

STI-100 (STI-101) Controller Installation

Installation and Operation Instructions

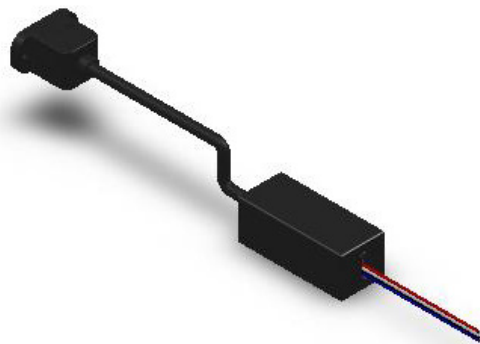
Description

Important Information:

- Carefully read the instructions appropriate for your needs.
- This control must be installed by a qualified electrician.
- For supply connections, use wires rated for at least 75 C.
- **WARNING—FOR CONTINUED PROTECTION AGAINST FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.**
AVERTISSEMENT--POUR NE PAS COMPROMETTRE LA PROTECTION CONTRE LES RISQUES D'INCENDIE, UTILISER UN FUSIBLE DE MEMES TYPE ET CARACTERISTIQUES NOMINALES
- Use Copper or Aluminum Conductors.
- For indoor use only.
- Do not connect Low-Voltage to Line-Voltage Power.
- Article 725-54(a), (1) Exception No. 3 (NEC) or Canadian CE Code Handbook, Rule 16-212, Sub rule (4) requires segregation between line voltage and Class 2 (low voltage) circuits. Low Voltage/network wires should enter enclosure boxes through separated openings. Also, conductors shall be separated by at least ¼" or segregated by barriers. Check with your local electrical inspector or compliance with local/national codes and wiring practices.
- Earth Ground terminal connection must be made as shown in wiring diagrams.
- Proper short-circuit and overload protection must be provided at the circuit breaker distribution panel. You can use up to a 20A maximum circuit breaker with adequate short-circuit breaking capacity for your installation.

The STI-100 (STI-101) supports both a close contact and voltage sense inputs. There are two close contact inputs, one for up and one for down. These inputs require an external switch or relay to short these inputs to ground. The voltage sensing input will trigger an up or down motor movement based on the voltage level. A voltage level between 5vdc and 12vdc will drive the motor down, a 0vdc will drive the motor up. The voltage level input is triggered on the transition or change of voltage. A signal changing from 0 to 5v will trigger the down, a transition from 5v to 0v will trigger an up. All inputs are protected from static discharge.

If there is a change of direction, the motor is paused for ½ second before reversing direction. This is to prevent strain on the motor mechanism, and to prevent damage to any material controlled by the motor. Relays are automatically de-energized after 120 seconds of operation to reduce power consumption.



Description

The STI-100 (STI-101) Series of Controllers are designed to control residential, and commercial bi-directional blind, drapery and projection screen motors. The STI uses low voltage signals to control the mains high voltage AC motor.

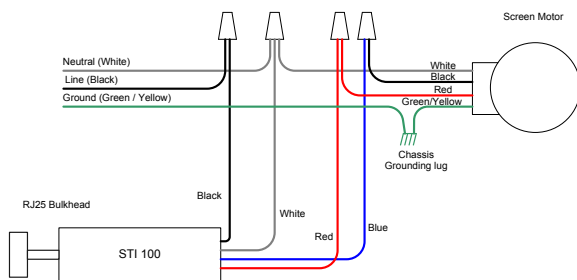
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AC Wiring

There are four stranded 18 awg wires for connecting the motor and AC supply. These are color coded and are as follows:

High Voltage Wiring	
Black	AC Line
White	AC Neutral
Red	Motor Up (red)
Blue	Motor Down (black)

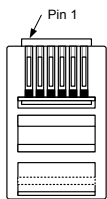


An earth ground should also be used connecting the motor ground and chassis. The STI-100 (STI-101) does not require a ground.

HA connection

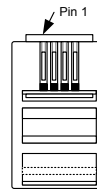
A 4-pin RJ25 jack provides the connection to any external control equipment. An RJ25 can be 6 pin or 4 pin, either can be used as follows:

6 pin



Pin	Signal
1	Not used
2	Common
3	LV1
4	LV2
5	STI
6	Not used

4 pin



Pin	Signal
1	Common
2	LV1
3	LV2
4	STI

LV1 and LV2 are the close contact connections. These require a short to common to activate. An external switch or relay should connect this to the common. In the open circuit there is about 5Vdc present on the connection. STI is the voltage sensing connection. An external device should connect to this pin and common.

Operation

The operation of the STI is based on the state of the LV and STI inputs as follows.

LV	STI	Function
LV1 Close	Don't care	Up
LV1 Open	Don't care	None
LV2 Close	Don't care	Down
LV2 Open	Don't care	None
LV1&LV2 Close	Don't care	Stop
LV2&LV2 Open	Don't care	
LV1&LV2 Open	0V -> 12V	Down
LV1&LV2 Open	12V -> 0V	Up

Both the STI inputs and LV can be used at the same time, as illustrated above. There is a built-in de-bounce function whereby the change of a signal must exist for a time greater than 80ms. Any signal less than 80ms is ignored.

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Specification

AC	
Relay contacts	1/3 hp motor 120V 1/2 hp motor 240V 5 Amp resistive load
Power Requirement	Standby
120vac (STI-100)	<0.35W
240vac (STI-101)	<0.35W

LV Connections

LV 1 & 2	
Open circuit voltage	~5vdc
Closed circuit current	< 1.1mA
STI Voltage min	3.2 v dc
STI Voltage max	12V ¹
STI Current @ 12V	<0.5mA
STI current @ 5V	<0.2mA

¹ Do not exceed 13vDC

Additional

Dimension	1" x 1" x 2.5"
Environment	32-100 (F)

Safety

ETL Listed	UL-325/CSA C22.2 NO.247
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Safety Information

This product are listed by the following testing laboratories



For units with provided power cords, this warning needs to be provided.

TO REDUCE THE RISK OF ELECTRIC SHOCK, THIS EQUIPMENT HAS A GROUNDING TYPE PLUG THAT HAS A THIRD (GROUNDING) PIN. THIS PLUG WILL ONLY FIT INTO A GROUNDING TYPE OUTLET. IF THE PLUG DOES NOT FIT INTO THE OUTLET, CONTACT A QUALIFIED ELECTRICIAN TO INSTALL THE PROPER OUTLET. DO NOT CHANGE THE PLUG IN ANY WAY.

POUR REDUIRE LES RISQUES DE CHOC ELECTRIQUE, CET APPAREIL EST EQUIPE D'UNE FICHE AVEC MISE A LA TERRE COMPORTANT UNE TROISIEME BROCHE (BROCHE DE TERRE). CETTE FICHE NE PEUT ETRE BRANCHE QUE DANS UNE PRISE AVEC MISE A LA TERRE. S'IL N'EST PAS POSSIBLE DE LA BRANCHER DANS LA PRISE, FAIRE POSE UNE PRISE APPROPRIEE PAR UN ELECTRICIEN QUALIFIE. NE PAS MODIFIER LA FICHE.
