



Secure I/O

Secure door control and I/O expansion

Installation Guide (ver 1.1)



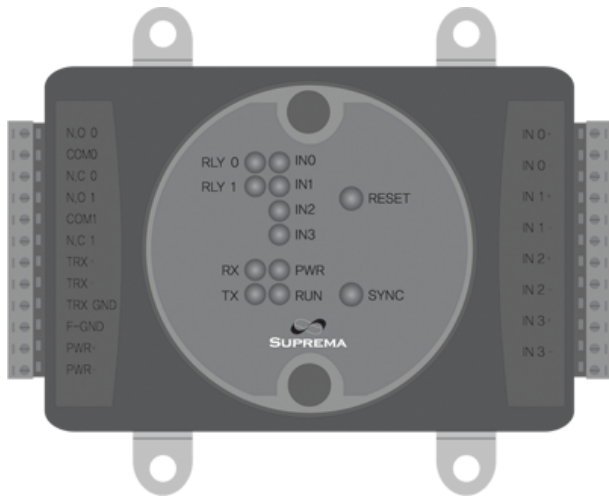
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Product Contents

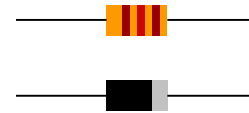
- **Basic Contents**



Secure I/O

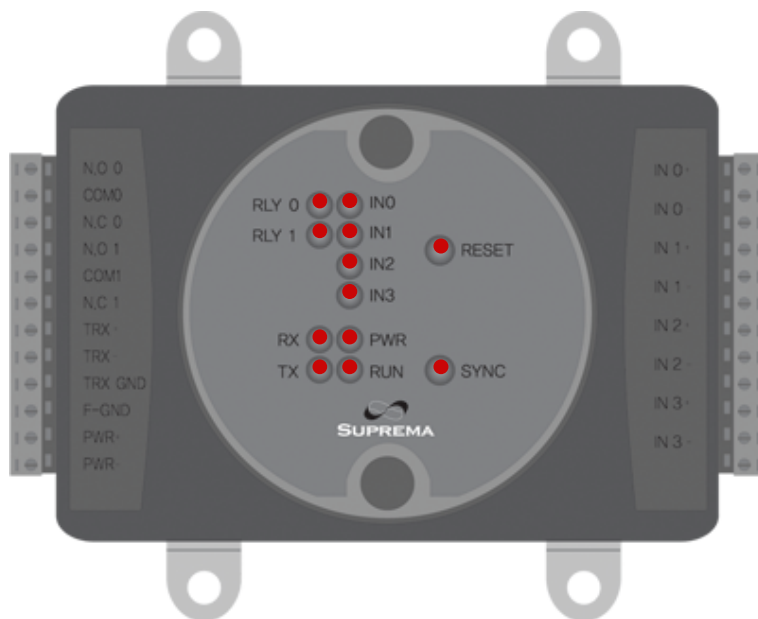


Wall mounting screws



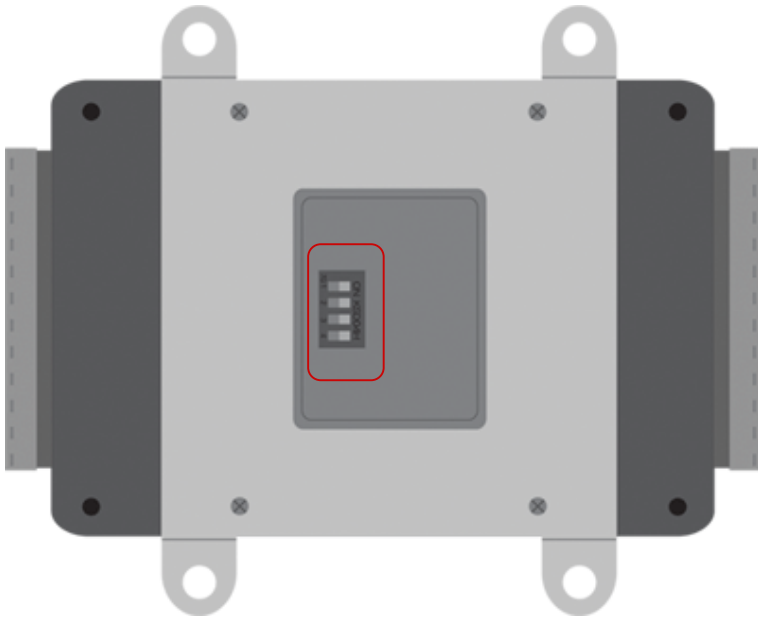
120 Ohm Resistor & Diode

Front Panel Description



- RLY0 LED - Status of Relay0
- RLY1 LED - Status of Relay1
- RX LED - Status of RS-485 Rx signal
- TX LED - Status of RS-485 Tx signal
- IN0 LED - Status of Input0
- IN1 LED - Status of Input1
- IN2 LED - Status of Input2
- IN3 LED - Status of Input3
- PWR LED - Power status
- RUN LED - Status of Secure I/O operation
- RESET BUTTON - Secure I/O hardware reset
- SYNC BUTTON - Synchronization between Secure I/O and device (BioStation/ BioEntry Plus) for security by exchanging an encrypted keys. This prevents the operation of Secure I/O when the external device has been exchanged by an intruder. Sync button should be pressed when a device is set as a host in a RS-485 loop.

Rear Panel Description

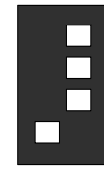


- ID0 / ID1 - Dip switch to set an ID of Secure I/O
Since max number of Secure I/O in an RS-485 loop is four, the ID of Secure I/O should be set among 0, 1, 2, 3.
- RSV - reserved for future use
- Secure I/O ID setting



RSV OFF
RSV OFF
ID1 OFF
ID0 OFF

ID = 0



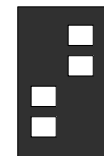
RSV OFF
RSV OFF
ID1 OFF
ID0 ON

ID = 1



RSV OFF
RSV OFF
ID1 ON
ID0 OFF

ID = 2



RSV OFF
RSV OFF
ID1 ON
ID0 ON

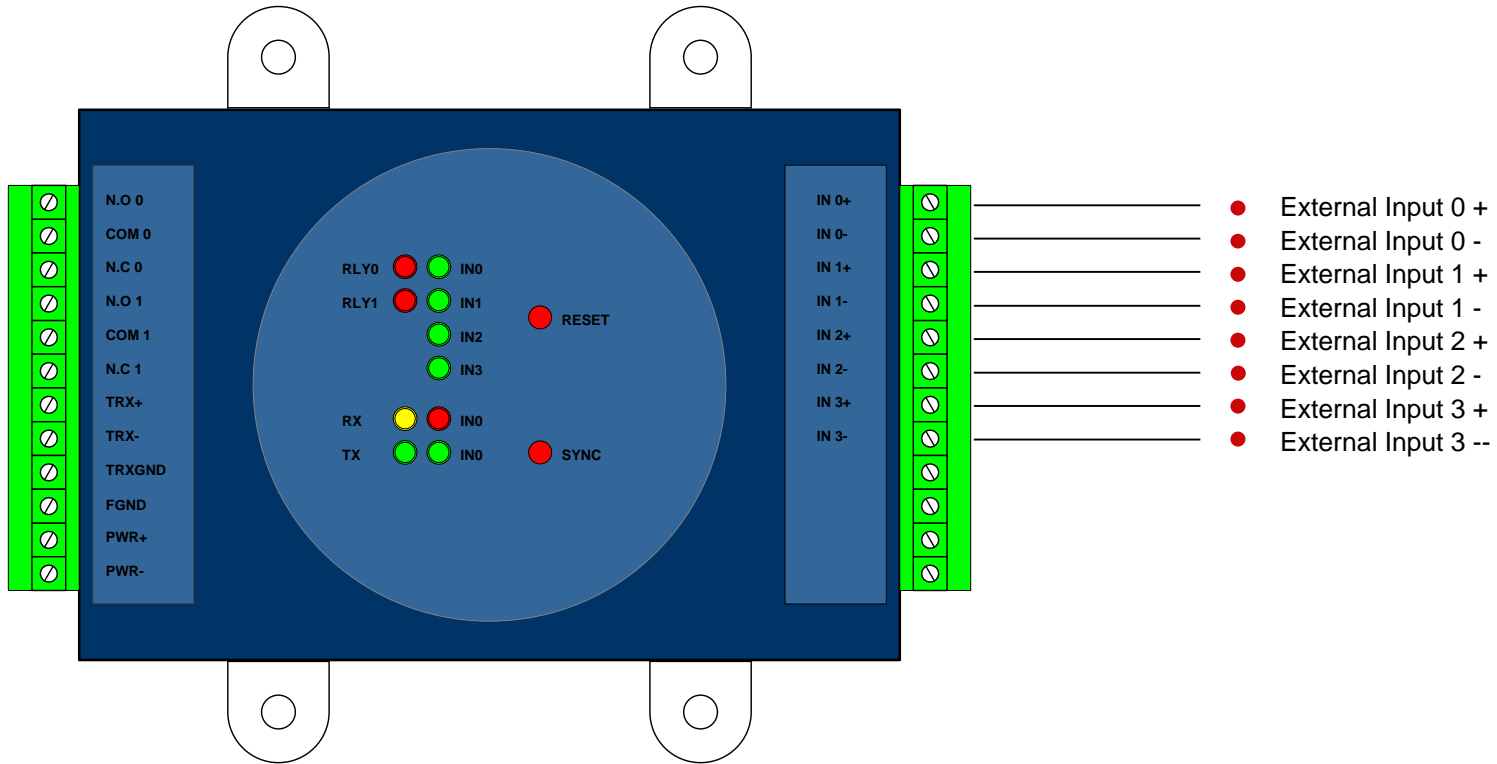
ID = 3

Connectors for External Interfaces 1

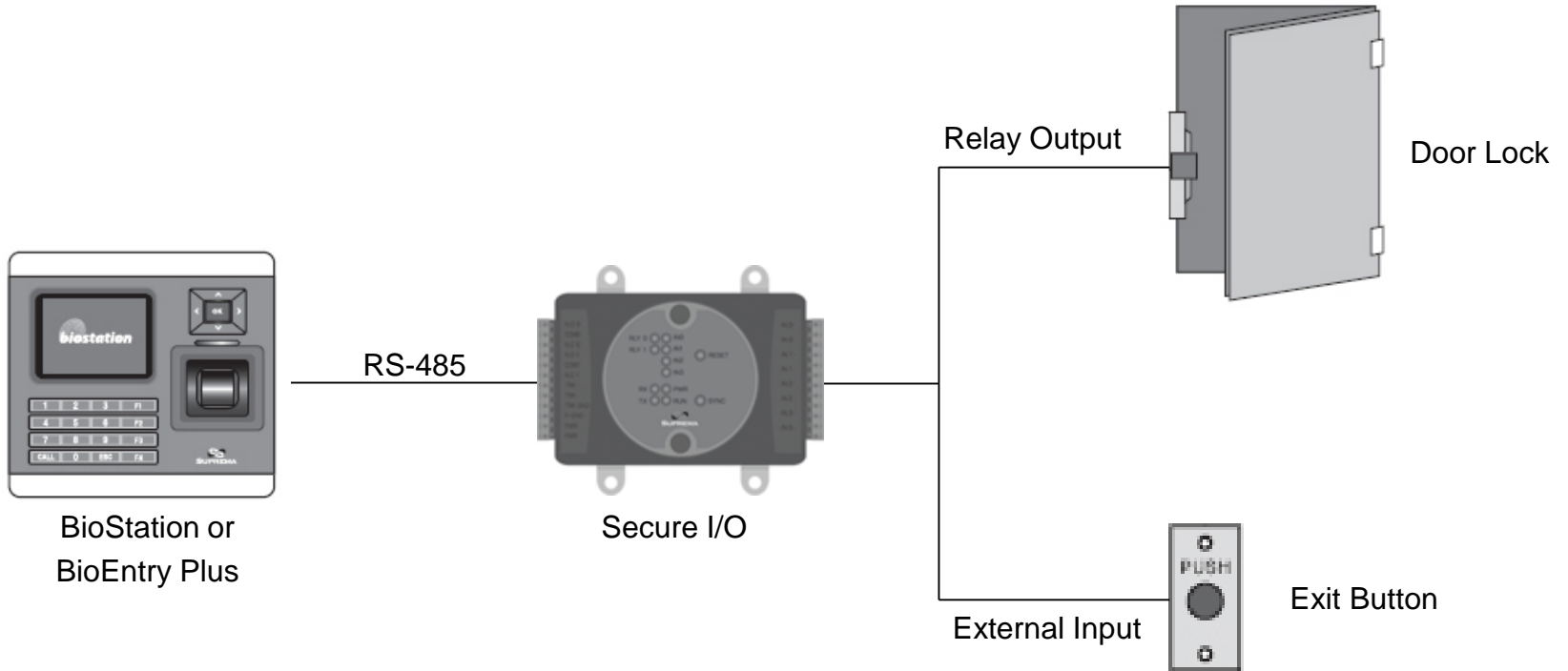
- Relay Output0 Normal Open
- Relay Output0 Common
- Relay Output0 Normal Close
- Relay Output1 Normal Open
- Relay Output1 Common
- Relay Output1 Normal Close
- RS-485 TRX+
- RS-485 TRX-
- RS-485 Ground
- Frame Ground
- Power Input+
- Power Input -



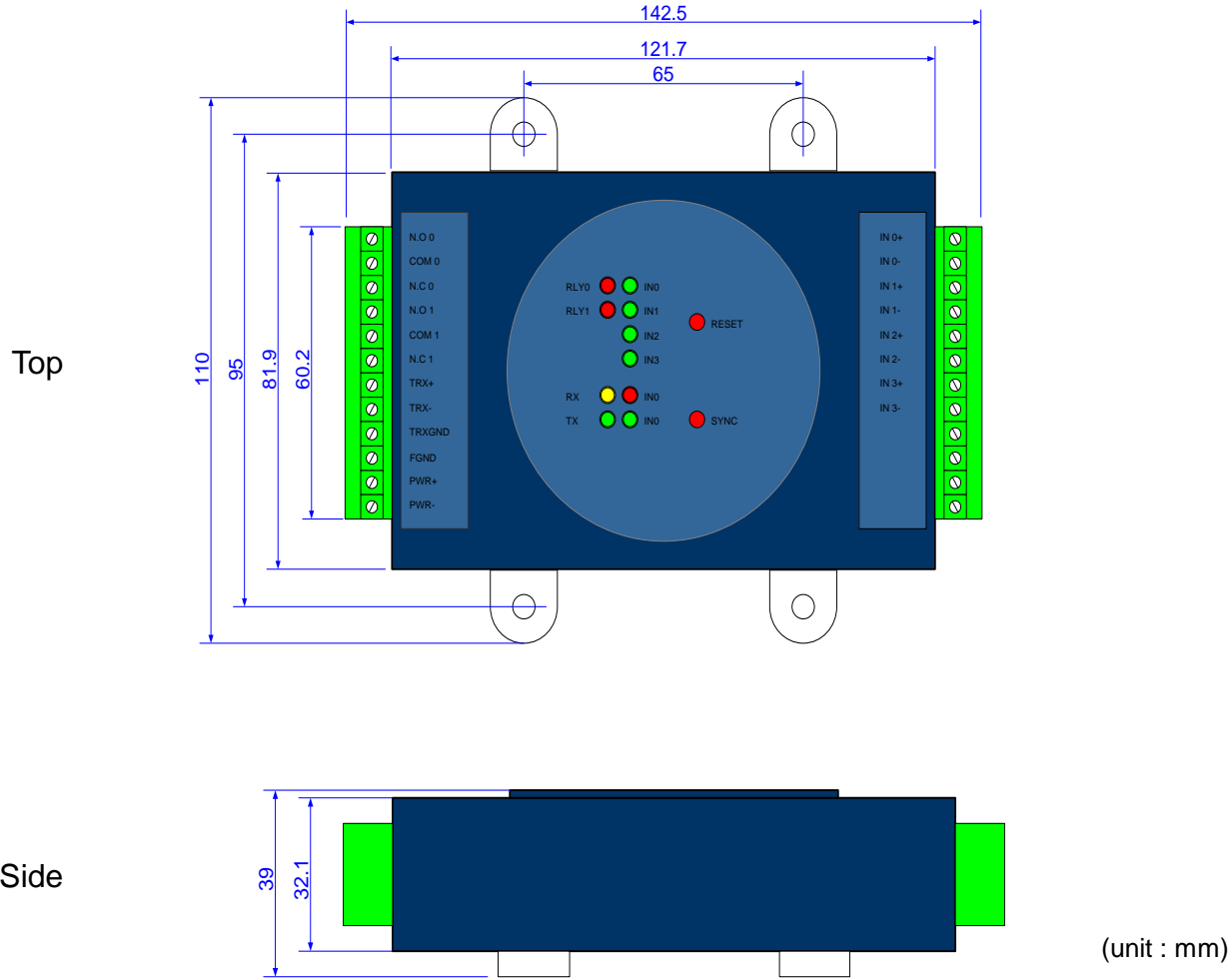
Connectors for External Interfaces 2



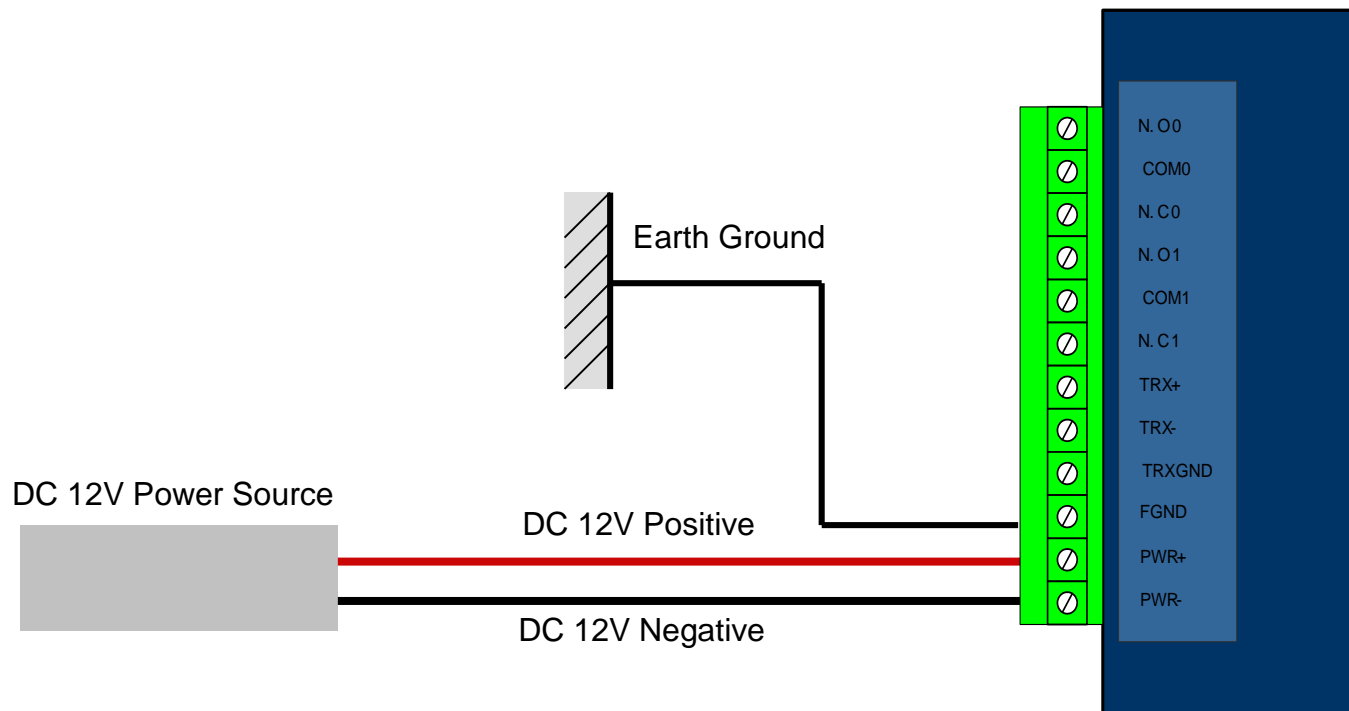
Installation Example



Product Dimension



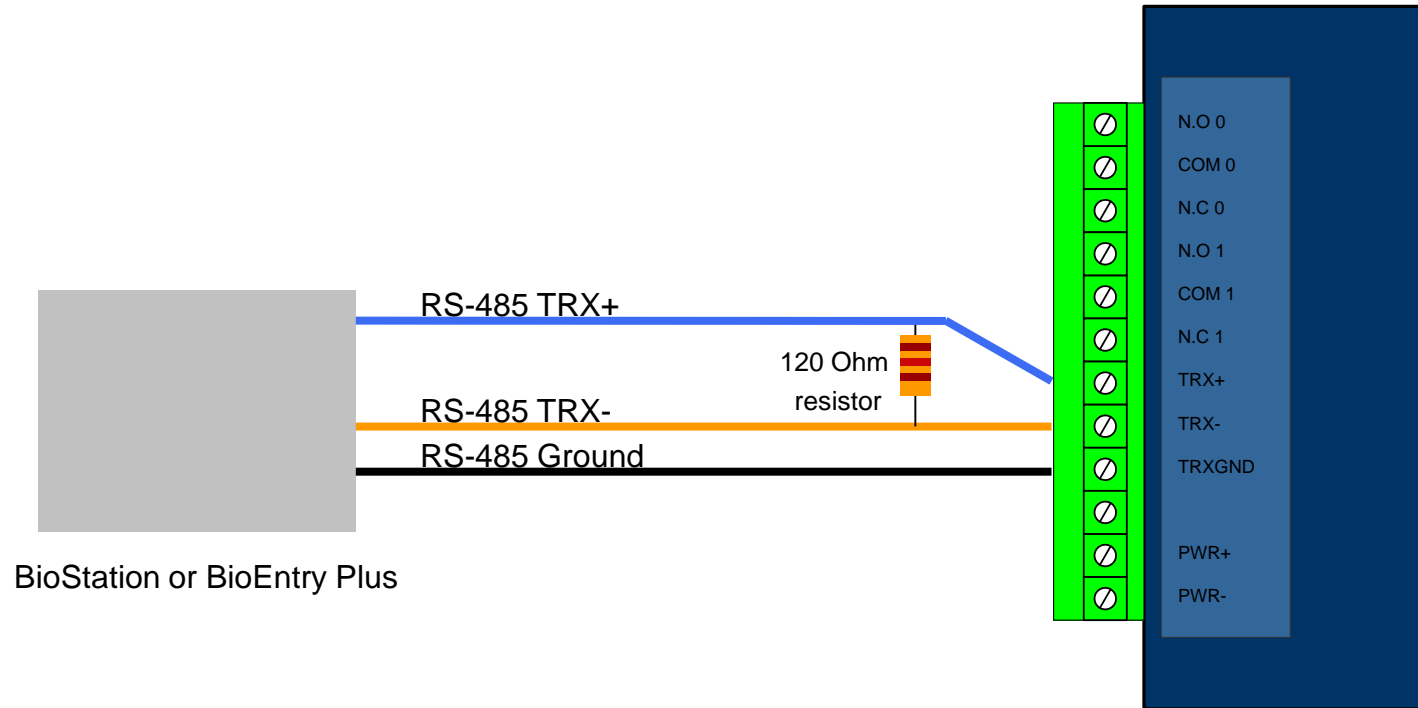
Power Connection



Recommended power supply

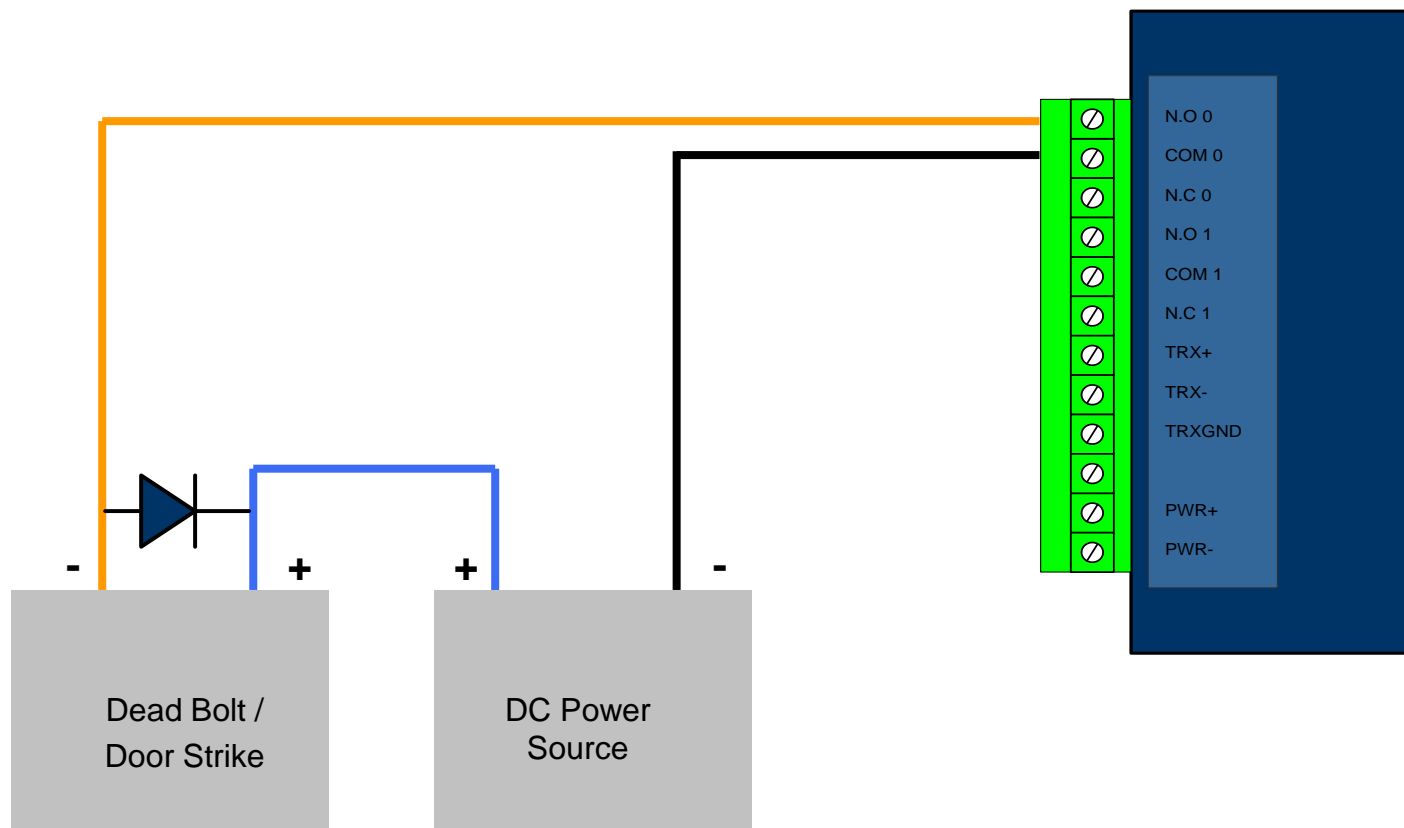
- 12V \pm 10%, at least 500mA for Secure IO alone installation.
- Comply with standard IEC/EN 60950-1
- **Secure I/O, the electrical locking device and access controller must use independent power source.**

RS-485 Connection



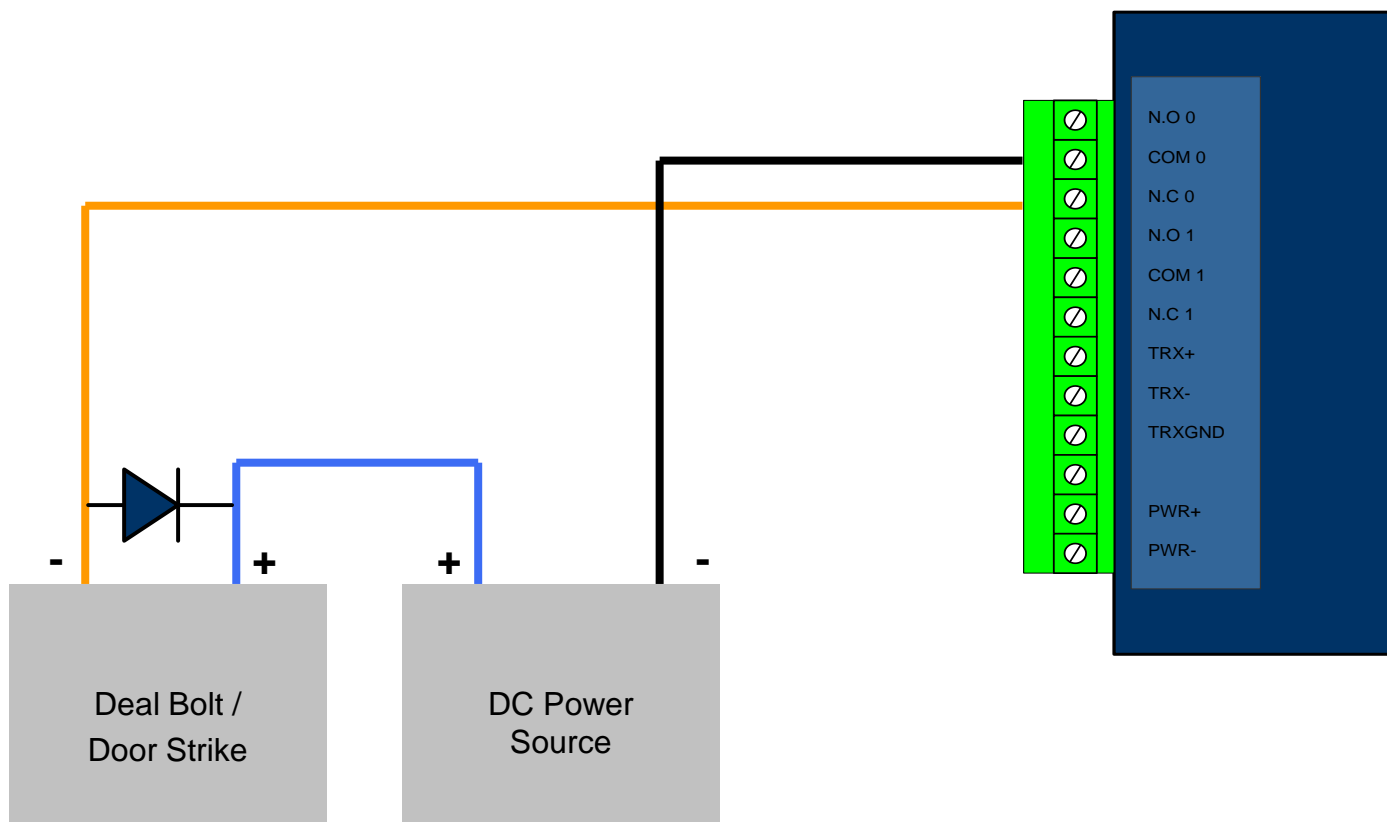
- In case the length of RS-485 line is so long to affect communication stability, connect the enclosed 120 Ohm resistor between TRX+ and TRX- connector of Secure I/O

Relay Connection – Fail Secure Lock



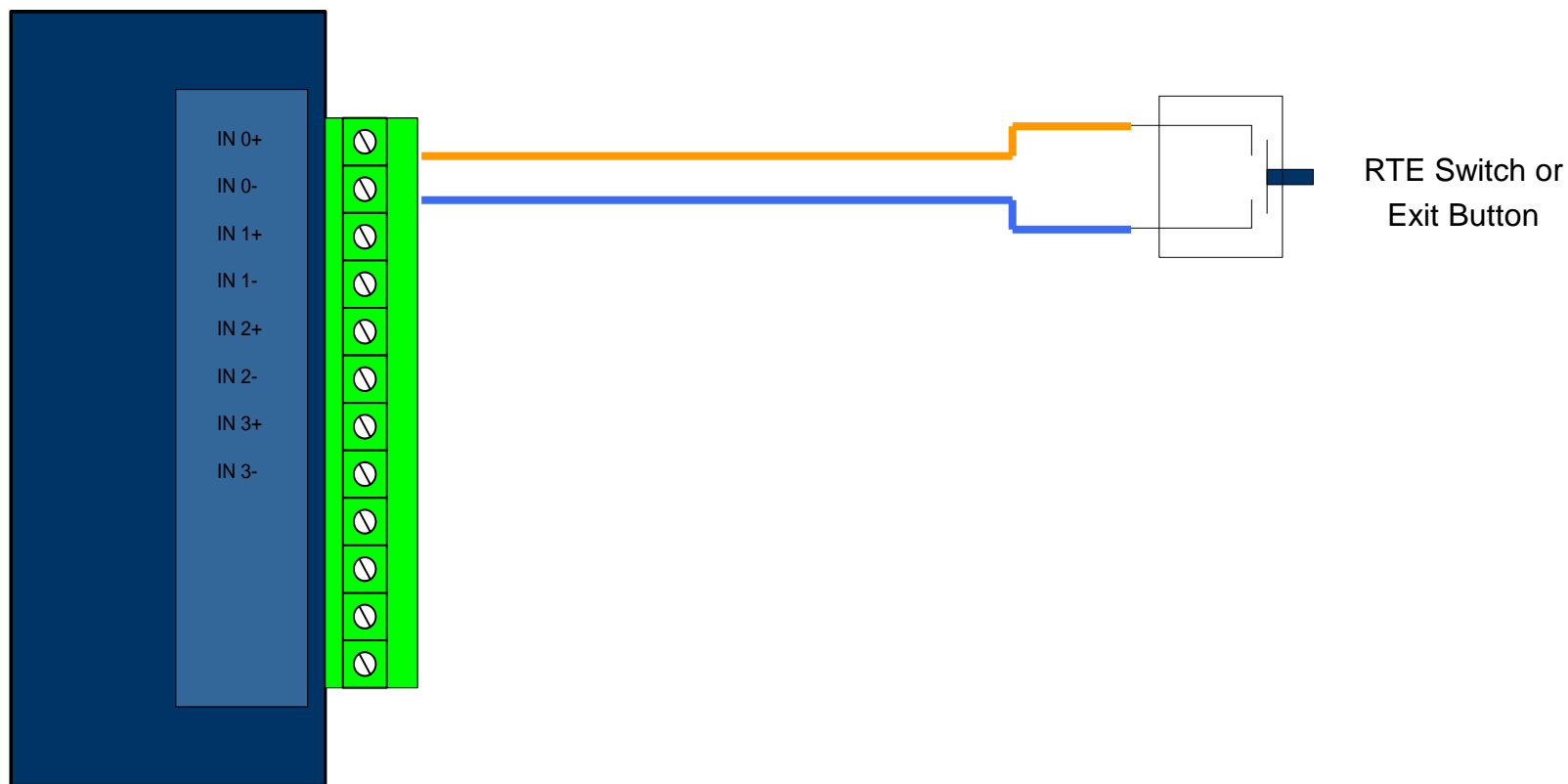
- **When using dead bolt or door strike, connect an enclosed diode as in the above diagram. Anode (line mark) of the diode should be connected to + power (Be careful of the direction)**

Relay Connection – Fail Safe Lock

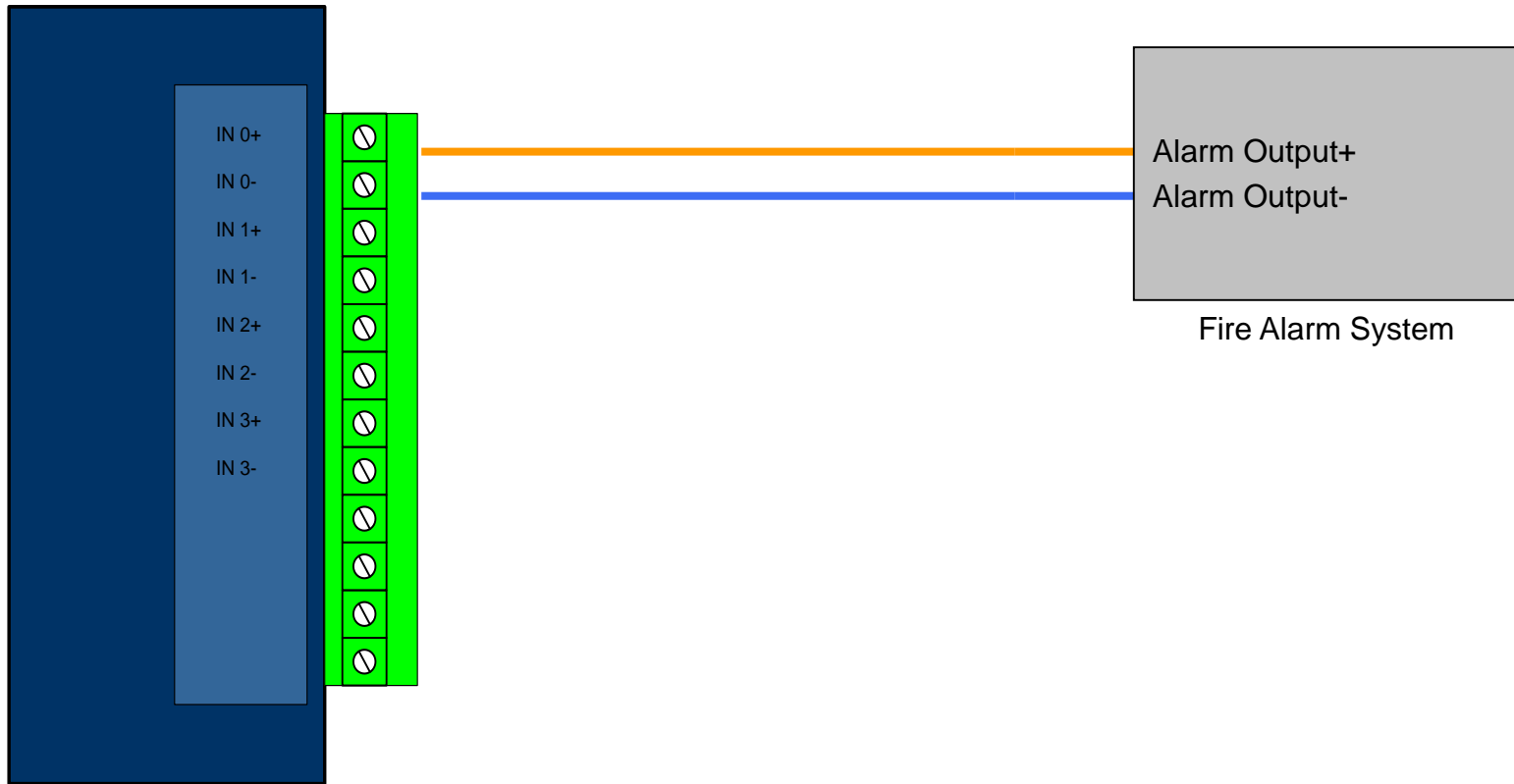


- **When using dead bolt or door strike, connect an enclosed diode as in the above diagram. Anode (line mark) of the diode should be connected to + power (Be careful of the direction)**

RTE Switch Connection



Fire Alarm Connection



System Specifications

- CPU : 8bit, 16MHz Microcontroller
- Memory : 32Kbyte Flash
- Display : 10ea Status LED
- IO : Input X 4Ch, Output X 2Ch, RS-485 X 1Ch
- Product size : 142.5 x 81.9 x 39 mm (width x height x depth)

	Min.	Typ.	Max.
Power			
Voltage (V)	10.8	12	13.2
Current Consumption (mA)	-	500	800
Relay			
Voltage	-	-	24 VDC 250 VAC
Current	-	0.5 A	1.0 A



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Functions and specifications of the product are subject to changes without notice due to quality enhancement or function update. For any inquiry on the product, please contact **Suprema Inc.**