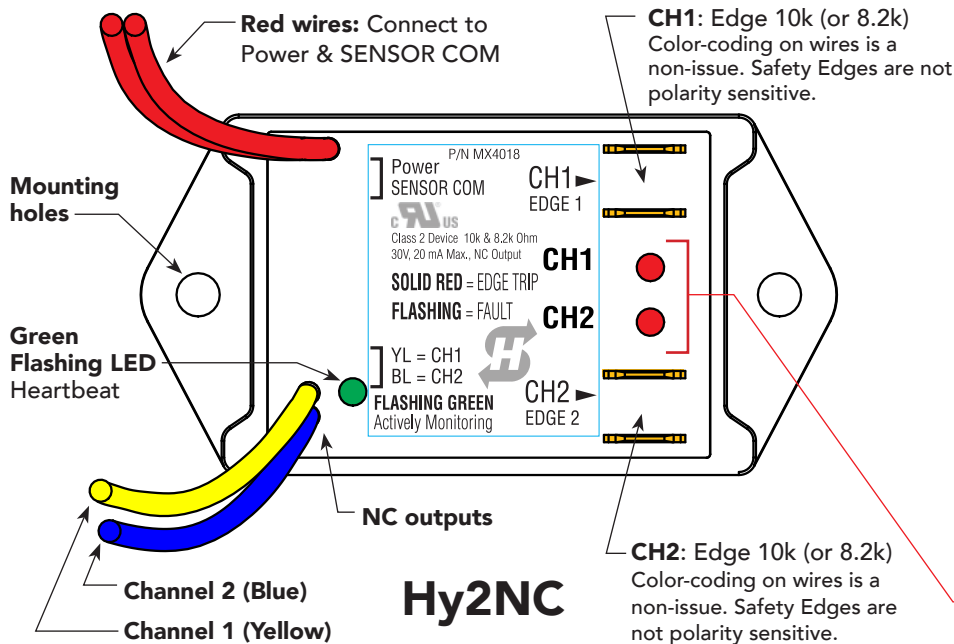


Hy2NC: Wired Edge Sensor Converter

NOTICE: Use Hy2NC with WIRED safety gate edges manufactured for monitoring purposes. The Hy2NC is not needed and WILL NOT WORK with wireless safety gate edges.



Wiring of automated gate operators must conform to NFPA and NEC standards and comply with all local codes. When the installation is compliant and complete, turn on AC power at the source and at the control box.



Parts List

- Hy2NC, MX4018
- Female quick disconnects (5x)
- Installation Instructions

Tools required

- Wire stripper / cutter
- Phillips head screwdriver
- Drill & bits for mounting wired gate edge sensors and module

Additional Items:

- Self tapping screws (2x)
- Conduit
- Electrical Wire: 16 to 20 AWG, Electrical junction box as required by code
- Safety Gate Edge with 10k ohm (or 8.2k) resistor (UL 325 approved)
- Multi-meter capable of reading 10KΩ

See Table 1. Troubleshooting Tips on the next page. Red LEDs

Installation

To install the Hy2NC, 2 channel sensor module, take the following steps:

1. Install the safety gate edge per the manufacturer's instructions.
2. Feed wires through low voltage conduit to the gate operator.
3. Access the gate operator's Control Box.
4. Turn OFF all power to the Control Box.
5. Mount the Hy2NC in the Control Box using 2 self-tapping screws.
6. Crimp female quick connectors to incoming safety edge wires and connect to the appropriate Hy2NC channel spade inputs.
7. Connect the blue and yellow wires to SENSOR inputs on the controller.
8. Connect one red wire to +24V and the other red wire to Common (SENSOR COM on HySecurity gate operators. For HySecurity gate operator wiring diagrams and programming, see [page 4.](#))

Test Gate Sensor and Gate Operation

1. Turn power ON.
2. To make sure the safety edge sensors are operational and the gate is working properly, cycle test the gate operator (Open and Close).
3. With the gate slightly ajar, apply pressure to each safety edge. The red LED should light and remain static, indicating a safety edge trip.
4. When you are assured that the gate operator and gate edges are functioning properly, close the control box and carefully replace the operator's cover. Secure the cover to the chassis.



Troubleshooting

See Table 1 for tips and LED status explanations. For Troubleshooting display codes, refer to the product manual.

NOTE: For monitoring and powering purposes, all external entrapment protection sensors, connected to Smart Touch or Smart DC controllers, must be wired to the SENSOR COM terminal. The Normally Closed sensors require power to operate. After installing the sensor wiring, temporarily supply power to the sensors, by turning ON the Photo Eye Align mode (PE in the User Menu). For more information, refer to the product manual or view [HySecurity Product Manuals](#) online.



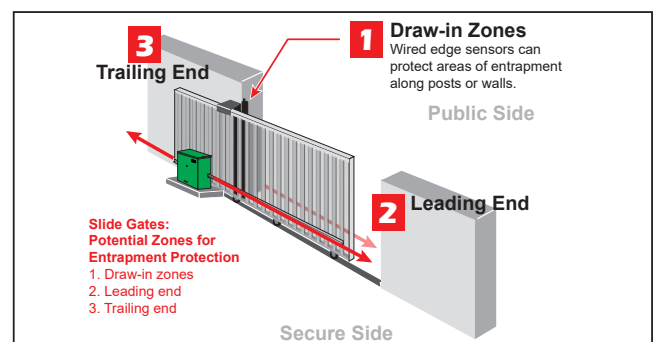
Connect all contact and non-contact sensors to the same power source. Example, Do NOT connect photo eyes to +24VDC and gate edges to +12VDC. (Incompatible electricity flow.) A FAULT 2 will appear.

Table 1. Troubleshooting Tips

LED	Status	Diagnostics	Resolution
GREEN	OFF	No power to the module.	1. Gate operator's motor is not running. Check that power is ON and cycle test open and close. 2. Retrace the red wires, power and COM (SENSOR COM on HySecurity operators), from the module to the operator. Reseat wires, if necessary. 3. Use a multimeter to verify red wires have 12 VDC or 24 VDC. To provide temporary power to the sensors, turn Photo Eye Align mode ON (PE in User Menu). 4. Check the blue and yellow wire connections between the sensing edge and the gate operator. Re-install, if necessary.
	ON (Static)	Powered / Internal module fault	Replace module.
	FLASHING	Powered / Normal operation	Active status. Monitoring. Normal Operation.
RED	OFF	Normal operation	Sensing edge working properly. No resolution needed.
	ON (Static)	Edge is tripped / Edge hit occurred / Edge shorted	1. Resolve trip activation issue. 2. Check connections. 3. Use a multimeter to determine if sending edge is shorted. Replace it, if necessary. 4. Reset the gate operator.
	SLOW FLASHING	Faulty edge / Open Edge	1. Two resistive edges installed in parallel. (Only 1 edge can have 10K resistor if wired in parallel.) 2. More than one edge is being recognized by the same sensor terminal on the controller. Verify only one edge is connected to one sensor input terminal. 3. Damaged safety edge. Check with multimeter and replace it, if necessary.
	FAST FLASHING	Faulty edge / Open Edge Channel not in use (No wiring connected)	1. Two resistive edges installed in series. (Only 1 edge can have 10K resistor if wired in series.) 2. More than one edge is being recognized by the same sensor terminal on the controller. Verify only one edge is connected to one sensor input terminal. 3. Damaged safety edge. Check with multimeter and replace it, if necessary.
FAULT 2	Gate does not move when Open/Close command sent	UL 325 -2016 monitoring requirements are not being met	The NC contact is not being recognized or triggered when the gate operator receives an open command. 1. RED flashing LED indicator slow or fast? See above. 1. Verify COM red wire connected to SENSOR COM. 2. Check SENSOR 1, 2 and 3 have been configured properly through the Installer Menu. 3. See wiring diagrams for HySecurity operators on page 3 and page 4.

Automatic Slide Gate Scenario

NOTE: External entrapment protection sensors must be installed wherever potential for entrapment exists. Per UL 325 - 2016 Standard of Safety, the external entrapment sensors are monitored and must be functioning properly before the gate operator enables momentary control activation such as, push button open or close commands. For more information, view online [HySecurity Gate Safety](#).



HySecurity Gate Operators

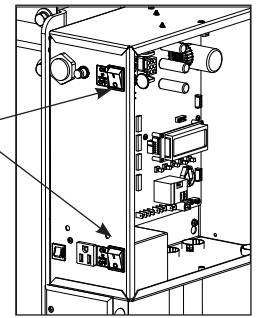
Configuring Software for Monitoring with Hy2NC

NOTE: When installing a 10k WIRED edge sensor, the wired edge must be connected to an interface module (such as the Hy2NC) that produces an NC output.



Turn all power OFF at the Control Box. Note that all external entrapment protection sensors must be wired to terminal SENSOR COM for power and monitoring purposes.

Smart DC Control Box



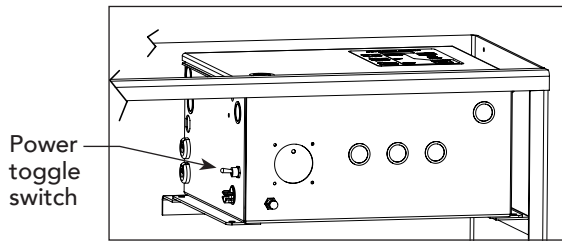
Power switches

Turn off both the DC and AC switches.



SlideSmart DC: After wiring sensor connections, turn gate operator ON. The gate will move while the gate operator searches for target (target magnet on the chain).

Smart Touch Control Box



Power toggle switch

Smart Touch Controller

Access the Installer Menu

NOTE: The SELECT, NEXT and PREVIOUS buttons let you navigate within the Installer Menu. If you are unfamiliar with reconfiguring menu items, review the tables on [page 4](#).

To configure the Hy2NC and connect the **WIRED** edge sensor to a HySecurity Smart Touch Controller or Smart DC Controller, take the following steps:

1. With power ON, press the Menu key twice to access the Installer Menu.
2. Simultaneously, press and hold Reset and Open.
3. Press Next and scroll to the SENSOR # TYPE (S1, S2, or S3) that is associated with the gate edge wiring (blue and/or yellow Hy2NC wires).
4. Select the appropriate sensor setting (# 3 Edge Close, # 5 Edge Open, or # 6 Edge Both). Example shown in illustrations on pages 3 and [page 4](#).



Red wire
Power +24V

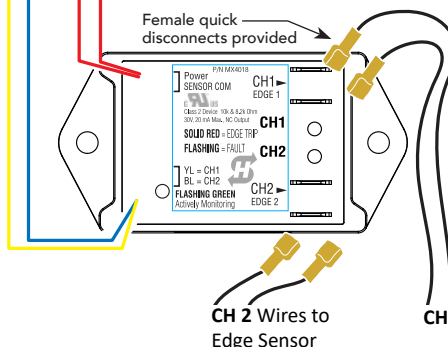
NOTE: Red wires are interchangeable. They are not polarity sensitive.

Blue wire
SENSOR Connection for CH 2

Red wire
SENSOR COM
The sensor does not become active until a command is received by the Controller and the motor runs.

Yellow wire
SENSOR connection for CH 1

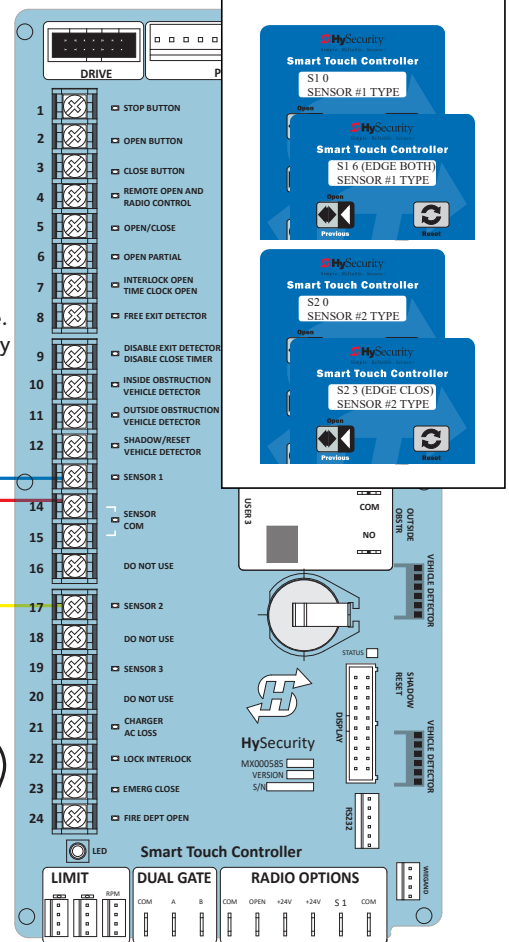
Female quick disconnects provided



CH 2 Wires to Edge Sensor

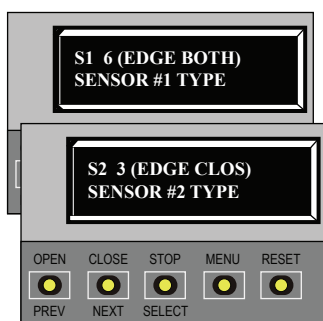
CH 1 Wires to Edge Sensor

Installer Menu Displays



NOTE: If using a Build Year 1 HySecurity gate operator, the settings will be different. The non-10k resistor-type gate edge can be hooked up to the EDGE terminal as a NO output. For more information, refer to your gate operator product manual.

Installer Menu Displays

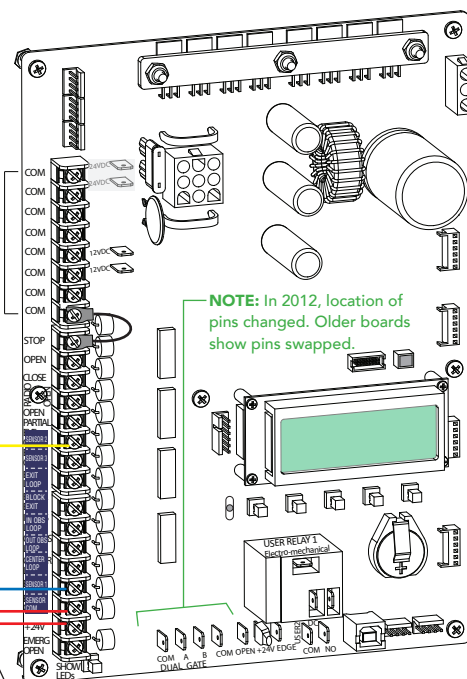


Yellow wire
SENSOR
connection
for CH 1

Blue wire
SENSOR
Connection
for CH 2

Red wire SENSOR COM
The sensors do not become active
until the motor runs.

COMMON
TERMINALS



Red wire
Power +24V

NOTE: Red wires are interchangeable.
They are not polarity sensitive.

Channel wires to Edge Sensor

Table 2: Installer Menu Settings for Safety Edge SENSOR Inputs

UL 325 HySecurity Gate Operator	Build Year 2016 (BY set)	Installer Menu Edge Sensor Settings 1, 2, or 3			
		#1 NOT USED	#3 EDGE CLOSE	#5 EDGE OPEN	#6 EDGE BOTH DIRECTIONS
SlideDriver (fixed speed)	2	●	●	●	
SlideDriver VFD	2	●	●	●	
SlideSmart DC 15	2	●	●	●	
SlideSmart DC 10	2	●	●	●	
SwingRiser	2	●	●	●	●
SwingSmart DC	2	●	●	●	●
HydraSwing	2	●	●	●	●
HydraLift	2	●	●		

Table 3: Smart Touch and Smart DC Controller: Menu Mode Navigation Buttons

To change data appearing in the display	To navigate through the Selections	To choose what appears on the display	To navigate between menu items
Press Select. Two left characters blink.	Press Next or Previous. Continue pressing Next to view all selections.	Press Select. Blinking characters become static.	Press Next or Previous. Advance - press Next Previous - press Previous

Technical Support

For technical support, call your installer or authorized HySecurity distributor. Obtain the serial number of your operator before calling. For the name of a distributor near you, contact HySecurity at 800-321-9947.