



# Motor Protection Relay Installation instructions

## Motorschutzrelais Installationsanweisungen

## Relais de Moteur Instructions pour l'installation

## Relay per motore Istruzioni di Instalazione

## Proteccion del Motor Instrucciones de Instalación

(Cat 825-P\_)

- ! WARNING**
- ! AVERTISSEMENT**
- ! WARNUNG**
- ! ADVERTENCIA**
- ! AVVERTENZA**

To prevent electrical shock, disconnect from power source before installing or servicing. Install in suitable enclosure. Keep free from contaminants. (Follow NFPA70E requirements)

Avant le montage et la mise en service, couper l'alimentation secteur pour éviter toute décharge. Prévoir une mise en coffret ou armoire appropriée. Protéger le produit contre les environnements agressifs. (Vous devez respecter la norme NFPA70E).

Vor Installations- oder Servicearbeiten Stromversorgung zur Vermeidung von elektrischen Unfällen trennen. Die Geräte müssen in einem passenden Gehäuse eingebaut und gegen Verschmutzung geschützt werden. (Befolgen Sie die Anforderungen nach NFPA70E).

Desconéctese de la corriente eléctrica, antes de la instalación o del servicio, a fin de impedir sacudidas eléctricas. Instálelo en una caja apropiada. Manténgalo libre de contaminantes. (Cumpla con los requisitos NFPA70E)

Per prevenire infortuni, togliere tensione prima dell'installazione o manutenzione. Installare in custodia idonea. Tenere lontano da contaminanti. (Seguire i requisiti NFPA70E)

- ! WARNING**
- ! AVERTISSEMENT**
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Have only qualified personnel service this equipment. If you are not qualified to service this equipment, you can injure yourself or others, or cause equipment damage.

Seules des personnes qualifiées peuvent travailler sur cet appareil. Ne pas être qualifié pour ce travail peut causer des blessures à vous ou à d'autres et peut endommager l'appareil.

Dieses Gerät darf nur von qualifiziertem Personal gewartet werden. Wenn Sie zur Wartung dieses Gerätes nicht qualifiziert sind, können Sie sich Verletzungen zuziehen bzw. andere verletzen oder Schäden am Gerät verursachen.

Sólo personal calificado debe dar servicio a este equipo. Si usted no está debidamente calificado para dar servicio a este equipo, puede causar daños en su persona u otras personas, o bien ocasionar daños al propio equipo.

Solo personale qualificato deve lavorare su questo dispositivo. Se non siete qualificati per questa attività, potreste causare infortuni a voi stessi, agli altri o danneggiare l'apparecchio stesso.

### Relay Flush Mounting and Dimensions

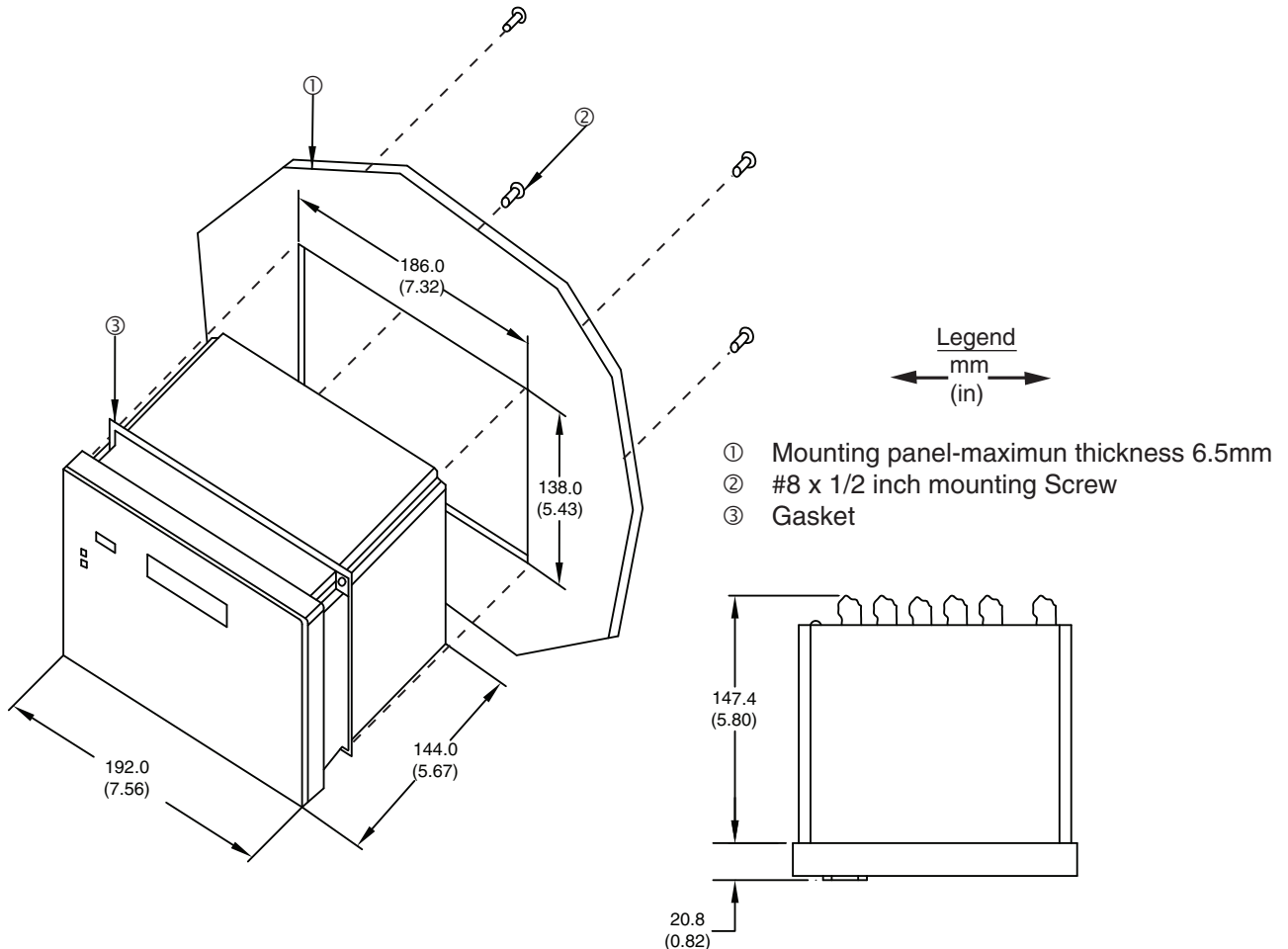
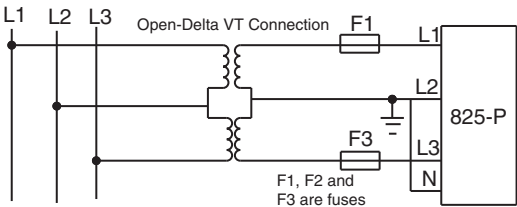
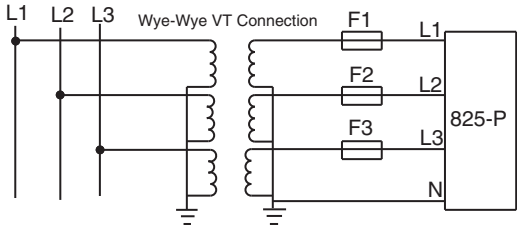
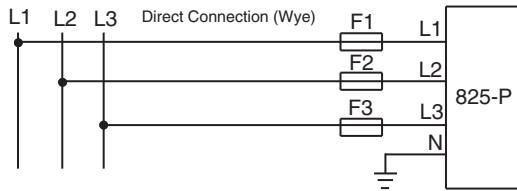
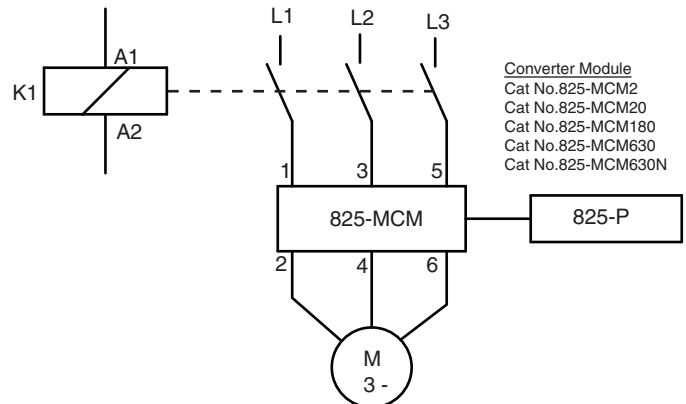


Fig 1 Mounting and Dimensions

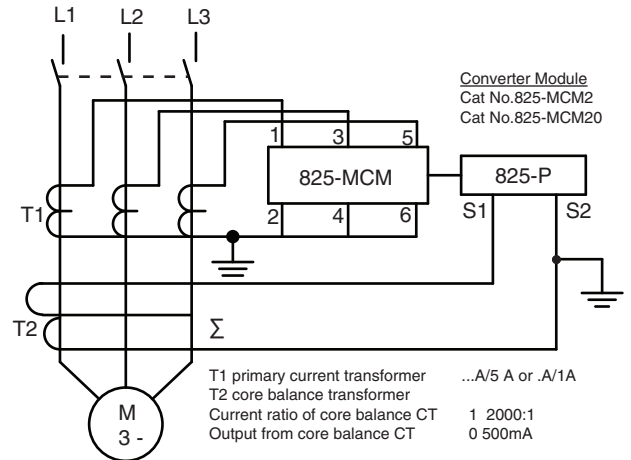
## Wiring the Main Circuit



**Fig 2 Voltage Connections**  
Option Card Cat No. 825-PVS is required



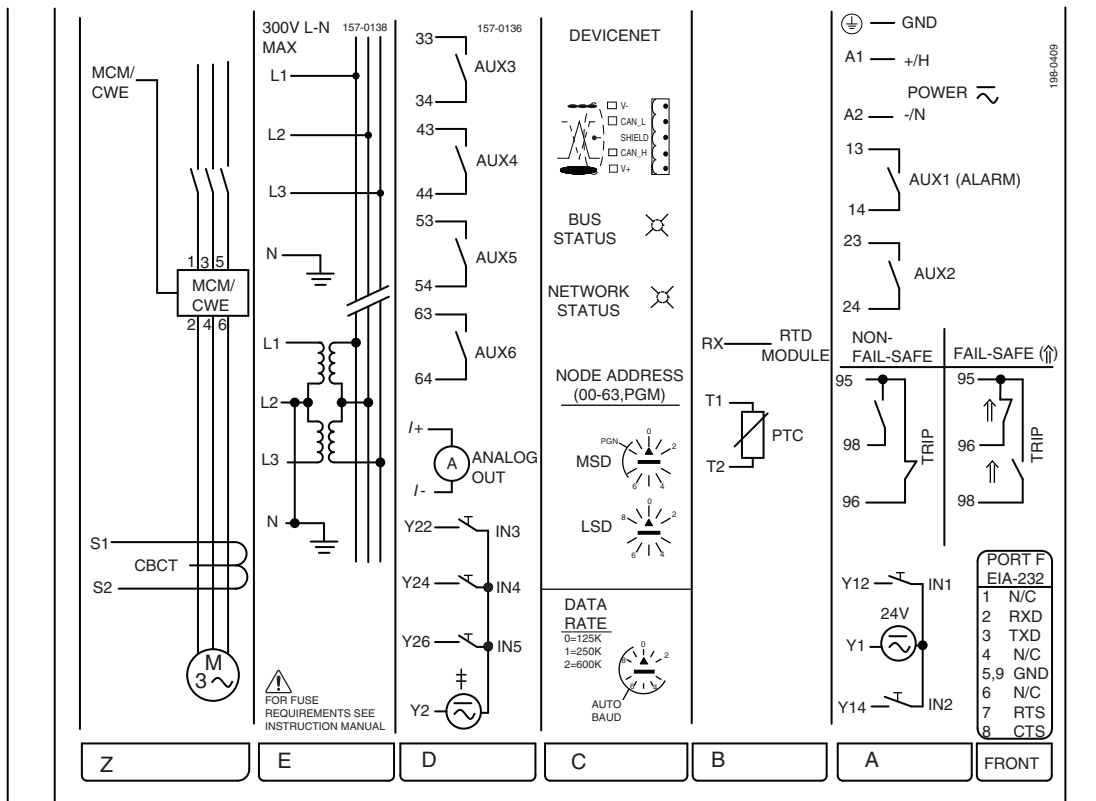
**Fig 3 Relay Without Phase CTs**



Transformer T2 circuit and the 825-P relay chassis must be grounded in the relay cabinet. This will minimize susceptibility to noise in the ground current measurement

## Wiring the Control Circuit

**Fig 4 Relay With phase CTs and Core Balance CT**



‡ See the option card or user manual for input voltage rating  
Slots C,D,and E are for option cards

# Specification

## Electrical Rating

### Main Circuits

#### 825-MCM Converter Modules

Rated Operating Voltage $U_e$			825-MCM180
	825-MCM2	825-MCM20	825-MCM630 825-MCM630N
IEC	400V AC	690V AC	1,000V AC
CSA/UL	240V AC	600V AC	600V AC

Operating Current Range(A)	825-MCM2	825-MCM20	825-MCM180	825-MCM630	825-MCM630N
	0.5-2.5	2.5-20	20-180	160-630 <sup>a</sup>	160-630

<sup>a</sup> MCM630 is rated only 160...434A for CSA/UL

Rated Frequency	50/60 Hz $\pm$ 3Hz
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Terminals	
825-MCM2,-MCM20	2 x 2.5mm <sup>2</sup> / 1 x 4 mm <sup>2</sup>
825-MCM180	2 x 20...14 AWG/ 1 x 20...12AWG
	Aperture: $\varnothing$ max.19 mm
	Bus bar: 20/14 x 4mm
825-MCM630, -MCM630N	25 x 8 mm

#### Voltage Input Option Card

Rated Operating Voltage $U_e$	40...240V AC
Operating Range	0.80...1.1 $U_e$
Rated Continuous Voltage	300V AC
Rated Insulation Voltage $U_i$	300V AC
Rated Frequency	50/60 Hz $\pm$ 5Hz

### Control Circuits

#### Supply

Model	825-PD	825-PZ
Rated Supply Voltage $U_s$	110...240V AC	24..48V DC
	110...250V DC	
Operating Range	0.80...1.1 $U_s$	0.80...1.1 $U_s$
Rated Frequency(V AC)	50/60 Hz $\pm$ 5Hz	
Max. Power Consumption	AC:15VA, DC:15W	DC:15W

#### Output Relays

Type of Contacts	
Trip	Form C DPDT
Aux1. Aux6	Form A SPDT-NO
Rated Insulation Voltage $U_i$	300V AC
Rated Operational Voltage $U_e$	240V AC
Rated Thermal Current $I_{the}$	5A
Rated Operational Current $I_e$	
120V AC	3A
240V AC	1.5A

Resistive Load Rating (p f = 1.0)	5A @ 250V AC
Inductive Load Rating (p f. = 0.4; L/R = 7ms)	3A @ 250V AC
Contact Rating Designation	B300
Utilization Category	AC15
Contact Reliability	5 mA @ 17V
Minimum Rated Number of Operation (per IEC 947-5-1)	10,000

### Inputs

Rated Operation Voltage $U_e$	
IN1 nad IN2	24V AC/DC
IN3,IN4 and IN5	24V AC/DC (825-PIOR)/120V AC/DC(825-PIOD)
Operating Range	0.80...1.1 $U_e$
Rated Insulation Voltage $U_i$	300V AC
Rated Frequency (AC)	50/60 Hz $\pm$ 5Hz

### Mechanical Ratings

Mounting Screw Torque	0.9-1.3 Nm / 8-12 Lb-in
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### Environmental

Ambient Temperature	
Surrounding Air	-20..+60C(-4...+140F)
Humidity(Operating)	5..95% Noncondensing
Protection Class	IP54 (NEMA 12)
Maximum Altitude	2000 m
Vibration (per IEC 68-2-6)	3G
Shock (per IEC 68-2-57)	30G

### Control Terminals

Terminal Screw	M3
Cross Section (1wire,stranded / solid)	0.14...2.5mm <sup>2</sup> / 20...12 AWG
Terminal Screw Torque	0.79 Nm / 7 Lb-in
Degree of protection	IP20

### Standards

CSA 22 2 No 14,EN60947-4-1,EN60947-5-1,UL 508
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