

# **SR-2H Two Hand Safety Module**

## **With CIECO STT series touch buttons.**

*Installation and instruction manual.*

*Ver. 1.1*

# SR-2H Two Hand Safety Module

The SR-2H module monitors two buttons with mechanical NO-NC contacts or complimentary sourcing transistor outputs. The module provides two monitored, redundant, forced-guided outputs which close when both palm buttons are activated within 0.5 seconds of each other. If the machine operator removes one or both hands from the actuating device(s), the module relays de-energize, causing the output contacts to open. The relays will not re-energize until both actuating devices are deactivated and then simultaneously reactivated.

## Features

- Low profile, control reliable, compact safety relay.
- Supply is protected against reverse polarity and transient voltages.
- Monitors any mechanical button with NO-NC contacts.
- Connects directly to CIECO's STT-2 safety touch buttons.
- Feedback inputs are included to monitor external machine control elements.
- Status LEDs for power, concurrent time, Input 1, Input 2 and output are provided.



## Specifications

- Power: 24vdc +/- 15% at 100ma (250ma with STT-2 buttons).
- Relay contact rated load: 6A 250V AC, 6A 30V DC.
- Relay contact Mechanical life: 10 million operations minimum.
- Relay contact Electrical life: 100,000 operations minimum at rated load.
- DIN-rail-mountable housing Dimensions: L x W x H 3.55" x 2.10" x 2.20".

## Notes:

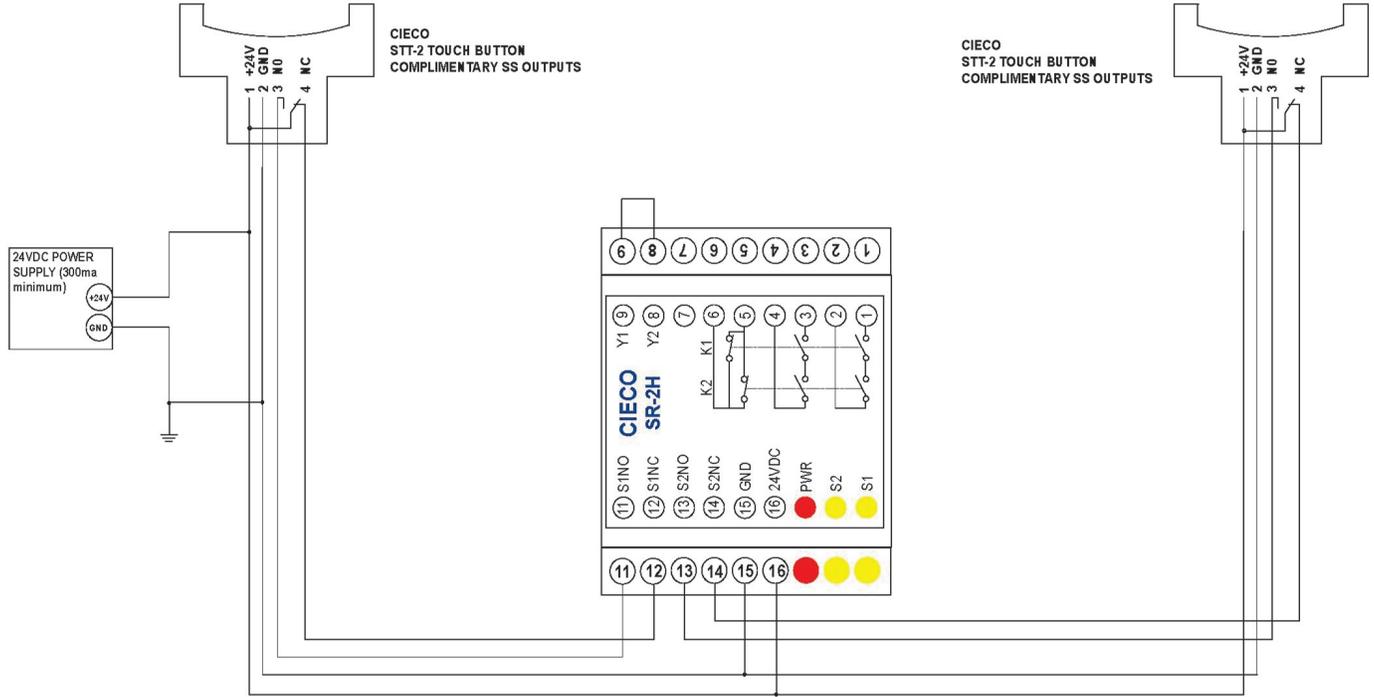
1. Use transient suppression across inductive loads. Never install suppressors across output contacts.
2. When electronic buttons like the CIECO STT-2 touch buttons are used with the SR-2H Safety Module, the electronic buttons and the safety module must be powered by the same voltage and share a common ground.
3. *The user is responsible for ensuring that all local, state, and national laws and regulations relating to the use of this device are complied with.*

## LED Indicators

- Red LED: ON indicates the unit is powered.
- S1 and S2 LEDs: OFF indicate that both buttons are not pushed or concurrent timer has expired. Output relays K1 and K2 are de-energized.
- S1 and S2 LEDs: ON indicates that both buttons were pushed within 0.5 seconds of each other and are currently still pushed. Output relays K1 and K2 are energized.
- S1 or S2 LED: will turn ON if its corresponding button is pressed but will turn OFF if both buttons are not pressed within 0.5 seconds.
- S2 yellow LED: ON *only* indicates button 2 is pushed for less than 0.5 seconds. Output relays K1 and K2 are de-energized.
- S1 yellow LED: ON *only* indicates button 1 is pushed for less than 0.5 seconds. Output relays K1 and K2 are de-energized.

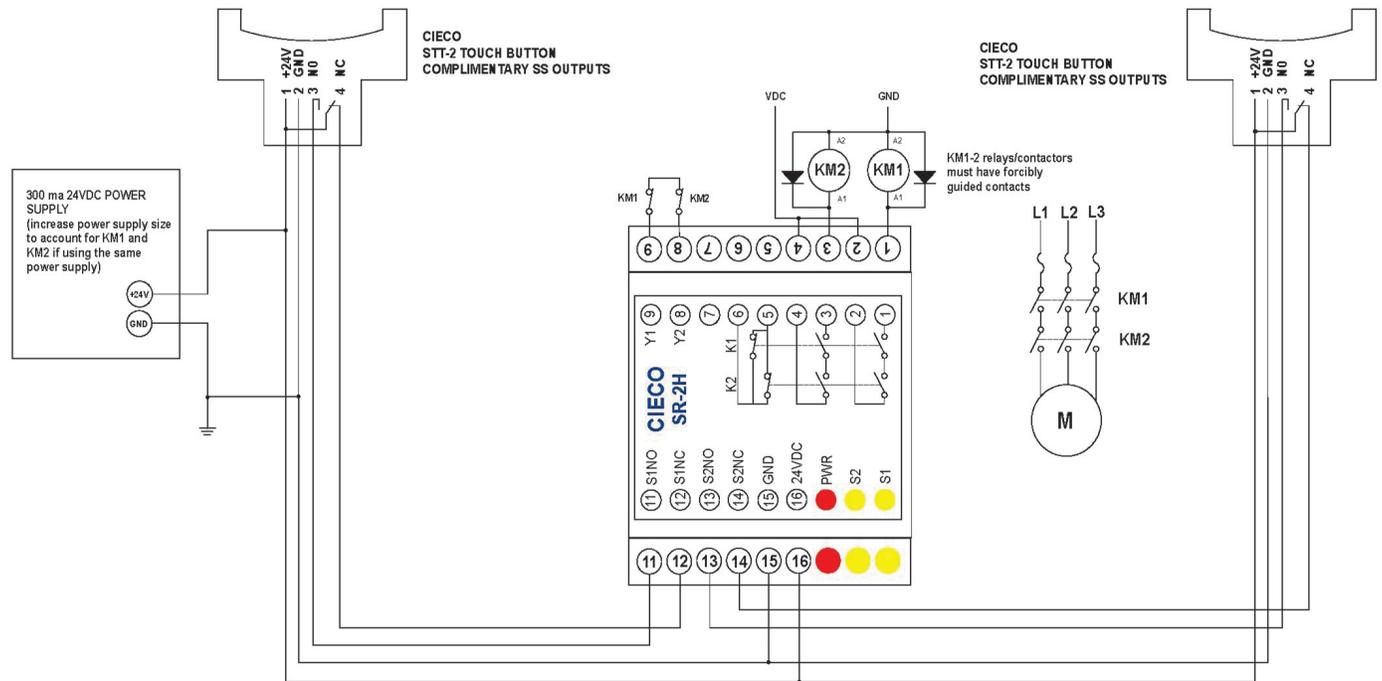
## SR-2H wiring 1

*Without external contact reinforcement*



## SR-2H wiring 2

*With external contact reinforcement from external force guided contactors.*



## Safeguarding using the SR-2H.

A safeguarding device is a device that detects or prevents inadvertent access to a hazard.

When used as a safeguarding device each two-hand device shall be designed and constructed to protect each hand control against unintended or inadvertent operation. Protecting the hand controls against unintended or inadvertent operation is usually accomplished by the use of ring guards or other fabricated shields.

The two-hand device shall have the individual hand controls arranged by design, construction, or separation to require the use of both hands for actuation. The design or installation of the operator control should be such that the operator cannot operate the two controls by the use of one hand and an elbow (or other portion) of the same arm. A means to meet this requirement is to separate the hand controls by a distance equal to or greater than 22 inches in a single linear dimension.

The SR-2H two-hand safety module requires the synchronous use of both the operator's hands to initiate a machine cycle and concurrent actuation of the operator's hand controls during the machine cycle. Release of either hand control during the machine cycle shall initiate an immediate stop command.

The SR-2H two-hand safety module requires the release of both hand operator controls and the re-actuation of both actuating controls before a machine cycle can be reinitiated.

Components, subassemblies or modules of two-hand control devices shall be control reliable.

The operator's hand controls of the two-hand device shall be located and maintained at a distance from the nearest hazard such that the operator cannot reach the hazard before cessation of hazardous motion. See ANSI B11.19 for distance calculations.