# MX1 Reversible AC Motor Controller


## Supplementary Wiring Examples

⚠ ***DANGER***

**Electrocution Hazard!**

Ensure all power is disconnected before servicing or wiring. Install all electrical equipment and wiring in accordance with national and local electric codes. For use in dry locations only (0-80% RH non-condensing.)

**Read Instruction Manual for additional Warnings and Cuations**

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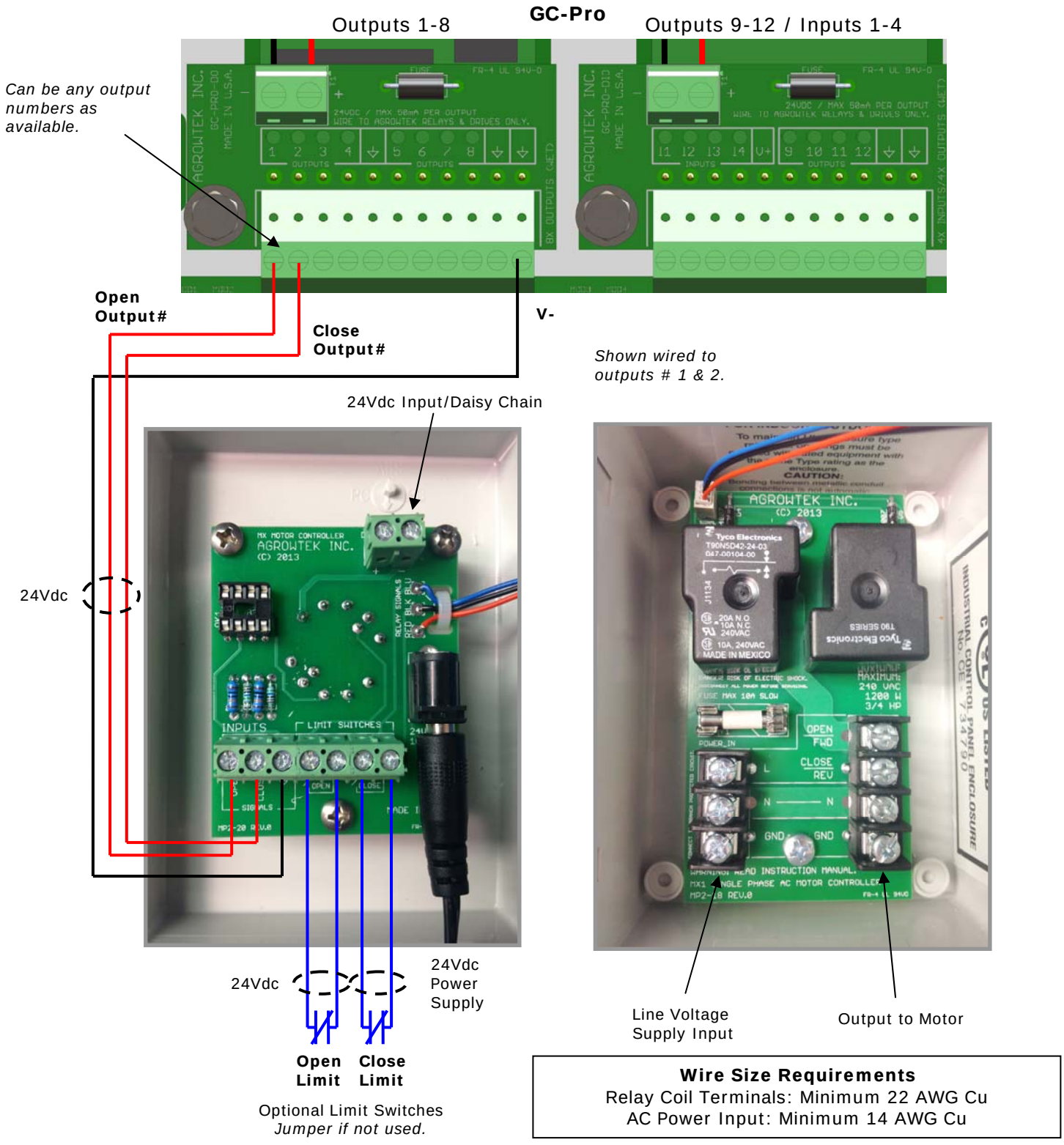
**⚠ WARNING**

Turn off and disconnect GC-Pro controller power and all other power sources before installing, connecting or disconnecting any wiring.

**Direct connection to GrowControl™ systems.**

MX1 relay signals can be driven directly by the GrowControl system's outputs. Simply connect two desired outputs to operate the open and close command signals.



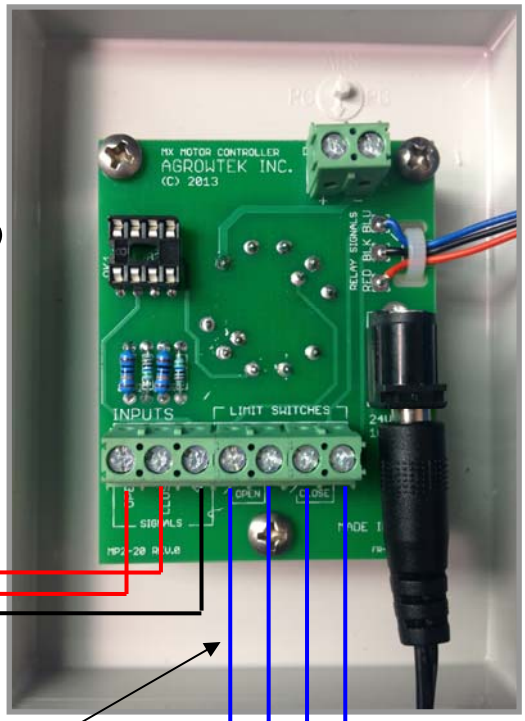

**Wire Size Requirements**

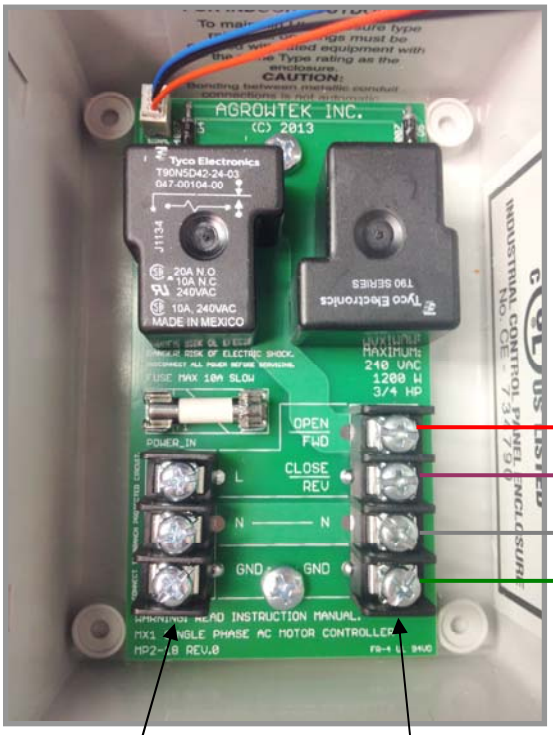
Relay Coil Terminals: Minimum 22 AWG Cu

AC Power Input: Minimum 14 AWG Cu

**Connection to Ridder brand RW Series Motors (OLD 12-Terminal Limit Switches)**

**GC-Pro / XL**




24Vdc

"Limit Switch" loops must be closed for MX1 to operate. An open limit switch will disable the relay(s.)

*24Vdc*

24Vdc Power Supply

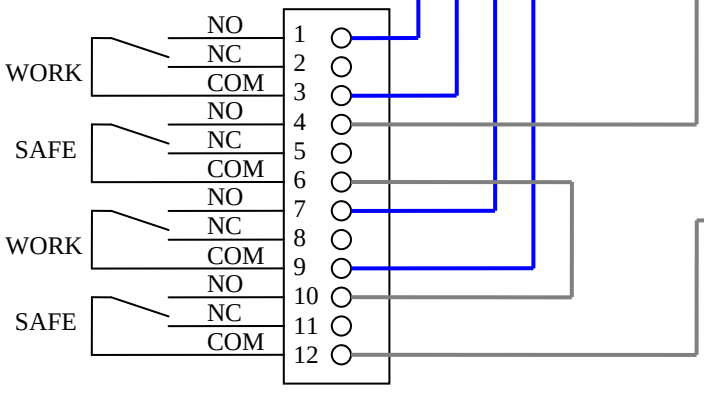
**Open Limit**

**Close Limit**

Line Voltage Supply Input

Line Voltage Output to Motor

RIDDER RW45 LIMIT SWITCHES




MOTOR GROUND
MOTOR AC FORWARD
MOTOR AC REVERSE
MOTOR AC NEUTRAL

"Working" limit switches will turn off the MX1's motor relays when opened. "Safety" limit switches will open the motor's neutral conductor in the event a working switch fails or a relay contact fails closed.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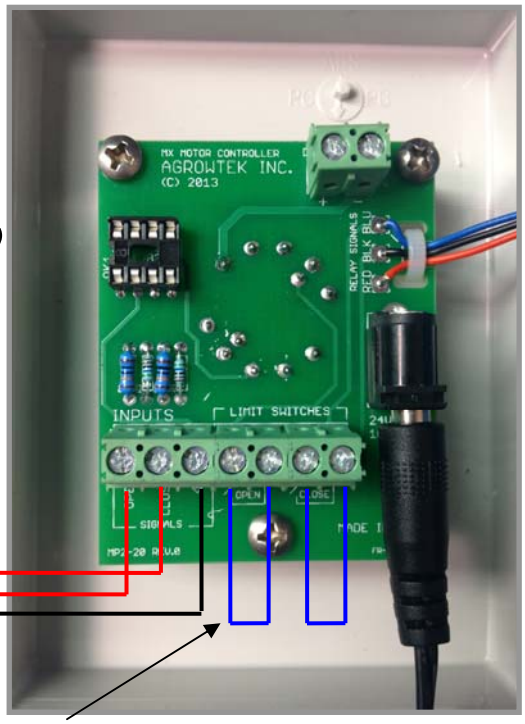
**Connection to Ridder brand RW Series Motors (NEW 6-Terminal Limit Switches)**

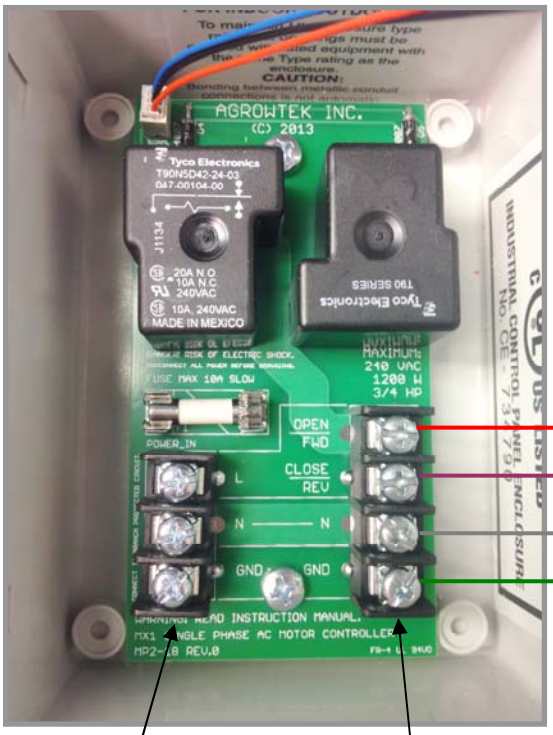
**GC-Pro / XL**




24Vdc

"Limit Switch" loops must be closed for MX1 to operate. An open limit switch will disable the relay(s.) ENSURE JUMPERS ARE IN PLACE.

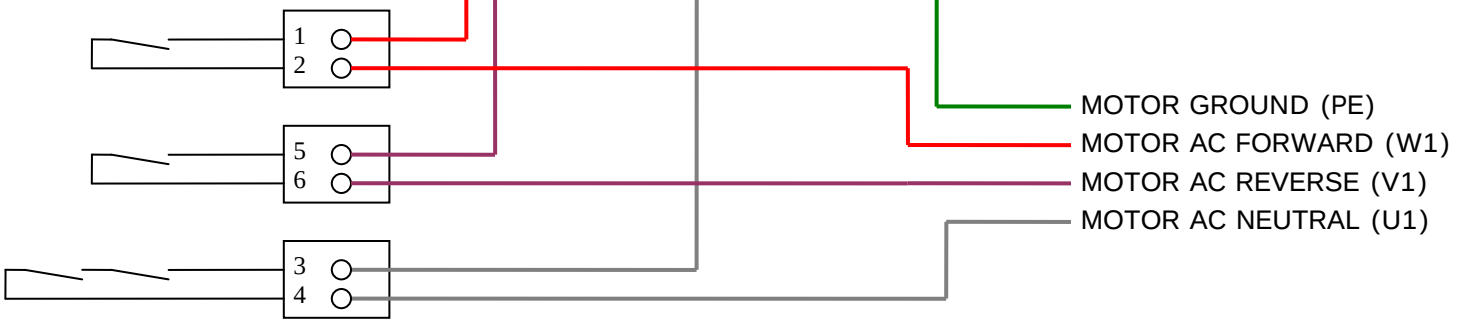
24Vdc Power Supply




Line Voltage Supply Input

Line Voltage Output to Motor

RIDDER LIMIT SWITCHES



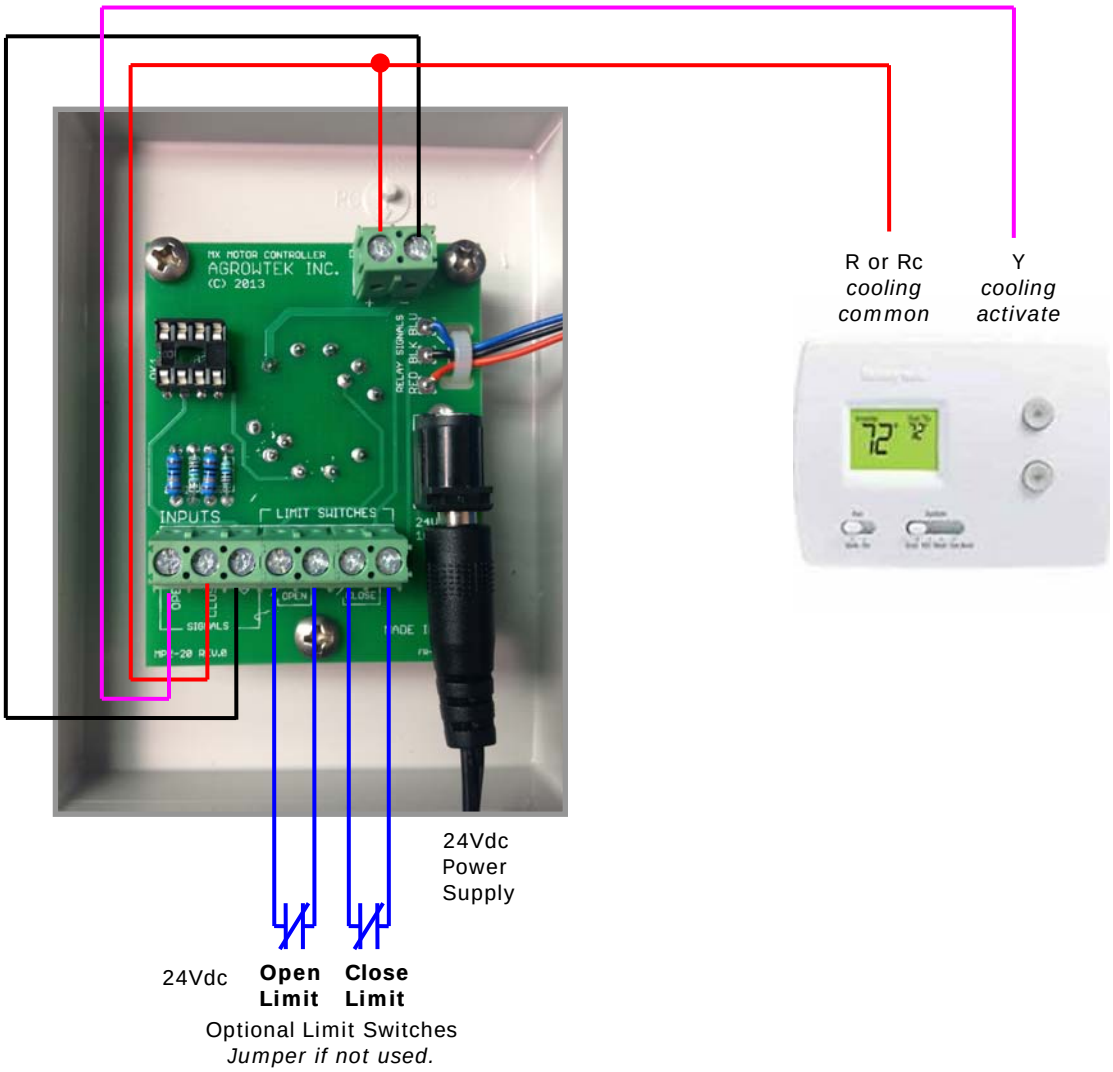

MOTOR GROUND (PE)
MOTOR AC FORWARD (W1)
MOTOR AC REVERSE (V1)
MOTOR AC NEUTRAL (U1)

**Simple Automation with Wall Thermostat**

MX1 motor controllers can be automated to open a vent when the temperature rises above a set-point with a standard, commonly available wall-mount thermostat. All that is required is the MX1 with the wall power supply and a common wall thermostat equipped with a cooling mode. If limit switches are not built into the vent motor, external limit switches may be wired to the MX1.

In the configuration below, the close output terminal will be active unless the close limit switch has been opened. If the thermostat is activated by a high temperature, the close terminal will be de-activated and the open terminal will turn on until the open limit switch is reached. When the thermostat is cooled the controller will close again.

## MX1 Motor Controller :: Typical Connection to Wall Thermostat



## 24-Hour Timer Control

Connection to Intermatic Timer:

1. Install the mounting flanges to the rear of the MX controller with the included hardware and a #2 Philips screw driver.
2. Using a step-drill, bore holes in the bottom of the enclosure as required for electrical connections. The MX controller comes with a wall-plug DC power supply, or can be hard-wired to a 24vdc power supply.
3. Connect the line voltage supply from a branch protected circuit.
4. Connect the motor leads to the motor output terminals.
5. If desired, install limit switches to turn off the MX power relays when the motor has reached an open or close limit position. An open limit switch will prevent operation in manual or automatic mode. If limit switches are not used, then a jumper wire must be installed across each limit switch terminal pair.
6. If MX motor controller is to be automated by a timer, wire the input signal terminals as shown in the diagram below.

**Wire Size Requirements**
Relay Coil Terminals:
Minimum 22 AWG Cu
AC Power Input:
Minimum 14 AWG Cu