B.M.R. MFG. INC.

Box 657, 673 County Rd. #38
Campbellford, ON K0L 1L0

Telephone: 1-705-653-4111
Fax: 1-705-653-4454

TOLL FREE 1-800-461-7660

Jim Reavell - jimreavell@bmr-mfg.ca Web page – www.bmr-mfg.ca

Installation instructions for the 8011 Integrated Actuator Controller(Claw) Page 1

The controller can be installed in 4 different options of new and existing stop and crossing arm actuator systems using the crossing arm lock.. The different connections for the 4 options are called out below.

The IAC should be mounted in a position where the indication lights are visible to the driver.

With all additions to existing actuators NO ELECTRICAL CONNECTION OR CHANGES TO THE EXISTING ACTUATOR CONNECTIONS ARE MADE.

The wires from the motors/motor connectors could be red and black or red and green, the wires are called out below as red and black or green.

There are 10 male lugs on the IAC. They are identified as:-

12V+	**DS**	(top)	**Stop**	**Cr Arm+**	**Lock+**
Gnd	**Stop Only**	(bottom)	**Stop**	**Cr Arm**	**Lock**

Common Connections for all 4 Options

- 12V to vehicle 12 volts via master switch.
- DS to 12 volt signal that is present whenever side door is opened. This same signal is used for existing stop arm and crossing arm actuator application.
- Gnd to good clean vehicle ground.

Connections for Option 1. Complete new system, of stop arm, crossing arm and lock.

Lead all motor connections to IAC and connect

- The red wire from stop arm motor to “top Stop”.
- The red wire from crossing arm motor to “Cr Arm+”.
- The red wire from crossing arm lock motor to “Lock +”.
- The black or green wire from stop arm motor to “bottom Stop”.
- The black or green wire from crossing arm motor to “Cr Arm”.
- The black or green wire from crossing arm lock motor to “Lock”.

Stop only is not used in this configuration.

Connections for Option 2. New crossing arm and lock but existing stop arm.

As for option 1 except.

- Omit the connections to Top Stop and Bottom Stop.

Connections For Option 3. Only the lock is added to an existing crossing arm Page 2 and existing stop arm

As for option 2 except

- Omit the connections Cr Arm+ and Cr Arm.

Connections for Option 4. The IAC is used to control a new stop arm only.

Connect.

- The red wire from stop arm motor to “top Stop”.
- The black or green wire from stop arm motor “Stop Only”.

All other connections, other than 12V,DS and Gnd are omitted

Inhibit option for crossing arm

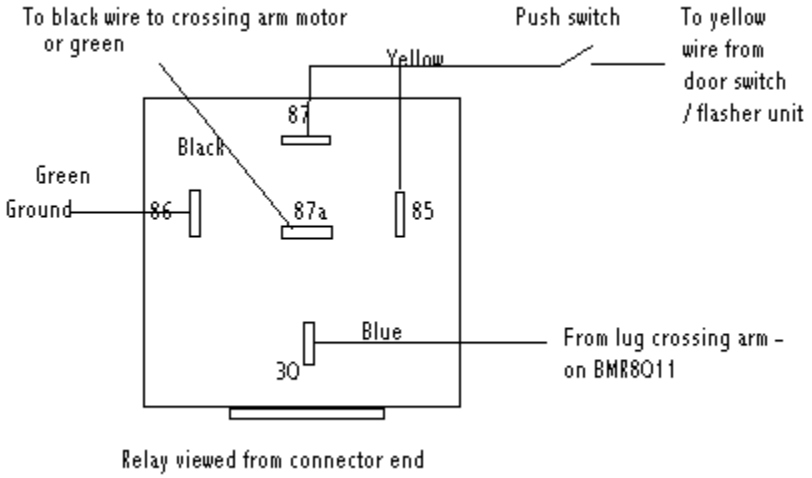
An option is available to allow the stop arm to extend but to inhibit the crossing arm movement. A push button is held depressed until the side door is opened. The crossing arm does not extend in this case.

A separate relay and a push button switch are installed as indicated below.

Wiring modifications for the inhibit option.

After mounting the relay and the switch:-

- Connect the yellow wire from relay pins 85 and 87 to the yellow wire that goes to DS on the **BMR8011**. Use the splicing connector provided.
- Connect the green wire from relay 86 to ground.
- Remove the black or green wire that is connected to Cr Arm on the **BMR8011** and connect this black or green wire to pin 87a of the relay.
- Connect one end of provided blue wire to CR Arm.
- Connect the other end of this blue wire to pin 30 on the relay.



With ignition and master switch on, open side door.

- Crossing lock disengages and both stop and crossing arms extend.
- Red light illuminates on **BMR8011**.

Close door.

- Red light goes out and green light illuminates on **BMR8011**.
- Crossing arm and stop arms retract
- Crossing lock engages with crossing arm.
- Green light goes out.

Testing inhibit option.

Test as above then:-

Depress the inhibit switch and while holding the switch depressed open side door. Inhibit switch can be released as soon as side door is opened.

-Stop arm and crossing lock both move/extend but crossing arm does not extend.

-Red light illuminates on **BMR8011**.

With inhibit switch released, close door.

-Red light goes out and green light illuminates on **BMR8011**.

-Stop arm retracts and crossing lock engages.

-Green light goes out.

Test complete.

The crossing arm lock is positioned so that it locks onto the crossing arm in the stowed position.

In Option (1) Complete new system.
When the side door is opened.
-The lock motor rotates to free up the crossing arm.
-The crossing arm extends.
-The stop arm extends.
-The red LED on the IAC is illuminated.

When the side door is closed.
-The red LED goes out.
-The green LED is illuminated
-The stop arm and crossing arms retract
-The lock rotates.
When the lock encounters and secures the crossing arm
-The green LED goes out.
-Power is removed from all motors.

In Option (2) Crossing arm and lock only. The operation of the previously installed stop arm is in no way effected by the IAC. All other functions are as above.

In Option (3) Lock only added. The lock is controlled by the IAC, the existing actuators function as before, the red LED signifies crossing arm unlocked. The green LED signifies locking in progress and both LEDs out signifies crossing arm locked.

In Option (4) Stop arm only.
When the side door is opened.
-The red LED illuminates.
-The stop arm extends.
When the side door is closed.
-The red LED goes out.
-The green LED illuminates.
-The stop arm retracts.
-The green LED goes out.
-Power is removed from the stop arm motor.

In all applications the red LED indicates crossing arm lock unlocked and/or arms extended.
In all applications the green LED indicates retraction and/or locking on progress.
In all applications both LEDs out indicate system stowed/locked and deactivated.