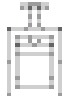




Specifications

Cat. No.		193-ED1_B, 193-EE_B, and 592-EE_T	193-EE_D and 592-EE_C	193-EE_E and 592-EE_D
Main Circuits				
Rated Insulation Voltage U_i		690V AC		
Rated Impulse Strength U_{imp}		6 kV AC		
Rated Operating Voltage U_e		690V AC (IEC) / 600V AC (CSA/UL)		
Terminal Cross-Sections:				
Terminal Type				
Terminal Screw		M5	M5	M8
Flexible-Stranded with Ferrule	Single Conductor Torque	2.5...16 mm ² 2.5 N-m	2.5...16 mm ² 2.5 N-m	4...35 mm ² 24 N-m
	Two Conductor Torque	2.5...10 mm ² ① 3.4 N-m	2.5...10 mm ² ① 3.4 N-m	4...25 mm ² 4 N-m
Coarse-Stranded / Solid	Single Conductor Torque	2.5...25 mm ² 2.5 N-m	2.5...25 mm ² 2.5 N-m	4...50 mm ² 4 N-m
	Two Conductor Torque	6...16 mm ² ① 3.4 N-m	6...16 mm ² ① 3.4 N-m	4...35 mm ² 4 N-m
Stranded / Solid	Single Conductor Torque	14...6 AWG 22 lb-in	14...6 AWG 22 lb-in	12...1 AWG 35 lb-in
	Two Conductor Torque	14...6 AWG ① 30 lb-in	14...6 AWG ① 30 lb-in	6...2 AWG 35 lb-in
PoziDrive Screwdriver Size		2	2	—
Slotted Screwdriver (mm)		1 x 6	1 x 6	—
Hexagon Socket Size (mm)		—	—	4
Control Circuits				
Rated Insulation Voltage U_i		690V AC		
Rated Impulse Strength U_{imp}		6 kV AC		
Rated Operating Voltage U_e		690V AC (IEC) / 600V AC (CSA/UL)		
Rating Designation		B600		
Rated Operating Current I_e		N.O. / N.C.		
AC-15	12...120V	3 / 2		
	220...240V	1.5 / 1.5		
	380...480V	0.75 / 0.75		
	500...600V	0.6 / 0.6		
DC-13, at L/R ≤ 15 ms	24V	1.1 / 1.1		
	110V	0.4 / 0.4		
	220V	0.2 / 0.2		
	440V	0.08 / 0.08		
Thermal Current I_{the}		5 A		
Contact Reliability		17V, 5 mA		
Screw Terminal Cross-Sections:				
Terminal Screw		M3		
Flexible-Stranded with Ferrule	Single Conductor Torque	0.5...2.5 mm ² 0.55 N-m		
	Two Conductor Torque	0.25...1.5 mm ² 0.55 N-m		
Coarse-Stranded / Solid	Single Conductor Torque	0.5...4 mm ² 0.55 N-m		
	Two Conductor Torque	0.2...2.5 mm ² 0.55 N-m		
Stranded / Solid	Single Conductor Torque	24...10 AWG 5 lb-in		
	Two Conductor Torque	24...12 AWG 5 lb-in		
Screwdriver (mm)		#1 PoziDrive / 0.6 x 3.5 slotted		
Cage Clamp Cross-Sections:				
Flexible-Stranded with Ferrule		0.25...1 mm ²		
Coarse-Stranded / Solid		0.2...1.5 mm ²		
Stranded / Solid		24...14 AWG		

① For multiple conductor applications, the same style and size of wire must be used.

Bulletin 193 and 592
E1 Plus Solid-State Overload Relays

Specifications, Continued/Wiring Schematic

Environmental Ratings		
Ambient Temperature	Storage	-40...85°C (-40...185°F)
	Operating	-20...60°C (-4...140°F)
Humidity	Operating	5...95%, non-condensing per IEC 68-2-3 and IEC 68-2-30
	Damp Heat	
Vibration (per IEC 68-2-6)		3 G
Shock (per IEC 68-2-27)		30 G
Maximum Altitude		2000 m
Pollution Environment		Pollution Degree 3
Degree of Protection		IP20

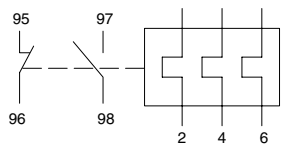
Protection		
Type of Relay		Ambient Compensated, Time Delay, Phase Loss Sensitive
Nature of Relay		Solid-State
Trip Rating		120% FLA
Trip Class	Type ED	10
	Type EE	10, 15, 20, 30
Reset Mode	Type ED	Manual
	Type EE	Automatic or Manual

Electromagnetic Compatibility		
Electrostatic Discharge Immunity	Test Level	8 kV Air Discharge 6 kV Contact Discharge
	Performance Level	1 ❶ ❷
RF Immunity	Test Level	10 V/m
	Performance Level	1 ❶ ❷
Electrical Fast Transient/Burst Immunity	Test Level	4 kV
	Performance Level	1 ❶ ❷
Surge Immunity	Test Level	2 kV (L-E) 1 kV (L-L)
	Performance Level	1 ❶ ❷

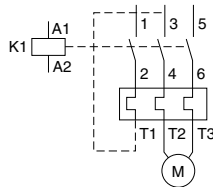
- ❶ Performance Criteria 1 requires the DUT to experience no degradation or loss of performance.
- ❷ Environment 2.

General			
Standards	UL508, CSA C22.2 No. 14, NEMA ICS 2-1993 Part 4, EN 60947-4-1, EN 60947-5-1		
Approvals	CE, CSA, UL, ATEX (pending), C-Tick		
Weight (unpacked)	kg	0.25	0.52
	Lb	0.55	1.06

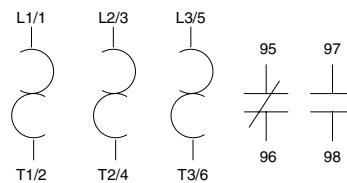
Wiring Schematic



Typical IEC Wiring Schematic



Typical Wiring for 1-Phase Applications



Typical NEMA Wiring Schematic