Door Access Modes and Door lock behaviors

The below table describes the Door Status per Normal or Reversed Door Access Mode.

MPA2C3		Fail-Secure Installation	FAIL-SAFE INSTALLATION
Scenarios		**DOOR STATUS 1-4** **OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2))**	
PANEL	**DOOR ACCESS MODE**	**NORMAL**	**REVERSED**
NORMAL OPERATION		LOCKED with functional operator control/ card swipes/ schedules	
PRIORITY **POWER LOSS**	Panel Power loss (12v Internal powered lock)	LOCKED, **non functional** operator control/ card swipes/ door schedules	UNLOCKED, **non functional** operator control/ card swipes/ door schedules
	External PSU for locks Power loss		
	Panel Power loss with External PSU for locks operational		
FACP	FACP input triggered (Fire alarm)		
	FACP input idle.	LOCKED with functional operator control/ card swipes/ schedules	

	Fail-Secure Access Control w/ door strikes	Fail-Safe Access Control w/ mag locks:
APPLICATION / USE CASE	- At power loss doors will lock, - For all doors not requiring evacuation mode	- At power loss doors will unlock, - For inner doors, corridor doors, - Where escape route needed - First responders to easily enter

Other System Prerequisites	Use Power-to-lock Door locking devices, such as door strikes	Use Power-to-Unlock Door locking devices, such as magnetic locks

FACP input prerequisites

The MPA2C3 has a dedicated fully hardware controlled FACP (Fire Alarm Control Panel) input. When triggered the panel overrides immediately and simultaneously the 4 door outputs (OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2)) to a Fail-safe state (door unlocked state*). AUX REL 5,6,7 and 8 are NOT affected hardware wise by the FACP input. See the installation manual for FACP installation.

Note: *Individual doors cannot be selected to be fail-safe or fail-secure. All door outputs are affected.*

When the FACP input is activated:

All door outputs (OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2)) are in safe condition (safe = off = unlocked door* = free egress).

None of the door outputs (OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2)) can be controlled by card readers, egress buttons or access control software.

There is a notification in the Web UI that the FACP input has been activated. Host software will be notified.

To achieve the above functionality the panel needs to be set to the Reversed Door Access Mode. In Reversed Door Access Mode the Door Outputs (OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2)) are reversed.

In Reversed Door Access Mode all Door Relays (OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2)) are energized when the doors are supposed to be locked. To unlock a door the Door relay must be in de-energized state.

Always test the full end to end functionality of the FACP input and the effect to the doors (not only the outputs) after the installation has been completed.

FACP input not activated: Doors 1 to 2/4 function as access-controlled doors, using cards, egress or software/Web User Interface.

FACP input activated: Doors 1 to 2/4 are and stay in unlocked state, and controls are not possible using cards, egress or software/Web User Interface.

Note: *See the MPA2C3 installation manual how to connect the Fire panel output to the MPA2C3 in chapter 4.6 , and how to connect the outputs the to fail safe locking devices (power-to-lock), with the correct jumper settings of (OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2)).*

Note: *Jumper head on FACP jumper needs to be*

Note: *off when the FACP input is in use and to un-bypass the FACP input.*

Note: **Fail safe locking devices (power-to-lock) are devices that unlock when power (voltage) is interrupted to the locking device. This interruption can be done by opening a NC (Normally Closed) contact of a relay (door) output via the controls of the panel or when power to the panel or to the locking device is lost. Main examples for fail safe locking devices are magnetic locks.*

The below procedure is to create a fail-safe installation. Any diversion from these steps will make the installation not fail-safe (unlock doors at power fail and at FACP input triggered).

To make sure all door outputs are in a fail-safe mode, the panel needs to be in Reversed Door Access Mode. The are 5 steps to make the FACP input fully functional.

Set panel in Reversed Door Access Mode

In Panel configuration/advanced/FACP Input:

Go to section DOOR OUTPUT OPERATION:

1. Select DOOR ACCESS MODE: REVERSED

2. Click Save
   On the panel the Amber FACP LED will be ON and all Door Relays will be energized state (if the door outputs are in idle locked mode).
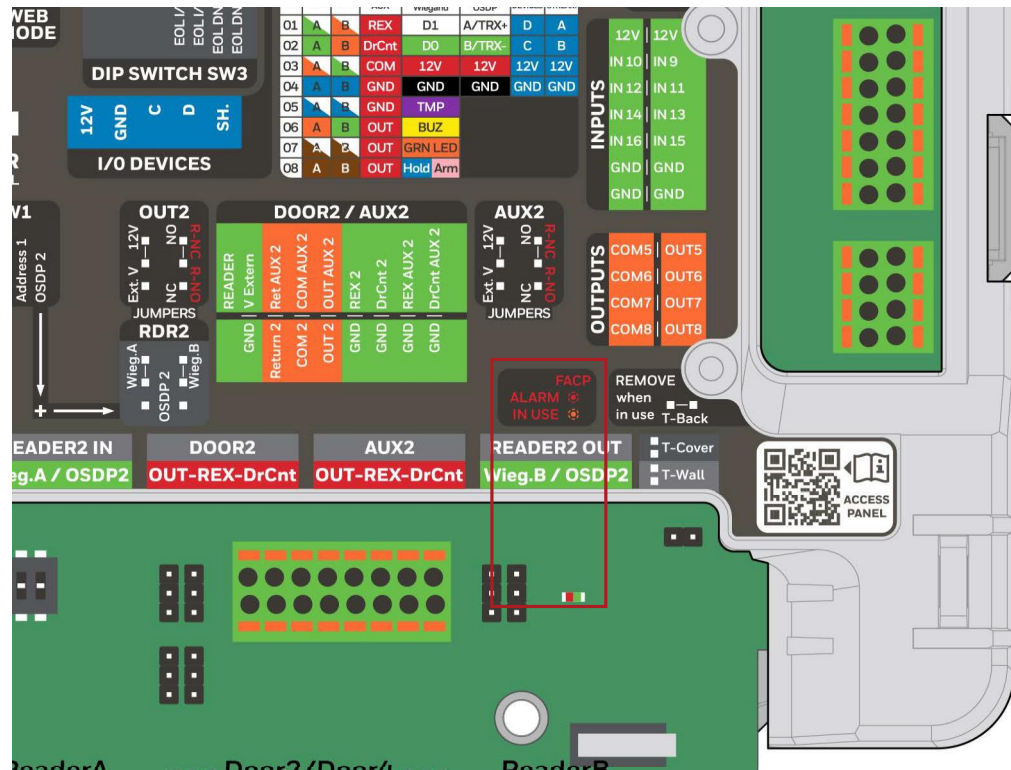
1. Reposition the OUT/AUX NO/NC jumper on all Outputs.

On the Panel, regard all (OUT1, OUT3 (AUX1), OUT2, OUT4 (AUX2)) relay outputs modes on the panel as reversed.

   a. Set the Jumperhead to the Red R-NC (Normally Closed in Reversed Door Access Mode).
   b. This is the correct setting to connect power-to-lock locking devices (such as magnetic locks) to the output.
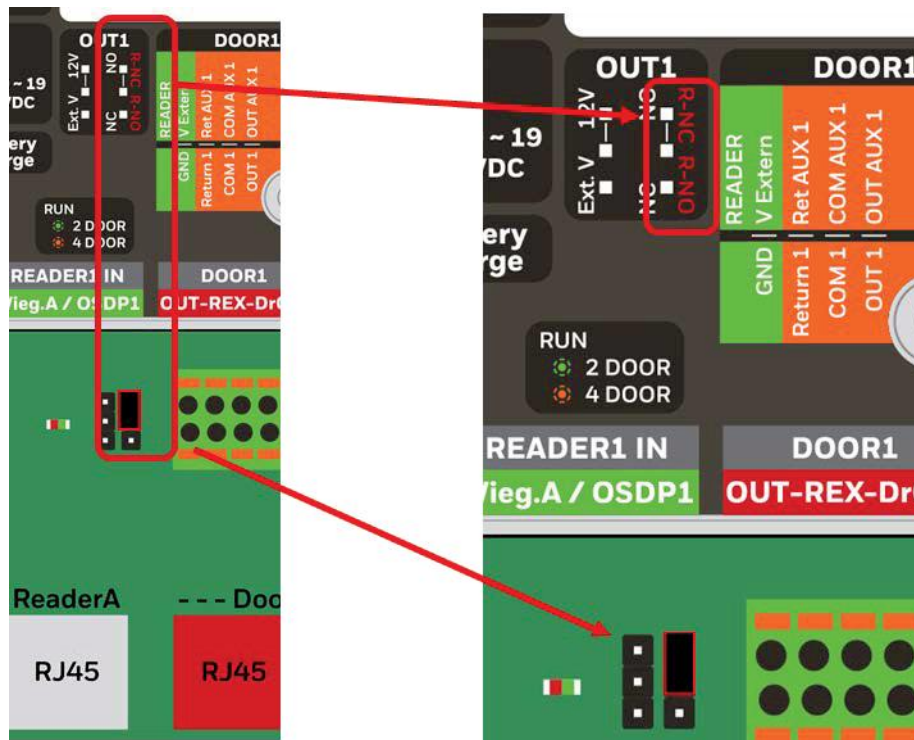
Connect the locking device to the OUT and COM when using voltage free / external PSU (Jumperhead on OUT – Ext.V) for the locking device.

Connect the locking device to the OUT and Return when using internal Panel's power source (Jumperhead on OUT – 12V) for the locking device.

3. Remove the jumper head from the FACP jumper when FACP IN-GND is connected.

When the FACP IN and GND are connected to the Fire panel's output, then the jumper head has to be removed from the FACP jumper to unbypass the FACP IN-GND input.

When the R/POL+ – R/POL– are connected to the Fire panel's output (using reversed polarity technology) then the jumper head have to be left on.

Note: *The amber FACP LED (in use) will not turn on automatically when the FACP jumper has been removed.*
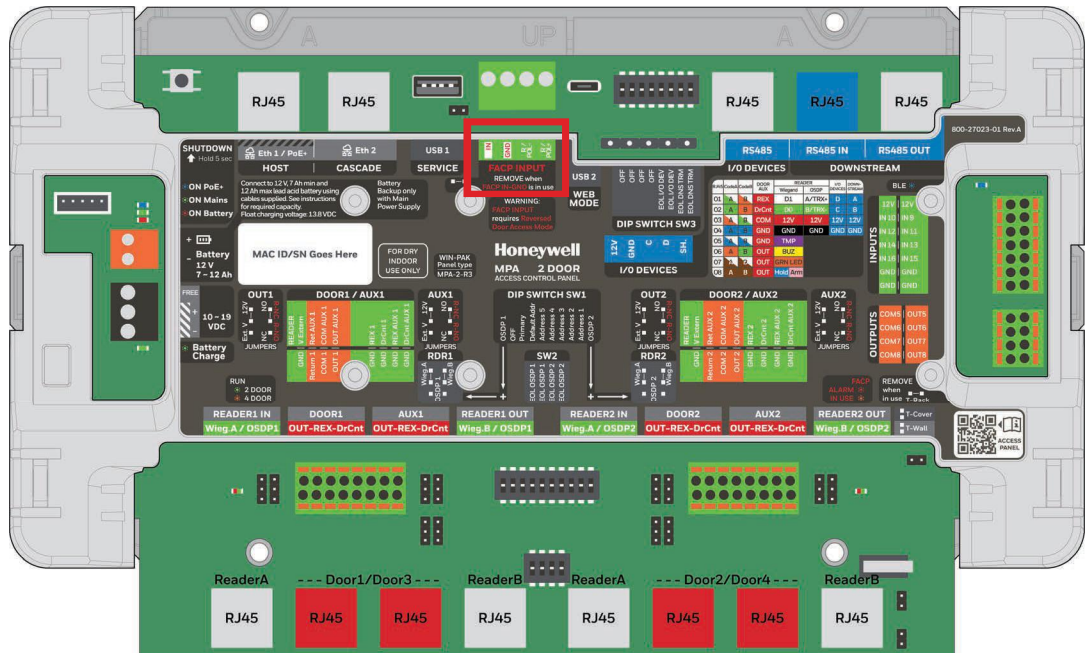
1. Connect the Fire Panel's output wiring to the FACP input

Connect the Fire Panel's output wiring to the FACP input

The Fire Panel's output must be connected to the FACP input removable screw terminal block

Figure 3-44   Fire Panel Output
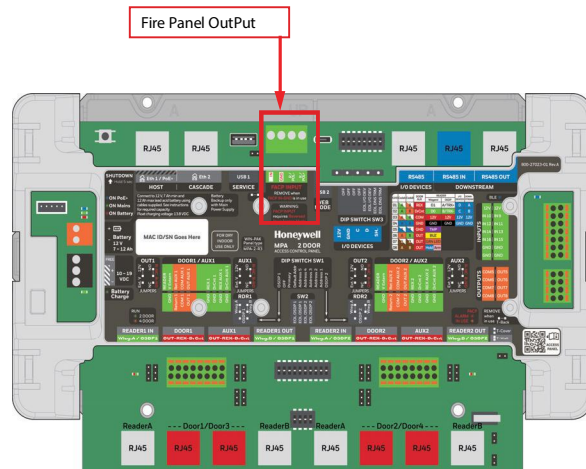
Fire Panel OutPut

There are 2 ways to connect Fire Panel's output wiring to the FACP input.

1. Fire Panel's output is a normally open contact.
2. Fire Panel's output is a reversed polarity output.

Fire Panel's output is a normally open contact.

When the Fire Panel's output is a voltage free normally open contact the below connection must be made.

At the Fire control panel output a 2.2kOhm resistor must be mounted over the normally open output connections.
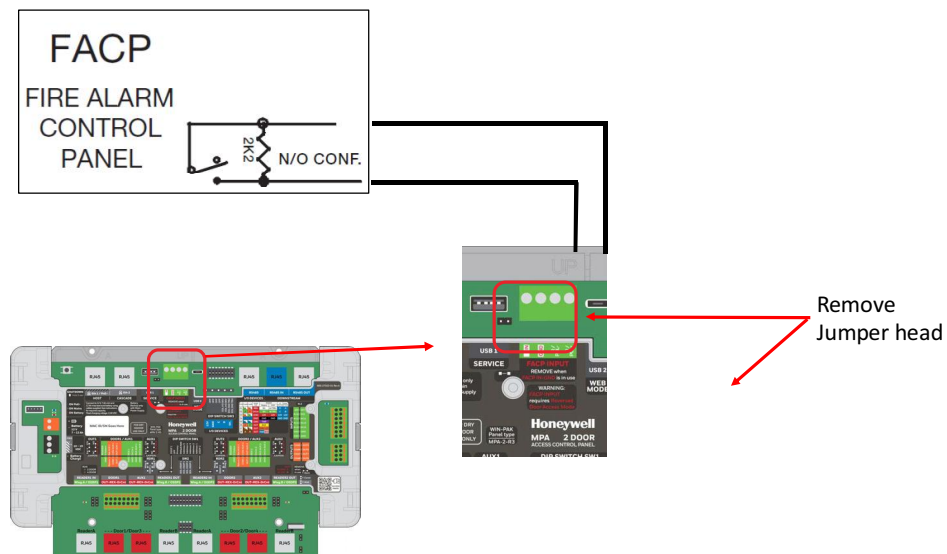
Note: *Remove the jumperhead from the FACP jumper to hardware activate the FACP input on the panel and unbypass the FACP input.*

Fire Panel's output is a reversed polarity output.

When the Fire Panel's output is a reversed polarity output, the idle – non alarm state – that the + output is negative and the – output is positive.

When an alarm occurs at the fire panel, then the output polarity will be + positive and – negative.

The Fire Panel's output voltage range is 12 to 24 VDC

At the Fire control panel output a 2.2kOhm resistor must be mounted over the reversed polarity outputs.
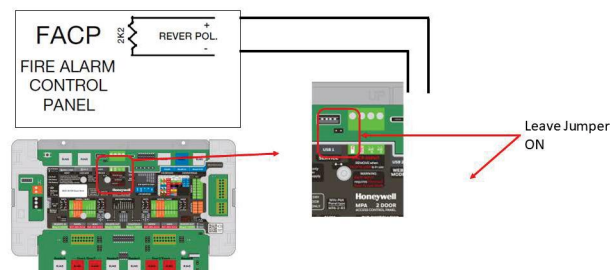
FACP input activation in Alarm – Notifications

Notifications on the panel

When the connected Fire alarm control panel is in alarm and the Fire panel output has activated the FACP input on the panel, on the MPA2C3 panel the RED FACP LED (Alarm) is ON. (Only for service purposes)
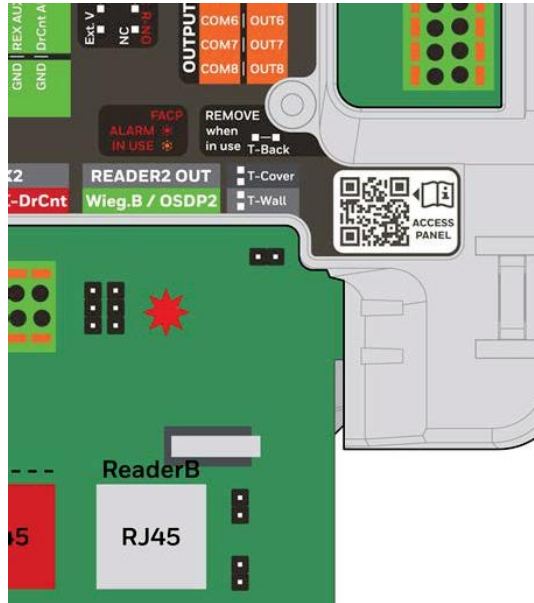
4 MOUNTING THE ENCLOSURE

Metal Enclosure Installation

Perform the following steps to install the panel in the Metal Enclosure:

⚠

Warning: Use a static strap whenever touching the panel to ensure protection from Electrostatic Discharge (ESD).

Atention! Danger – risk of electric shock!

Before installation, TURN OFF the external circuit breaker which supplies power to the system.

Before connecting the device to the power supply, verify that the output voltage is within specifications of the power supply.

Do not apply power to the system until after the installation has been completed.

Personal injury or death could occur, and the equipment could be damaged beyond repair if this precaution is not observed!

Warning Label:

WARNING
HAZARDOUS VOLTAGE.
DISCONNECT POWER
BEFORE OPENING UNIT.

Installing the Metal Lid (Optional)

1. Remove the grounding wire from the lid.
2. Remove the lid along the direction of the arrow. (Optional)

Figure 3-1   Removing the Grounding Wire and Remove the Lid
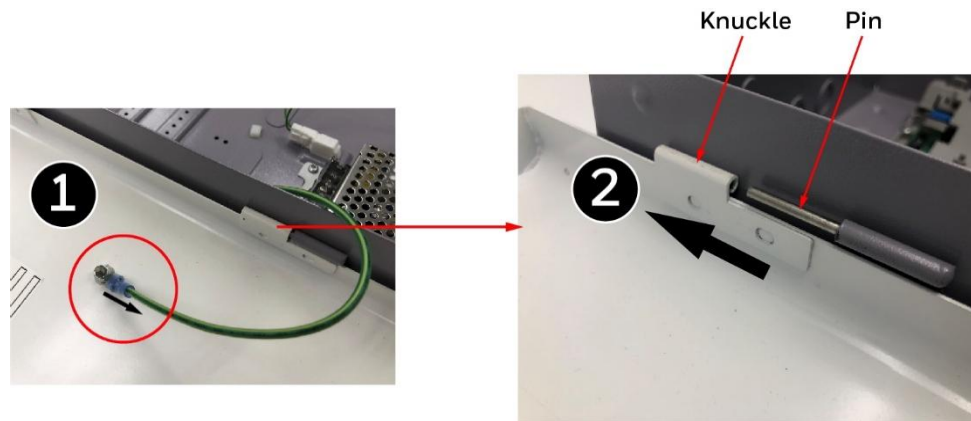
1. Align the knuckle with the pin and attach the lid.
2. Reconnect the grounding wire.
3. Sticking the Enclosure Label.

⚠️

Warning: The resistance of the connected grounding wire must be less than 0.1 Ohm.

Wiring the AC Power Cord

US Mains

For the MPA2MPSU, MPA4MPSU kits and MPA2ENCMU enclosure (with IEC/UL mains socket), to wire the AC power supply to the enclosure's power supply unit, proceed as follows:

1. Connect the power cord that came with the package to the Mains socket.
2. Check if the LED at the top of the socket will light up as soon as the mains voltage is applied.

EU Mains

For the MPA2MPSE, MPA4MPSE kits and MPA2ENCME enclosure (without IEC mains socket), to wire the AC power supply to the enclosure's power supply unit, proceed as follows:

1. Attach the rubber ring to Knockout G to protect the AC power cord. The knock-out G is only for AC power cord.
2. Wire the AC power cord to the AC power adapter.

3. Crimp the cable lug to the incoming earth wire and then connect it to the earth terminal.
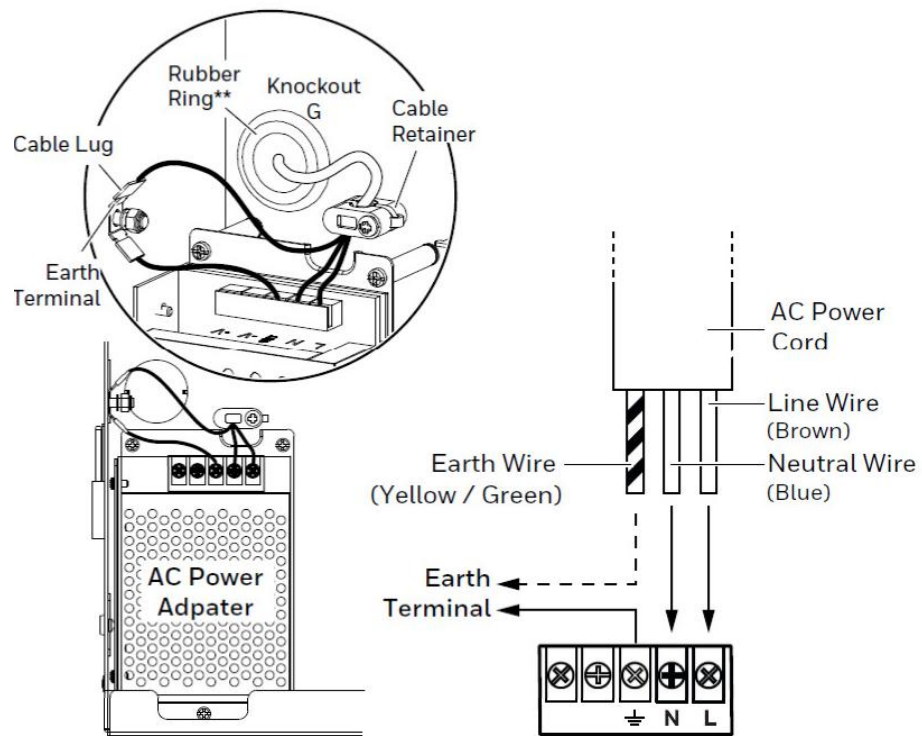
⚠️

Warning: *Use a static strap whenever touching the panel to ensure protection from ESD (Electrostatic Discharge).*

1. Mount the panel into the metal housing and secure it with 4 screws.

Figure 3-2   Installing the Panel
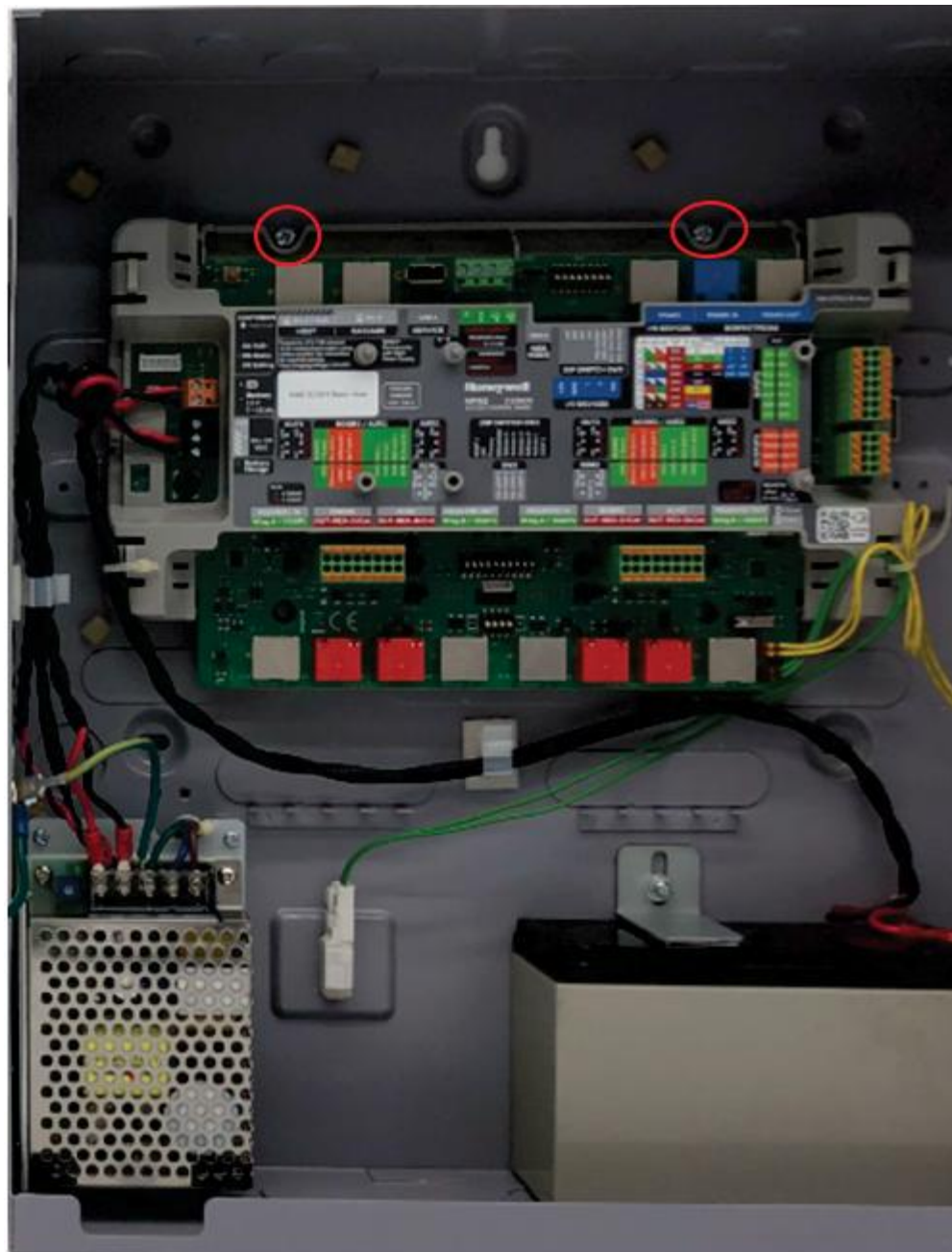
Mounting the Enclosure

Wiring the Panel – Metal Enclosure

1. Mount the panel into the metal housing and secure it with 4 screws.

2. M5-Metal housing and secure it with 4 screws.

Figure 4–3   Installing the Panel
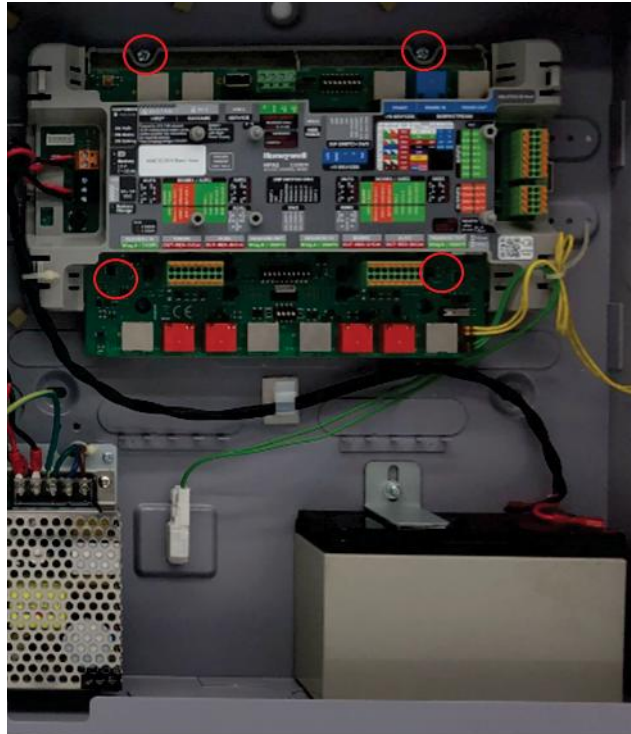
Wiring to Power Supply and Tamper Connector – Metal Enclosure

⚠️

Warning: **Use a static strap whenever touching the panel to ensure protection from ESD (Electrostatic Discharge).**

⚠️

Warning: **Do not apply power at this time.**

1. Connect the Ethernet cable as shown below to power the system via PoE+. Or follow step 2 and step 3 to power the system via power supply.

1. Connecting the Ethernet Cable for PoE+

⚠️
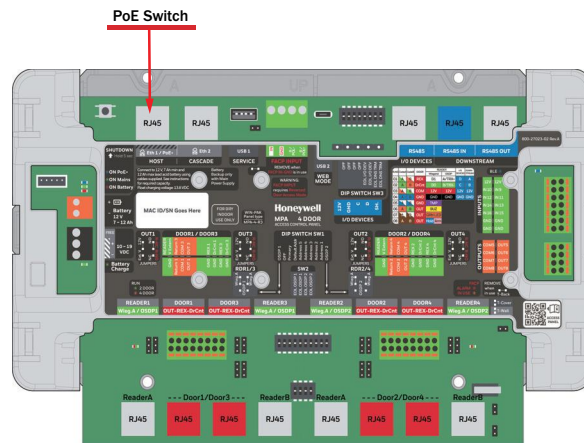
Warning: **Do not apply power at this time. Ensure the PoE switch is not powered.**

1. Connect prepared low voltage power supply cable (red, black, green/yellow) to the PSU terminals (V+, V–). Ensure to secure the power cable by the cable clamp.

Figure 4-4   Connecting the Power Supply Cable

⚠️

Warning: **Do not apply power at this time. Ensure the power cable is disconnected from the external power source before following this step. The battery cable is included in the accessory bag.**

1. Wire the battery cable. A 7 Ah lead acid battery is included.

Figure 4-5   *Connecting the Battery Cable – 7 Ah Battery*

Battery Connector/Orange
Black Cable
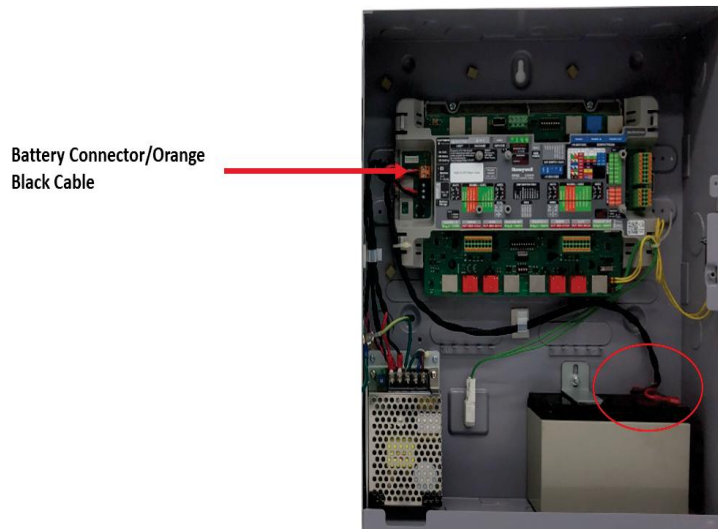
Note: *Do not connect a backup battery when using PoE+*

1. Plug in the prepared tamper connectors.

Figure 4-6   Connecting the off-wall Tamper and Enclosure Lid Tamper Cables

Enclosure Lid
Tamper Yellow
Cable

Wall Tamper Green Cable

SYSTEM CONFIGURATION
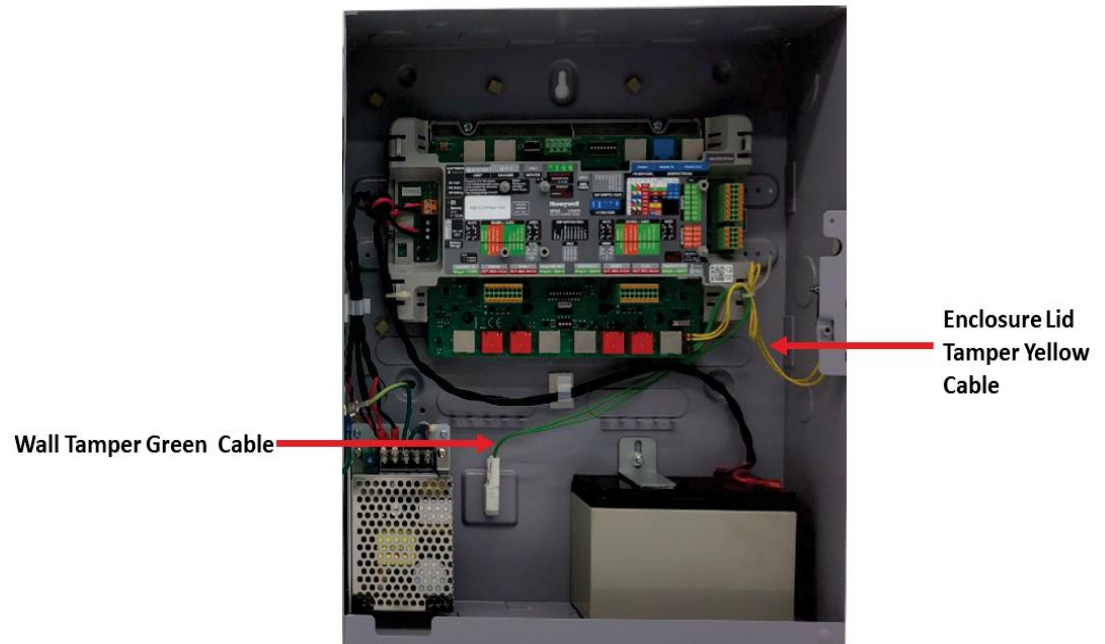
System Configuration

This section provides wiring diagrams for each of the MPA2C3 system configurations.

Ethernet – Network Dedicated to Access Control

Note: *Router must provide DHCP service.*

Figure 4-1   Ethernet – Network Dedicated to Access Control

Note: *You should ground each MPA2C3 Standard Metal Enclosure panel individually with an Earth Ground.*

USB Connection

Figure 4-2   MPA2C3 USB Connection
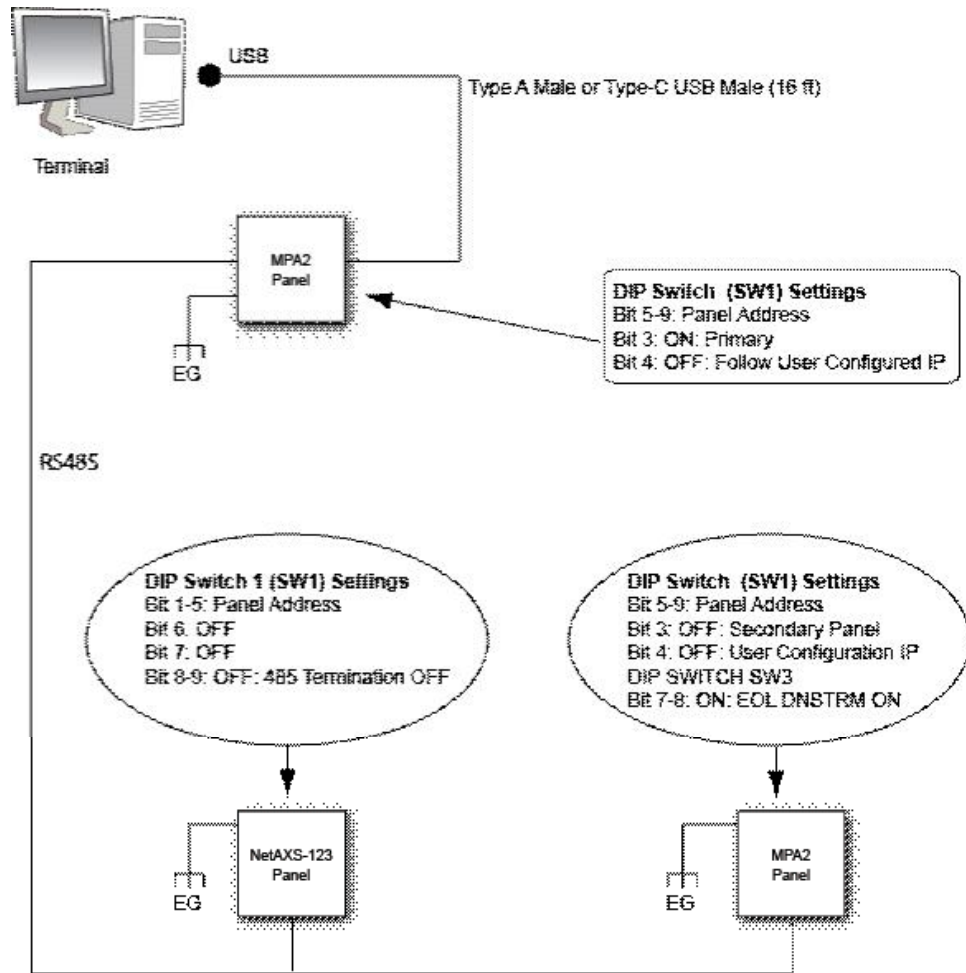
Note: You should ground each MPA2C3 Standard Metal Enclosure panel individually with an Earth Ground.

Note: The USB connection is intended to be used for system maintenance and troubleshooting

RS-485 Loop Connection via MPA2C3

This loop connection supports a total of 8 MPA2C3 panels (MPA2C3not included Primary) for each drop line.

Figure 4-3   RS-485 Loop Connection via MPA2C3
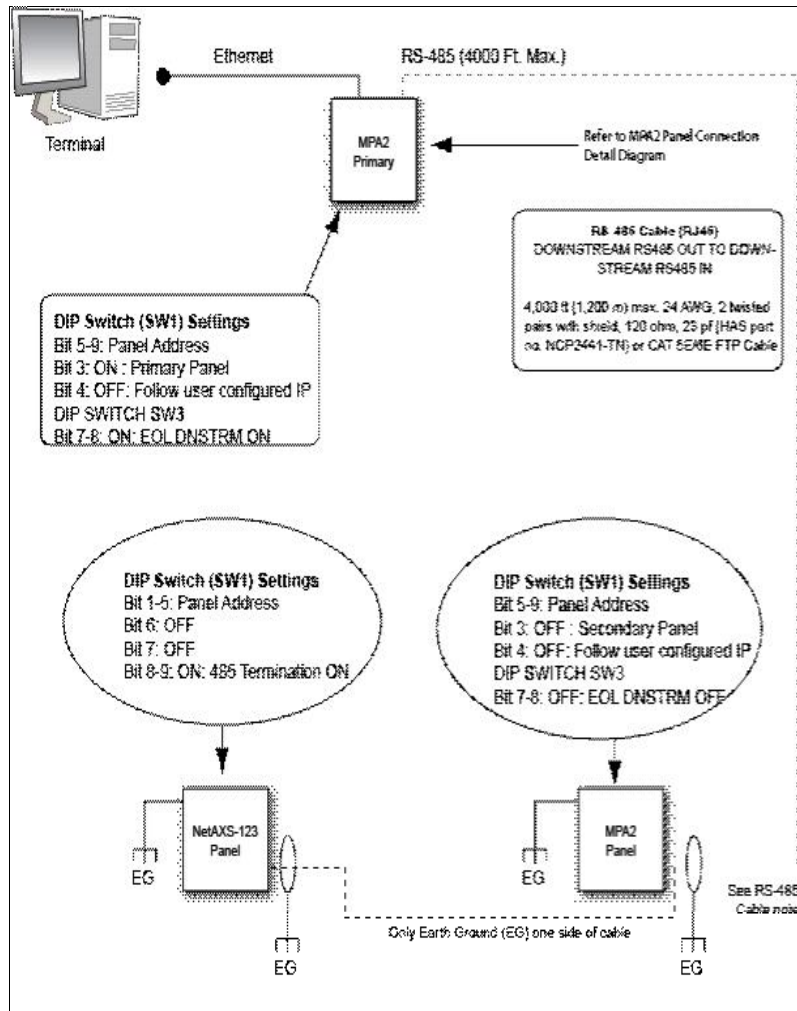
Note: *You should ground each standard metal enclosure panel individually with an Earth Ground*

Ethernet Virtual Loop with All Panels on Common IP Subnet

Figure 4-4   Ethernet Virtual Loop (EVL) with All Panels on Common IP Subnet
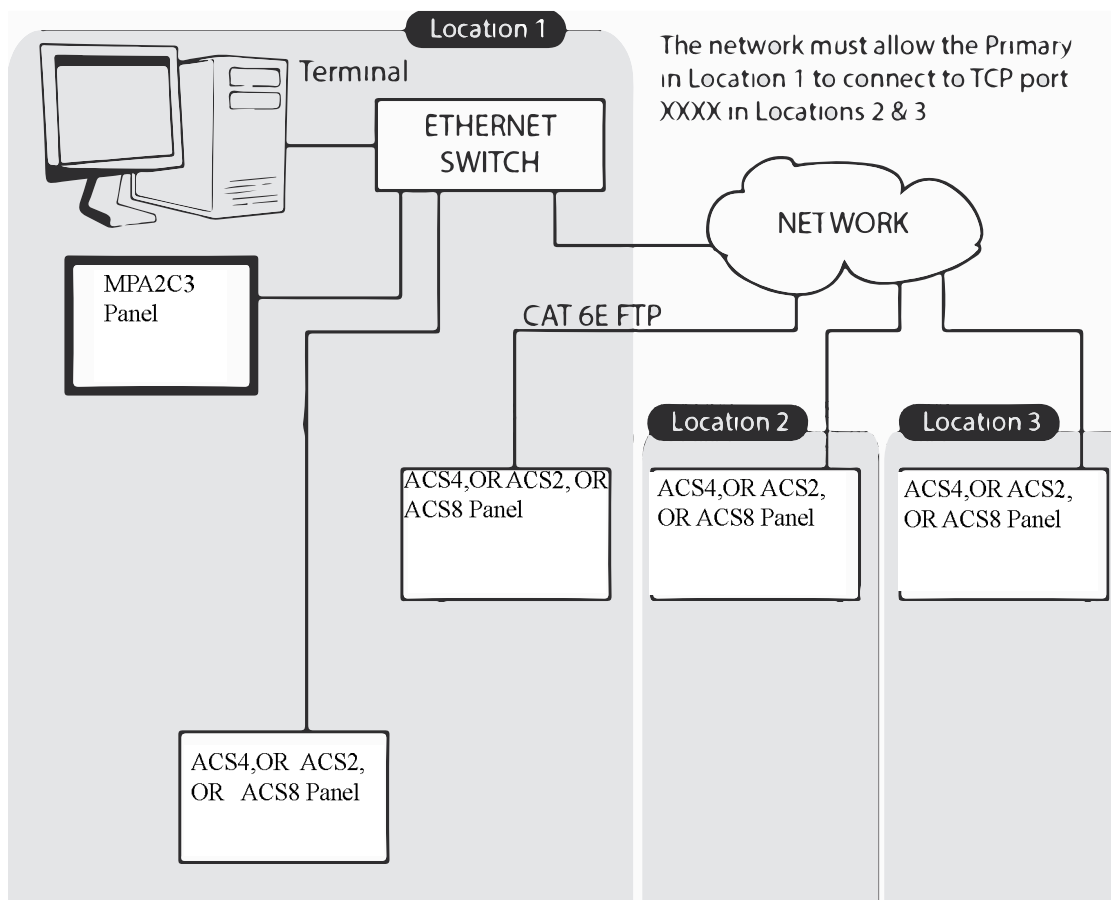
Note: The network must provide DHCP server (or use dedicated Network configuration with a router, as shown in next section).

Note: The Network must provide firewall protection from unauthorized access.

Note: EVL connected MPA2 downstream panel communication has not been evaluated by UL.

Ethernet Virtual Loop – Network Dedicated to Access Control

Figure 4-5   Ethernet Virtual Loop – Network Dedicated to Access Control
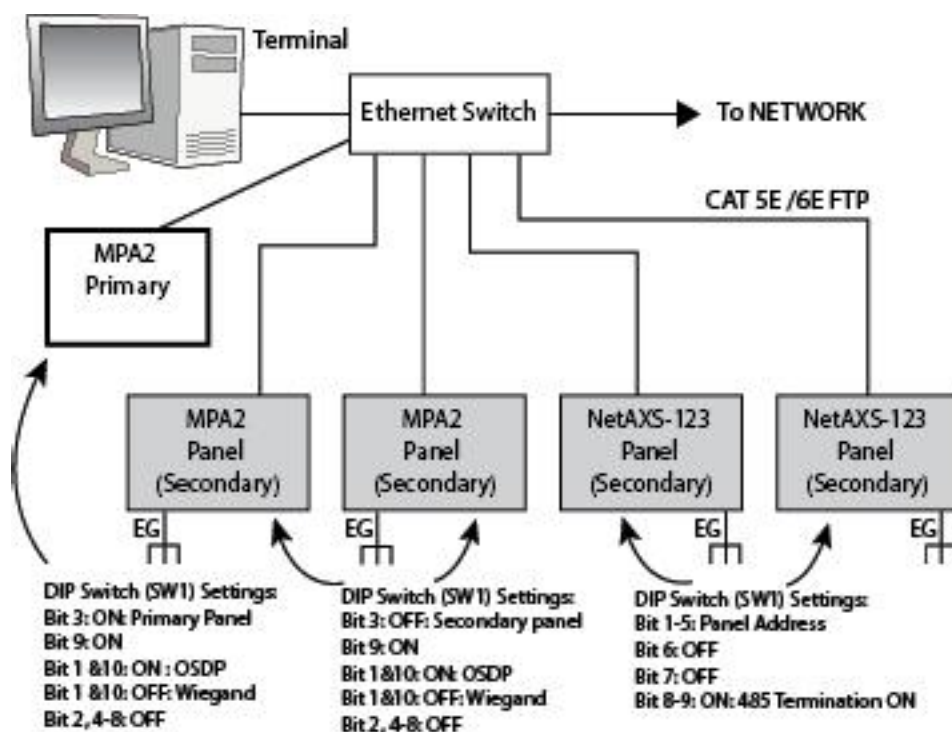
Ethernet Connection with EVL Loop on Dedicated Network

Note: Router must provide DHCP service.

Note: The Router has not been evaluated by UL.

Ethernet Connection with Ethernet Virtual Loop – Multiple Locations

Figure 4-6   Ethernet Connection with Ethernet Virtual Loop – Multiple Locations
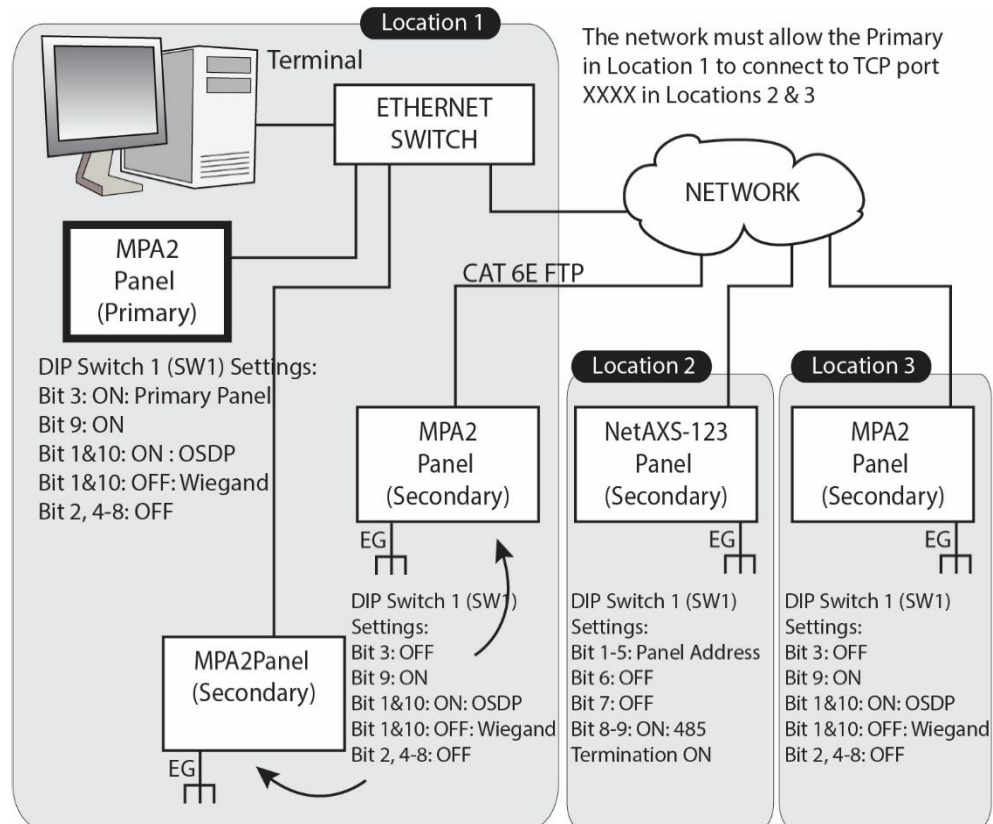
Ethernet Connection with EVL Loop Multiple Locations

Note:

- Network must provide DHCP server (or use dedicated Network configuration with a router shown in next section).

- Recommend that Network provide firewall protection from unauthorized access.

- If the locations are in different Geographic time zones, it is recommended that each time zone

- should be served by its own "Ethernet Virtual Loop". The reason is that all controllers on the same Ethernet Virtual loop must be set to the same Geographic time zone.

- The

- network must allow the primary panel in Location 1 to connect to TCP port #9876 in Locations 2 and 3.

- Controllers that are on a different subnetwork than the

- primary (which is likely the case for loops across multiple locations) will NOT be automatically discovered by the Primary controller. In this case, it is recommended that you request an IP address reservation from your network provider or administrator. This address will be needed when the user sets up the primary controller. There is a "Manual Registration" button on the EVL registration screen for this purpose.

- The Ethernet Switch has not been evaluated by UL.

HARDWARE SPECIFICATIONS

The specifications in this section apply to panels of both the standard metal enclo-sure and compact plastic enclosure.

Feature list MPA2C3 2-door panel

MPA2 Technical Data	

Technical data MPA2MPSE OR MPA2MPSU	
Rated operating voltage	85VAC ~ 265VAC / 47-63Hz
Operating voltage range and frequency	110VAC ~ 240VAC +/- 10% / 1A, 50-60Hz
Power Supply current consumption	1.0 A
Power Supply output voltage	13.8 V
Power Supply output current	max 3.3 A
Power Supply output ripple	max 138 mV peak to peak
Protection class per EN 60529	IP42
Environment Class per EN50131-1	Class II
Environment Class per UL294	II?
Safety approvals	IEC60950-1, CSA C22.2 No.60950-1-03, UL60950-1, TUV EN60950-1
Operating temperature range	-10°C ~ +45°C (including battery)
Storage temperature range	-40°C ~ +85°C
Relative humidity	5% ~ 96% RHNC
Weight with MPA2C3	5.8 kg
Dimensions	410(h) x 360(w) x 120(d) mm

Technical data MPA2C3	
Operating power from 13.8VDC Power Supply Unit)	

Rated operating voltage	+ and -	13.8VDC
Operating voltage range	10 ~ 19 VDC	10VDC ~ 19VDC
Max ripple voltage		max 1.0 V peak to peak
Current consumption with Ethernet without external loads		200mA @ 13.8VDC 260mA @ 13.8VDC (FACP in use)
Max current output to all peripherals combined when powered by Mains	All 12V internal outputs and busses	3A
Battery (Only with 13.8VDC Power Supply Unit)		
Battery type	+ and - Battery 12V 7Ah ~ 12Ah	==12V Lead-Acid Batteries in acc. with IEC 60896-21 / 60896-22==
Battery capacity		7Ah ~ 12Ah
Number of connectable Batteries		1
Max Battery load current		512mA
Battery shutdown voltage		10.5V
Operating power from Power over Ethernet (PoE+)		
Rated operating voltage	Eth1 PoE+ / HOST @ RJ45	42.5-57V
Operating voltage range		according to IEEE 802.3at
Available Power		25.5W
Current consumption with Ethernet without external loads		300mA @ 11.5VDC 375mA @ 11.5VDC (FACP in use)
Max current output to all peripherals combined when powered by Mains	All 12V internal outputs and busses	1800mA @ 11.5VDC
Panel Power consumption		
Each EOL resistor for monitored input will extend current consumption by	DrCnt Door 1-4, Rex Door 1-4, Aux Inputs IN 9-16	1mA per monitored input
Each relay activation will extend current consumption by	OUT 1-4, Aux Outputs 5-8	15mA per relay
Maximum current consumption for RS485/OSDP bus current	OSDP1, OSDP2	500mA per bus
Maximum current consumption for RS485 bus current	RS485 Bus I/O Devices, RS485 Downstream	500mA per bus
Supported doors		
Supported number of doors	DOOR1, DOOR2	WIEGAND: 2 doors/ 2 readers per door
		OSDP: 4 doors/ 2 readers per door*
* External power supply must be added to the reader(s) / RS485-OSDP when bus current consumption exceeds maximum specification		
Reader interfaces		
Reader Support	Reader 1-Wieg.A, 1-Wieg.B/ OSDP1, Reader 2-Wieg.A, 2-Wieg.B/ OSDP2	4 WIEGAND readers: 2 doors/ IN AND OUT readers per door
		8 OSDP readers: 4 doors/ IN AND OUT readers per door*

Output Voltage Range at RJ45 reader interfaces when 12V internally powered	Reader 1 - Wieg.A / OSDP1, Reader 1 - Wieg.B / OSDP1	10VDC ~ 14VDC
Maximum current output at RJ45 reader interfaces when 12V internally powered		500mA combined for both Wiegand readers
		500mA for all OSDP readers*
Output Voltage Range at RJ45 reader interfaces when 12V internally powered	Reader 2 - Wieg.A / OSDP2, Reader 2 - Wieg.B / OSDP2	10VDC ~ 14VDC
Maximum current output at RJ45 reader interfaces when 12V internally powered		500mA combined for both Wiegand readers
		500mA for all OSDP readers*
Voltage Range at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block	Reader 1 - Wieg.A / OSDP1, Reader 1 - Wieg.B / OSDP1	14VDC ~ 24 VDC +/-10%
Max output current at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block		1000mA combined for both Wiegand readers
		1000mA for all OSDP readers*
Voltage Range at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block	Reader 2 - Wieg.A / OSDP2, Reader 2 - Wieg.B / OSDP2	14VDC ~ 24 VDC +/-10%
Max output current at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block		1000mA combined for both Wiegand readers
		1000mA for all OSDP readers*
Outputs		
Output Contact type	OUT 1-2, AUX1-2	Selectable per jumper OUT 1-2, AUX1-2: NO (Normally Open) or NC (Normally Closed)
	Aux Outputs 5-8	NO (Normally Open)
Relay contact max switching voltage and current (dry contact)	OUT 1-2, AUX1-2 @ RJ45	500mA @ 30VDC, 500mA @ 22VAC
	OUT 1-2, AUX1-2 @ push in terminal block**, Aux Outputs 5-8	3A @ 30VDC, 1A @ 22VAC
Max output Voltage at Door1/AUX1 output when OUT1, AUX1 jumper onboard "12V" is used (wet contact)	OUT 1 @ RJ45 or OUT 1 @ push in terminal block**, AUX 1 @ RJ45 or AUX 1 @ push in terminal block**	10VDC ~ 14VDC
Max output current at Door1/AUX1 output when OUT1, AUX1 jumper onboard "12V" is used (wet contact)	OUT 1 @ RJ45 **, AUX 1 @ RJ45 **	500mA per RJ45, limited to 750mA @ 12VDC combined over both door output contacts
	OUT 1 @ push in terminal block**, AUX 1 @ push in terminal block**	750mA @ 12VDC combined over both door output contacts

Max output Voltage at Door1/AUX1 output when OUT2, AUX2 jumper onboard "12V" is used (wet contact)	OUT 2 @ RJ45 or OUT 2 @ push in terminal block**, AUX 2 @ RJ45 or AUX 2 @ push in terminal block**	10VDC ~ 14VDC
Max output current at Door2/AUX2 output when OUT2, AUX2 jumper onboard "12V" is used (wet contact)	OUT 2 @ RJ45 **, AUX 2 @ RJ45 **	500mA per RJ45, limited to 750mA @ 12VDC combined over both door output contacts
	OUT 2 @ push in terminal block**, AUX 2 @ push in terminal block**	750mA @ 12VDC combined over both door output contacts
Relay contact min switching voltage and current	OUT 1-2, AUX1-2, Aux Outputs 5-8	1mA @ 5VDC
** Connect either RJ45 or push in terminal block; do not connect same Door output on both RJ45 and push in terminal block.		

Inputs		
Supervised Input range	DrCnt Door 1-2, DrCnt AUX1-2 Aux Inputs IN 9-16	2k2Ohm +-10% default, 1k, 4k7, 10k Ohm selectable. (Unsupervised / digital selectable)
Digital input	Rex Door 1-2, Rex AUX1-2	Short circuit to GND default (supervised selectable)
Output Voltage Range at Input interface (12V)	DrCnt Door 1-2, DrCnt AUX1-2	10VDC ~ 14VDC
Max output current at input interfaces (12V)	Rex Door 1-2, Rex AUX1-2 Aux Inputs IN 9-16	500mA

RS485 BUS interfaces		
Voltage range at RS485 busses	RS485 BUS I/O devices @ RJ45, RS485 BUS I/O devices @ screw terminal block, RS485 BUS Downstream @ RJ45	10VDC ~ 14VDC
Max output current at RS485 bus I/O devices	RS485 BUS I/O devices @ screw terminal block	500mA in total for RS485 Modulbus combined over RJ45 and screw terminal block RJ45, limited to 500mA
	RS485 BUS I/O devices @ RJ45	
Max output current at RS485 bus Downstream	RS485 BUS Downstream @ RJ45	500mA in total for RS485 Modulbus combined over both RJ45

Hardware specifications for MPA2C3 4-door panel are listed in the below table technical data MPA4MPSE OR MPA4MPSU are the same as listed for MPA2MPSE or MPA2MPSU.

Technical data MPA2C3-4

Operating power from 13.8VDC Power Supply Unit)		
Rated operating voltage	+ and - 10 ~ 19 VDC	13.8VDC
Operating voltage range		10VDC ~ 19VDC
Max ripple voltage		max 1.0 V peak to peak
Current consumption with Ethernet without external loads		200mA @ 13.8VDC 260mA @ 13.8VDC (FACP in use)
Max current output to all peripherals combined when powered by Mains	All 12V internal outputs and busses	3A
Battery (Only with 13.8VDC Power Supply Unit)		
Battery type	+ and - Battery 12V 7Ah ~ 12Ah	12V Lead-Acid Batteries in acc. with IEC 60896-21 / 60896-22
Battery capacity		7Ah ~ 12Ah
Number of connectable Batteries		1
Max Battery load current		512mA
Battery shutdown voltage		10.5V
Operating power from Power over Ethernet (PoE+)		
Rated operating voltage	Eth1 PoE+ / HOST @ RJ45	42.5-57V
Operating voltage range		according to IEEE 802.3at
Available Power		25.5W
Current consumption with Ethernet without external loads		300mA @ 11.5VDC 375mA @ 11.5VDC (FACP in use)
Max current output to all peripherals combined when powered by Mains	All 12V internal outputs and busses	1800mA @ 11.5VDC
Panel Power consumption		
Each EOL resistor for monitored input will extend current consumption by	DrCnt Door 1-4, Rex Door 1-4, Aux Inputs IN 9-16	1mA per monitored input
Each relay activation will extend current consumption by	OUT 1-4, Aux Outputs 5-8	15mA per relay
Maximum current consumption for RS485/OSDP bus current	OSDP1, OSDP2	500mA per bus
Maximum current consumption for RS485 bus current	RS485 Bus I/O Devices, RS485 Downstream	500mA per bus
Supported doors		

Supported number of doors	DOOR1, DOOR2, DOOR3, DOOR4	WIEGAND: 4 doors/ 1 IN reader per door
		OSDP: 4 doors/ 2 readers per door*
* External power supply must be added to the reader(s) / RS485-OSDP when bus current consumption exceeds maximum specification		
Reader interfaces		
Reader Support	Reader 1/3-Wieg.A / OSDP1, Reader 2/4-Wieg.A / OSDP2	4 IN WIEGAND readers per door
		8 OSDP readers: 4 doors/ IN AND OUT readers per door*
Output Voltage Range at RJ45 reader interfaces when 12V internally powered	Reader 1 - Wieg.A / OSDP1, Reader 3 - Wieg.A / OSDP1	10VDC ~ 14VDC
Maximum current output at RJ45 reader interfaces when 12V internally powered		500mA combined for both Wiegand readers
		500mA for all OSDP readers*
Output Voltage Range at RJ45 reader interfaces when 12V internally powered	Reader 2 - Wieg.A / OSDP2, Reader 4 - Wieg.A / OSDP2	10VDC ~ 14VDC
Maximum current output at RJ45 reader interfaces when 12V internally powered		500mA combined for both Wiegand readers
		500mA for all OSDP readers*
Voltage Range at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block	Reader 1 - Wieg.A / OSDP1, Reader 3 - Wieg.A / OSDP1	14VDC ~ 24 VDC +/-10%
Max output current at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block		1000mA combined for both Wiegand readers
		1000mA for all OSDP readers*
Voltage Range at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block	Reader 2 - Wieg.A / OSDP2, Reader 4 - Wieg.A / OSDP2	14VDC ~ 24 VDC +/-10%
Max output current at RJ45 reader interfaces when external voltage is applied at Door 1/3: V - Ext.V Readers @ push in terminal block		1000mA combined for both Wiegand readers
		1000mA for all OSDP readers*
Outputs		
Output Contact type	OUT 1-4	Selectable per jumper OUT1-4: NO (Normally Open) or NC (Normally Closed)
	Aux Outputs 5-8	NO (Normally Open)

Relay contact max switching voltage and current (dry contact)	OUT 1-4 @ RJ45	500mA @ 30VDC, 500mA @ 22VAC
	OUT 1-4 @ push in terminal block**, Aux Outputs 5-8	3A @ 30VDC, 1A @ 22VAC
Max output Voltage at Door 1/3 output when OUT1, OUT3 jumper onboard "12V" is used (wet contact)	OUT 1 @ RJ45 or OUT 1 @ push in terminal block**, OUT 3 @ RJ45 or OUT 3 @ push in terminal block**	10VDC ~ 14VDC
Max output current at Door 1/3 output when OUT1, OUT3 jumper onboard "12V" is used (wet contact)	OUT 1 @ RJ45 **, OUT 3 @ RJ45 **	500mA per RJ45, limited to 750mA @ 12VDC combined over both door output contacts
	OUT 1 @ push in terminal block**, OUT 3 @ push in terminal block**	750mA @ 12VDC combined over both door output contacts
Max output Voltage at Door 2/4 output when OUT2, OUT4 jumper onboard "12V" is used (wet contact)	OUT 2 @ RJ45 or OUT 2 @ push in terminal block**, OUT 4 @ RJ45 or OUT 4 @ push in terminal block**	10VDC ~ 14VDC
Max output current at Door 2/4 output when OUT2, OUT4 jumper onboard "12V" is used (wet contact)	OUT 2 @ RJ45 **, OUT 4 @ RJ45 **	500mA per RJ45, limited to 750mA @ 12VDC combined over both door output contacts
	OUT 2 @ push in terminal block**, OUT 4 @ push in terminal block**	750mA @ 12VDC combined over both door output contacts
Relay contact min switching voltage and current	OUT 1-4, Aux Outputs 5-8	1mA @ 5VDC

** Connect either RJ45 or push in terminal block; do not connect same Door output on both RJ45 and push in terminal block.

Inputs		
Supervised Input range	DrCnt Door 1-4, Aux Inputs IN 9-16	2k2Ohm +-10% default, 1k, 4k7, 10k Ohm selectable. (Unsupervised / digital selectable)
Digital input	Rex Door 1-4	Short circuit to GND default (supervised selectable)
Output Voltage Range at Input interface (12V)	DrCnt Door 1-4, Rex Door 1-4,	10VDC ~ 14VDC
Max output current at input interfaces (12V)	Aux Inputs IN 9-16	500mA
RS485 BUS interfaces		

Voltage range at RS485 busses	RS485 BUS I/O devices @ RJ45, RS485 BUS I/O devices @ screw terminal block, RS485 BUS Downstream @ RJ45	10VDC ~ 14VDC
Max output current at RS485 bus I/O devices	RS485 BUS I/O devices @ screw terminal block	500mA in total for RS485 Modulbus combined over RJ45 and screw terminal block RJ45, limited to 500mA
	RS485 BUS I/O devices @ RJ45	
Max output current at RS485 bus Downstream	RS485 BUS Downstream @ RJ45	500mA in total for RS485 Modulbus combined over both RJ45

Maximum Output Loading of Power Supply

Use the following guidelines unless you are using Power over Ethernet (PoE+). A maximum current capacity of 3000 mA @ 12±2 VDC is available for all external devices combined when the unit is powered by PSU.

- Maximum current for reader port is 500 mA per door (= 2 Reader Connections).
- Maximum current for relay outputs at self-wetted contact is 750 mA per door (= 2 Relay connections).
- Door
- 1: Rel1/RelAUX1 (for MPA2C3-4, RelAUX1 = Door 3)
- Door
- 2: Rel2/RelAUX2 (for MPA2C3-4, RelAUX2 = Door 4)
- Maximum charge current for the battery wired in series is 128 mA.
- External power is limited to 500 mA/12±2 VDC per AUX Output (2X).
- RS-485
- Interface bus power is limited to 500 mA/12±2 VDC.

Note: You can find the power consumption amounts of devices by referring to the products' documentation or by using a current meter.

Example:

Device Element	Current
Door A Reader maximum current	300 mA
Door B Reader maximum current	300 mA
Door A strike or magnetic lock current	500 mA
Door B strike or magnetic lock current	500 mA
Buzzer or sounder current	20 mA
Request to exit switch	30 mA
RS-485 devices	250 mA
Total current for all external devices in this example	1900 mA < 3000 mA

PoE+ Power Limitations

If the panel is powered by PoE+ (Power over Ethernet), you must comply with these specifications for proper operation:

- An MPA2C3 panel powered by PoE+ is 802.3at compliant, providing a maximum of PSE 30W of input power and maximum of 25.5 W of output power to the panel. This input power is split between on-board power consumption and external load consumption. A maximum current capacity of 1600 mA @ 12±2 VDC is available for all external devices combined.

Note: *Two readers per door panel can be supported if the total current is within the external load capacity stated above.*

Note: *You can find the devices' power consumption amounts by referring to the products' documentation or by using a current meter.*

Example:

Device Element	Current
Panel Power Consumption	250 mA
Door strike or magnetic lock current	600 mA
Reader A maximum current	100 mA
Reader B maximum current	100 mA
Buzzer or sounder current	20 mA
Door position switch	20 mA
Request to exit switch	30 mA
Total current for this example	1120 mA

If the total current consumption of your external devices exceeds the 1600 mA maximum current, use one of the following system configurations:

• Power the panel with an external power supply.

• Power some or all the external devices with an external power supply to lower the total external current powered by the panel below 1600 mA.

The maximum power available in the 802.3 at standard is 25.5W. This limit is generally at 42.5 – 57 VDC, and it is measured at the output of the power injector or PoE switch. Line losses cause a decrease in the power available at the panel when you use longer Ethernet cable. You can minimize these line losses by using either of the following methods:

• Connecting the MPA2C3 panel to the power injector (Midspan) or PoE+ switch with the shortest possible Ethernet cable length.

• Midspan power supply, also known as a PoE+ power injector, is an additional PoE+ power. Class 4 can only be used by IEEE 802.3at (Type 2) devices, requiring valid Class 2 and Mark 2 currents for the power up stages.

Battery Supply

The MPA2C3 Enclosure panel provides room for 12 VDC, 7Ah / 12 VDC, 12Ah sealed lead acid battery. If PSU and battery are both connected, the panel will use PSU as primary power and a battery as a secondary power. MPA2C3 power management circuit will manage the battery charging. When PSU goes down, the panel will continue to work on Battery. When the battery goes down, the panel shuts down.

- In that case, you can connect the cable to Ethernet 1 RJ45 port to reboot the system through PoE+.

- The battery recommended by Honeywell is 12 VDC,7 Ah (MPN:MPA2BAT7). The other battery purchased by customer should meet the local regulations.

Cables

Use industry-standard cables that meet the following specifications:

Table 6-1   Reader Cables

Cable Specifications				
Connected device	Connection to panel	Description	Wire diameter	Maximum distance
Readers	RJ45 READER terminal	8 wire shielded cable (Wiegand) 4 wire twisted pair shielded cable suitable for RS485 (OSDP) CAT5E / CAT6 / CAT7 S/FTP or F/UTP	AWG 18-26	See Recommendations
Alarm sensors, door sensors, REX/ egress buttons	Alarm Inputs Push in Terminal block	2 wire shielded cable	AWG 22-24	up to 1000 ft (300m)
	RJ45 DOOR Terminal	CAT5E / CAT6 / CAT7 S/FTP or F/UTP	AWG 18-26	See Recommendations
Door Locking devices	Relay / AUX Outputs Push in Terminal block	2 wire shielded cable	AWG 18-26	See Recommendations
	RJ45 DOOR Terminal	CAT5E / CAT6 / CAT7 S/FTP or F/UTP	AWG 18-26	See Recommendations

Recommended cable distances for readers and peripheral devices.

As readers can be connected only via the RJ45 terminals, the intention is to use CAT cable. Via the MPA2RJ - RJ45 to terminal block convertor - other types of cable can be used as well. The most common and most economic available cable currently is CAT 5E. We recommend that CAT5E F/UTP cable is used.

Note: *Use only CAT x cable with 100% copper wires. We do not recommend cable with CCA (Copper Cladded Aluminum) wires or CCS (Copper Cladded Steel) wires as this decreases the maximum cable length to readers and locks significantly.*

Note: *When using the red RJ45 terminal connectors for door peripherals (locking device, door contact and REX button) it is likely that the same cable will be used. The tests have been performed with a 200mA lock.*

The below tables with recommendations demonstrate verified cable lengths under the following conditions:

1. Cable used for testing CAT5E F/UTP

    a. 4x2xAWG24

    • Other Gauges / wire diameters have not been tested.

    • Do not use AWG26 cables

    • Cable with AWG<24 may specify longer cable lengths but have not been verified.

    b. 100% Copper solid wires

    • CCA (Copper Cladded Aluminum) and CCS (Copper Cladded Steel) type CAT cable will shorten the maximum length.

    • Tests with CCA and CCS type wires have not been performed.

3. Readers tested:

    a. Honeywell luminAXS 4700 (OSDP) factory default configuration

    b. Honeywell luminAXS 4716 (OSDP) factory default configuration

    c. HID Signo 40K (Standard) (OSDP setting) further factory default configuration

    d. Any change from factory default configuration will affect the cable length, which has not been tested or verified.

4. Lock tested:

    a. 200mA lock, power-to-lock type lock (Fail safe) ; this is only a tested suggestion and not a specification. Operating voltage for the lock is 10.5VDC – 13VDC.

    b. Note: every type of lock has its own operating voltage range specifications, which affects the maximum cable length.

5. Panel is powered by mains power supply with 12V/7Ah battery back-up.

    a. The maximum length is specified with ONLY BATTERY POWERED panel.

    b. Cable length specified at battery minimum voltage is 0.4V lower than the fully charged

    c. This means for a panel (in Normal Door Access Mode) with a 200mA power-to-lock locking device and a reader:

    • Approx. 4 hours battery powered with 1 door / single reader

    • Approx. 3 hours battery powered with 2 doors / single reader

    • Approx. 2 hours battery powered with 4 doors / single reader.

Note: *For certified CAT 5E network a maximum cable length of 90m (295ft) is specified.*

Note: *Reader specifications such as voltage range affect cable length specification. Any reader not specified below need to be tested on functionality with desired cable length before installing in a site.*

The Following scenarios are given below:

- Single door with 2 readers or 2 doors with one reader each, valid for both Wiegand and OSDP reader configurations

- 2 doors with 2 readers each, valid only for OSDP reader configurations.

As the examples are demonstrated for DOOR1 (READER IN / READER OUT) or DOOR1 / DOOR3, please note that the same results also apply for DOOR2 (READER IN / READER OUT) or DOOR2 / DOOR4

Dimensions are either in Feet or in Meters

Recommended cable lengths in Feet

Scenario 1: ONE Honeywell OmniSmart / HID SIGNO reader per RJ45 Reader terminal

- Single door with 2 readers or 2 doors with one reader each, valid for both Wiegand and OSDP reader configurations

- Reader type: Honeywel OmniSmart or HID SIGNO reader
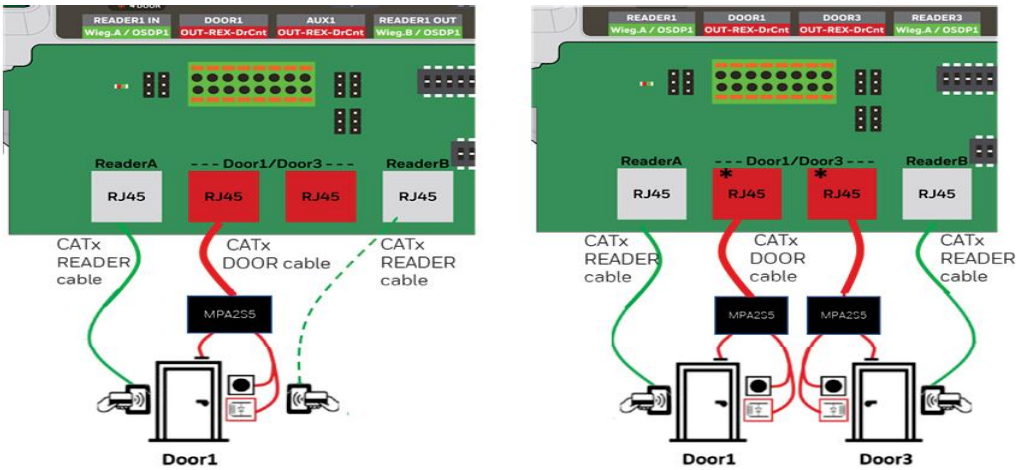
OmniSmart / HID SIGNO reader, standard configuration

Panel Power source

Worst case: battery power is applied

	Length ft	Reader @ Standard config	Locking Device @ 200mA	Locking Device @ 375mA*	Locking Device @ 500mA*	
Mains + Battery	AWG26	115	100			Calculated
	AWG24	180	155	85	60	Verfied
	AWG23	230	195	105	80	Calculated
	AWG22	285	250	130	100	Calculated
	AWG20	455	395	210	160	Calculated
	AWG18	725	625	335	250	Calculated

PoE+ powered

	Length ft	Reader @ Standard config	Locking Device @ 200mA	Locking Device @ 375mA*	Locking Device @ 500mA*
PoE+ No Battery	AWG26	155	145		
	AWG24	245	235	125	95
	AWG23	310	295	155	120
	AWG22	390	370	200	150
	AWG20	620	590	315	235
	AWG18	990	940	500	375

Recommended OSDP cable length per cable type
minimal 2x2 twisted pair, 100% copper wires

Note: limited to 750mA* combined over DOOR1+DOOR3
limited to 500mA combined over READER1+READER3

Note 1 : When using CATx cable, certified CATx networks have 90m (295ft) maximum length
Note 2 : AWG20 and AWG18 cables require MPA2RJ
Note 3 : OSDP RS485 cables require 120 Ohm cable termination at the ends of the full OSDP bus.
See manual for further instructions

Note 4: Wiegand readers are limited to 495ft cable length where reader cable length is exceeding 495ft
Note 5: Cable length determined based in UL requirements: reader voltage range at 12VDC –15% / +10%

Scenario 2: TWO Honeywell OmniSmart / HID SIGNO reader per RJ45 Reader terminal

- 2 doors with 2 readers each, valid only for OSDP reader configurations
- Reader type: Honeywel OmniSmart or HID SIGNO reader
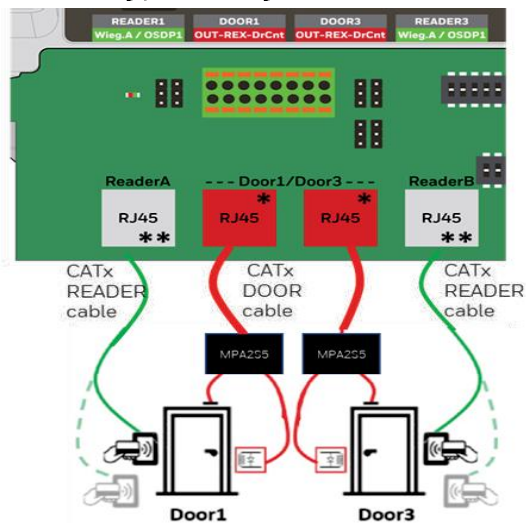
Two OmniSmart / HID SIGNO OSDP readers, standard configuration – in Y–formation

Panel Power source

Worst case: battery power is applied

PoE+ powered

	Length ft	Reader @ Standard config	Locking Device @ 200mA	375mA*	500mA*	
Mains+Battery	AWG26	40	100			Calculated
	AWG24	65	155	85	60	Calculated
	AWG23	85	195	105	80	Calculated
	AWG22	105	250	130	100	Calculated
	AWG20	165	395	210	160	Calculated
	AWG18	265	625	335	250	Calculated

	Length ft	Reader @ Standard config	Locking Device @ 200mA	375mA*	500mA*
PoE+ No Battery	AWG26	115	145		
	AWG24	180	235	125	95
	AWG23	230	295	155	120
	AWG22	285	370	200	150
	AWG20	455	590	315	235
	AWG18	725	940	500	375

Recommended OSDP cable length per cable type

minimal 2x2 twisted pair, 100% copper wires

**Note: limited to 750mA* combined over DOOR1+DOOR3
limited to 500mA** combined over READER1+READER3
requires external PSU for reader power supply (1000mA combined)**

Note 1 : When using CAT x cable, certified CAT x networks have 90m (295ft) maximum length
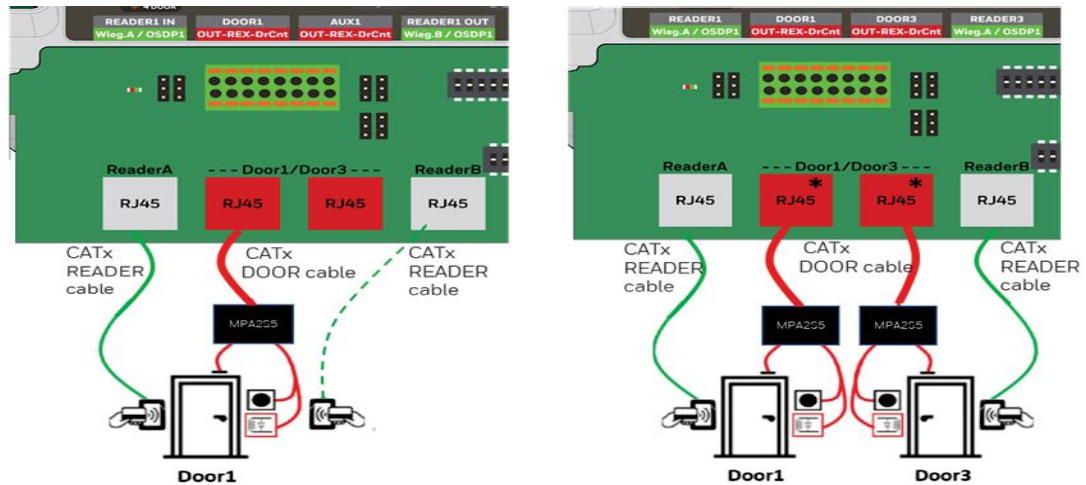Note 2 : AWG20 and AWG18 cables require MPA2RJ
Note 3 : OSDP RS485 cables require 120 Ohm cable termination at the ends of the full OSDP bus.
     See manual for further instructions

Note 4: Cable length determined based in UL requirements: reader voltage range at 12VDC -15%/+10%

MPA2C3 Installation Guide

Scenario 3: ONE Honeywell luminAXS reader per RJ45 Reader terminal

- Single door with 2 readers or 2 doors with one reader each, valid for both Wiegand and OSDP reader configurations

- Reader type: luminAXS reader

LuminAXS reader, standard configuration

Panel Power source

Worst case: battery power is applied

PoE+ powered

	Length ft	Reader @ Standard config	Locking Device @			
			200mA	375mA*	500mA*	
Mains + Battery	AWG26	205	100			Calculated
	AWG24	330	155	85	60	Verified
	AWG23	415	195	105	80	Calculated
	AWG22	520	250	130	100	Calculated
	AWG20	830	395	210	160	Calculated
	AWG18	1320	625	335	250	Calculated

	Length ft	Reader @ Standard config	Locking Device @		
			200mA	375mA*	500mA*
PoE+ No Battery	AWG26	310	145		
	AWG24	490	235	125	95
	AWG23	620	295	155	120
	AWG22	785	370	200	150
	AWG20	1245	590	315	235
	AWG18	1980	940	500	375

Recommended OSDP cable length per cable type minimal 2x2 twisted pair, 100% copper wires

Note: limited to 750mA* combined over DOOR1+DOOR3 limited to 500mA combined over READER1+READER3

Note 1 : When using CATx cable, certified CATx networks have 90m (295ft) maximum length
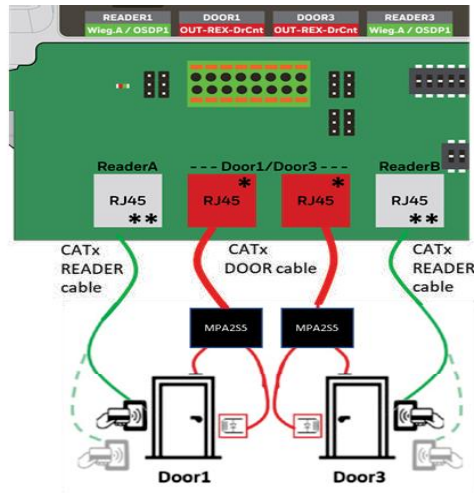Note 2 : AWG20 and AWG18 cables require MPA2RJ
Note 3 : OSDP RS485 cables require 120 Ohm cable termination at the ends of the full OSDP bus.
         See manual for further instructions

Note 4: Wiegand readers are limited to 495ft cable length where reader cable length is exceeding 495ft

Scenario 4: TWO Honeywell luminAXS readers per RJ45 Reader terminal

- 2 doors with 2 readers each, valid only for OSDP reader configurations
- Reader type:
- luminAXS OSDP reader

Two LuminAXS OSDP readers, standard configuration – in Y-formation

Panel Power source

Worst case: battery power is applied

Mains + Battery	Length ft	Reader @ Standard config	Locking Device @ 200mA	375mA*	500mA*	
	AWG26	115	100			Calculated
	AWG24	180	155	85	60	Verified
	AWG23	230	195	105	80	Calculated
	AWG22	265	250	130	100	Calculated
	AWG20	455	395	210	160	Calculated
	AWG18	725	625	335	250	Calculated

PoE+ powered

PoE+ No Battery	Length ft	Reader @ Standard config	Locking Device @ 200mA	375mA*	500mA*
	AWG26	185	145		
	AWG24	295	235	125	95
	AWG23	370	295	155	120
	AWG22	470	370	200	150
	AWG20	745	590	315	235
	AWG18	1185	940	500	375

Recommended OSDP cable length per cable type minimal 2x2 twisted pair, 100% copper wires

Note: limited to 750mA* combined over DOOR1+DOOR3 limited to 500mA** combined over READER1+READER3 requires external PSU for reader power supply (1000mA combined)

Note 1 : When using CAT x cable, certified CAT x networks have 90m (295ft) maximum length
Note 2 : AWG20 and AWG18 cables require MPA2RJ
Note 3 : OSDP RS485 cables require 120 Ohm cable termination at the ends of the full OSDP bus.
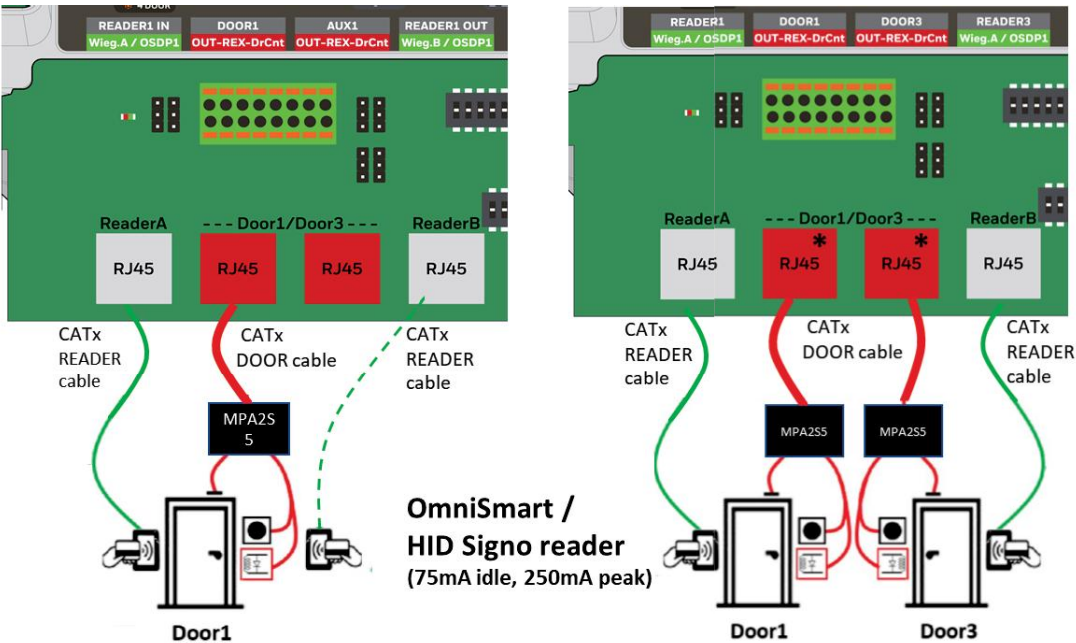See manual for further instructions

Scenario 1: ONE Honeywell OmniSmart / HID SIGNO reader per RJ45 Reader terminal

- Single door with 2 readers or 2 doors with one reader each, valid for both Wiegand and OSDP reader configurations

- Reader type: Honeywel OmniSmart or HID SIGNO reader

Power source

Worst Case Battery power is applied

	Length	Reader @	Locking Device @		
	Meter	250mA Pk	200mA	375mA*	500mA*
Mains + Battery	AWG26	15	10		
	AWG24	20	15	5	5
	AWG23	25	20	10	5
	AWG22	35	25	15	10
	AWG20	55	40	20	15
	AWG18	90	70	35	25

For AWG18 and AWG20, use MPA2RJ to connect to the panel

Note: limited to 750mA* combined over DOOR1+DOOR3
limited to 500mA combined over READER1+READER3

	Length	Reader @	Locking Device @		
	Meter	250mA Pk	200mA	375mA*	500mA*
PoE+	AWG26	15	15		
	AWG24	30	30	15	10
	AWG23	35	35	20	15
	AWG22	45	45	25	20
	AWG20	75	75	40	30
	AWG18	120	120	65	45

Scenario 2: TWO Honeywell OmniSmart / HID SIGNO reader per RJ45 Reader terminal

- 2 doors with 2 readers each, valid only for OSDP reader configurations
- Reader type: Honeywel OmniSmart or HID SIGNO reader

READER1 Wieg.A / OSDP1 | DOOR1 OUT-REX-DrCnt | DOOR3 OUT-REX-DrCnt | READER3 Wieg.A / OSDP1

ReaderA — RJ45 **
- - - Door1/Door3 - - - RJ45 * RJ45 *
ReaderB — RJ45 **

CATx READER cable | CATx DOOR cable | CATx READER cable

MPA2C5 | MPA2C5

Door1   Door3

Two OmniSmart / HID SIGNO OSDP readers, standard configuration – in Y-formation

Panel Power source

Worst case: battery power is applied   **PoE+ powered**

	Length Meter	Reader @ Standard config	Locking Device @ 200mA	375mA*	500mA*	
Mains + Battery	AWG26	15	30			Calculated
	AWG24	20	50	25	20	Calculated
	AWG23	25	60	30	25	Calculated
	AWG22	30	75	40	30	Calculated
	AWG20	50	120	65	50	Calculated
	AWG18	80	190	100	75	Calculated

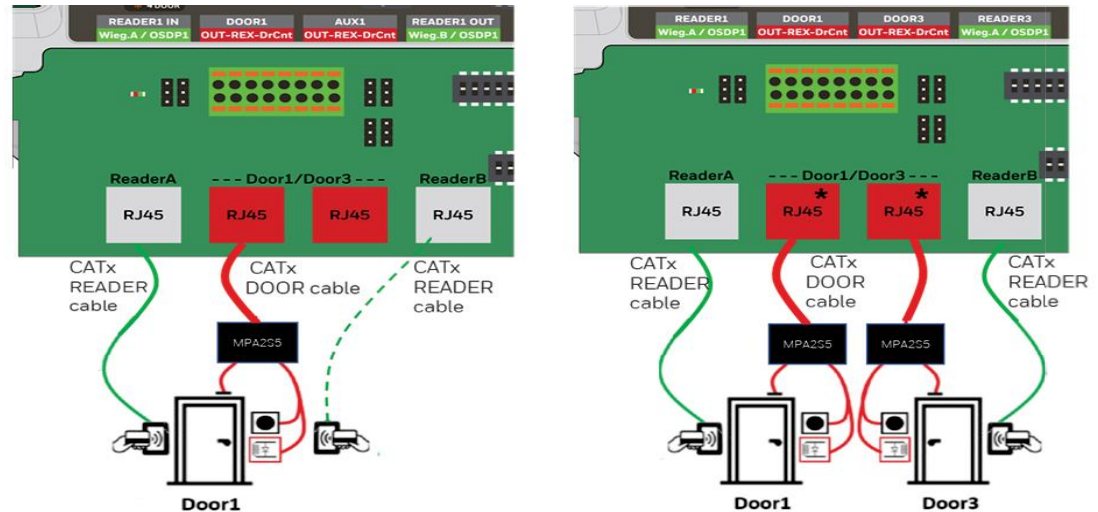|	Length Meter	Reader @ Standard config	Locking Device @ 200mA	375mA*	500mA*
PoE+ No Battery	AWG26	35	45		
	AWG24	55	70	40	30
	AWG23	70	90	50	35
	AWG22	85	115	60	45
	AWG20	140	180	95	70
	AWG18	220	285	155	115

Recommended OSDP cable length per cable type
minimal 2x2 twisted pair, 100% copper wires

Note: limited to 750mA* combined over DOOR1+DOOR3
limited to 500mA** combined over READER1+READER3
requires external PSU for reader power supply (1000mA combined)

Note 1 : When using CAT x cable, certified CAT x networks have 90m (295ft) maximum length
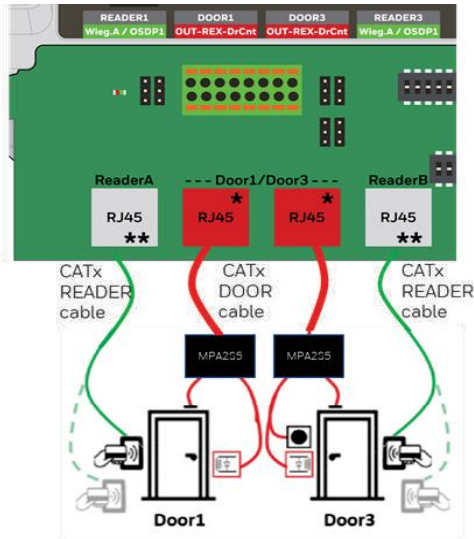Note 2 : AWG20 and AWG18 cables require MPA2RJ
Note 3 : OSDP RS485 cables require 120 Ohm cable termination at the ends of the full OSDP bus.
    See manual for further instructions
Note 4: Cable length determined based in UL requirements: reader voltage range at 12VDC –15% / +10%

Scenario 3: ONE Honeywell luminAXS reader per RJ45 Reader terminal

- Single door with 2 readers or 2 doors with one reader each, valid for both Wiegand and OSDP reader configurations

- Reader type: luminAXS reader

LuminAXS reader, standard configuration

Panel Power source

Worst case: battery power is applied

PoE+ powered

Length Meter	Reader @ Standard config	Locking Device @			
		200mA	375mA*	500mA*	
AWG26	65	30			Calculated
AWG24	100	50	25	20	Verified
AWG23	125	60	30	25	Calculated
AWG22	160	75	40	30	Calculated
AWG20	255	120	65	50	Calculated
AWG18	400	190	100	75	Calculated

Mains + Battery

Length Meter	Reader @ Standard config	Locking Device @		
		200mA	375mA*	500mA*
AWG26	95	45		
AWG24	150	70	40	30
AWG23	190	90	50	35
AWG22	240	115	60	45
AWG20	380	180	95	70
AWG18	605	285	155	115

PoE+ No Battery

Recommended OSDP cable length per cable type minimal 2x2 twisted pair, 100% copper wires

Note: limited to 750mA* combined over DOOR1+DOOR3 limited to 500mA combined over READER1+READER3

Note 1 : When using CATx cable, certified CATx networks have 90m (295ft) maximum length

Note 2 : AWG20 and AWG18 cables require MPA2RJ

Note 3 : OSDP RS485 cables require 120 Ohm cable termination at the ends of the full OSDP bus. See manual for further instructions

Note 4: Wiegand readers are limited to 150m cable length where reader cable length is exceeding 150m

Scenario 4: TWO Honeywell luminAXS readers per RJ45 Reader terminal

- 2 doors with 2 readers each, valid only for OSDP reader configurations
- Reader type: l
- LuminAXS OSDP reader

Two LuminAXS OSDP readers, standard configuration – in Y-formation

Panel Power source

Worst case: battery power is applied

	Length Meter	Reader @ Standard config	Locking Device @			
			200mA	375mA*	500mA*	
Mains + Battery	AWG26	35	30			Calculated
	AWG24	55	50	25	20	Verified
	AWG23	70	60	30	25	Calculated
	AWG22	85	75	40	30	Calculated
	AWG20	140	120	65	50	Calculated
	AWG18	220	190	100	75	Calculated

PoE+ powered

	Length Meter	Reader @ Standard config	Locking Device @		
			200mA	375mA*	500mA*
PoE+ No Battery	AWG26	55	45		
	AWG24	90	70	40	30
	AWG23	115	90	50	35
	AWG22	145	115	60	45
	AWG20	230	180	95	70
	AWG18	360	285	155	115

Recommended OSDP cable length per cable type
minimal 2x2 twisted pair, 100% copper wires

**Note: limited to 750mA* combined over DOOR1+DOOR3
limited to 500mA** combined over READER1+READER3
requires external PSU for reader power supply (1000mA combined)**

Note 1 : When using CAT x cable, certified CAT x networks have 90m (295ft) maximum length
Note 2 : AWG20 and AWG18 cables require MPA2RJ
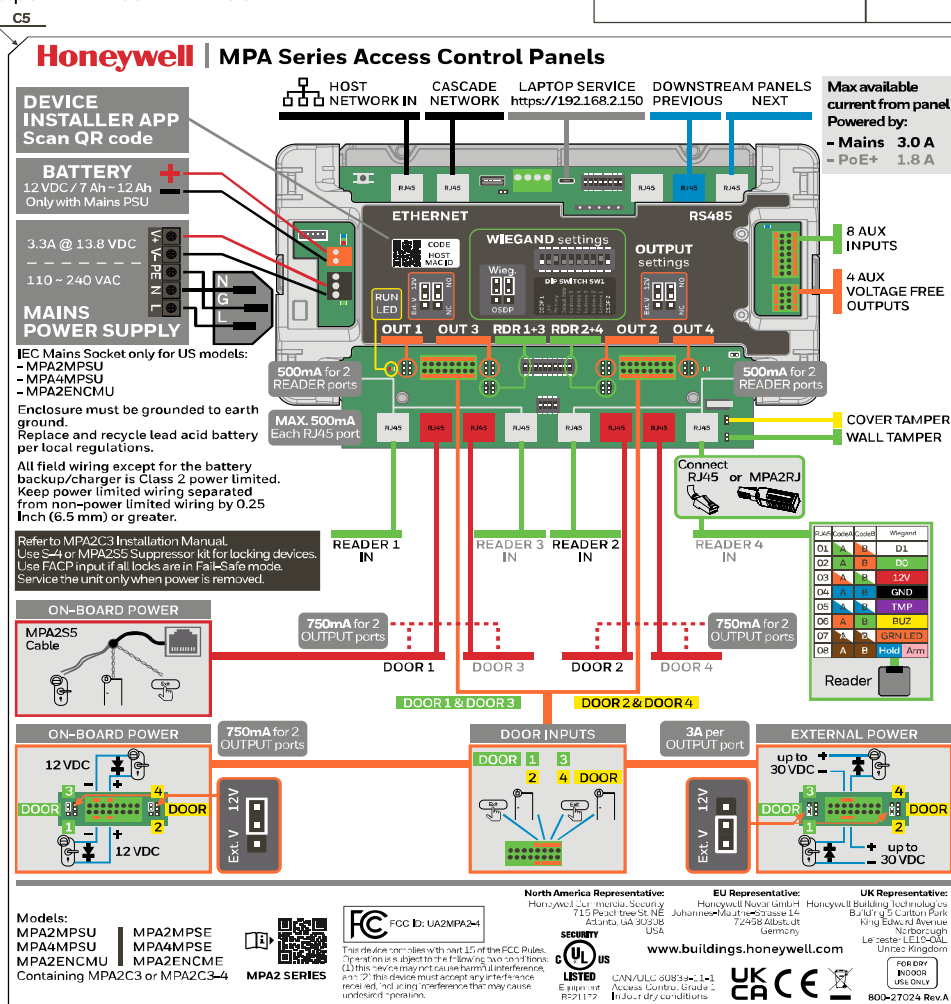Note 3 : OSDP RS485 cables require 120 Ohm cable termination at the ends of the full OSDP bus.
See manual for further instructions

FALCON NXS – MPA1.4
Door Label for Metal Enclosure

https://hwll.co/MPA2C3

REVISION	DATE	REV
FIRST RELEASE	2022.9	A

C5

Honeywell | MPA Series Access Control Panels

HOST NETWORK IN
CASCADE NETWORK
LAPTOP SERVICE https://192.168.2.150
DOWNSTREAM PANELS PREVIOUS / NEXT

Max available current from panel Powered by:
- Mains 3.0 A
- PoE+ 1.8 A

DEVICE INSTALLER APP Scan QR code

BATTERY
12 VDC / 7 Ah ~ 12 Ah
Only with Mains PSU

3.3A @ 13.8 VDC
110 ~ 240 VAC

MAINS POWER SUPPLY

ETHERNET
RS485

CODE HOST MAC ID

WIEGAND settings
Wieg.
OSDP

OUTPUT settings
DIP SWITCH SW1

RUN LED

OUT 1 OUT 3 RDR 1+3 RDR 2+4 OUT 2 OUT 4

8 AUX INPUTS
4 AUX VOLTAGE FREE OUTPUTS

IEC Mains Socket only for US models:
- MPA2MPSU
- MPA4MPSU
- MPA2ENCMU

Enclosure must be grounded to earth ground.
Replace and recycle lead acid battery per local regulations.

All field wiring except for the battery backup/charger is Class 2 power limited. Keep power limited wiring separated from non-power limited wiring by 0.25 Inch (6.5 mm) or greater.

Refer to MPA2C3 Installation Manual. Use S-4 or MPA2S5 Suppressor kit for locking devices. Use FACP input if all locks are in Fail-Safe mode. Service the unit only when power is removed.

ON-BOARD POWER
MPA2S5 Cable

500mA for 2 READER ports
MAX. 500mA Each RJ45 port

COVER TAMPER
WALL TAMPER

Connect RJ45 or MPA2RJ

500mA for 2 READER ports

READER 1 IN
READER 3 IN
READER 2 IN
READER 4 IN

750mA for 2 OUTPUT ports
750mA for 2 OUTPUT ports

RJ45	CodeA	CodeB	Wiegand
01	A	B	D1
02	A	B	D0
03	A	B	12V
04	A	B	GND
05	A	B	TMP
06	A	B	BUZ
07	A	B	GRN LED
08	A	B	Hold / Arm

Reader

DOOR 1 DOOR 3 DOOR 2 DOOR 4

DOOR 1 & DOOR 3   DOOR 2 & DOOR 4

ON-BOARD POWER
12 VDC
DOOR 12V DOOR
12 VDC
Ext. V

750mA for 2 OUTPUT ports

DOOR INPUTS
DOOR 1 3
2 4 DOOR

3A per OUTPUT port
12V
Ext. V

EXTERNAL POWER
up to 30 VDC
DOOR 12V DOOR
up to 30 VDC
Ext. V

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Honeywell Building Technologies
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King Edward Avenue
Narborough
Leicester LE10-0AL
United Kingdom

FCC ID: UA2MPA2-4
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.

SECURITY
c UL us LISTED
Equipment R21172

CAN/ULC 60839-11-1
Access Control, Grade 2
Indoor dry conditions

UK CA CE

FOR DRY INDOOR USE ONLY

800-27024 Rev.A

Models:
MPA2MPSU MPA2MPSE
MPA4MPSU MPA4MPSE
MPA2ENCMU MPA2ENCME
Containing MPA2C3 or MPA2C3-4

MPA2 SERIES

NOTES

1. MATERIAL:
Non Removable Label Per 000-00628
.002 IN (0.05 mm) THICK WHITE VINYL OR MYLAR WITH PRESSURE SENSITIVE ADHESIVE, MEET UL STANDARD.

2. LABEL SIZE: 270 X 245 mm
RELEASE PAPER SIZE: 275 X 250 mm

3. PART TO BE RoHS COMPLIANT PER ES746, LATEST REVISION.

SPOT COLORS

White	PMS Cool Gray 9C
PMS Black 7C	PMS Cool Gray 9C 50%
PMS Black 7C 90%	PMS Cool Gray 9C 25%
PMS Cool Gray 11C	PMS 803C
PMS 1645C	PMS Red 0331C
PMS 1795C	PMS 527C
PMS 360C	PMS 731C
PMS 7461C	

FONTS

Honeywell Sans
BOOK 2.5 – H1.6
BOLD 2.5 – H1.8
BOLD 3.5 – H2.5
MEDIUM 4 – H3.0
EXTROBOLD 3 – H2.2
EXTROBOLD 4 – H3.0
EXTROBOLD 5 – H3.6
EXTROBOLD 6 – H4.3

TOLERANCES (UNLESS OTHERWISE SPECIFIED)

		ANGULAR
0-99.99mm	.X=± .25 / .XX=± .13	± .5
100-179.99mm	.X=± .50 / .XX=± .25	
180mm & OVER	.X=± .75 / .XX=± .50	1:1 SCALE

PROJECT	FALCON MPA1.4	DESIGNER / DRAWN BY	ME - KONG, VALLEY	CMF	See notes	NOTES	Label, Enclosure Falcon MPA1.4	REV	A	PAGE	1 of 1
PART #	800-27024	LAST EDITED DATE	See table	FILE NAME							

Symbols	Description
CE	CE marking is a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area (EEA). The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EC directives
UKCA	The UKCA (UK Conformity Assessed) marking is a new UK product marking that is used for goods being placed on the market in Great Britain (England, Wales, and Scotland). It covers most goods which previously required the CE marking.
(crossed-out wheelie-bin symbol)	DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on waste electrical and electronic equipment (WEEE), Art.14, 2-5) This symbol on our product shows a crossed-out "wheelie-bin" as required by law regarding the Waste of Electrical and Electronic Equipment (WEEE) disposal. This indicates your responsibility to contribute in saving the environment by proper disposal of this Waste i.e. Do not dispose of this product with your other wastes. To know the right disposal mechanism please check the applicable law.

Panel Settings

Note: *Due to Cyber Security, firmware upgrade /downgrade will be restricted to just one firmware version. In case of urgency (Rollback), firmware downgrade will be allowed for a grace period of 30 days only*.*

Firmware Upgrades

Panel Requirements

MPA2C3 panels must first be upgraded to the latest release firmware version Refer to the release notes for more information.

Note: *The secondary (downstream) EVL panels should be upgraded first and then the primary (Primary) panel(s).*

Note: *For detailed upgrade instructions, refer to th MPA2C3 User Manual.*

4-door License

A 4-door license is required for 3-door or 4-door access control unit. To obtain 4-door access control system, you need to buy the specific license. Once the license file is applied on the panel then user can use the 4-door controller. Please contact Honeywell Customer Support team for 4-door license.

Basic Standalone Operation

Card Read / Door Lock Operation

1. Present a card to a reader.
2. The reader sends the card number to a reader input on the panel.
3. The panel searches its database and:

- If it is a valid card, activate the door relay associated with the particular reader input. The card is valid when it is in the card database on the panel and the current time and date conforms to the time zone associated with the card.
- If it is not a valid card, the door relay remains locked.

Door Egress (REX) / Door Lock / Door Status Operation

1. Activate the door egress input (REX).
2. The panel activates the door relay associated with the particular door egress input for a default pulse time of 10 seconds.

If the door status goes from close to open to close again during the 10 second door open period, the door relay will be immediately de-activated.

Perform the following maintenance on the MPA2C3 enclosure:

a. Change the backup battery every two to two-and-a-half years.

Note: *The power supply contains no serviceable parts. There is no replaceable fuse inside the power supply.*

Table 9-1   Troubleshooting Problems and Solutions

Problem	Solution
The panel powers up, but it does not respond to any communication, cards reads, or input activation.	Ensure that the Address DIP switches are set the correct values. Turn off the power (including battery), change the settings, and re-apply the power.
No communications exist with the Ethernet port.	Only a panel set to be a Primary (Set Bit 3 of DIP switch 1 to ON) will have communications on the Ethernet port. If you need to use that port to access the panel, turn off the power (including the battery), change the switch setting, and reapply the power. **Note:** *That if the panel is normally not a Primary on a Multidrop communication bus, then the Host RS-485 connection J7/8 should also be disconnected while Bit 3 of DIP switch 1 is ON. After completion of the Ethernet session, turn off the power (including the battery), change the switch setting, reconnect the Host RS-485 terminal block, and re-apply the power.*

The panel address is unknown	Option 1: Set the MPA2C3 panel's DIP switch 4 to ON. This will default the IP address to 192.168.1.150. Option 2: Connect to the panel through the USB port using a Type-A USB to Type-C USB cable and the USB driver. The default USB Ethernet IP address is: 192.168.2.150.

Honeywell | **THE FUTURE IS WHAT WE MAKE IT**

Document: 800-26605-01 Installation Guide 11/2022

www.honeywell.com/security/de