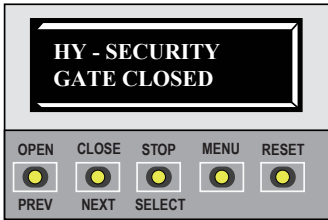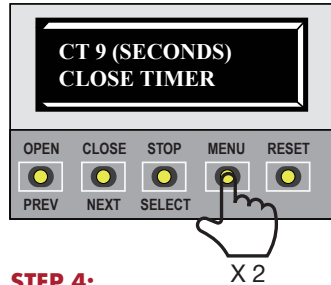## HYSECURITY® SMART DC CONTROLLER - UL 325

To access the installer menu and configure sensor inputs, take the following steps:
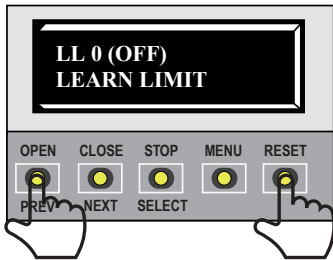
STEP 1:
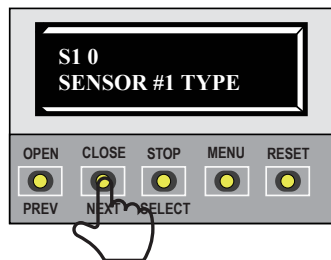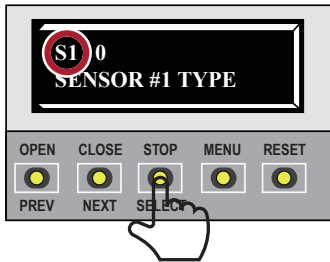**Start at the main menu screen**

HY - SECURITY
GATE CLOSED

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT

STEP 2:
Press 'Menu' twice

CT 9 (SECONDS)
CLOSE TIMER

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT

X 2

STEP 3:
Press the 'Open' and 'Reset' buttons at the same time

LL 0 (OFF)
LEARN LIMIT

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT

STEP 4:
Use 'Next' to navigate to the desired Sensor

S1 0
SENSOR #1 TYPE

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT

STEP 5:
Press 'Select' to configure the appropriate Sensor -
S1 flashes

S1 0
SENSOR #1 TYPE

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT

STEP 6: Press 'Next' to navigate through the Sensor type options:

S1 3 (EDGE CLOSE)
SENSOR #1 TYPE

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT
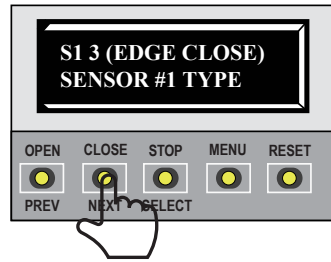
STEP 7:
When the desired sensor type is shown on the screen press 'Select'
- S1 stops flashing

S1 3 (EDGE CLOSE)
SENSOR #1 TYPE

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT
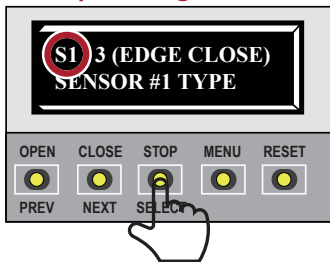
STEP 8:
Press 'Menu' twice to exit the installer menu
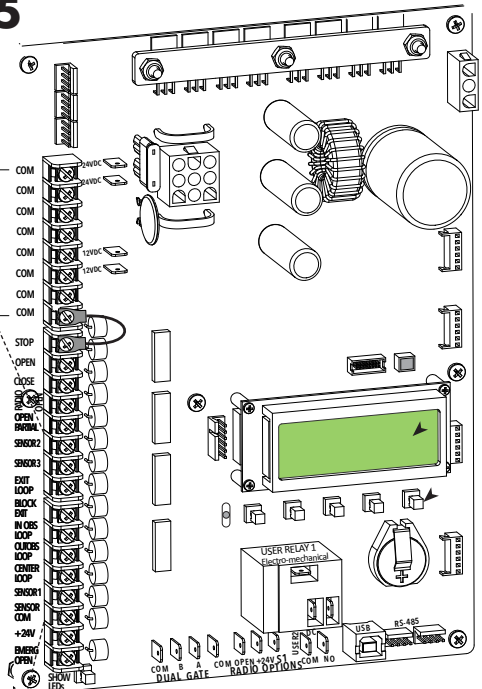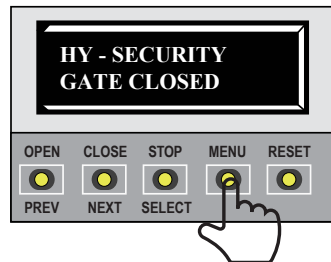
HY - SECURITY
GATE CLOSED

OPEN   CLOSE   STOP   MENU   RESET
PREV   NEXT   SELECT

COMMON TERMINALS

COM COM COM COM COM COM COM COM
STOP
OPEN
CLOSE
OPEN PARTIAL
SENSOR2
EXIT LOOP
BLOCK EXIT
IN OBS LOOP
OUT OBS LOOP
CENTER LOOP
SENSOR1
SENSOR COM
+24V
EMERG OPEN

EYE OPEN
EYE CLOSE
EXIT LOOP
BLOCK EXIT
IN OBS LOOP
OUT OBS LOOP
CENTER LOOP
EDGE
EYE COM

SENSOR 2
SENSOR 3
EXIT LOOP
BLOCK EXIT
IN OBS LOOP
OUT OBS LOOP
CENTER LOOP
SENSOR 1
SENSOR COM

SHOW LEDs

USER RELAY 1
Electro-mechanical

DUAL GATE   RADIO OPTIONS

USB   RS-485

Smart DC Controller

Post 2016 Label
Build Year (BY 2)
MX3978-01
Temporary use on existing inventory.

Pre-2016
Build Year (BY 1)
MX3978-02
Used on replacement boards for gate operators manufactured prior to 2016.

Sensor type options (slide gate):

'NOT USED' ⟶ 'EYE OPEN' ⟶ EDGE OPEN ⟶
'EYE CLOSE' ⟶ 'EDGE CLOSE' ⟶ EYE BOTH'

Sensor type options (swing gate):

'NOT USED' ⟶ 'EYE OPEN' ⟶ EDGE OPEN ⟶
'EYE CLOSE' ⟶ 'EDGE CLOSE' ⟶ EDGE BOTH'

NOTE: If a sensor input is intended not to be used, it will need to be configured to 'Not Used' on the appropriate sensor # within the installer menu.
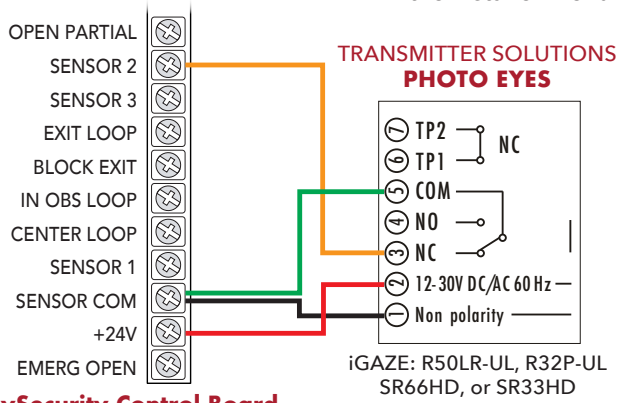
Menu Mode Navigational Tips

The buttons on the display keypad perform certain functions while in Menu Mode. Refer to the chart.

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

EYE OPEN
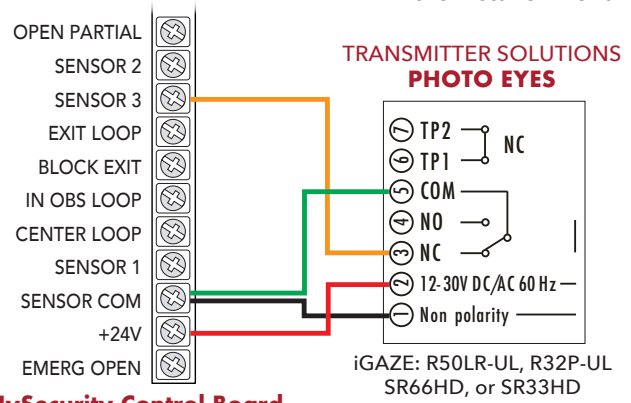Sensor 2 configured to "Eye Open" in the installer menu

HySecurity Control Board

- OPEN PARTIAL
- SENSOR 2
- SENSOR 3
- EXIT LOOP
- BLOCK EXIT
- IN OBS LOOP
- CENTER LOOP
- SENSOR 1
- SENSOR COM
- +24V
- EMERG OPEN

TRANSMITTER SOLUTIONS
PHOTO EYES

- TP2 ⊢ NC
- TP1
- COM
- NO
- NC
- 12-30V DC/AC 60 Hz —
- Non polarity

iGAZE: R50LR-UL, R32P-UL
SR66HD, or SR33HD

EYE CLOSE
Sensor 3 configured to "Eye Close" in the installer menu

HySecurity Control Board

- OPEN PARTIAL
- SENSOR 2
- SENSOR 3
- EXIT LOOP
- BLOCK EXIT
- IN OBS LOOP
- CENTER LOOP
- SENSOR 1
- SENSOR COM
- +24V
- EMERG OPEN

TRANSMITTER SOLUTIONS
PHOTO EYES

- TP2 ⊢ NC
- TP1
- COM
- NO
- NC
- 12-30V DC/AC 60 Hz —
- Non polarity

iGAZE: R50LR-UL, R32P-UL
SR66HD, or SR33HD

EDGE OPEN
Sensor 1 configured to "Edge Open" in the installer menu
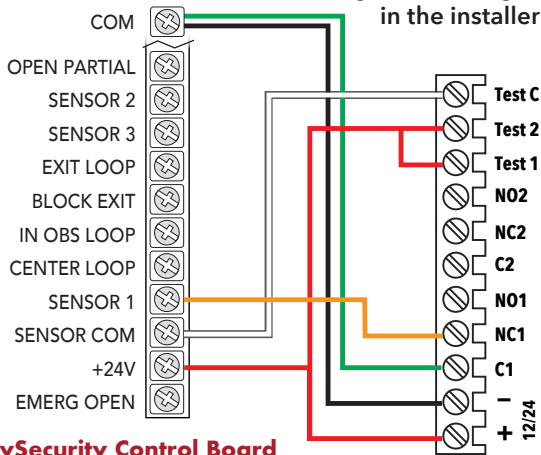
HySecurity Control Board

- COM
- OPEN PARTIAL
- SENSOR 2
- SENSOR 3
- EXIT LOOP
- BLOCK EXIT
- IN OBS LOOP
- CENTER LOOP
- SENSOR 1
- SENSOR COM
- +24V
- EMERG OPEN

- Test C
- Test 2
- Test 1
- NO2
- NC2
- C2
- NO1
- NC1
- C1
- − 12/24
- +

Transmitter Dip Switch Settings — ON — 1 2 3

Receiver Dip Switch Settings — ON — 1 2 3 4 5 6

(**NOTE:** only Dip Switch 1 on the receiver is set to ON)

TRANSMITTER SOLUTIONS
iGAZE RE UL 10kΩ KIT

IGAZEREKIT-UL
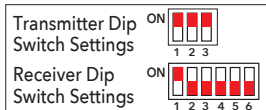
EDGE CLOSE
Sensor 1 configured to "Edge Close" in the installer menu
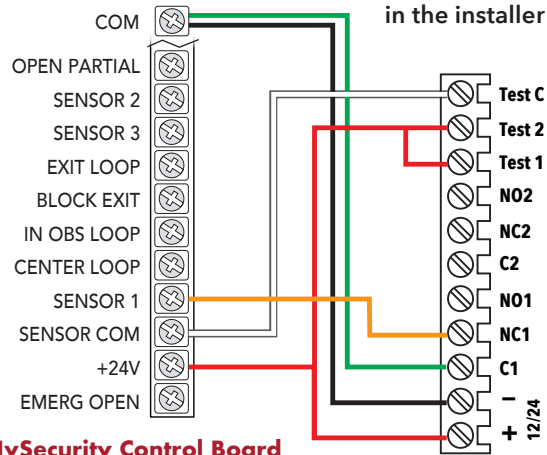
HySecurity Control Board

- COM
- OPEN PARTIAL
- SENSOR 2
- SENSOR 3
- EXIT LOOP
- BLOCK EXIT
- IN OBS LOOP
- CENTER LOOP
- SENSOR 1
- SENSOR COM
- +24V
- EMERG OPEN

- Test C
- Test 2
- Test 1
- NO2
- NC2
- C2
- NO1
- NC1
- C1
- − 12/24
- +

Transmitter Dip Switch Settings — ON — 1 2 3

Receiver Dip Switch Settings — ON — 1 2 3 4 5 6

(**NOTE:** only Dip Switch 1 on the receiver is set to ON)

TRANSMITTER SOLUTIONS
iGAZE RE UL 10kΩ KIT

IGAZEREKIT-UL
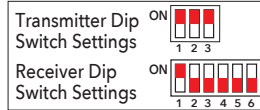
DIP SWITCH LEGEND:
DIP SWITCH = RED

Smart DC Controller Layout & Wiring Tips

The diagrams illustrate how to connect sensors and program he gate operator. HySecurity Smart DC gate operators can monitor entrapment protection sensors per UL 325 - 2015. Standard of Safety using software version h5.50 (or higher).

The site designer or installer must determine which external entrapment protection sensors will be installed with the gate operator to create a UL 325 compliant installation site. For additional information, review Gate Safety on the HySecurity website.
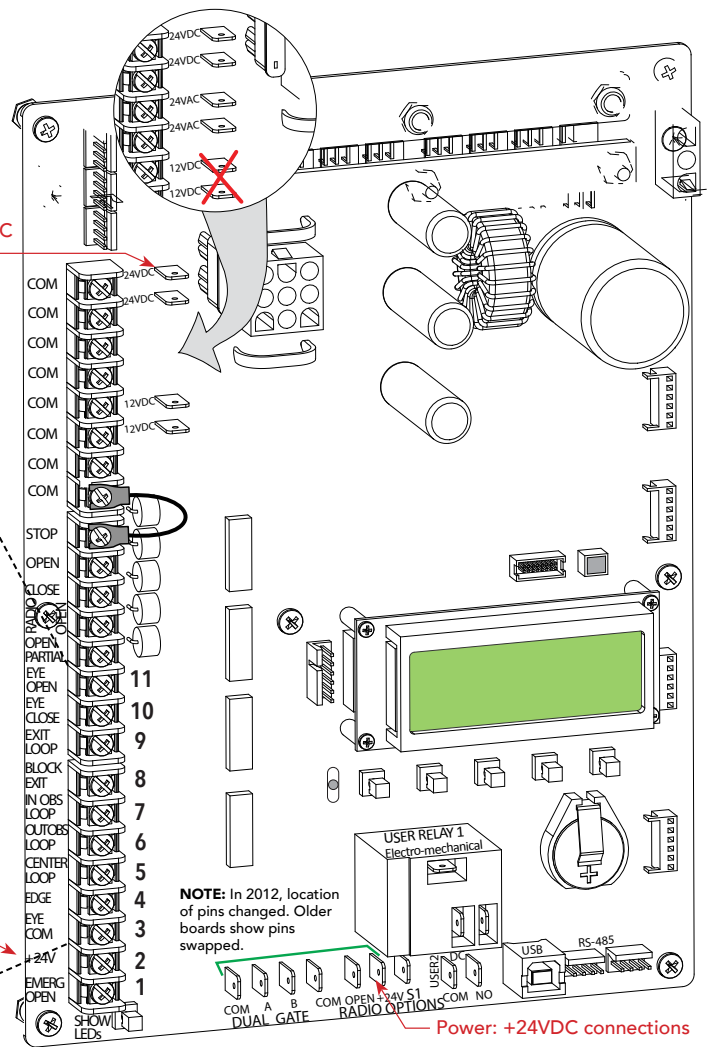
Post 2016 Board Label

SENSOR 2

SENSOR 3

EXIT LOOP

BLOCK EXIT

IN OBS LOOP

OUT OBS LOOP

CENTER LOOP

SENSOR 1

SENSOR COM

Power: +24VDC connections

Power: +24VDC connections

Power: +24VDC connections

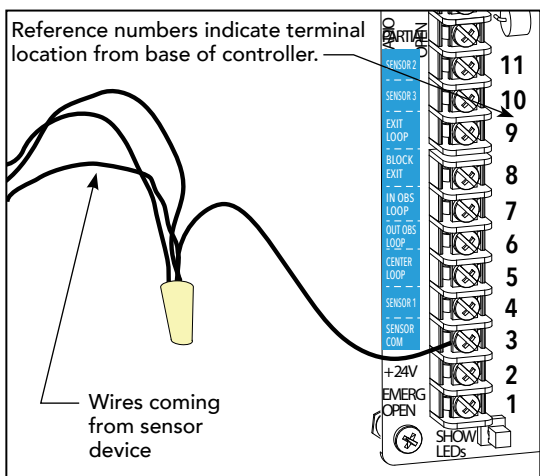**NOTE:** In 2012, location of pins changed. Older boards show pins swapped.
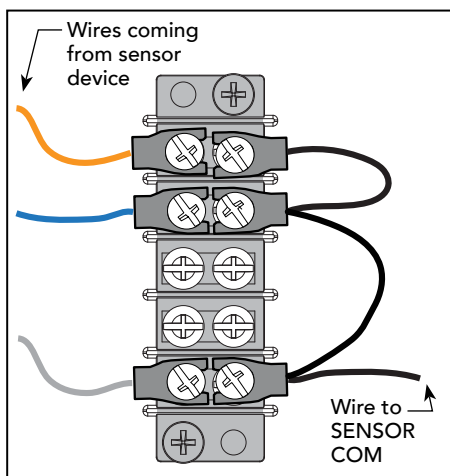
USER RELAY 1 Electro-mechanical

Wiring tips for Sensor COM Terminal: Smart DC

If using multiple sensor devices, use a wire nut as a junction and pigtail to SENSOR COM. Or, stack locking spade connectors. Or, install a separate terminal block and jumper outputs to one lead for SENSOR COM.
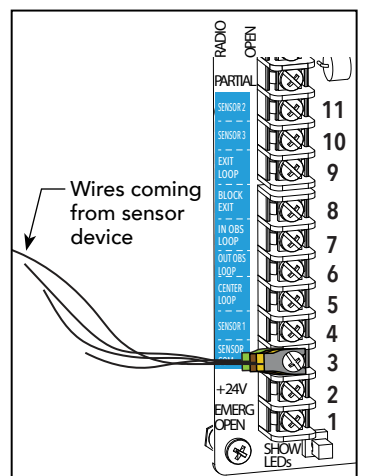
CAUTION: All external entrapment protection sensors must be NC sensor outputs and wired to the SENSOR COM terminal for monitoring and powering purposes. The sensor becomes actively powered when the gate operator receives a run command.

Reference numbers indicate terminal location from base of controller.

Wires coming from sensor device

Wire nut and pigtail to SENSOR COM

Wires coming from sensor device

Wire to SENSOR COM

Add terminal block

Wires coming from sensor device

Crimp spade on wire and stack

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