MAKESAFE® TOOLS
PREVENTING INJURIES SINCE 2016

Industrial Anti-Restart & E-Stop System

User Manual

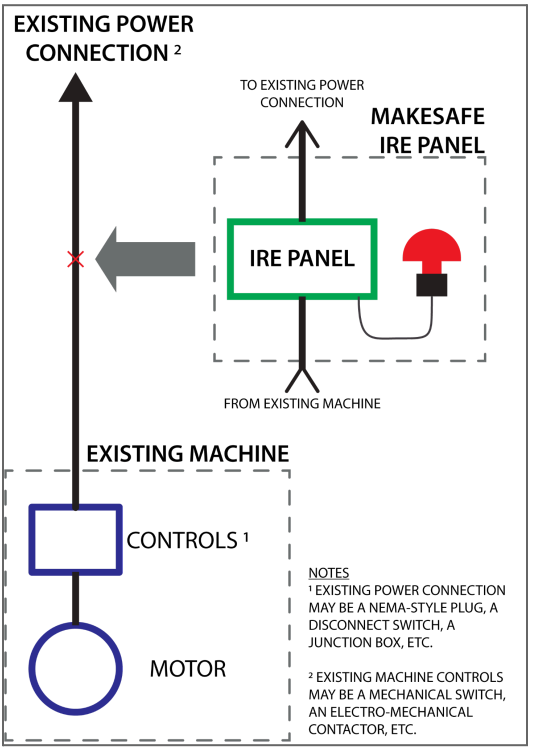
Important

This is a safety device for a specific application!

Review the details below to ensure that this meets your requirements.

Important details:

- This system is intended to be installed upstream (on the supply side) of an existing machine with existing machine controls.
- This system provides anti-restart protection and an emergency stop button.
- This system <u>does not</u> provide a means for regular on/off operation of the machine. The existing machine controls will continue to be used for regular on/off operation of the machine.
- This system includes a machine switch detection circuit that prohibits activation until the machine control is in an 'off' state.



Installation

1. Plan
   - Make plans for this machine to be completely off-line for the entirety of this installation. Include a generous allocation of time for troubleshooting, verification, and shipment of any replacement parts (just in case).
2. Check Ratings
   - Ensure that the machine voltage and motor horsepower are within the ratings listed on your new panel.
3. Panel Mounting
   - Mount the panel using the included mounting feet. Ensure that sufficient cable length is available for the mounting location, that the panel door has room to open for servicing, and that the indicators and reset button are accessible.

4. Disconnect Machine
    - Disconnect the machine from its existing power supply and any other source of hazardous energy.
5. Connect Panel:
    - Connect your new panel in between the power source and the existing machine. Use the provided power cord to make connections. If you use a NEMA connector to make the connection, use a plug-lock (not included) to prevent tampering or bypassing.
6. Calibrate The Machine Switch Detection Function (see next section)
7. Power Feed (Optional)
    - If your new panel is equipped with auxiliary protection:
        i. Verify the accessories are within the ratings listed on the auxiliary circuit
        ii. connect the 120V power plug to a standard 120V receptacle.
        iii. connect the 120V accessories to the provided 120V receptacles
        iv. use a plug-lock (not provided) to prevent disconnection of these accessories.

Calibration

Calibrate the Machine Switch Detection function by following the steps below. Sensitivity adjustments are made by turning the knob on PCB inside the panel.

1. With the panel de-energized, turn the sensitivity knob clockwise until it reaches its maximum setting.
2. Connect the panel to power and verify that the Load Detection LED is on.
3. Set your machine to 'on' or 'run' using the standard machine controls. The machine should not start.
4. Turn the sensitivity knob counter-clockwise until the Load Detection LED turns off. Once you find the position at which the LED turns off, rotate the knob approximately 1/8th of a turn clockwise. The LED should turn back on.
5. Test this setting by toggling your machine between 'on' and 'off' states. You should see this LED turn on when the machine is in an 'on' state then off once the machine is put into an 'off' state.

Testing

This device is designed to prevent the unintentional startup of machinery after a loss of power. Additionally, this device is designed to prevent startup if a machine's power switch is left in the 'on' position. It is not possible for the manufacturer to verify proper operation of the machine switch detection circuit on every piece of machinery.

It is therefore imperative that these functions be tested in your application before resuming normal machine operation. Document your testing and results as part of your risk assessment.

Inspections & Maintenance

MAKESafe Tools recommends the following regular inspections:

- Verify that the 'anti-restart' function performs as expected during a power outage event.
- Verify that the "machine switch detection" function performs as expected after a power outage event.
- Verify that the e-stop button operates and resets as expected.

Troubleshooting

If the machine will not start or does not have power, try the following:

- Ensure that the machine's power switch or run control is in an 'off' state.
- Ensure that the e-stop button has been reset (it requires a gentle twisting action to reset).
- Unplug this system and test the internal control fuse for continuity. If the fuse is blown, investigate the cause before replacing it with a fuse of the same specification and type.
- If in doubt, call MAKESafe Tools for support.

Service & Support

If you have any questions or your device needs service, please contact us.

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