

Power Tool Control

PTC Series



Note: The image above represents one particular configuration of this product though this manual can be used for all product configurations.

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WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT THE WRITTEN APPROVAL OF MAKESAFE TOOLS, INC.

Warning

You have just purchased a safety device and this manual contains critical safety instructions on the proper setup, operation, maintenance, and service of this safety device. Keep this document readily available, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in property damage and/or serious personal injury - including amputation, electrocution, or death. The owner of this device is solely responsible for its safe use.

The manufacturer will not be held liable for injury or property damage from negligence, failure to adhere to this documentation, improper training, device modifications or misuse.

Warning

This safety device is intended to be installed as a retrofit to a very specific class of power tool. Read and understand the intended use and limitations of this device before installing it.

The manufacturer has made reasonable attempts to test and describe this device's compatibility with different power tools but cannot certify or guarantee its compatibility with any one power tool. It is the responsibility of the owner of this device to follow the guidance provided below to determine compatibility.

Warning

All induction motors, such as those running power tools, have inherent limitations on their maximum number of starts per hour and their minimum rest time between starts, as described in NEMA MG 10, Table 8. Motor braking contributes additional heat to the motor and can significantly impact these values. Reduce allowable startups per hour by a factor of 0.5 and increase rest time between starts by a factor of 1.5, until such time that a more precise factor can be determined by the operator for a specific tool and set of conditions.

Warning

When this device is in braking mode, it delivers high voltage direct current to your tool. If you operate the tool switch during braking, you will destroy or significantly reduce the life of your tool switch while also increasing the risk of electrical fire. Never operate your tool switch during braking and always cover the tool switch as described in the instructions below.

Warning

RISK OF ELECTRIC SHOCK

DISCONNECT ALL SOURCES OF POWER PRIOR TO SERVICING THIS DEVICE.

Important!

Retain this manual and include it with the original user manual for the machine on which this device is installed.

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Introduction

Application

The MAKESafe Power Tool Control is a safety device that provides accidental restart protection, on/off control, and emergency stop functions to stationary power tools and machinery.


Compatibility

This safety device is not compatible with all power tools. Please complete the included compatibility checklist below before installing this device.

Specifications

Glossary

- **Power Tool** - the tool or machinery that you intend to use this product with.
- **Control Panel** - The provided remote enclosure with start, stop, and e-stop buttons.
- **Business End** - The part of the power tool that performs an operation on a work piece (i.e. saw blade, grinding wheel, etc.).

	PTC-V120-P1	PTC-V240-P1	PTC-V240-P3
Rated Input Voltage	120 VAC 1 PH, 60Hz (50 Hz options available)	240 VAC 1 PH, 60Hz (50 Hz options available)	240 VAC 3 PH, 60Hz (50 Hz options available)
Rated Horsepower (UL508)	1.5 HP	3.0 HP	5.0 HP
Rated Current (UL508)	20 A	17 A	15 A
Approvals	 UL508: Industrial Control Devices CSA #14-13: Industrial Control Equipment LISTING NUMBER: E114885		
Control Voltage	5 VDC		
Control Current	< 100mA		
Dimensions (main enclosure)	7.25" L x 5.0" W x 2.22" H (185 mm x 127 mm x 57 mm)		
Dimensions (standard control panel)	3.0" x 2.0" x 0.9" in. (76.20 mm x 50.80 mm x 22.86 mm)		
Weight	3 lbs (1.4 kg)		3.3 lbs (1.5 kg)
Rated Output Voltage (motoring)	120VAC	240VAC	240VAC
Plug & Receptacle Type	NEMA 5-15 (custom and international options available)	NEMA 6-15 (custom and international options available)	NEMA L15-20 (custom and international options available)
Notes: 1. Suitable for connection in the field to a branch circuit rated not more than 20 amperes and capable of delivering not more than 5,000 rms symmetrical amperes.			

Device Diagrams

Main Enclosure

7.25" L x 5.0" W x 2.22" H
(185 mm x 127 mm x 57 mm)



Control Panel

3.0" x 2.0" x 0.9" in.
(76.20 mm x 50.80 mm x 22.86 mm)



Control Panel (Industrial)



3-Button Control Panel

**All dimensions are for enclosure and do not include dimensions of buttons, plugs, and cable glands.*

Compatibility Checklist

Getting Ready

This safety device is meant to be installed and used in conjunction with a power tool. Prior to completing the compatibility checklist, collect the following items:

- The MAKESafe Power Tool Control.
- The power tool you intend to use with this product with.
- The instruction manual and specifications sheet for your power tool.

As the owner of this safety device and your pre-existing power tool, it is your responsibility to complete this compatibility checklist before installing this safety device. If you cannot complete the checklist, do not install the device.

Checklist	For More Information
<input type="checkbox"/> Confirm that the voltage, number of phases, and frequency of your power tool match the voltage, number of phases, and frequency indicated on the product.	This is typically marked on the motor itself and on the top of the product.
<input type="checkbox"/> Confirm the motor horsepower on the power tool is rated at or below the horsepower rating of your product .	This is typically marked on the motor itself.
<input type="checkbox"/> Confirm the power tool contains only a simple on/off switch and no other digital electronics, emergency stop switches, reversing switches, or other motor controls.	See section titled <i>Recognizing Existing Controls</i>

Recognizing Existing Controls

The MAKESafe Power Tool Control is designed for use on tools with a simple on/off switch and no pre-existing electronic controls. If your power tool has any other controls, electronic indicators, digital displays, starters, dials or variable controls, magnetic switches, or variable frequency drives - do not install the MAKESafe Power Tool Control. If you have questions about compatibility, contact MAKESafe Tools for assistance.

Installation

You can find a video companion for these installation and calibration instructions on our website at www.makesafetools.com.

1. Unbox the product and inspect the device and shipping containers for any damage that may have been incurred during shipping.
2. Plug your control panel into the product by inserting the silver connector on the control panel cable into the mating connector on the product. The connector will only fit in one orientation so rotate it gently until it snaps into place. Once mated, manually screw the control panel connector clockwise to lock it in place. Hand-tighten the connector until snug (do not use tools to tighten).
3. Plug your **power tool** into the **power tool receptacle** on the **product**. It is important to plug your tool into the product before plugging the product into the wall.
4. Once your **power tool** is plugged into the product, plug the product into a power outlet.
5. Mount the **control panel** to your **power tool** in a convenient to access location.
6. Turn the on/off switch on your **power tool** to the 'on' position. Note that the **power tool** switch must now remain in the 'on' position at all times. To prevent tampering or otherwise being turned 'off', cover the power tool switch. If this device is being used in a workplace, refer to the **Occupational Safety Standards** section for further information.
7. Now that you have completed the installation, proceed to the **Calibration** section to calibrate your device.

Occupational Safety Standards

ANSI B11.19-2010, Performance Criteria for Safeguarding, states the following:

Code Excerpt (Requirement)	Code Excerpt (Explanatory Information)	Relevance & Applicability*
<p><i>"The user shall ensure that guards are installed, maintained, and operated so as to protect against: unauthorized adjustment or circumvention;"</i></p> <p>(ANSI B11.19-2010 7.2.6)</p>	<p><i>"Guards installed in such a manner that tools are necessary for their adjustment or removal may satisfy this requirement."</i></p> <p><i>"Examples of some types of fasteners that should not be used are: slotted or Phillips head screws; wing nuts; Magnets; latches and hasps; hooks and eyes."</i></p> <p>(ANSI B11.19-2010 E7.2.6)</p>	<p>After the installation of the MAKESafe Power Tool Control is complete, MAKESafe Tools recommends the following in order to comply with ANSI B11.19 7.2.6:</p> <p>1) Cover the tool switch on your power tool to prevent tampering and to maintain its 'on' position. Use fastening means to comply with provided explanatory information.</p> <p>2) Use a plug lockout enclosure or other fastening means to prevent the unauthorized unplugging of the power tool from the MAKESafe Power Tool Control.</p>

**It is the end users responsibility to read and interpret all occupational safety requirements along with their local authority having jurisdiction. Interpretations provided here are the opinion of MAKESafe Tools.*

Normal Operation

The MAKESafe Power Tool Control is designed to make normal operation of the device simple and straightforward. To operate your power tool with the MAKESafe Power Tool Control installed, follow the procedure below:

1. Turn on your power tool by using the green start button on the **control panel**.
2. Use your power tool.
3. Press the red stop button on the **control panel** to stop your tool.
4. If the emergency stop is activated, release the emergency stop button by rotating it gently clockwise.

Inspections & Maintenance

MAKESafe Tools recommends the following inspections:

1. At the beginning of each shift, cycle the tool through the complete on/off cycle and visually verify proper operation.

Troubleshooting

Problem	Solution
My tool will not start. Every time I try to turn my tool on, the product makes a clicking noise, and the tool fails to start.	You may have engaged low voltage protection. This can happen due to low service voltage or under-rated conductors. Do not use this device with an extension cord.
My tool will not start.	You may have blown the device's internal fuse. Unplug the device from the wall and remove the cover using a phillips screwdriver. Remove the fuse and test for continuity. If the fuse is blown, first identify the source of the fault. Contact MAKESafe Tools, Inc. for fuse replacement specifications. <u>This device does not use a standard fuse.</u> Be sure to replace the cover before plugging in the device.
I don't know what's happening and I need help.	Please contact MAKESafe Tools at: service@makesafetools.com or (415) 937-1808.

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Service

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

service@makesafetools.com

(415) 937-1808

www.makesafetools.com