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Installation instructions for the BMR8012 Magnetic Actuator Controller (For BMR88300, BMR88400 Integrated)

Mount the MAC, the magnet box, the permanent magnet and actuator(s) as indicated in separate instructions.

The controller can be installed controlling the crossing arm only, or controlling both the crossing and stop arm actuators.

The Magnetic Actuator Controller (MAC) should be mounted in a position where the indication lights are visible to the driver.

The wires from the motors/motor connectors will be red and black. The wires from the magnet box will be red, black and yellow.

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

12V+	DOOR	(top)	CROSS -	CROSS+	Rem SW
GND	STOP -	(bottom)	MAG.SW	STOP+	Rem SW

Connections for Crossing Arm only

- 12V to vehicle 12 volts via master switch.
- Door 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.
Connect this same point to the yellow wire going to the magnet box.
- Gnd to good clean vehicle ground.
Connect this same point to the black wire going to the magnet box
- The red wire from the crossing motor to Cross +.
- The black wire from the crossing motor to Mot -
- The red wire from the magnet box to Mag SW.

Further connections when a stop arm is added.

- The red wire from the stop arm motor to Stop +.
- The black wire from the stop arm motor to Mot -.

To add an optional remote inhibit switch

Mount a momentary normally open switch in the preferred location and connect that Switch to the Rem SW lugs on the MAC.

Testing the BMR8012 Magnetic Actuator System.

The permanent magnet should be attracted to the magnet box at all times when the crossing arm is not extended

With vehicle switch in accessory or run position. Turn on master switch and open door to cause lights to flash.

Permanent magnet should be repelled from magnet box and crossing arm, together with stop arm if installed should extend. Red light on MAC should illuminate.

Close door.

Both actuators should retract. Red light on MAC should go out and green light illuminate.

When crossing arm reaches retracted position.

After a short delay of 3 to 5 seconds, the green light should go out. The crossing arm is now held to the magnet box by the permanent magnet.

Hold either the MAC push button or the optional remote inhibit switch down while the door is opened. Release the switch as soon as the lights start to flash.

The crossing arm should not extend, but the stop arm should function correctly.

If all the above functions are correct, the system has tested OK.

Adding a BMR88300 stand alone magnet box to an existing BMR7000 series actuator.

Mount magnetic box and permanent magnet as instructed

Locate connection to existing **BMR7000** series actuator.
Insert supplied BMR “T” connection in between bus and actuator.
Connect **BMR88300** magnet box to free end of “T” connector.

Testing installation.

With bus ignition switch in accessory position, turn on master switch.
Open bus door to cause flashing lights to activate.
Permanent magnet should be repelled by magnet box and should extend normally.
Close bus door.
Crossing arm should retract and permanent magnet should hold secure to magnet box.

**Adding an BMR88300 stand alone magnet box to an existing Specialty actuator
With an existing Specialty retaining electro magnet**

Mount magnetic box and permanent magnet as instructed

Locate connection to existing Specialty “T” connector.

Disconnect existing Specialty electro magnet from Specialty “T” connector.

Connect Model **BMR88300** Adapter to free end of “T” connector.

Connect BMR magnet box to free end of Model **BMR88300** Adapter.

Testing installation.

With bus ignition switch in accessory position, turn on master switch.

Open bus door to cause flashing lights to activate.

Permanent magnet should be repelled by magnet box and should extend normally.

Close bus door.

Crossing arm should retract and permanent magnet should hold secure to magnet box.

**Adding an BMR88300 stand alone magnet box to an existing Specialty actuator
Without an existing Specialty retaining electro magnet**

Mount magnetic box and permanent magnet as instructed

Locate connection to existing Specialty actuator.

Insert supplied BMR “T” connection in between bus and actuator.

Connect Model **BMR88300** Adapter to free end of “T” connector.

Connect BMR magnet box to free end of Model **BMR88300** Adapter

Testing installation.

With bus ignition switch in accessory position, turn on master switch.

Open bus door to cause flashing lights to activate.

Permanent magnet should be repelled by magnet box and should extend normally.

Close bus door.

Crossing arm should retract and permanent magnet should hold secure to magnet box.