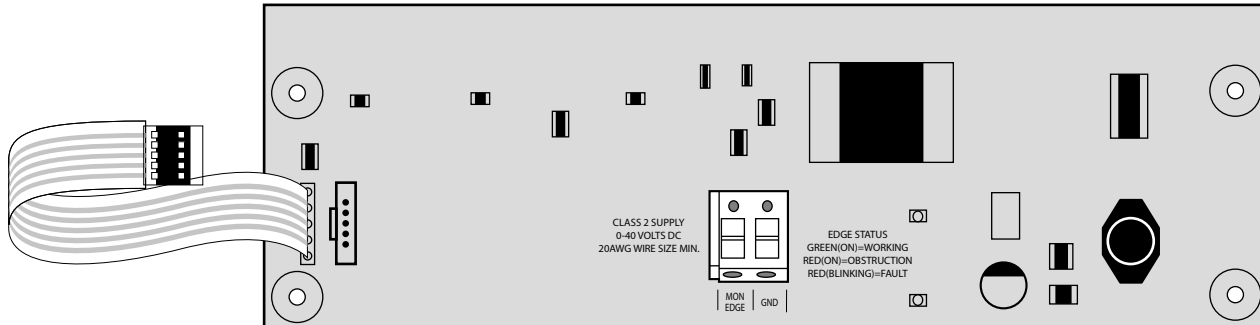


EDGE SENSING EXPANSION MODULE



This installation manual provides the information required to install, troubleshoot, and maintain the EDGE SENSING MODULE (ESM) for commercial/industrial door operators.

Operator Compatibility Requirements:

Use of the ESM requires operator software version 2.10.14 or higher for SX, HX, models, software version 3.1.3 or higher for MX, CX, models and a Miller Edge DC (Type T3) monitored edge or ASO Sentir GF Series monitored edge. Not available for use on CX **Counter Fire Door** Operators.

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NOT FOR RESIDENTIAL USE

Section 1 : Safety Information



WARNING

Overhead Doors are large, heavy objects that move with the help of springs under high tension and electric motors. Since moving objects, springs under tension, and electric motors can cause injury, your safety and the safety of others depend on you reading the information in this manual. If you have any questions or do not understand the information presented, call your nearest factory service representative.

In this manual the words Danger, Warning, and Caution are used to stress important safety information. The word:

-  **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
-  **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
-  **CAUTION** indicates potentially hazardous situation which, if not avoided, may result in injury or property damage.

The word **NOTE**, is used to indicate important steps to be followed or important considerations.

POTENTIAL HAZARD	EFFECT	PREVENTION
MOVING DOOR 	 WARNING Could result in Serious Injury or Death	Do Not operate unless the doorway is in sight and free of obstructions. Keep people clear of opening while door is moving. Do Not allow children to play with the door operator. Do Not change operator control to momentary contact unless and external reversing means is installed. Do Not operate a door that jams or one that has a broken spring.
ELECTRICAL SHOCK 	 WARNING Could cause Serious Injury or Death	Turn off electrical power before removing operator cover. When replacing the cover, make sure wires are not pinched or near moving parts. Operator must be electrically grounded.
HIGH SPRING TENSION 	 WARNING Could cause Serious Injury or Death	Do Not try to remove, repair or adjust springs or anything to which door spring parts are fastened, such as wood block, steel bracket, cable or any other structure or like item. Repairs and adjustments must be made by trained service representative using proper tools and instructions.

IMPORTANT

READ PRIOR TO ANY DOOR OPERATION

1. Read manual and warnings carefully.
2. Keep the door in good working condition. Periodically lubricate all moving parts of door.
3. If door has a sensing edge, check operations monthly. Make any necessary repairs to keep it functional.
4. AT LEAST twice a year, manually operate the door by disconnecting it from the operator. The Door should open and close freely. If it does not, the door must be taken out of service and a trained service representative must correct the condition causing the malfunction.
5. The Operator Motor is protected against overheating by an internal thermal protector. If the motor protector is tripped, a trained service technician may be needed to correct the condition which caused the overheating. When the motor has cooled, thermal protector will automatically reset and normal operation can be resumed.
6. In case of power failure, the door can be operated manually by pulling the release cable to disconnect the operator drive system.
7. Keep instructions in a prominent location near the pushbutton.

Section 1 : Safety Information



AVERTISSEMENT

Les portes basculantes sont de gros objets lourds qui fonctionnent à l'aide de ressorts soumis à une haute tension et de moteurs électriques. Dans la mesure où les objets en mouvement, les ressorts sous tension et les moteurs électriques peuvent entraîner des blessures, votre sécurité et celle des autres exigent que vous preniez connaissance des informations stipulées dans ce manuel. Si vous avez des questions ou si vous ne comprenez pas les informations ci-incluses, veuillez contacter le représentant de service le plus près.

Dans ce manuel, les mots Danger, Avertissement, et Attention sont utilisés pour faire ressortir d'importantes informations relatives à la sécurité. Le mot :

- ⚠ DANGER** signale une situation dangereuse imminente qui si elle n'est pas évitée, risque d'entraîner des blessures graves, voire mortelles.
- ⚠ AVERTISSEMENT** signale une situation potentiellement dangereuse qui, si elle n'est pas évitée, risque d'entraîner la mort ou des blessures graves.
- ⚠ ATTENTION** signale une situation potentiellement dangereuse qui, si elle n'est pas évitée, risque d'entraîner des blessures ou des dommages matériels.

Le terme **REMARQUE** est utilisé pour signaler les étapes importantes à suivre ou d'importants éléments à prendre en considération.

DANGER POTENTIEL	EFFET	PRÉVENTION
PORTE EN MOUVEMENT 	⚠ AVERTISSEMENT Pourrait entraîner des blessures graves voire la mort	Utiliser uniquement si la porte est en vue et libre de tout obstacle. Ne laisser personne se tenir dans l'ouverture de la porte pendant qu'elle est en mouvement. Ne pas permettre aux enfants de jouer avec l'opérateur de la porte. Ne pas modifier la commande de l'opérateur à contact momentané à moins qu'un moyen d'inversion externe soit installé. Ne pas faire fonctionner une porte qui bloque ou dont le ressort est cassé.
CHOC ÉLECTRIQUE 	⚠ AVERTISSEMENT Pourrait entraîner des blessures graves voire la mort	Couper le courant avant d'enlever le couvercle de l'opérateur. Lorsque le couvercle doit être remplacé, s'assurer que les fils ne sont ni coincés ni près des pièces mobiles. L'opérateur doit être correctement mis à la terre.
TENSION ÉLEVÉE RESSORT 	⚠ AVERTISSEMENT Pourrait entraîner des blessures graves voire la mort	Ne pas essayer d'enlever, réparer ni ajuster les ressorts ou toute autre pièce à laquelle le ressort de la porte est attaché, y compris blocs de bois, supports en acier, câbles ou autres articles semblables. Les réparations et les réglages doivent être effectués par technicien qualifié qui se sert d'outils appropriés et qui respecte les instructions.

Section 2 : General Information

Edge Sensing Module Entrapment Protection Requirements:

This module provides the operator with direct input for monitored safety edges

At power up, the system checks the input for the monitored safety edge.

The Edge Sensing Module allows the connection of the following Reversing Devices:

- A 2-wire Monitored MillerEdge® "DC" monitored edge.
- A 2-wire Monitored ASO® Sentir GF Series "DC" monitored edge.

NOTE: The Monitored Edge Sensor input can detect open or shorted wiring to the Edge Sensor using a 2-wire connection. No relay kit is required to provide this feature.

NOTE: Any MillerEdge® ME or MT Series T3 Edge Sensor may be used as long as the 2-wire output is specified along with the suffix "DC."

For example: Model number MT21-2R-16DC signifies an MT21 Series sensor with a 2-wire output from the Right, that is 16 feet long and has the monitoring option required by the Edge Sensing Module .

Section 3: Installation & Wiring Information, All Operators



WARNING:

DO NOT use with resister style 2-wire monitored edges



AVERTISSEMENT

NE PAS utiliser avec des arêtes surveillées à 2 fils de type à résistance



WARNING

RISK OF ELECTRICAL SHOCK. Be sure that electrical power to the operator has been disconnected. There should be no live circuits inside the electrical box while installing this Edge Sensing Module. An appropriate lock-out/tag-out procedure is recommended. DO NOT APPLY POWER UNTIL INSTRUCTED TO DO SO.



AVERTISSEMENT

RISQUES DE CHOCS ÉLECTRIQUES Assurez-vous que l'alimentation électrique à l'opérateur a été coupée. Il ne doit pas y avoir de circuits sous tension à l'intérieur du coffret électrique lors de l'installation de ce module de fermeture à minuterie. Une procédure de verrouillage/étiquetage appropriée est recommandée. NE PAS METTRE SOUS TENSION TANT QUE L'INSTRUCTION N'EST PAS DONNÉE.



WARNING

All wiring to the operator must meet all local building codes. Overhead Door Corporation recommends that all work involving electrical circuits and line voltage wiring be performed by a qualified electrician.



AVERTISSEMENT

Le câblage vers l'opérateur doit satisfaire aux codes de construction locaux. Overhead Door Corporation recommande que les travaux concernant les circuits électriques concernés et le câblage au secteur soient effectués par un électricien qualifié.



WARNING

LOW VOLTAGE/CONTROL WIRING MUST BE KEPT SEPARATE FROM LINE VOLTAGE WIRING!



AVERTISSEMENT

LE CÂBLAGE DE COMMANDE/BASSE TENSION SOIT ÊTRE DISTINCT DU CÂBLAGE DE TENSION DE LA LIGNE !



CAUTION

Check working condition of door and operator before installing any expansion Module.



ATTENTION

Vérifier l'état de marche de la porte et de l'opérateur avant d'installer le module de sortie auxiliaire.

Section 3: Installation & Wiring - MX Operators

Install Expansion Module:

1. Turn off supply power to the operator.
 - Locate supply power disconnect.
 - Disconnect supply power.
 - Use proper lock-out/tag-out procedure.
2. Open and/or Remove Operator Electric Box Cover.
3. Install Edge Sensing Module.
 - Secure with 1/4" hex head screws (2 ea.) provided.
 - Connect ribbon cable to main control board as shown.

NOTE: If another expansion module is already installed and connected in the electric box, the Edge Sensing Module ribbon cable should be connected to the expansion port connector on the existing expansion module.

Route & Connect Wiring:

1. Route Sensing Edge wiring to electric box as shown in FIG. 3A.
2. Strip wire insulation 7/16" as shown.
3. Press terminal plunger down to insert wire.
4. Insert 20AWG - 12 AWG solid or stranded wire into the connector.

NOTE: Connect only one wire per terminal.

5. Release the plunger.
6. Tug on the wire to make sure it is secured.

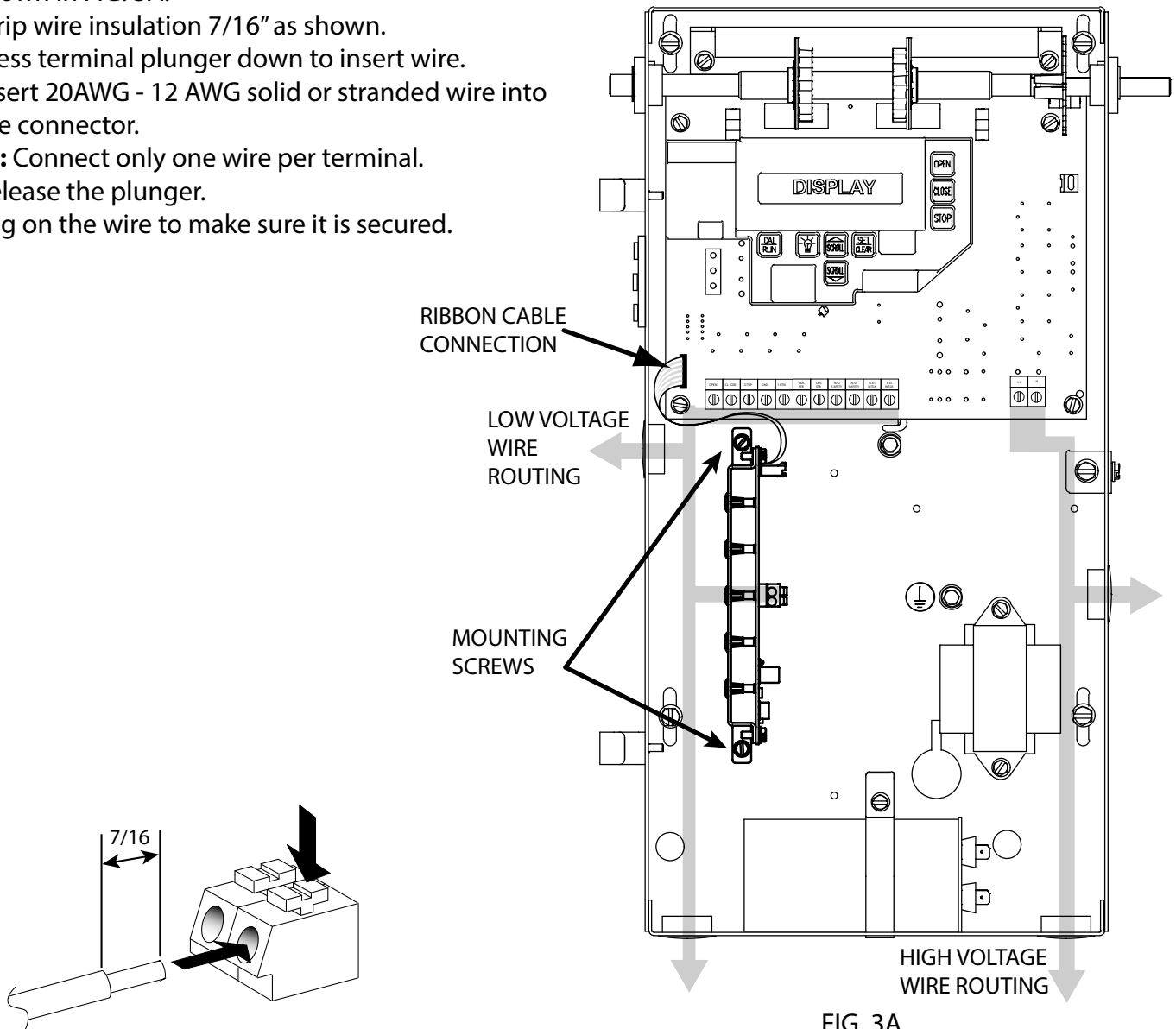


FIG. 3A

Section 3: Installation & Wiring - SX-HX Operators

Install Expansion Module:

1. Turn off supply power to the operator.
 - Locate supply power disconnect.
 - Disconnect supply power.
 - Use proper lock-out/tag-out procedure.
2. Open and/or Remove Operator Electric Box Cover.
3. Install Edge Sensing Module.
 - Secure with 1/4" hex head screws (2 ea.) provided.
 - Connect ribbon cable to main control board as shown.

NOTE: If another expansion module is already installed and connected in the electric box, the Edge Sensing Module ribbon cable should be connected to the expansion port connector on the existing expansion module.

Route & Connect Wiring:

1. Route Sensing Edge wiring to electric box as shown in FIG. 3B.
2. Strip wire insulation 7/16" as shown.
3. Press terminal plunger down to insert wire.
4. Insert 20AWG - 12 AWG solid or stranded wire into the connector.

NOTE: Connect only one wire per terminal.

5. Release the plunger.
6. Tug on the wire to make sure it is secured.

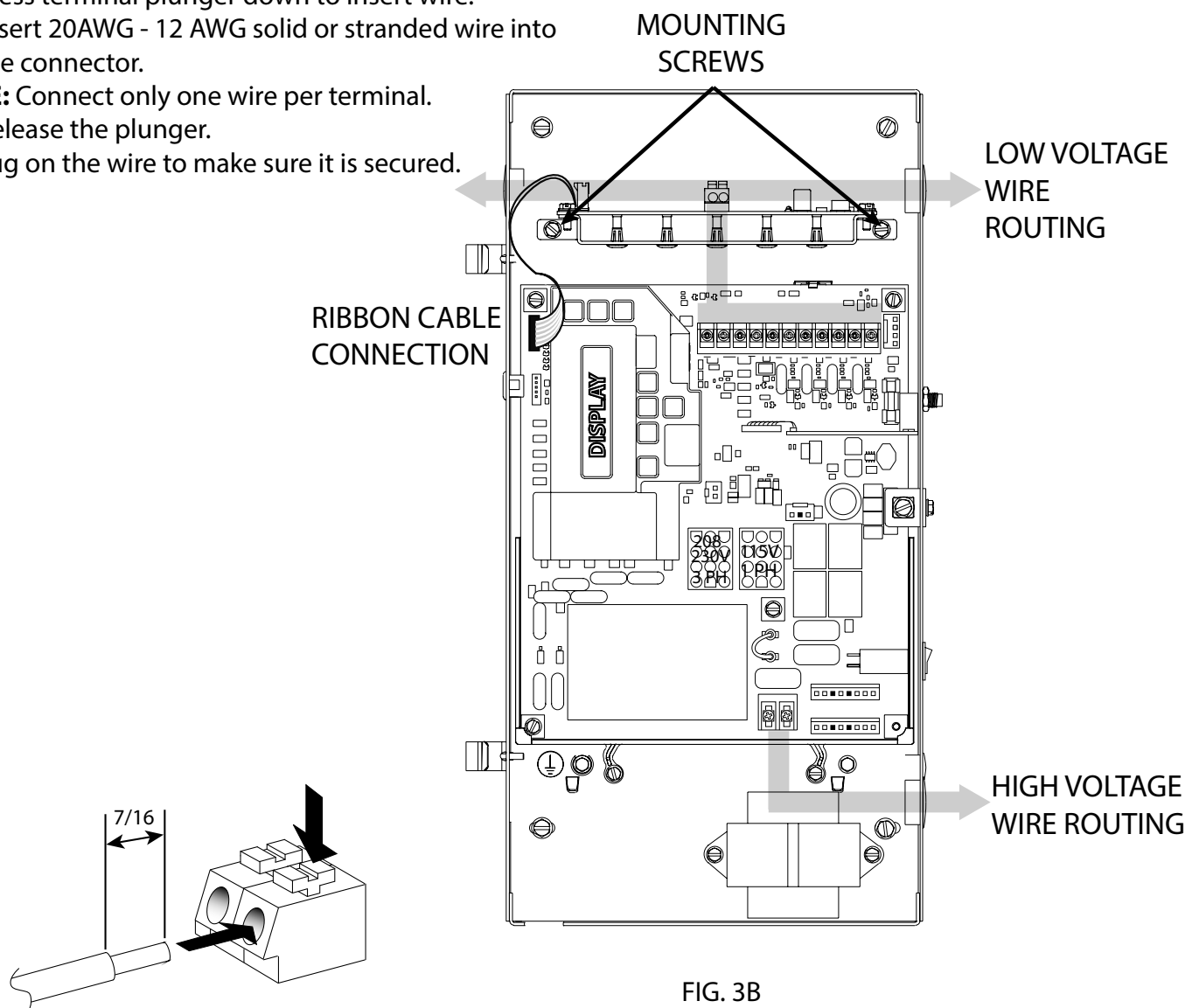


FIG. 3B

Section 3: Installation CX Operators

1. Turn off supply power to the operator.
 - Locate supply power disconnect.
 - Disconnect supply power.
 - Use proper lock-out/tag-out procedure.
2. Remove four (4) self-tapping screws from front panel of CX enclosure and remove front panel to expose control circuits.
3. Route Sensing Edge wiring to electric box as shown in FIG. 3D, page 8.
4. Orient the module so mounting bracket tabs are to the left and wire terminals are facing up.
5. Connect Safety Edge wiring to ESM. See page 8
6. Insert module into the area indicated and slide front mounting tab into slot on side panel of CX enclosure.
7. Adjust module so that it is level with CX enclosure. Fig. 3C
 - There is a mounting hole on side panel of enclosure which will line up with hole in module mounting bracket.
 - Attach module by inserting self-tapping screw (provided in kit) through module bracket and into hole in side panel. Do not over-tighten.
 - Connect ribbon cable to main control board as shown.

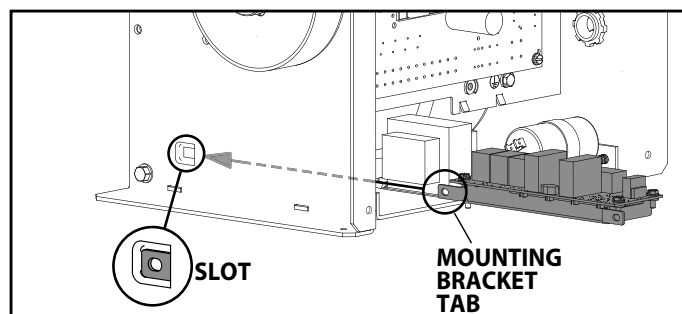
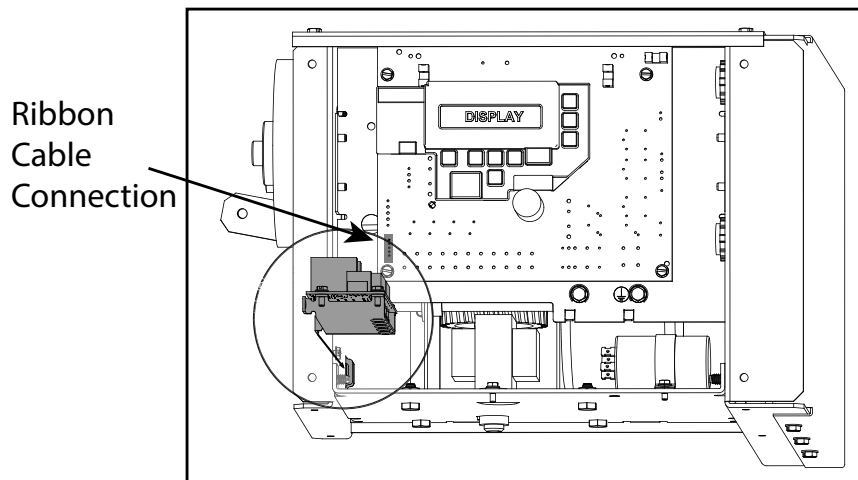


FIG. 3C

Section 3: Wiring CX Operators

To Connect Wires to Accessory Modules

1. Route Sensing Edge wiring to electric box as shown in FIG. 3D.
2. Strip wire insulation 7/16" as shown.
3. Using a screwdriver or your finger, press the plunger down and hold it.
4. Insert 20AWG - 12 AWG solid or stranded wire into the connector.

NOTE: Connect only one wire per terminal.

5. Release the plunger.
6. Tug on the wire to make sure it is secured.

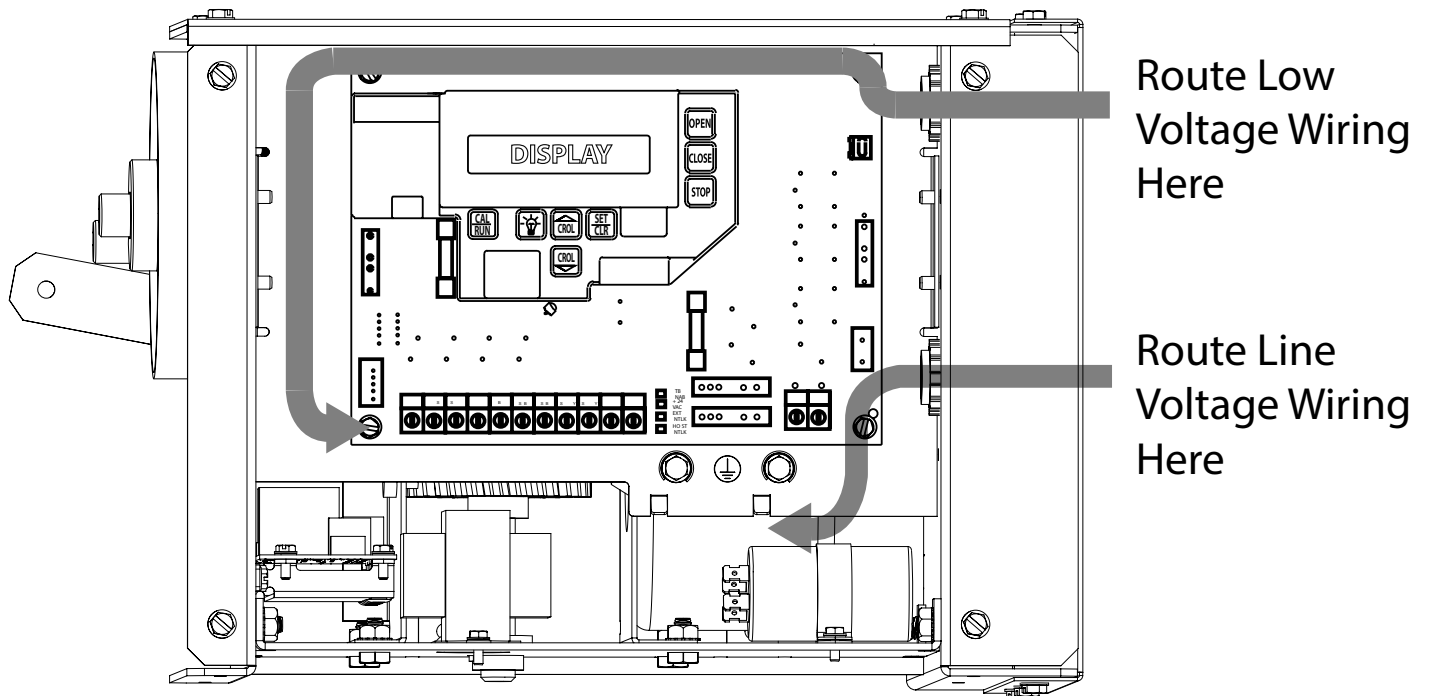
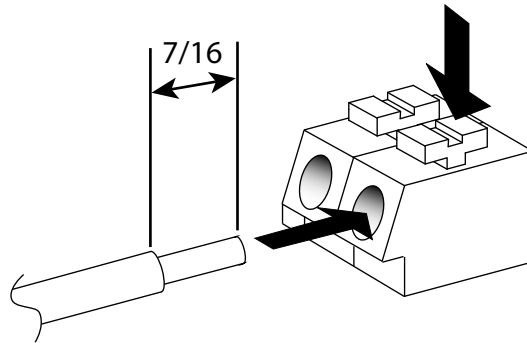


FIG. 3D

Section 4 : Setup Procedure, All Operators

WARNING

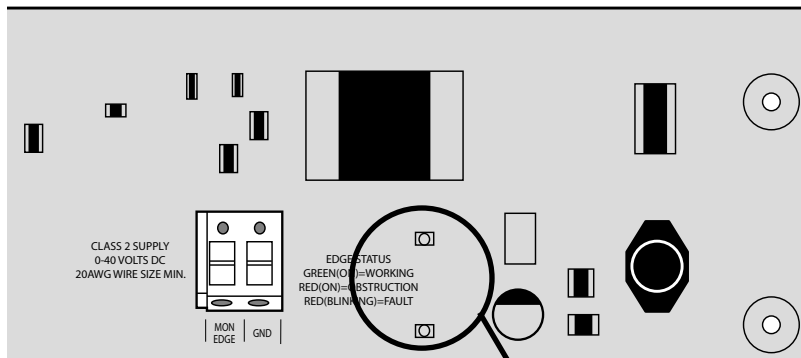
RISK OF ELECTRICAL SHOCK. After power is applied to the Operator, DO NOT make contact with components inside the Control Panel, except for the Keypad Display Buttons.

AVERTISSEMENT

RISQUES DE CHOCS ÉLECTRIQUES Après avoir mis l'opérateur sous tension, NE PAS entrer en contact avec des composants à l'intérieur du panneau de commande, sauf pour les touches du pavé numérique.

Edge Activation:

1. Turn on power to door operator.
 - If Edge Sensing Module is properly installed, Edge Sensing Module GREEN LED will come on and RED LED will turn OFF.
2. The ESM expansion board runs in the background and no user input is required.
3. Replace electric panel cover.



EDGE STATUS
GREEN(ON)=WORKING

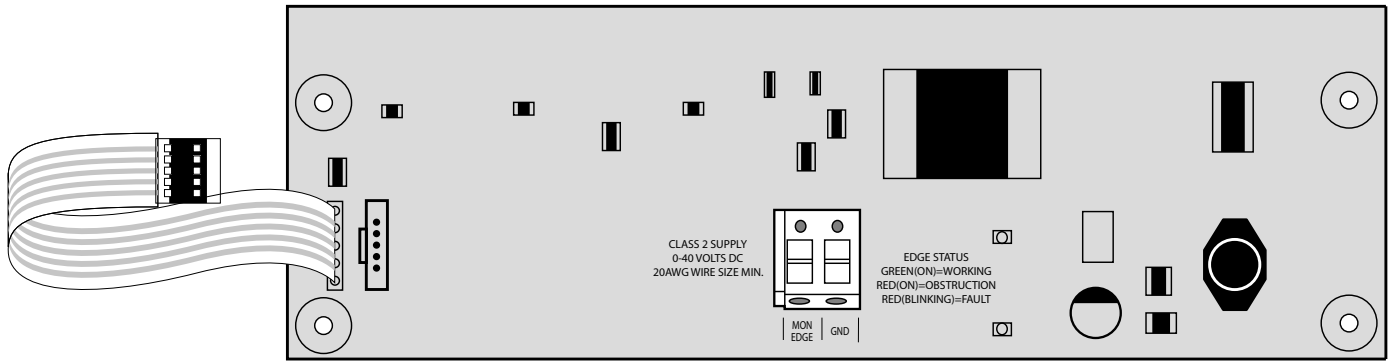


RED(ON)=OBSTRUCTION
RED(BLINKING)=FAULT



ESM Status LEDs

Section 4 : Terminal Designations



Monitored Edge Input - An active input will reverse a closing door, prevent an open door from closing, or cause the timer to reset and hold if a timing cycle is in progress. This is a 2-wire monitored edge input when used with a compatible monitored edge.

NOTE: Any MillerEdge® sensor series can be used as long as the 2-wire output is specified along with the suffix "DC". **Example:** ME123-DC. This input will detect broken or short circuit wiring to the edge sensor and will interpret these as an active input. The edge sensor leads are not polarized, so either lead can connect to either terminal.

NOTE: ASO® Sentir GF Series edge can be used.

NOTE: DO NOT use with resistor style 2-wire monitored edges.

NOTE: Maximum wire size = 12AWG
Minimum wire size = 20AWG

Section 4: Troubleshooting

Problem	Indication	Check
ESM has no power	Green "WORKING" LED is off	- Check power to operator - Check ESM ribbon Cable - Check F2 Fuse on operator control board
Open door will not close	Red "TROUBLE" LED is flashing	- Check Safety Edge wiring for breaks - Check Safety Edge for damage
Open door will not close	Red "TROUBLE" LED is ON	- Check Safety Edge wiring for shorts - Check Safety Edge for damage

NOTES

[illegible]

Contact Number On Operator Owners Manual For Technical Assistance.