

Installation Instructions

Bulletin 193 E100 Ground Fault / Jam and Remote Reset Module

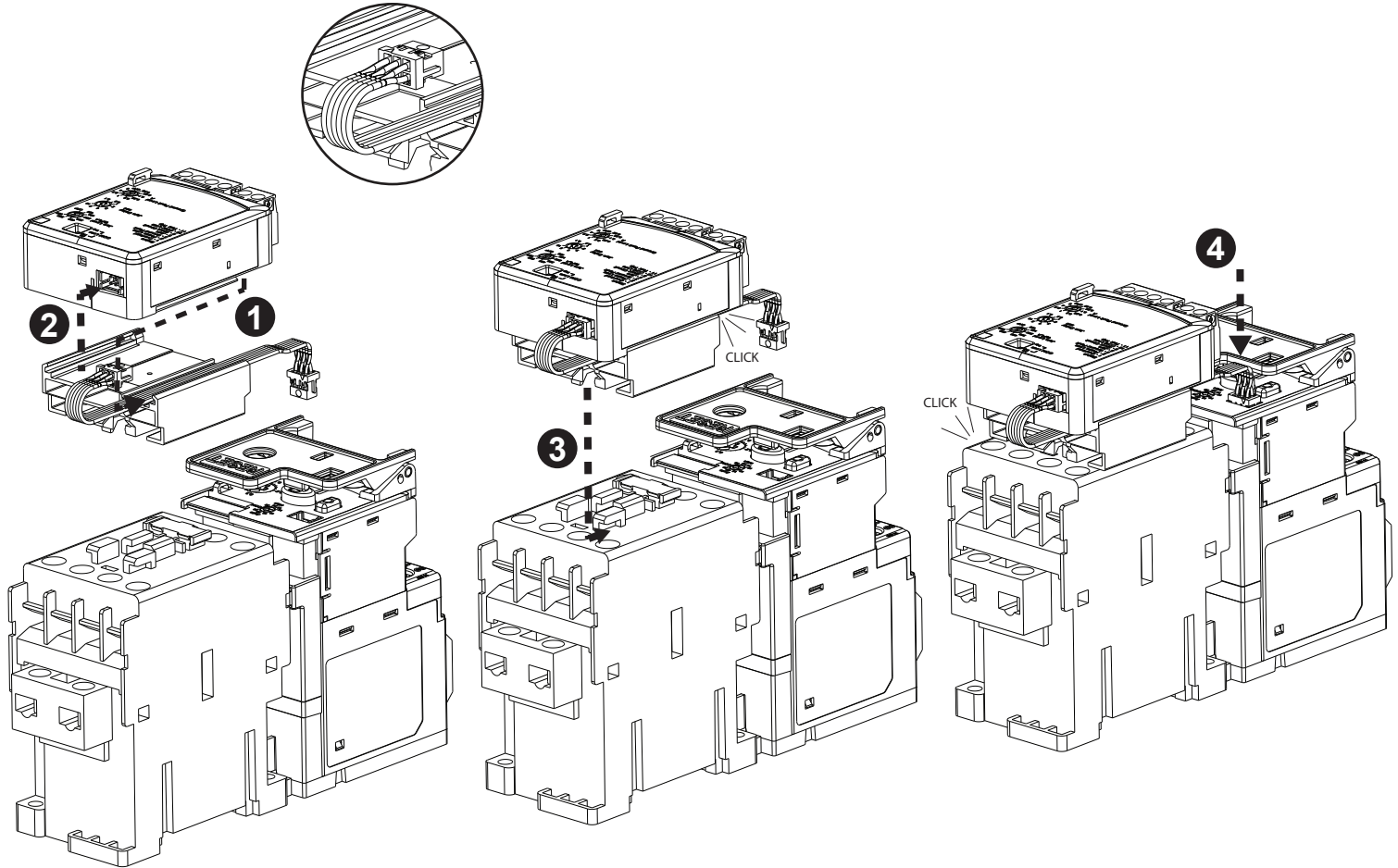
Application and Installation

(Cat 193-1EGJ, 193-1ERR)



- WARNING:** Only personnel familiar with the module and associated machinery should plan to install, start up, and maintain the system. Failure to comply may result in personal injury and/or equipment damage.
- WARNING:** To prevent electrical shock, disconnect from power source before installing or servicing. Install in suitable enclosure. Keep free from contaminants. Follow NFPA70E requirements.
- WARNING:** Do not use automatic reset mode in applications where unexpected automatic restart of the motor can cause injury to persons or damage to equipment.
- WARNING:** The module contains ESD (electrostatic discharge)-sensitive parts and assemblies. Static control precautions are required when installing, testing, servicing, or repairing this assembly. Component damage may result if ESD control procedures are not followed. If you are not familiar with static control procedures, refer to Rockwell Automation publication 8000-4.5.2, "Guarding Against Electrostatic Damage", or any other applicable ESD protection handbook.
- WARNING:** Do not apply external voltage to R1, R2, S1 and S2. Equipment damage may occur.

Installation

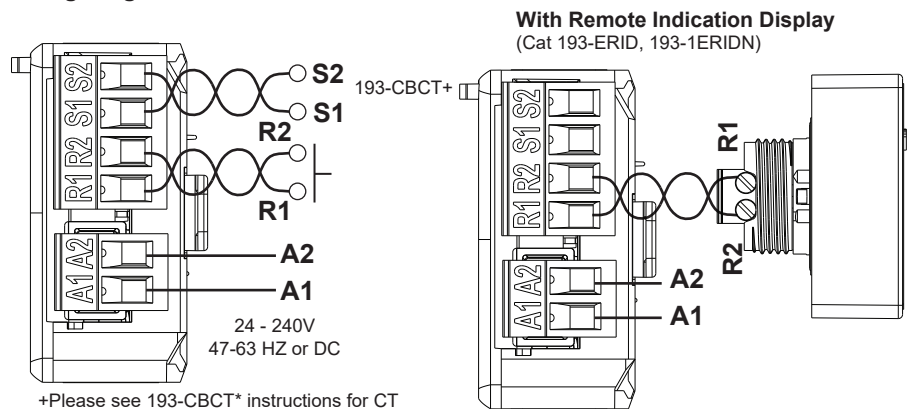


Main Connections

Wire Type	# Wires	Range	Torque
Stranded / Solid / Flexible Stranded w/ Ferrule	1 Wire	0.2...2.5 mm ² (24...12 AWG)	0.55 N·m (5 lb-in)
	2 Wires*	0.2...1.0 mm ² (24...16 AWG)	

*FOR MULTIPLE CONDUCTOR APPLICATIONS THE SAME SIZE AND STYLE WIRE MUST BE USED. Recommend use of twisted pair for remote reset and ground fault sensor, 24 AWG Minimum

Wiring Diagram

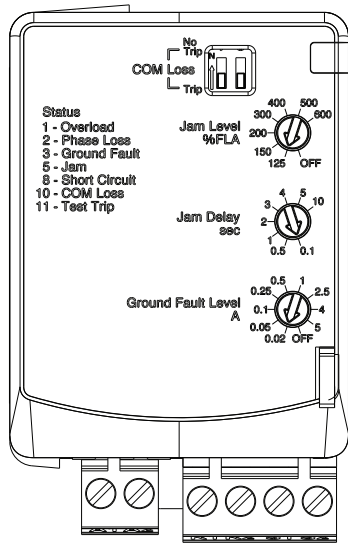


+Please see 193-CBCT* instructions for CT wiring and selection.



Settings

Changes to settings will not take effect when the motor is running.



193-1EGJ

Adjustment Settings		
Communication Loss		
DIP Switch Left	Trip on COM Loss: Down	Don't Trip on COM Loss: Up
DIP Switch Right	Not Used	Not Used
Jam Level (%FLA)		
OFF	Jam Detection Disabled. Setting on Jam Delay Ignored.	
125...600	Jam Warning/Trip Level 125...600 % FLA	
Jam Delay (Sec)		
0.1...10	Jam Trip Delay Set to 0.1...10 s	
Ground Fault Level (Amp)		
OFF	Ground Fault Detection Disabled	
0.02...5	Ground Fault Detection Set to 0.02...5 A	

Status LED:

The status LED will indicate the module status by flashing a red trip code. The number of flashes followed by a pause identifies the specific trip code as follows:

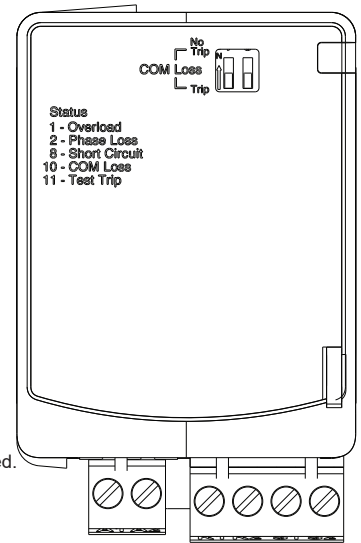
- (1) - Overload Trip, (2) - Phase Loss, (3) - Ground Fault, (5) - Jam, (8) - Short Circuit, (10) - COM Loss, (11) - Test Trip

- Green flash** - module powered
- Green solid** - module powered plus motor current present
- Amber flash** - warning
- Red flash** - fault detected and overload relay tripped
- Red solid** - hardware fault: internal hardware fault detected and overload relay trip attempted.

Recover fault by cycling overload relay accessory supply voltage

If hardware fault is encountered, the user could:

- a) verify that supply voltage is within limits;
- b) verify that wiring to the terminals is correct;
- c) verify that the pins which connect the accessory to the overload relay are not damaged or misaligned;
- d) verify that operating temperature of the devices are within specification limits;
- e) refer to user manual for additional support.



193-1ERR

Accessory

Catalog Number	Maximum Current	Frequency	Turns Ratio	Sensor Window I.D.	Sensor Type	Customer Sensor Termination	Maximum Recommended Cable Size	Ref. IEC Contactor Catalog Number	Ref. NEMA Contactor Size
193-CBCT1	45A	50/60 Hz	1000:1	19.1 mm (.75 in.)		Supplied	8 AWG @ 600V Ⓞ (10mm ²)	100-C09 THRU 100-C37	00...2
193-CBCT2	90A	50/60 Hz	1000:1	39.6 mm (1.56 in.)		Ring Lug Required	2 AWG @ 600V Ⓞ (35mm ²)	100-C09 THRU 100-C85	00...3
193-CBCT3	180A	50/60 Hz	1000:1	63.5 mm (2.5 in.)		Ring Lug Required	250MCM @ 600V Ⓞ (120mm ²)	100-C09 THRU 100-D180	00...4
193-CBCT4	420A	50/60 Hz	1000:1	82.3 mm (3.25 in.)		Ring Lug Required	350MCM @ 600V Ⓞ (10mm ²)	100-C09 THRU 100-D420	00...5

Ⓞ For a three phase system with one cable per phase
 Pour un système triphasé avec un câble par phase
 Für ein 3-Phasen-System mit einer Leitung pro Phase
 Para un sistema de tres fases con un cable por fase
 Para um sistema trifásico com um cabo por fase
 Per un sistema trifase con un cavo per fase
 相ごとに1本のケーブルがある3相システム用
 三相系統每相一条电缆

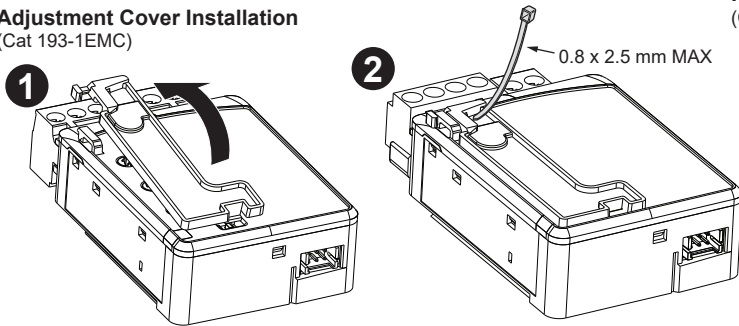
Ⓞ For a three phase system with two cables per phase.
 Pour un système triphasé avec deux câbles par phase.
 Für ein dreiphasiges System mit zwei Kabeln pro Phase.
 Para un sistema de tres fases con dos cables por fase.
 Per un sistema trifase con due cavi per fase.
 Para um sistema trifásico com dois cabos por fase.
 相ごとに2本のケーブルを持つ3相システム
 适用于三相系统，每相两根电缆。

Ground Fault/Jam Operation

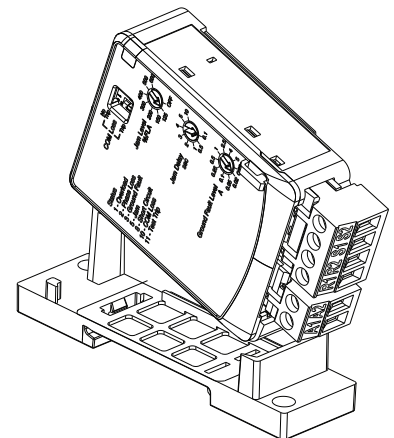
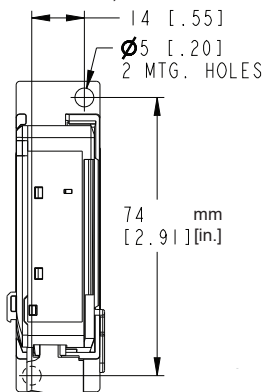
Motor Status	Stopped	Starting	At Speed
Ground Fault Protection	Enabled	Disabled	Enabled
Jam Protection	Disabled	Disabled	Enabled

Accessories

Adjustment Cover Installation
(Cat 193-1EMC)



Panel Mount Installation
(Cat 193-1EIKIT1)



Rockwell Automation Support

For Technical Support, visit ROK.AUTO/SUPPORT.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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