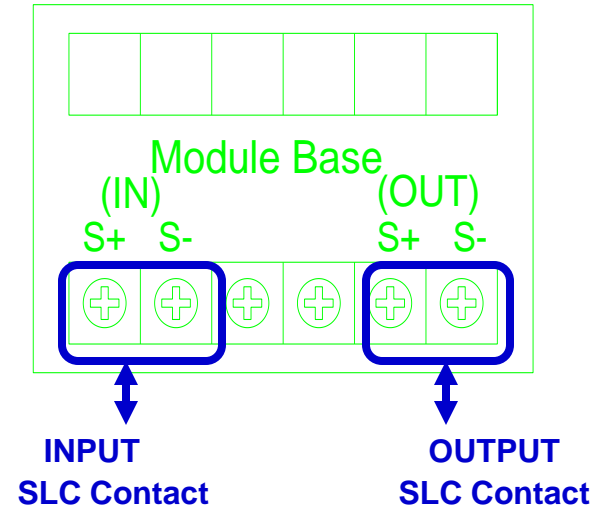
Function	Circuit Input and Control Output
EOL Resistor	Below 10 Ω / master line
Ambient Temperature	-10°C ~ 50°C Relative Humidity below 95 %
Monitored Current	32V/0.9mA
Operating Voltage	DC16~30V
Material	Fire-proof plastic
Dimension	140*58mm
Note	Addressable professional EOL resistor



7.e. Isolation Module **YRR-21**

Functions:

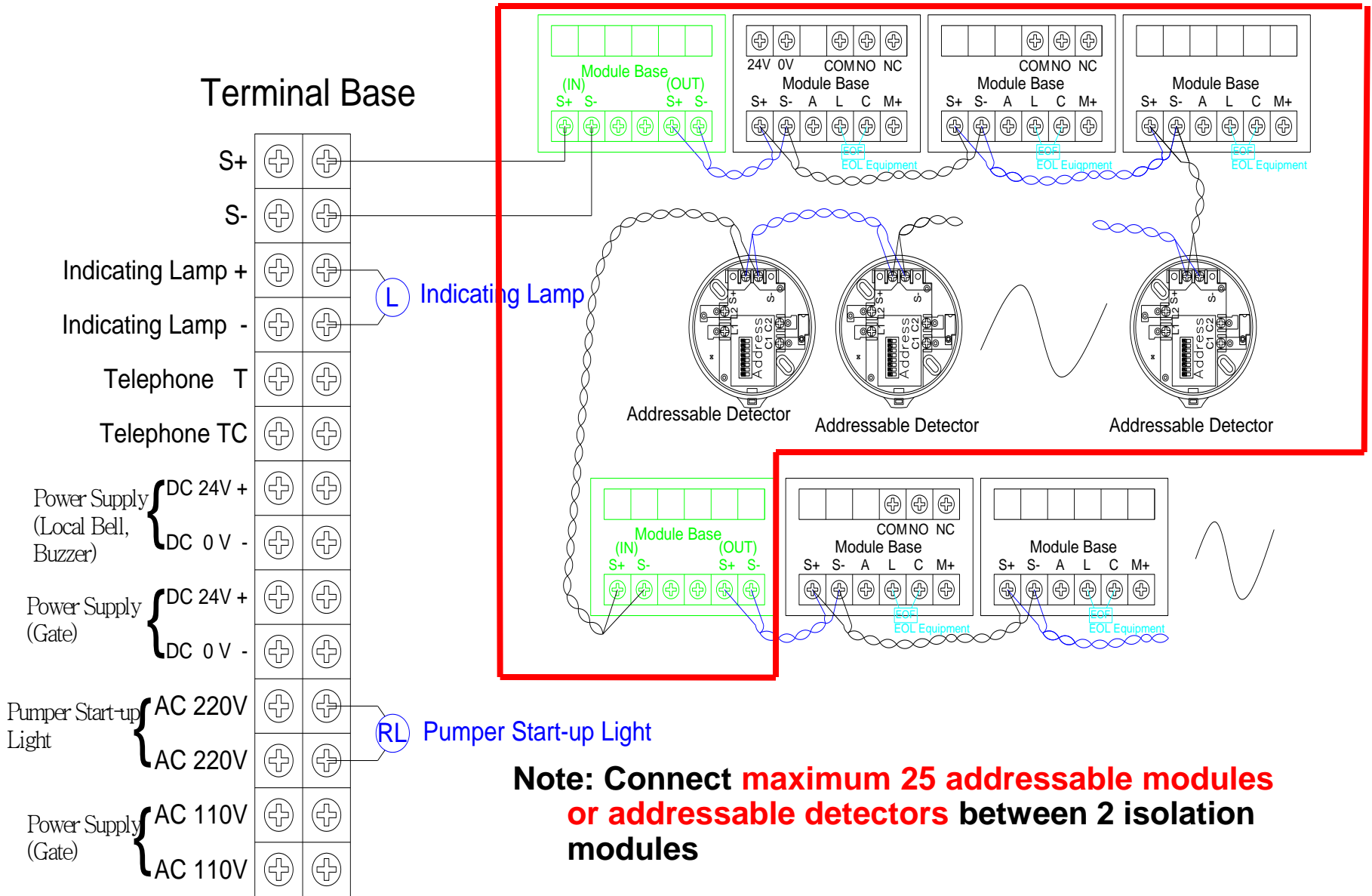
- ✓ Isolation module for addressable 2 wire communication system
- ✓ Recommend to use for each 25 addressable equipments
- ✓ Isolation short circuit indicating lamp
- ✓ Not occupy address
- ✓ Deploy at main line for branching purpose
- ✓ Isolation module deploys between main line and branch line, when short circuit happens, isolation module will auto-isolate the error part with the main line so can avoid the whole zone break-down
- ✓ Alumina rail lock structure, easy to install



Function	Communication short circuit isolation
Operating Voltage	DC16~36V
Current Consumption	DC32V normal 400μA
Reaction time	Below 0.3sec
Ambient Temperature	0°C~50°C · Relative Humidity below 95 %
Dimension	67 × 100 × 26mm
Material	Fire-proof plastic

- Quality
- Price
- Service

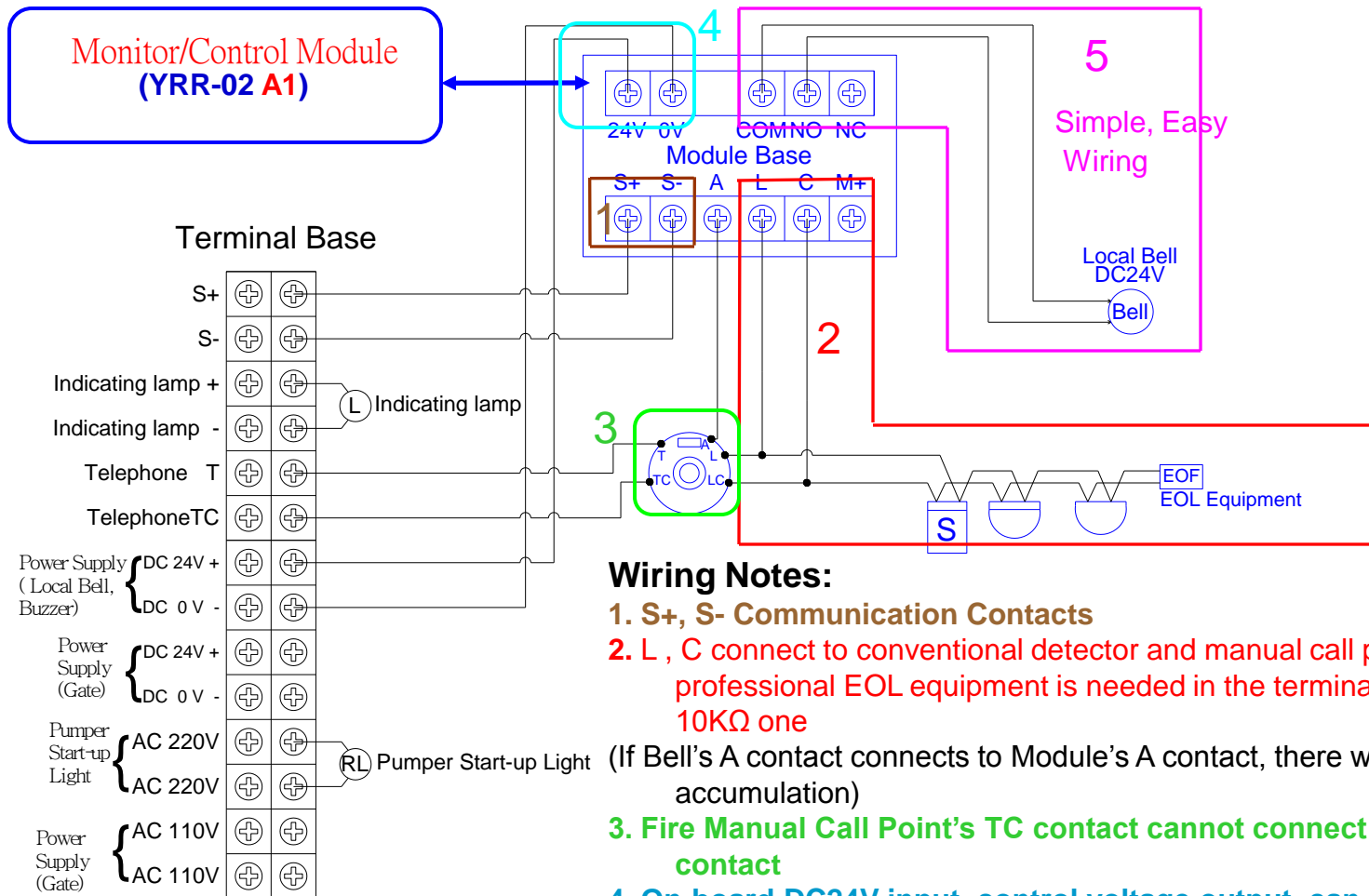
7.f. Isolation Module YRR-21 Wiring



8. Addressable Module Wiring Introduction

- a. Monitor/Control Module (YRR-02) + Bell
- b. Monitor Module (YRR-01)
- c. Addressable Manual Call Point (YRR-04)
- d. Solenoid Valve (DC 24V) + Monitor/Control Module YRR-02
- e. Solenoid Valve (DC 110V) + Monitor/Control Module YRR-02 + Relay Module RY-01
- f. Magnetic Lock (DC 24V) + Monitor/Control Module YRR-02
- g. Magnetic Lock (DC 110V) + Monitor/Control Module YRR-02 + Relay Module RY-01
- h. Pressure Switch for Water-Based Fire Protection System (Mist, Foam, Sprinkler) + Buzzer + Monitor/Control Module YRR-02
- i. Smoke Extraction System – Shutter + Monitor/Control Module YRR-02
- j. Smoke Extraction System – Windmill + Monitor/Control Module YRR-02 + Relay Module RY-02

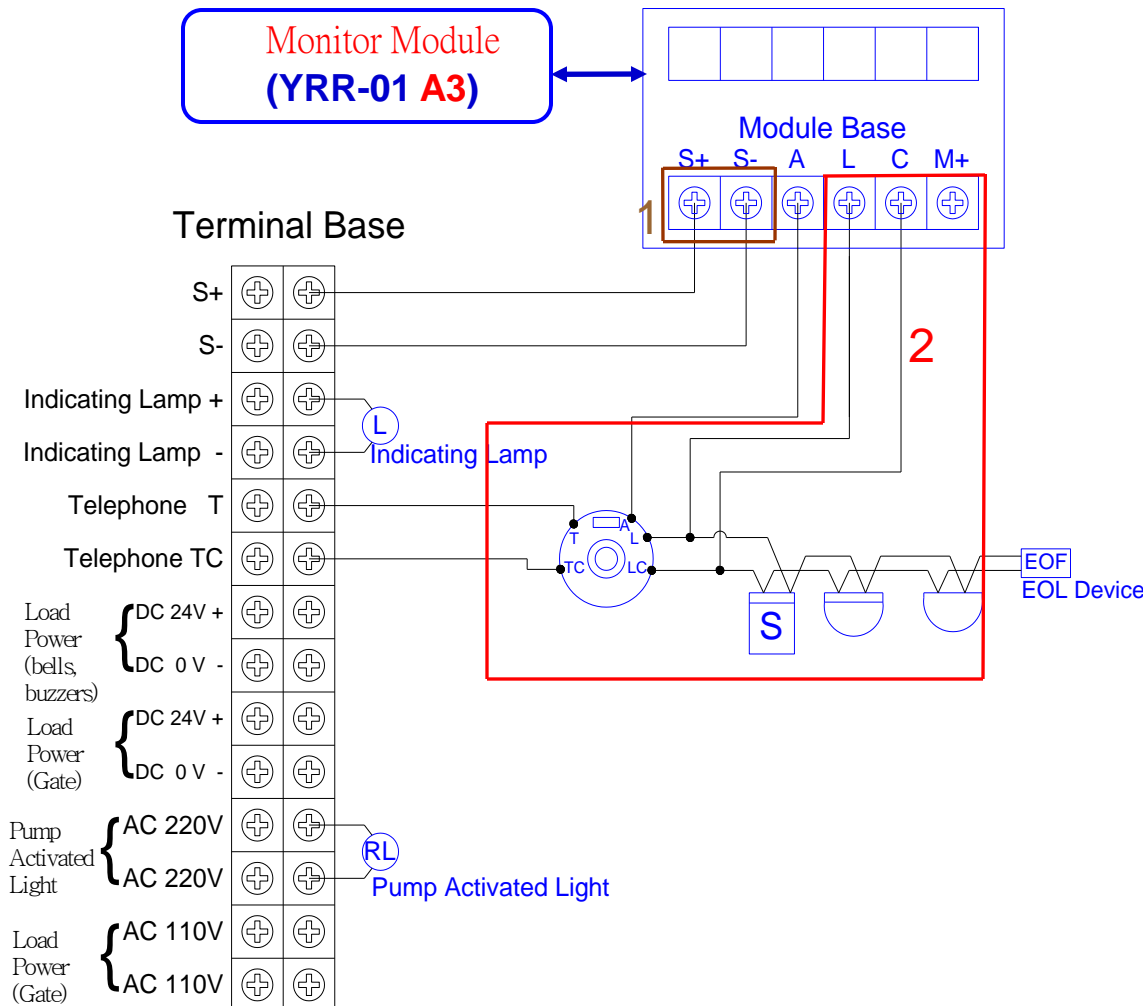
8.a. Monitor/Control Module (YRR-02) + Bell



Wiring Notes:

- S+, S- Communication Contacts**
- L, C connect to conventional detector and manual call point contacts. A professional EOL equipment is needed in the terminal, not a normal 10KΩ one**
(If Bell's A contact connects to Module's A contact, there will be no accumulation)
- Fire Manual Call Point's TC contact cannot connect to Module's C contact**
- On-board DC24V input, control voltage output, can directly connect to the bell**
- Wiring bells is simple and easy**

8.b. Monitor Module (YRR-01)

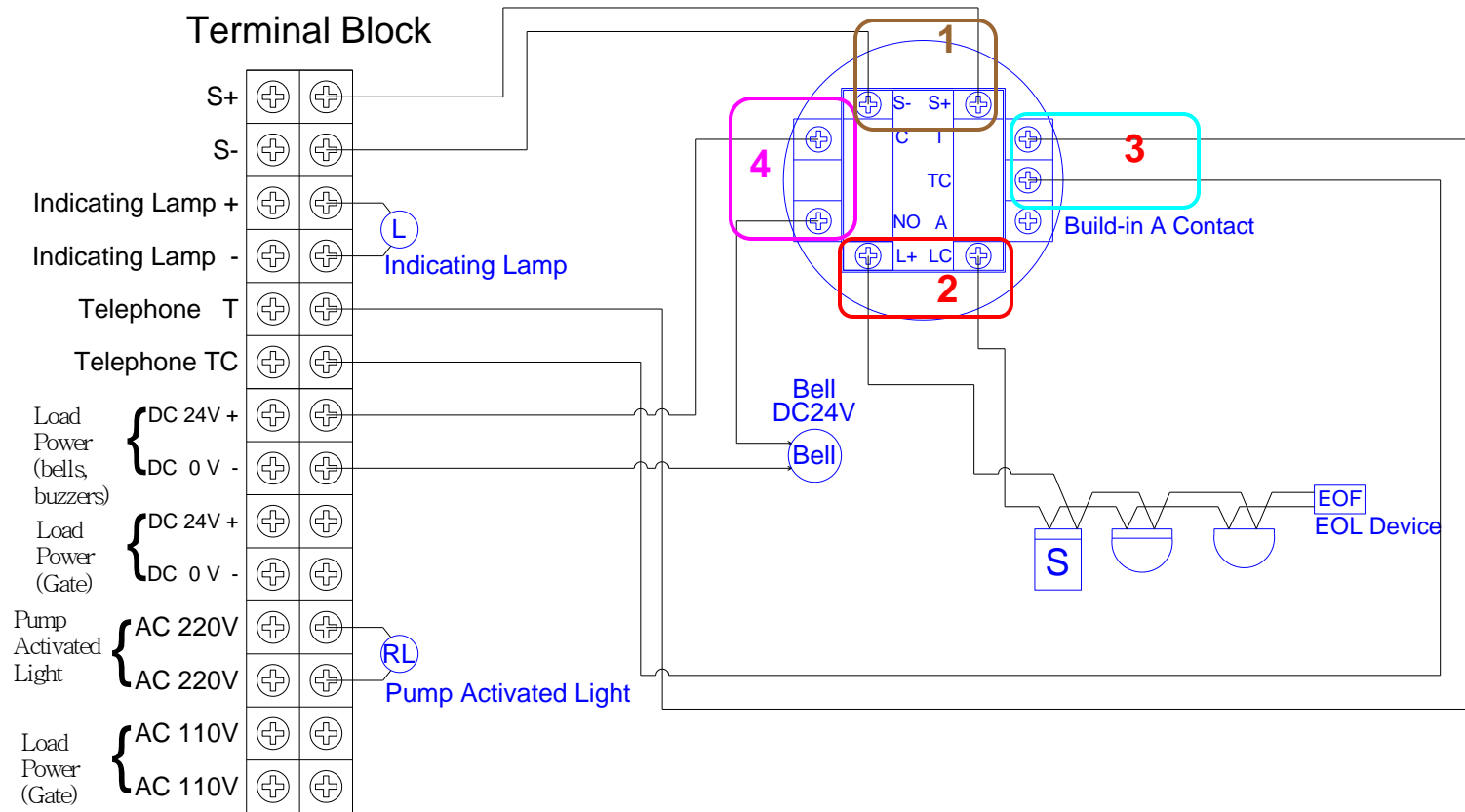


Wiring Notes:

1. S+, S- Communication Contacts
2. L, C connect to conventional detector and manual call point contacts. A professional EOL equipment is needed in the terminal, not a normal 10KΩ one
3. Fire Manual Call Point's TC contact **cannot** connect to Module's C contact (If Bell's A contact connects to Module's A contact, there will be **no accumulation**)
4. When there is no bell, use monitor module for fire alarm complex

Quality
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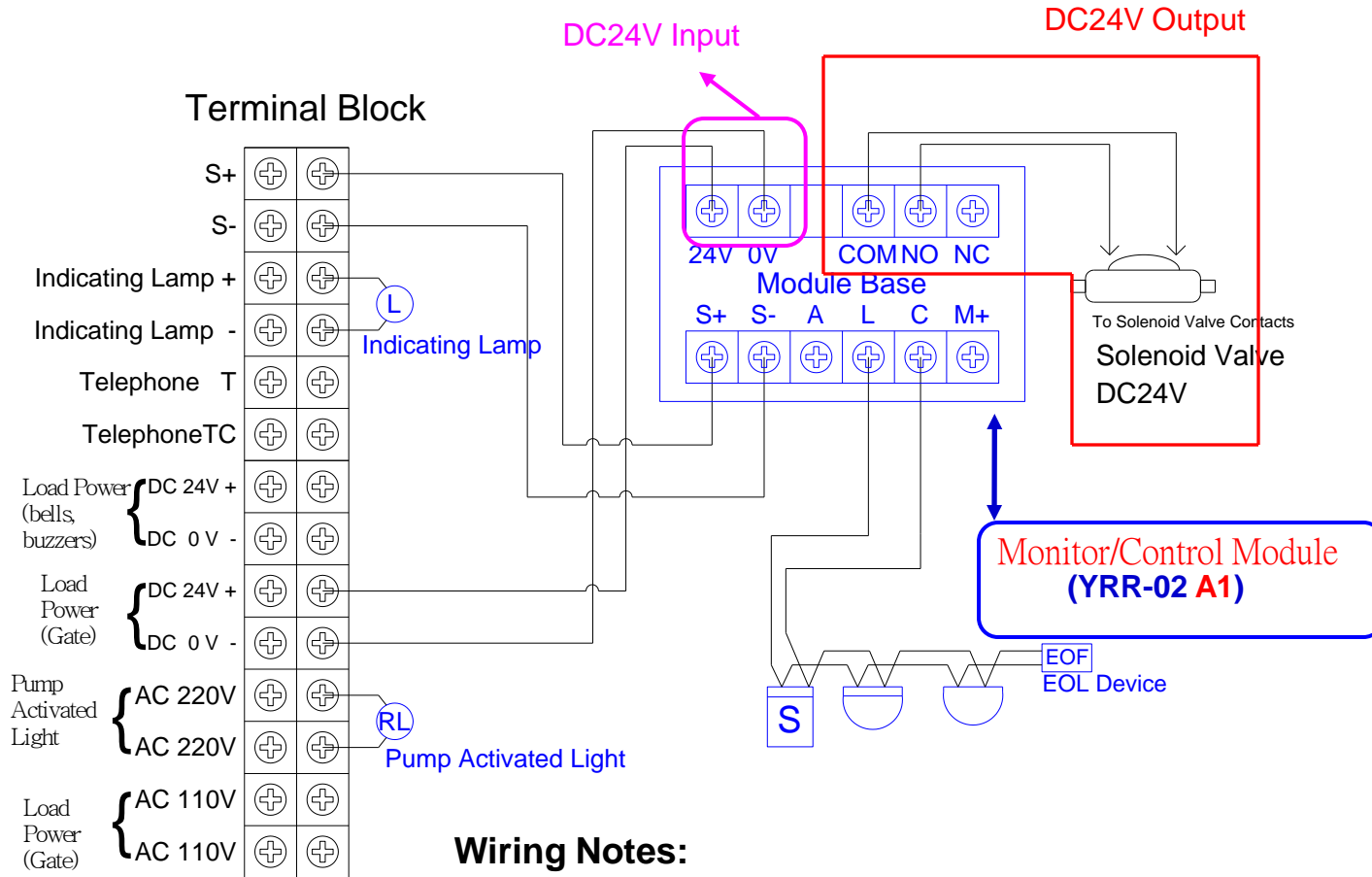
8.c. Addressable Manual Call Point (YRR-04)



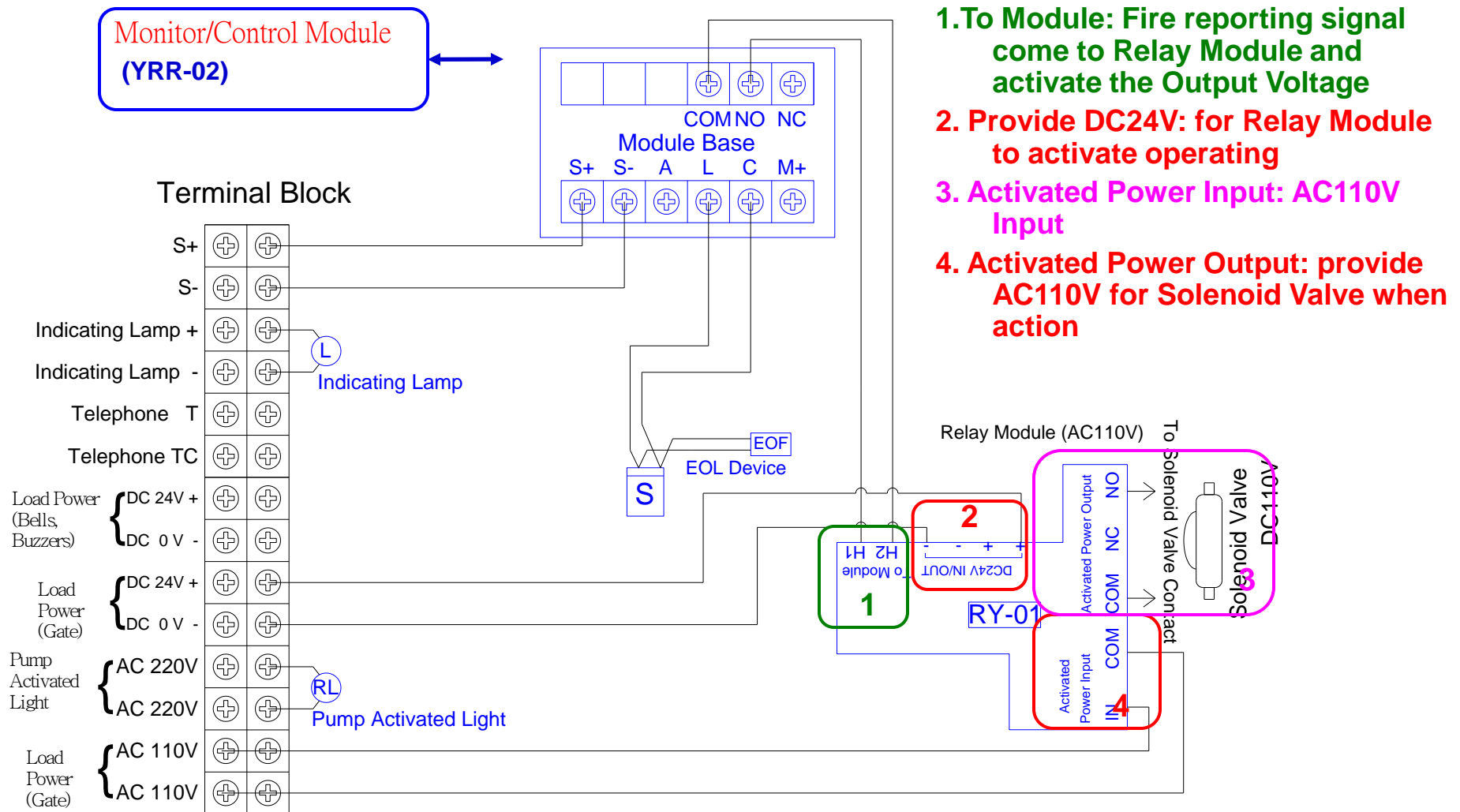
Wiring Notes:

1. S+, S- Communication Contacts
2. Connect to conventional detectors, L+ to L+, LC to LC. A professional EOL equipment is needed in the terminal, not a normal 10KΩ one
3. Fire Manual Call Point's TC contact cannot connect to Module's C contact (A contact is built-in with no accumulation)
4. On-board control output (COM,NO) that can connect to bells

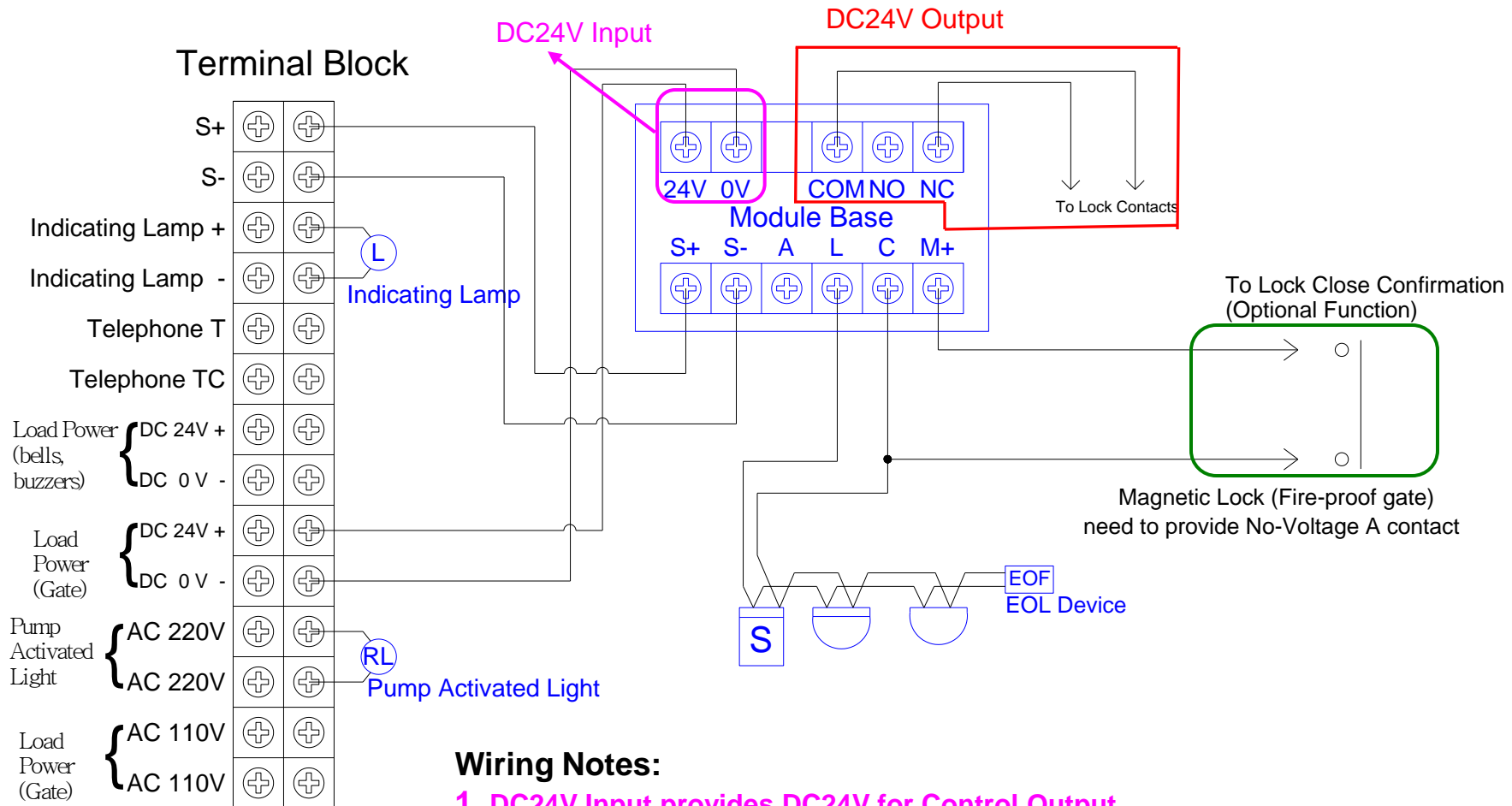
8.d. Solenoid Valve (DC 24V) + Monitor/Control Module YRR-02



8.e. Solenoid Valve (DC 110V) + Monitor/Control Module YRR-02 + Relay Module RY-01



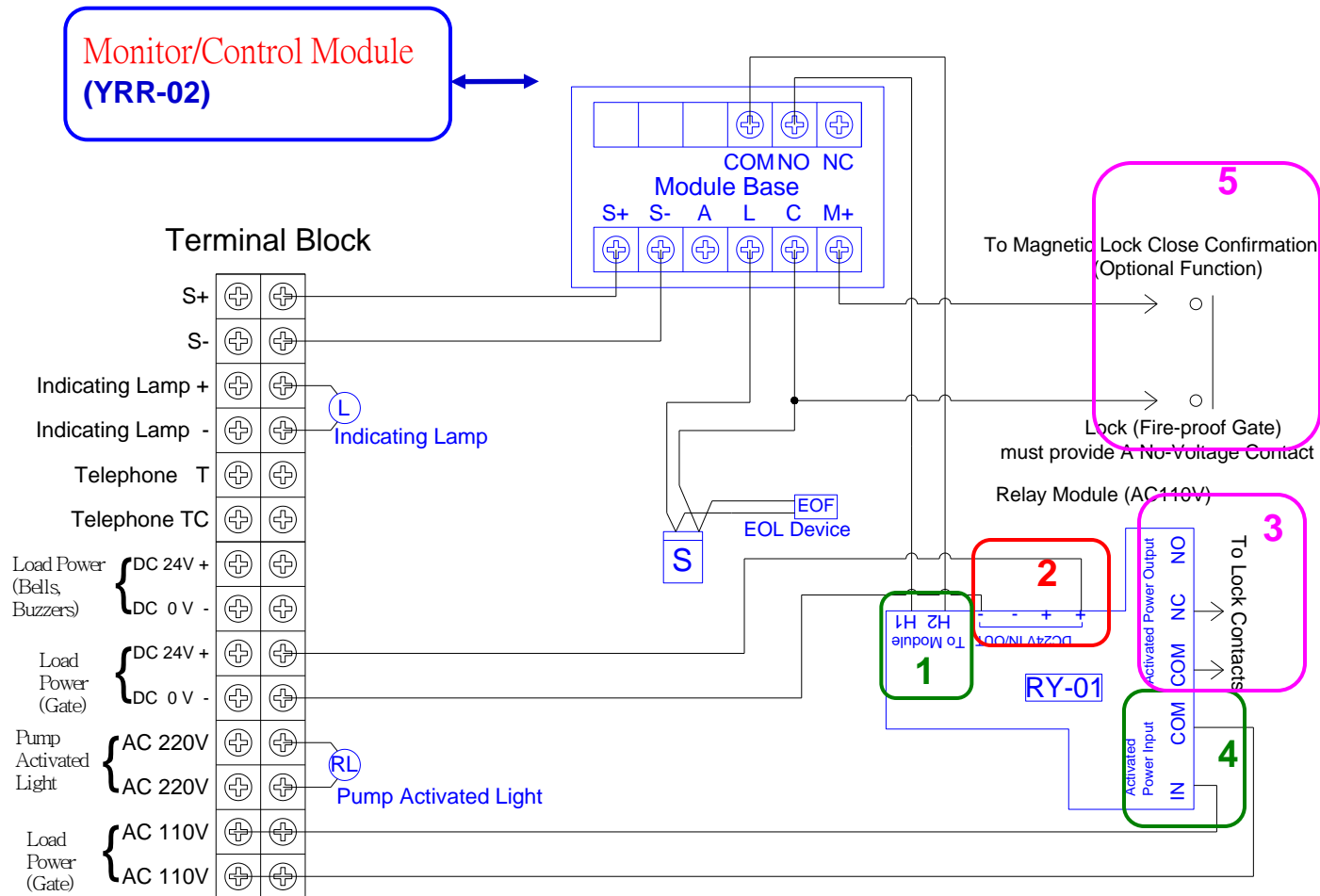
8.f. Magnetic Lock (DC 24V) + Monitor/Control Module YRR-02



Wiring Notes:

1. DC24V Input provides DC24V for Control Output
2. Voltage Control Output, when action, provides power to activate Magnetic Lock (COM, NO contacts, DC24V)
3. To Lock Close Confirmation: C, M to Lock Close Contact for returning confirmation signal

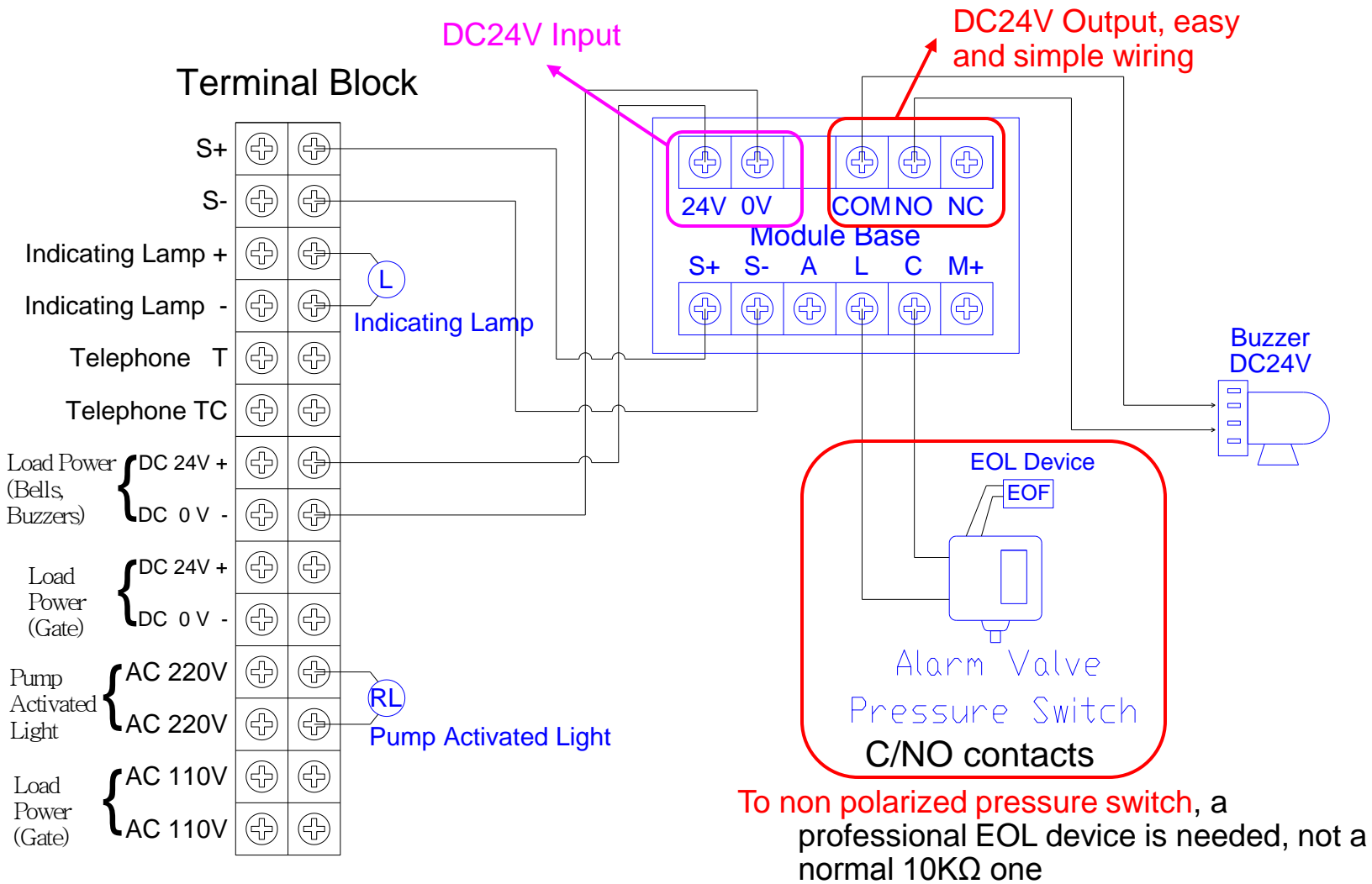
8.g. Magnetic Lock (DC 110V) + Monitor/Control Module YRR-02 + Relay Module RY-01



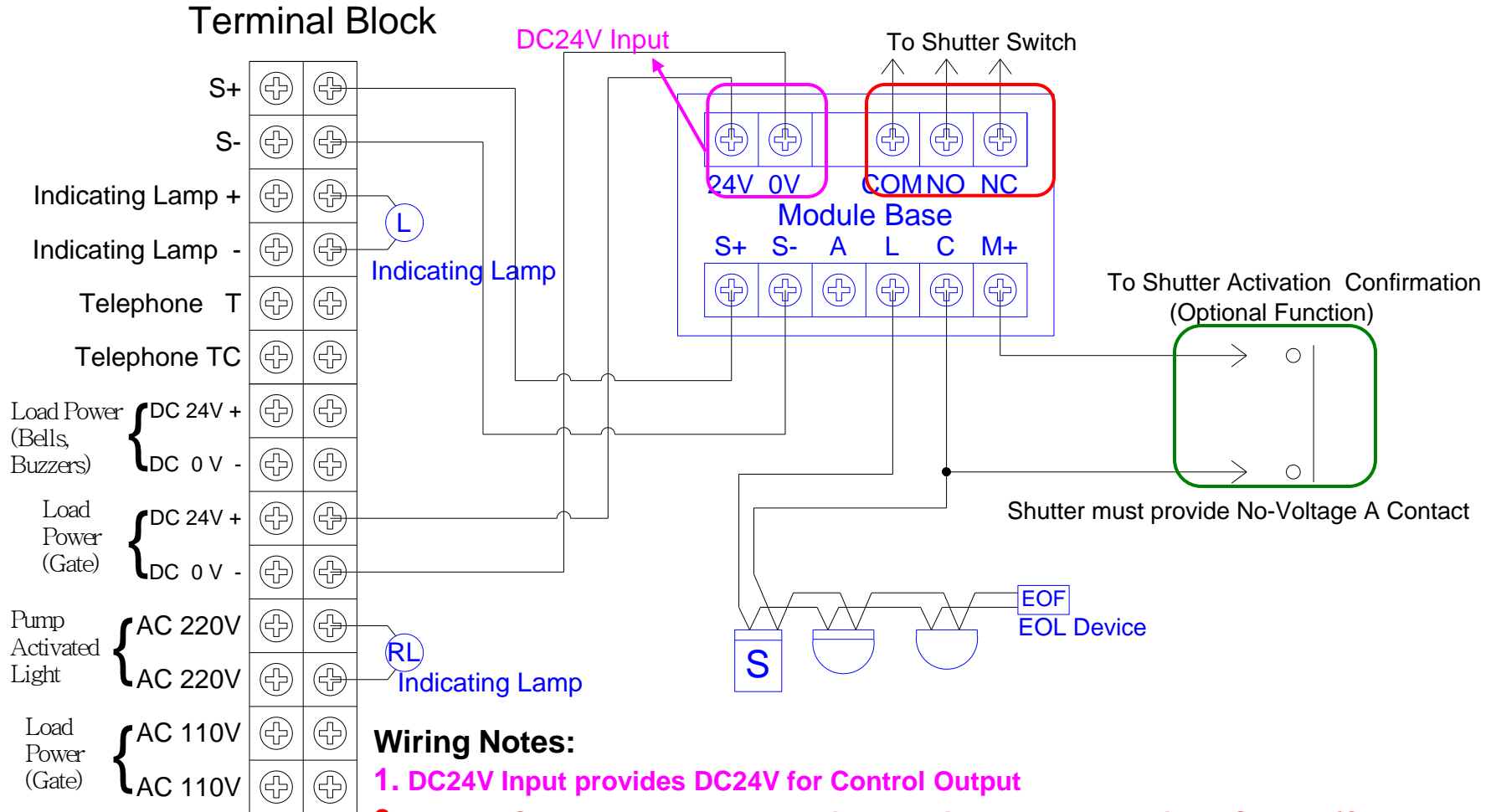
Wiring Notes:

- To Module:** Fire reporting signal come to Relay Module and activate the Output Voltage
- Provide DC24V:** for Relay Module to activate operating
- Activated Power Input:** AC110V Input
- Activated Power Output:** provide AC110V for Magnetic Lock when action
- To Lock Close Confirmation:** C, M to Lock Close Contact for returning confirmation signal

8.h. Pressure Switch for Water-Based Fire Protection System (Mist, Foam, Sprinkler) + Buzzer + Monitor/Control Module YRR-02



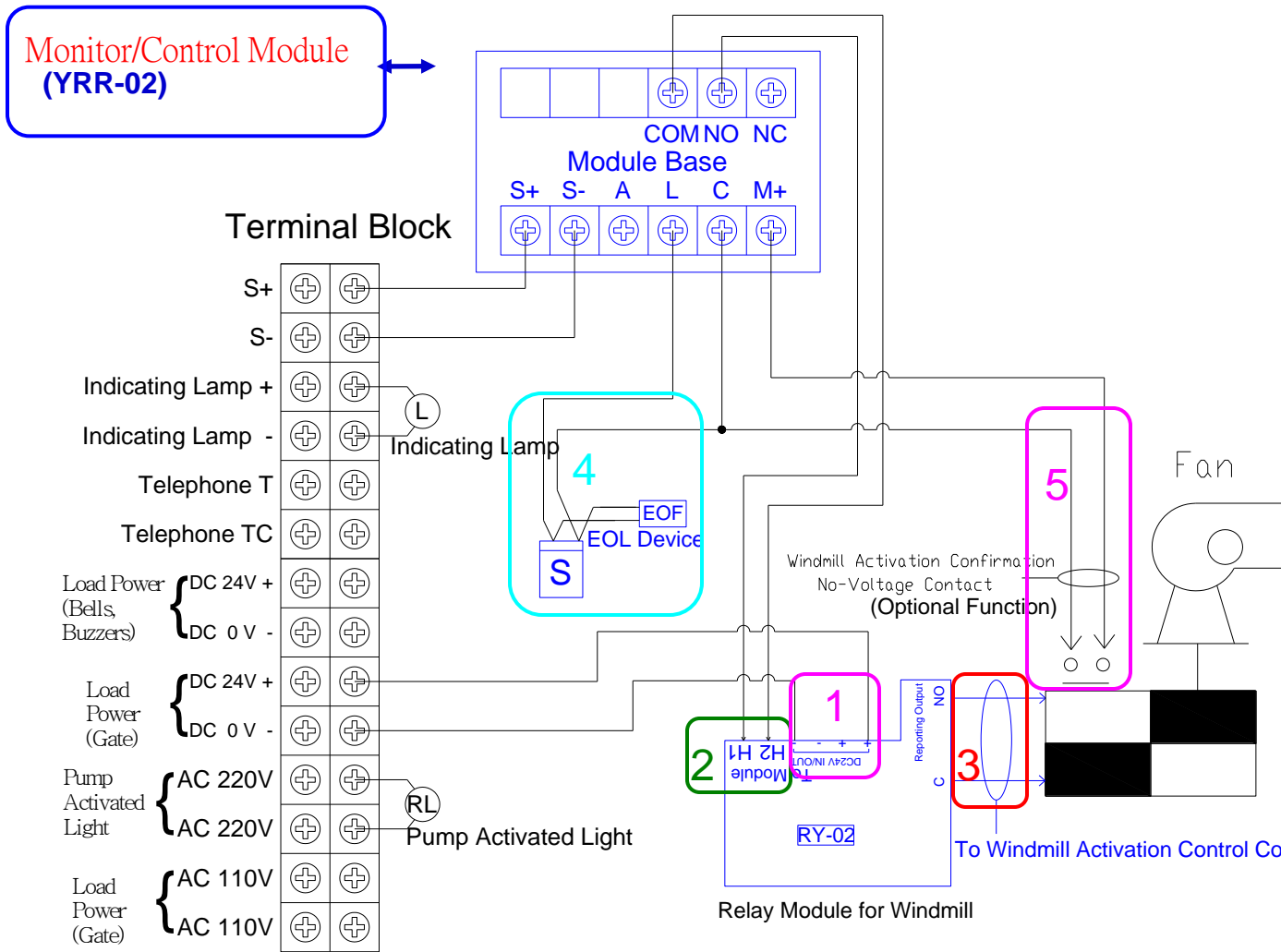
8.i. Smoke Extraction System – Shutter (DC24V) + Monitor/Control Module YRR-02



Wiring Notes:

- DC24V Input provides DC24V for Control Output
- Voltage Control Output, when action, provides power to activate Shutter (COM, NO contacts, DC24V)
- To Shutter Activation Confirmation: C, M to Activation Contact for returning confirmation signal

8.j. Smoke Extraction System – Windmill + Monitor/Control Module YRR-02 + Relay Module RY-02



Wiring Notes:

1. Provide DC24V: for Relay Module to activate operating
2. Control Signal To H1,H2 Contact: Breakover Relay's H1,H2 activates operating
3. Reporting Input: Breakover C, NO activates Windmill
4. Connect to conventional detectors: L, C Contact connect to conventional detectors, terminal need a professional EOL device
5. To Windmill Activation Confirmation: C, M to Activation Confirmation Contact for returning confirmation signal

9. Addressable Detector Wiring Instruction

1. Addressable Detector Base **YRR-03**
 - a. Addressable Detector Base
 - b. Addressable Detector Base Wiring Instruction
 - c. Addressable Detector Base Wiring Application
2. Addressable Detector connection to Conventional Detectors Wiring
3. Addressable Rate of Rise Heat Detector **YRR-11**
4. Addressable Fixed Temperature Heat Detector **YRR-12**
5. Addressable Photoelectric Smoke Detector **YRR-13**

9.1.a. Addressable Detector Base **YRR-03**

Functions:

- Status indicators for “Monitoring,” Activate,” “Error” and “Isolating.”
- Address coding by binary coded dip switch for easier setting
- Two-wires multi-transmission
- Stable communication with rejection to noise and disturbances
- Self-test functions for circuit disconnection and activation
- Expandable to connect with photoelectric smoke, rate of rise heat and fixed temperature heat detectors, and no need for external power supply



Function	Circuit Input
EOL Resistor	Below 10 Ω / master line
Ambient Temperature	-10°C ~ 50°C Relative Humidity below 95 %
Monitored Current	420 μ A/DC24V
Operating Voltage	DC16~30V
Material	Fire-proof plastic
Dimension	108 x 22.6 mm
Note	Addressable professional EOL resistor

- Quality
- Price
- Service

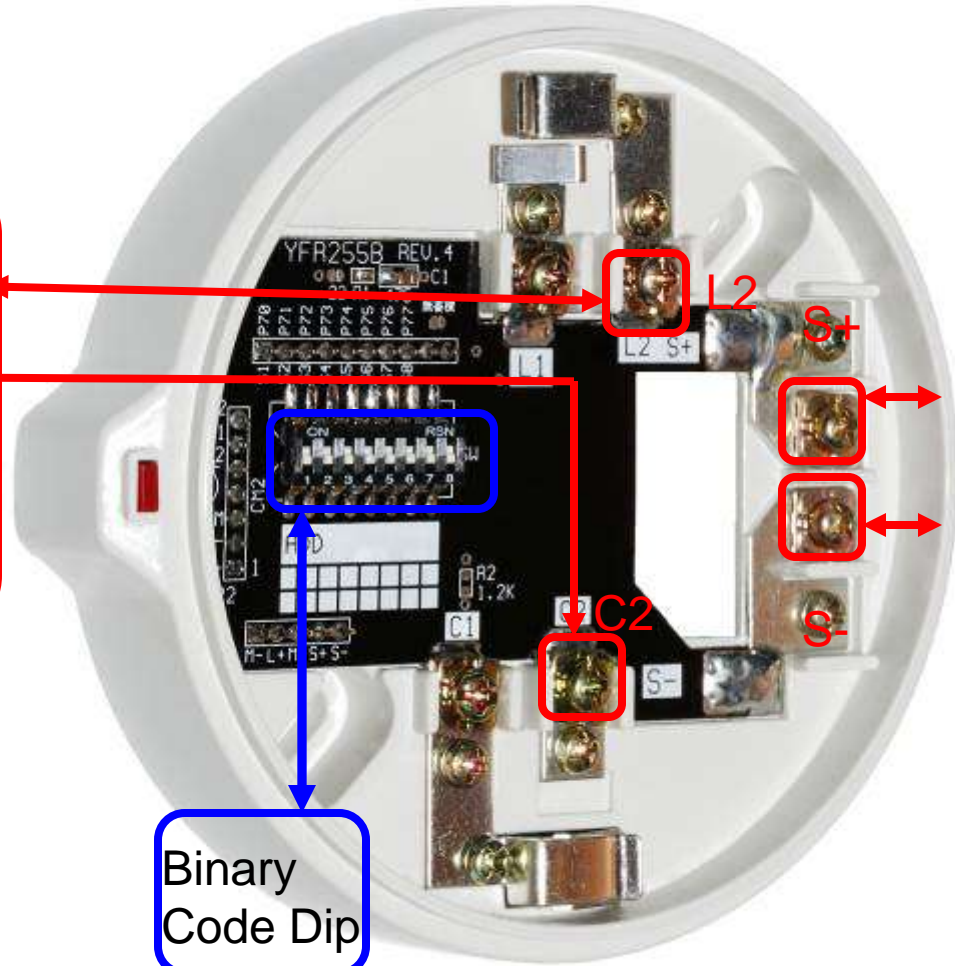


9.1.b. Addressable Detector Base (YRR-03) Wiring Instruction

To
Conventional
Detector's
Contacts

L+ LC

Connect a
professional
10KΩ at the
terminal



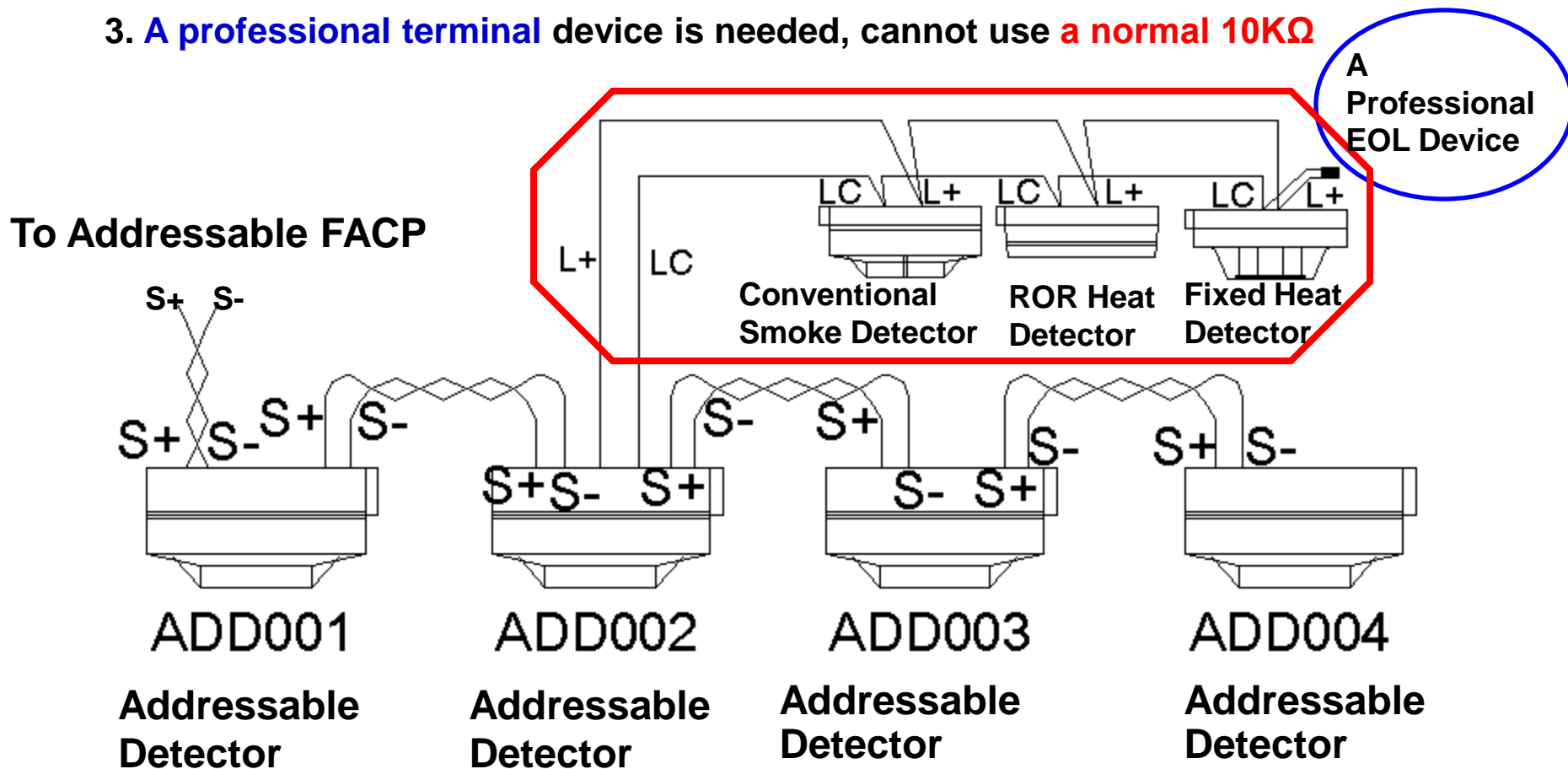
To Addressable
Detectors, Module, or
Communication
Module, S+ to S+
S- to S-

Binary
Code Dip

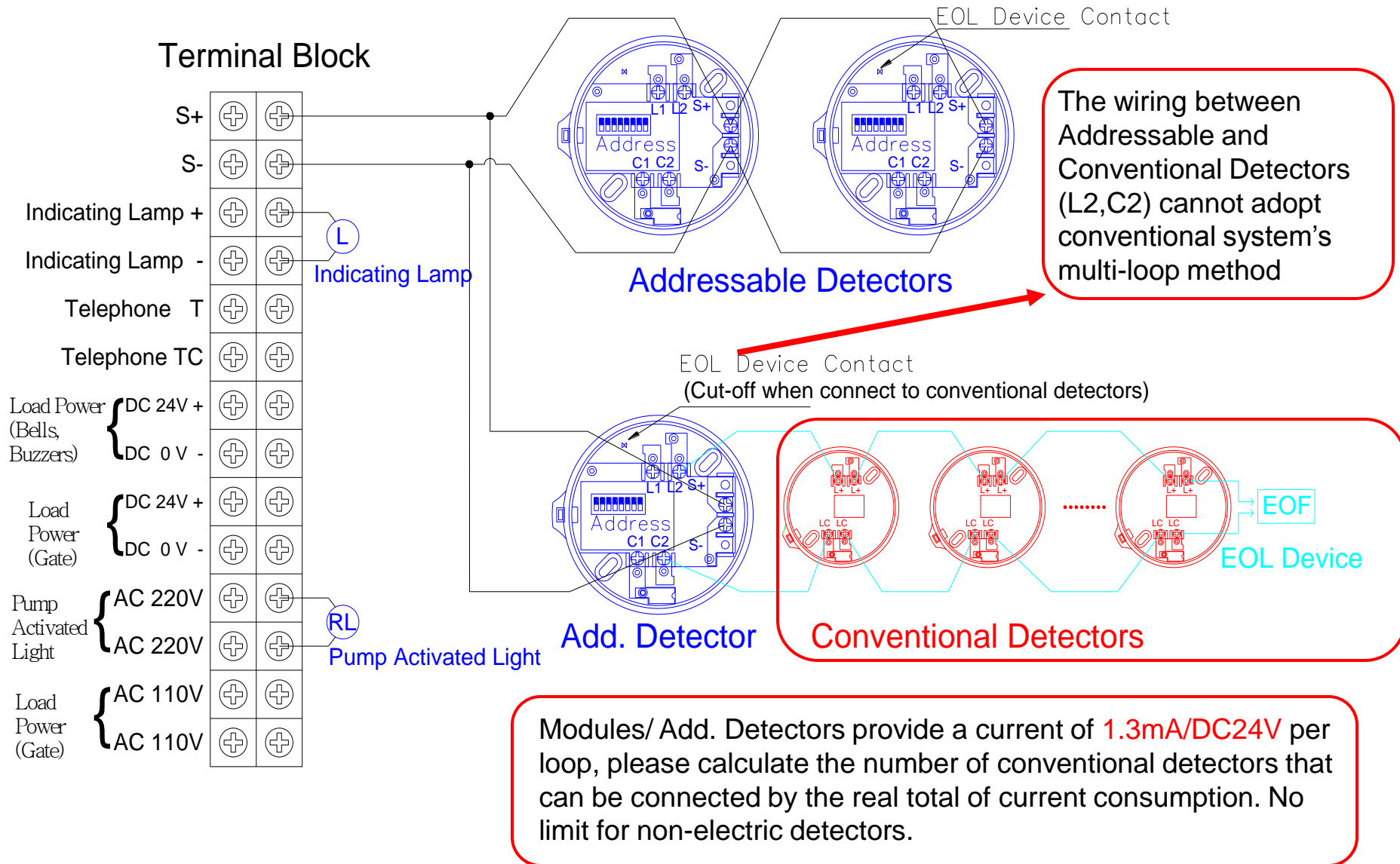
9.1.c. Addressable Detector Base **YRR-03** Wiring Application

Wiring Notes:

1. Addressable Detector Base's L+ LC connect to **Conventional Detectors'** L+ LC, polarized.
2. Provided current is **not over 1.3mA/DC24V**
3. **A professional terminal device is needed, cannot use a normal 10K Ω**



9.2. Addressable Detector (connection to conventional detectors) Wiring Instruction



9.3. Addressable Rate of Rise Heat Detector **YRR-11**

Functions:

- Address coding by binary coded dip switch for easier setting
- Two-wires multi-transmission
- Expandable to connect with photoelectric smoke, rate of rise heat and fixed temperature heat detectors, and no need for external power supply
- It reacts sensitively with rapidly temperature rises
- Employ mechanical operating principle for long-term durability
- Auto reset to original status after activated for reusing
- High-quality parts are used to ensure the functional reliability
- The detector is made of flameproof and high temperature-resistant plastic with elegance design

Circuit Resistance	Below 10Ω/master line
Operating Environment	-10°C~50°C, relative humidity below 95%
Monitored Current	420μA/DC24V
Operating Voltage	DC16~30V
Material	Flame-proof plastic
Dimensions	108*43mm
Note	On-board Addressable EOL resistor



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Price
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9.4. Addressable Fixed Temperature Heat Detector **YRR-12**

Functions:

- Address coding by binary coded dip switch for easier setting
- Two-wires multi-transmission
- Expandable to connect with conventional detectors
- Adopt UL-certified temperature sensor with better quality and durable maintenance
- Auto reset to original status after activated for reusing
- Sealed sensor is to avoid moisture and dust entering and affecting the performance
- The electric contacts made of pure silver can respond sensitively
- The detector is made of flameproof and high temperature-resistant plastic with elegance design

Circuit Resistance	Below 10Ω/master line
Operating Environment	-10°C~50°C, relative humidity below 95%
Monitored Current	420μA/DC24V
Operating Voltage	DC16~30V
Material	Flame-proof plastic
Dimensions	108*43mm
Note	On-board Addressable EOL resistor



9.5. Addressable Photoelectric Smoke Detector **YRR-13**

Functions:

- Address coding by binary coded dip switch for easier setting
- Two-wires multi-transmission
- Expandable to connect with conventional detectors
- With the function of photoelectric sensor, it can act rapidly and accurately with high stability. Moreover, there is no false alarm due to chemicals, exhaust gas, wind and exterior light
- Stainless steel insect-proof nets of holes' diameter 0.5 mm ensure smooth inflow of smoke but preventing from insects or dust
- The detector is reusable and easy maintenance. Remove the cover to clean the interior
- With the compact styling and pretty outlines, the detector can enhance ceilings decoration design and visual effect
- The detector is made of flameproof and high temperature-resistant plastic with elegance design

Circuit Resistance	Below 10Ω/master line
Operating Environment	-10°C~50°C, relative humidity below 95 %
Monitored Current	420μA/DC24V
Operating Voltage	DC16~30V
Material	Flame-proof plastic
Dimensions	108*43mm
Note	On-board Addressable EOL resistor

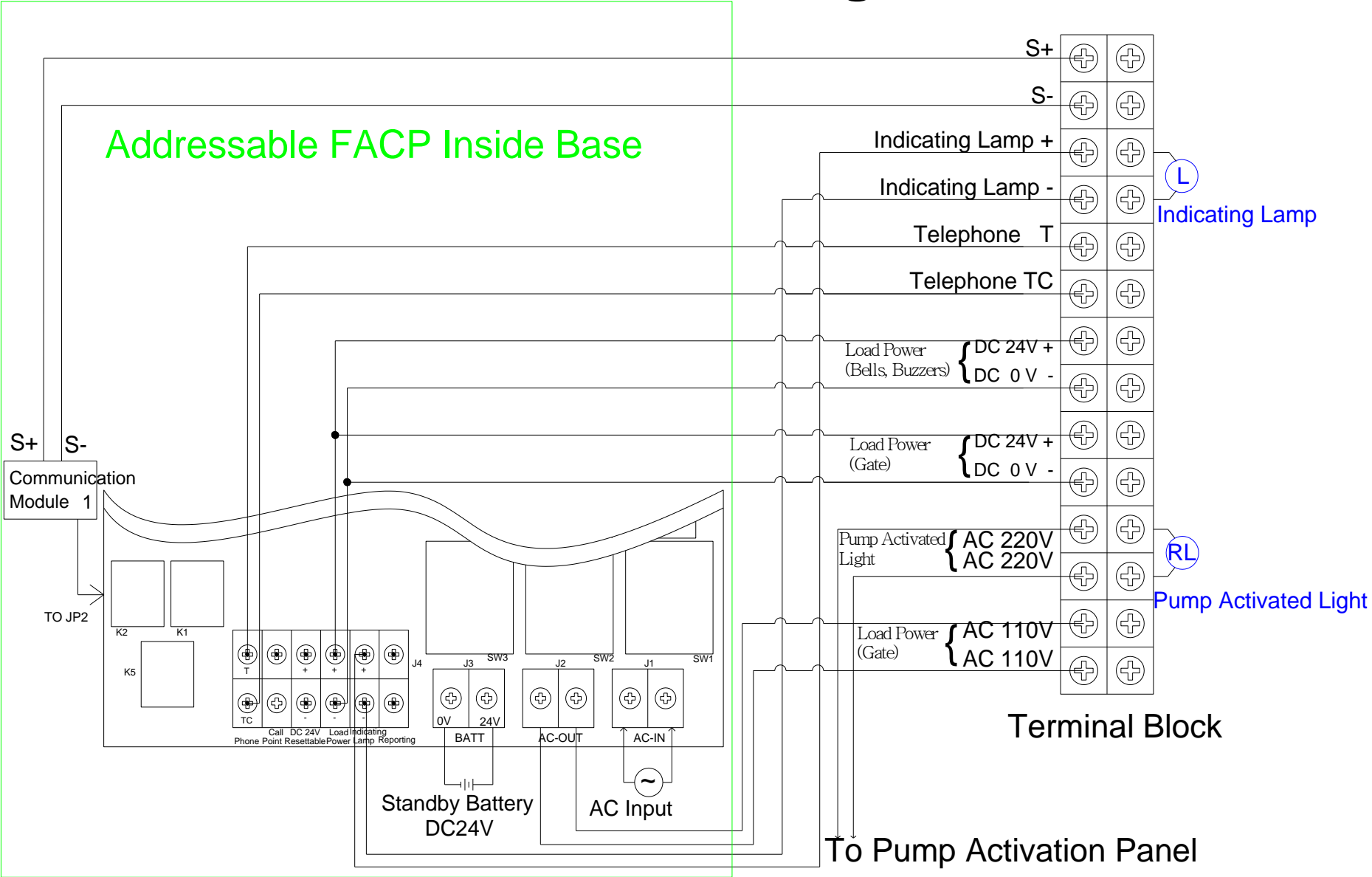


10. Addressable Fire Alarm Control Panel Inside and Terminal Block Wiring Introduction

10.1. Addressable Fire Alarm Control Panel **Inside Base and Terminal Block** Wiring Introduction

10.2. Addressable Fire Alarm Control Panel **Terminal Block** Wiring Instruction

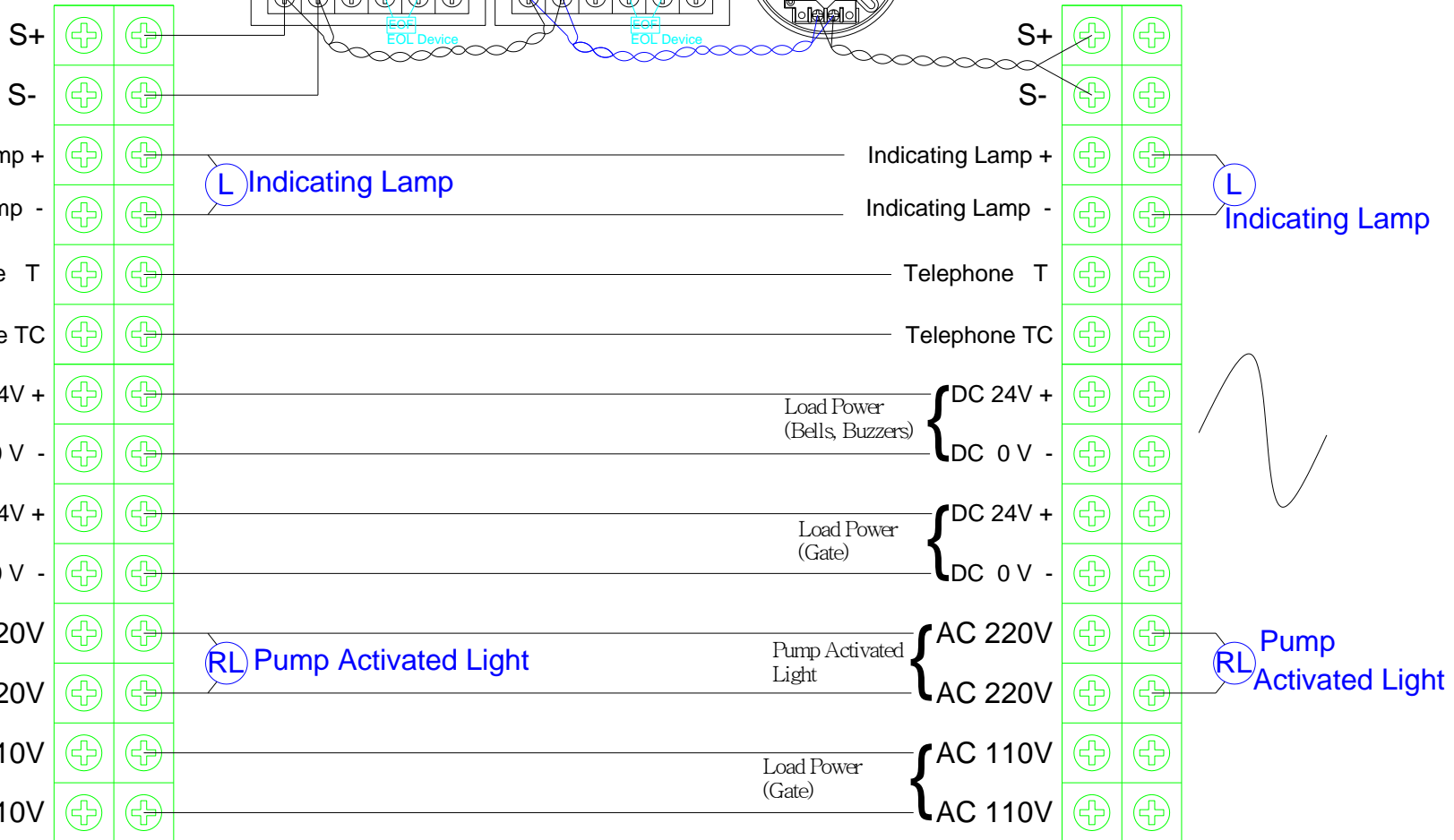
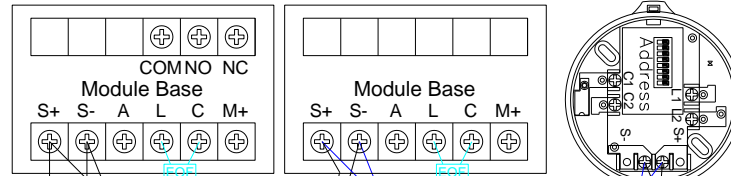
10.1. Addressable Fire Alarm Control Panel Inside Base and Terminal Block Wiring Introduction



10.2. Addressable Fire Alarm Control Panel Terminal Block Wiring Instruction

Terminal Block

Terminal Block



11. Addressable FACP – Signaling Line Circuit (SLC) Wiring Introduction

11.1. SLC **Standard Wiring** Instruction

a. **Class A (style 6 & 7):** Dual Direction
Power Supply

b. **Class B (style 4):** Single Direction
Power Supply

11.2 . SLC **Branch Wiring** Instruction

Quality

Price

Service

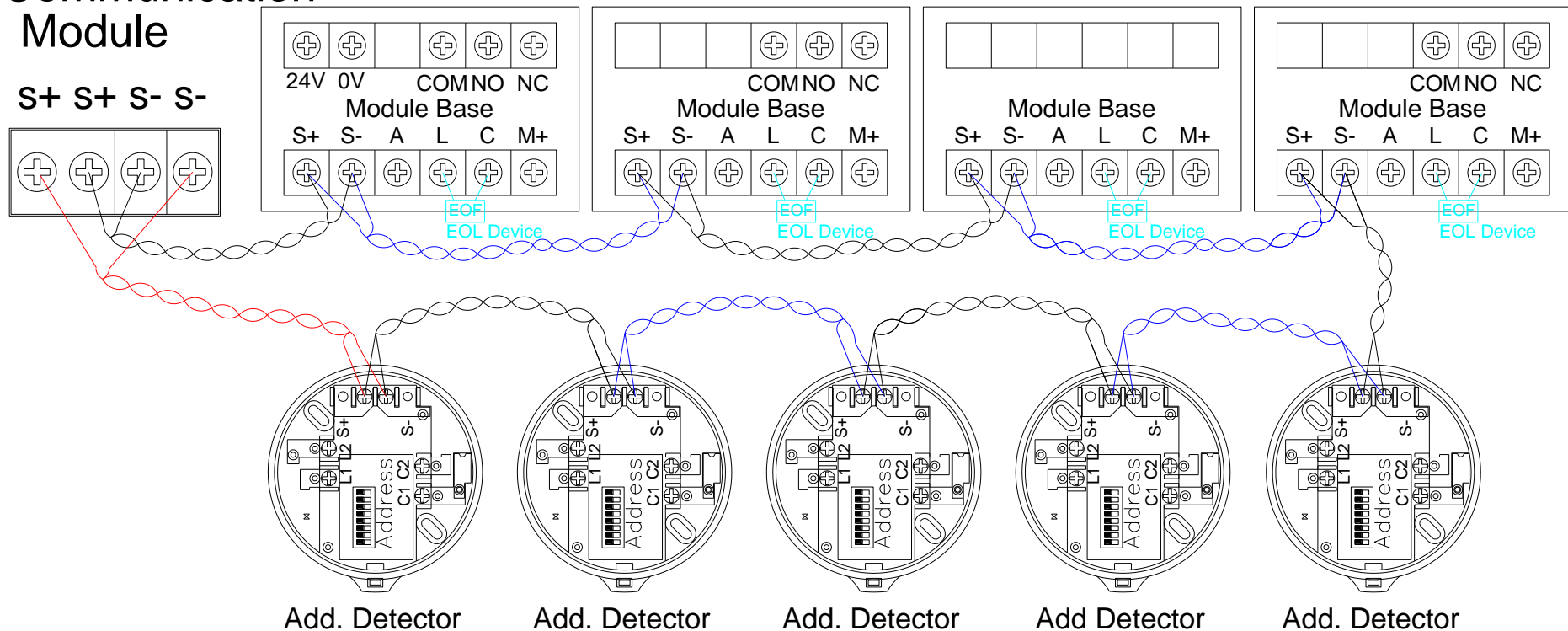
11.1. Signal Line Circuit (SLC) Standard Wiring Instruction

Standard Wiring uses Parallel Connection Method for easier troubleshooting procedure and convenience

a. Class A (style 6 & 7): Dual Direction Power Supply

Note : Should one end breaks off, the other end can supply power, modules and detectors are active (normal signal)

Communication Module



11.1. Signal Line Circuit (SLC) Standard Wiring Instruction

Standard Wiring uses Parallel Connection Method for easier trouble-shooting procedure and convenience

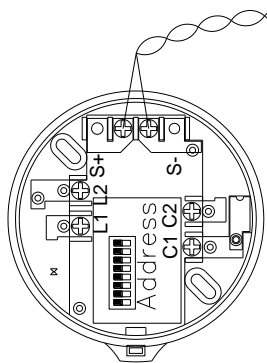
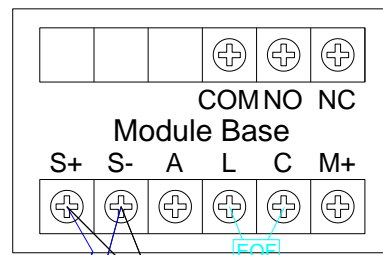
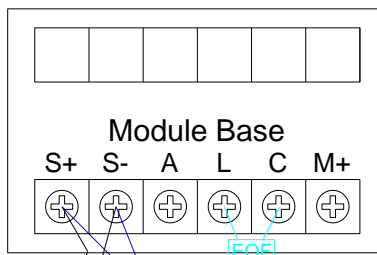
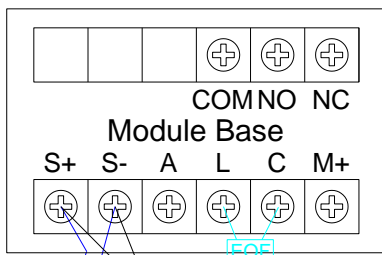
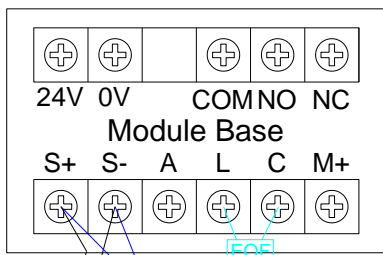
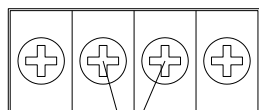
b. Class B (style 4): Single Direction Power Supply

Note: Should one end breaks off, every device down stream of the break will be unavailable (trouble signal)

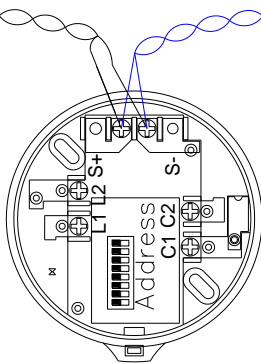
Communication

Module

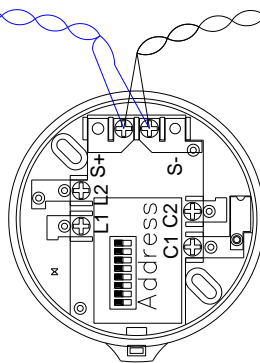
S+ S+ S- S-



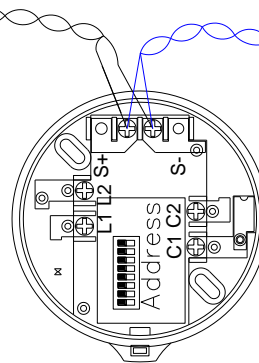
Add. Detector



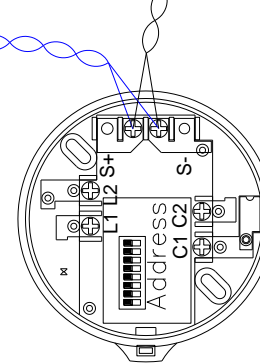
Add. Detector



Add. Detector



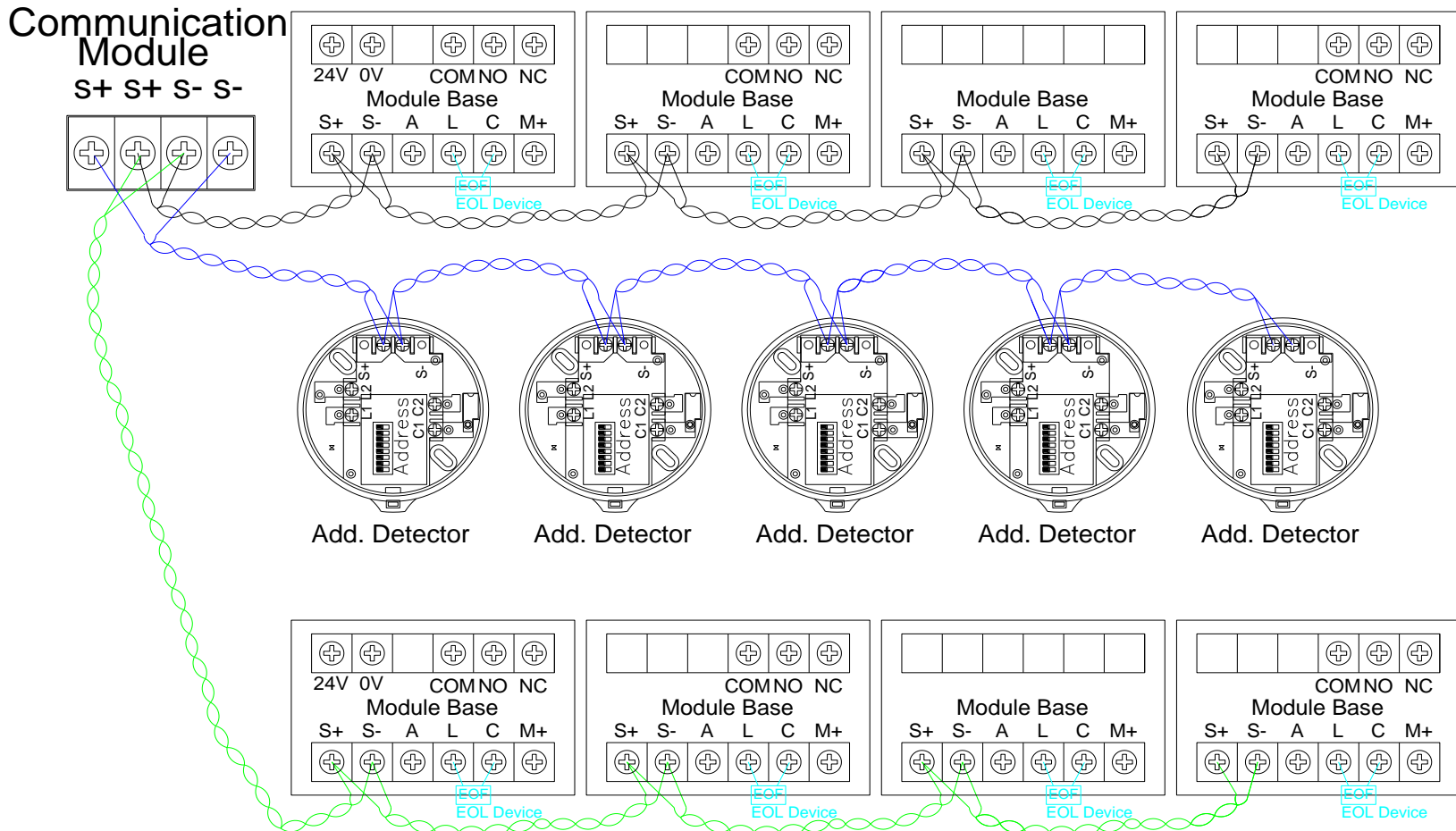
Add. Detector



Add. Detector

11.2 . SLC Branch Wiring Instruction

Note: As requirements at the construction site, branch wiring may be adopted; however, should not be branched more than **15 areas per loop** and should be noted clearly in the block diagram for easier trouble shooting procedure



12. Addressable Fire Alarm Control Panel Design Notification

1. **Address coding by binary coded dip switch**, not limited to a specific address; Expandable to connect with photoelectric smoke, rate of rise heat and fixed temperature heat detectors, and no need for external power supply; After connected to FACP, it's able to do the self-test and FACP's fire alarm and short-circuit test.
2. **Wiring between modules and conventional detectors cannot adopt multi-loop wiring method**
3. **Two-wire multi-transmission**, using only twisted pair wire to wire the panel, **no need for external power coil**
4. Light indication pattern (**fire: red light constantly on, disconnection: red light flashing, monitoring: red light flashing once per 2.5s**).
5. Distance between FACP and modules can be **up to 2km**
6. Max current of detectors wiring addressable FACP is **45mA/DC24V**, exceeding the maximum may lead the loop to abnormal operation
7. Modules/ Address Detectors provide a current of **1.3mA/DC24V** per loop, please calculate the number of conventional detectors that can be connected by the real total of current consumption. No limit for non-electric detectors.
8. Load limitation for each external device:
 - 1) **Indicating Lamp (LED) : 40mA**
 - 2) **Area Bell : 55mA**
 - 3) **Buzzer : 0.5A**
 - 4) **Gate : 0.5A**

12. Addressable Fire Alarm Control Panel Design Notification

9. Fire Manual Call Point's Telephone contact TC cannot connect to Module's C contact
10. Addressable Device's Terminals need a professional EOL Device, cannot use a normal 10K resistor.
11. Addressable manual call point' communication line adopts 2.0mm -1 pr PE Aluminum Foil Shielded Twisted Pair
12. Control Module **COM.NC.NO.** contacts' capacities are **DC30V 2A**, please use proper devices. A Relay Module **RY-01/02** is needed when connecting to higher devices
13. Relay Module **RY-01's COM.NC.NO** contacts are Voltage contacts, while **RY-02's H1.H2** are dry contacts, which capacity is **AC277V 16A**, please wiring proper devices . Please check Solenoid Valve's voltage and current before using. If they are higher than the capacity described above, an external appropriate control module is needed to ensure a normal operation for the system