

Devices: Type SJD6-B, SHJD6-B, SCJD6-B, SLD6-B, SHLD6-B,
SCLD6-B, SMD6-B, SHND6-B, SCND6-B, SPD6-B,
SHPD6-B, & SCPD6-B Circuit Breakers

Installation Instructions / Instructivo de Instalación / Instructions d'installation

 Danger	 Peligro	 Danger
<p>Hazardous Voltage Will cause death or serious injury</p> <p>Turn off and lock out all power supplying this equipment before working on this device. Replace all covers before power supplying this device is turned on.</p>	<p>Tensión peligrosa. Puede causar la muerte o lesiones graves.</p> <p>Desenergice totalmente el equipo antes de instalar o darle servicio. Reemplace todas las barreras y cubiertas antes de energizar el interruptor.</p>	<p>Tension dangereuse. Provoquera la mort ou des blessures graves.</p> <p>Mettre hors tension et cadenasser l'alimentation avant d'intervenir sur cet appareil. Remettre tous les couvercles en place avant de remettre cet appareil sous tension.</p>

Use only with Siemens certified Components.

Utilizar únicamente con componentes certificados de Siemens.

À utiliser uniquement avec les composants certifiés Siemens.

NOTE - These instructions do not purport to cover all details or variations in equipment, or to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise, which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the local Siemens sales office. The contents of this instruction manual shall not become part of or modify any prior or existing agreement, commitment or relationship. The sales contract contains the entire obligation of Siemens. The warranty contained in the contract between the parties is the sole warranty of Siemens. Any statements contained herein do not create new warranties or modify the existing warranty.

Trademarks - Unless otherwise noted, all names identified by ® are registered trademarks of Siemens AG or Siemens Industry, Inc. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

NOTA - Estas instrucciones no pretenden incluir todos los detalles o variaciones de los equipos ni indicar cada posible contingencia que pudiese encontrar en relación con la instalación, el funcionamiento o el mantenimiento. Si desea más información o si surgen problemas en particular, que no estén explicados suficientemente para fines del comprador, el asunto se debe referir a la oficina de ventas local de Siemens. El contenido de este manual de instrucciones no debe formar parte ni modificar una relación, acuerdo o compromiso o previo o existente. El contrato de venta contiene toda la obligación por parte de Siemens. La garantía contenida en el contrato establecido entre las partes es la única garantía de Siemens. Las declaraciones contenidas en el presente documento no crean nuevas garantías ni modifican la que está en vigor.

Marcas comerciales - A menos que se indique lo contrario, todos los nombres identificados con ® son marcas comerciales registradas de Siemens AG o Siemens Industry, Inc. Las marcas comerciales restantes que aparecen en esta publicación pueden ser marcas comerciales cuyo uso por parte de terceros para sus propios fines podría violar los derechos del propietario.

REMARQUE - Ces instructions ne prétendent pas couvrir tous les détails ou les variations de l'équipement, ni prévoir chaque éventualité pouvant être rencontrée lors de la connexion, l'exploitation ou l'entretien. Si plus d'information est désirée ou si des problèmes particuliers surviennent, qui ne sont pas couverts suffisamment aux fins de l'acheteur, il faut adresser ces questions au bureau local de Siemens. Le contenu de ce manuel d'instruction ne fera pas partie de tout accord, engagement ou relation préalable ou existant et ne le modifiera pas. Le contrat de vente contient l'obligation intégrale de Siemens. La garantie contenue dans le contrat entre les parties est la garantie unique offerte par Siemens. Toute autre déclaration contenue aux présentes ne crée pas de nouvelles garanties et ne modifie pas la garantie existante.

Marques de commerce – Sauf indication contraire, tous les noms identifiés par MD sont des marques déposées de Siemens AG ou de Siemens Industry, Inc. Les autres marques dans cette publication peuvent être des marques dont l'utilisation par des tiers à leurs propres fins pourrait violer les droits du propriétaire.

	Danger	Peligro	Danger
	Hazardous Voltage Will cause death or serious injury Turn off and lock out all power supplying this equipment before working on this device. Replace all covers before power supplying this device is turned on.	Tensión peligrosa. Puede causar la muerte o lesiones graves. Desenergice totalmente el equipo antes de instalar o darle servicio. Reemplace todas las barreras y cubiertas antes de energizar el interruptor.	Tension dangereuse. Provoquera la mort ou des blessures graves. Mettre hors tension et cadenasser l'alimentation avant d'intervenir sur cet appareil. Remettez tous les couvercles en place avant de remettre cet appareil sous tension.

GENERAL

The Siemens Sensitrip IV circuit breaker may be equipped with integral ground fault protection. These devices are identified by a "G" in the catalog number and the presence of the ground fault adjustments. The National Electrical Code®¹ requires that these devices be performance tested when first installed [215-10, 230-95 (c), 249-13]. These instructions are intended to guide the installer in meeting this requirement.

GENERAL INSTRUCTIONS

1. The interconnected system shall be evaluated when initially installed by qualified personnel. It is also suggested this be done periodically thereafter.
2. The proper location of the sensors around the bus of the circuit to be protected shall be determined. This can be done visually, with knowledge of which bus is involved.
3. The grounding points of the system shall be verified to determine that ground paths do not exist that would bypass the sensors.
4. The polarity of the sensor connections must agree with the installation instructions to avoid improper operation.
5. A simulated test is to be done using a low-voltage, high-current source. This test is not intended to verify the calibration of the ground fault protection, but to verify it is functioning properly.
6. The results of this testing should be recorded on the form provided at the end of this document or on other appropriate forms and should be available to the inspection authority.
7. These circuit breakers may be set for different modes of operation, Residual or Ground Return, as shown in Figure 1. For further information on applications, refer to the NEMA standards publication No. PB 2.2 Application Guide² For Ground Fault Protective Devices for Equipment.

Figure 1

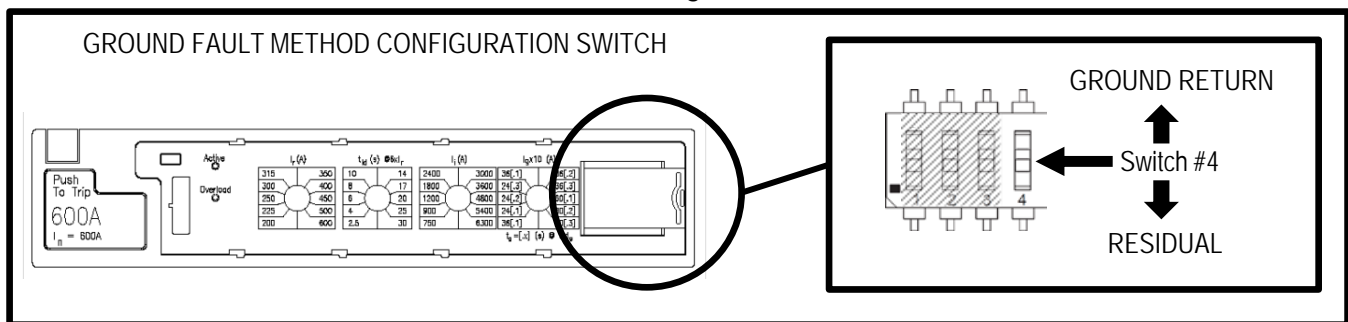

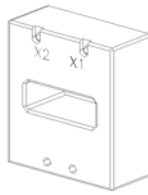


Table 1

Neutral Sensor	Frame	Trip Unit Rating	Neutral Catalog No.
	JD	200A	N02SJD
		300A	N03SJD
		400A	N04SJD
	LD	400A	N04SJD
		500A	N05SLD
		600A	N06SLD

Neutral Sensor	Frame	Trip Unit Rating	Neutral Catalog No.
	MD	600A	N06SMDA
		700A	N07SMDA
		800A	N08SMDA
	ND	800A	N08SMDA
		1000A	N10SNDA
		1200A	N12SNDA
PD	1400A	N14SPD	
	1600A	N16SPD	

	Danger	Peligro	Danger
	Hazardous Voltage Will cause death or serious injury	Tensión peligrosa. Puede causar la muerte o lesiones graves.	Tension dangereuse. Provoquera la mort ou des blessures graves.
	Turn off and lock out all power supplying this equipment before working on this device. Replace all covers before power supplying this device is turned on.	Desenergice totalmente el equipo antes de instalar o darle servicio. Reemplace todas las barreras y cubiertas antes de energizar el interruptor.	Mettre hors tension et cadenasser l'alimentation avant d'intervenir sur cet appareil. Remettre tous les couvercles en place avant de remettre cet appareil sous tension.
	Danger	Peligro	Danger
	Hazardous Voltage Can cause personal injury and equipment damage.	Tensión peligrosa. Riesgo de lesiones y daños materiales.	Tension dangereuse. Risque de blessures et de dommages matériels.
	Neutral Sensor terminals must be properly connected or shorted together before energizing the circuit.	Los bornes del transformador de intensidad del neutro deberán estar correctamente conectados o estar cortocircuitados antes de la puesta bajo tensión del circuito.	Les bornes du transformateur de courant de neutre doivent être raccordées correctement ou être court-circuitées avant la mise sous tension du circuit.

OPERATION TEST

GROUND FAULT RESIDUAL METHOD - 3 Phase / 3 Wire

1. Verify that the Ground Fault Method is set to RESIDUAL. See Figure 1.
For residual 3 phase / 3 wire configuration, the supplied neutral sensor wiring should be left with the end cap in place and left bundled in place.
2. Set all protection settings to their maximum setting.
3. Using Figure 2, connect a shorting cable/bar across the load side of phases A and B. Connect a low voltage current source to the line side of phases A to B.
4. Close the circuit breaker.
5. Apply a test current equal to 125 percent of the ground fault pickup setting for 10 seconds.
6. Turn off the low voltage current source.
7. Verify that the circuit breaker did not trip and record the results on the Test Record sheet page 6.
8. Repeat steps 3 – 7 with shorting cable/bar and low voltage current source connected from phases A to C and B to C.
9. Using Figure 3, connect a low voltage current source from line side to load side of phase A.
10. Close the circuit breaker.
11. Apply a test current equal to 125 percent of the ground fault pickup setting.
12. Verify that the circuit breaker tripped in less than 3 seconds and record the results on the Test Record sheet page 6.
13. Turn off the low voltage current source.
14. Repeat steps 9 – 13 for circuit breaker phases B and C.
15. Testing is completed.

Figure 2

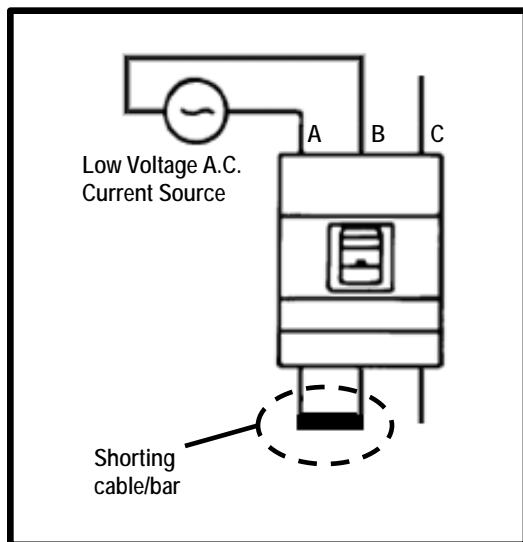
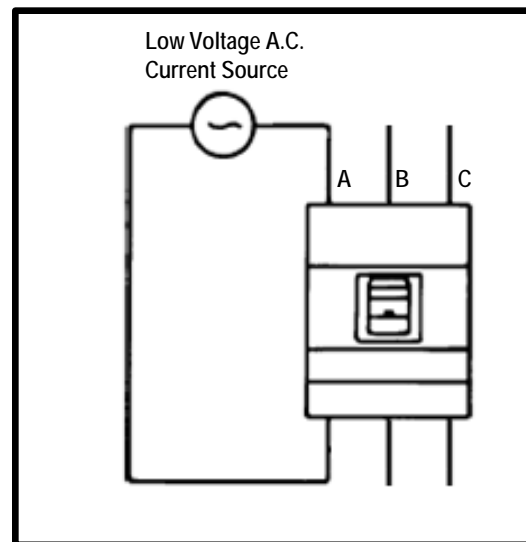


Figure 3

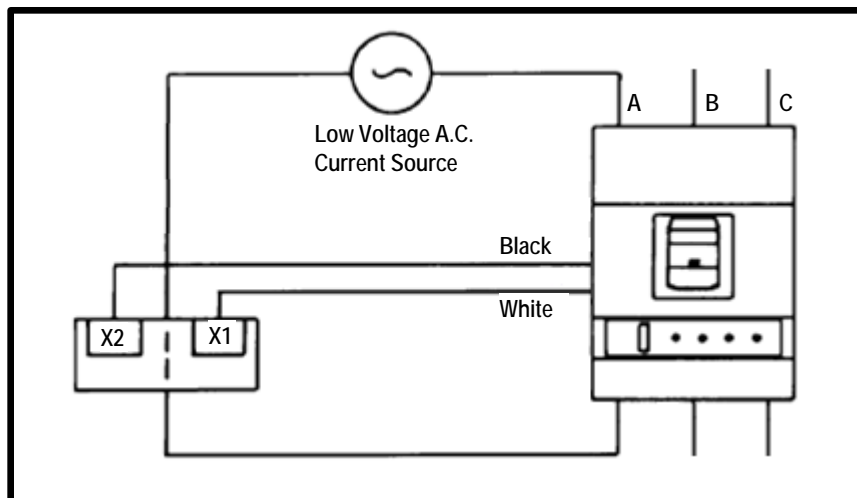


	⚠ Danger	⚠ Peligro	⚠ Danger
	Hazardous Voltage Will cause death or serious injury	Tensión peligrosa. Puede causar la muerte o lesiones graves.	Tension dangereuse. Provoquera la mort ou des blessures graves.
	Turn off and lock out all power supplying this equipment before working on this device. Replace all covers before power supplying this device is turned on.	Desenergice totalmente el equipo antes de instalar o darle servicio. Reemplace todas las barreras y cubiertas antes de energizar el interruptor.	Mettre hors tension et cadenasser l'alimentation avant d'intervenir sur cet appareil. Remette tous les couvercles en place avant de remettre cet appareil sous tension.
	⚠ Danger	⚠ Peligro	⚠ Danger
	Hazardous Voltage Can cause personal injury and equipment damage.	Tensión peligrosa. Riesgo de lesiones y daños materiales.	Tension dangereuse. Risque de blessures et de dommages matériels.
	Neutral Sensor terminals must be properly connected or shorted together before energizing the circuit.	Los bornes del transformador de intensidad del neutro deberán estar correctamente conectados o estar cortocircuitados antes de la puesta bajo tensión del circuito.	Les bornes du transformateur de courant de neutre doivent être raccordées correctement ou être court-circuitées avant la mise sous tension du circuit.

GROUND FAULT RESIDUAL METHOD - 3 Phase / 4 Wire

1. Verify that the Ground Fault Method is set to RESIDUAL. See Figure 1.
2. Set all protection settings to their maximum setting.
3. Using Figure 4, connect the supplied neutral sensor wires exiting the breaker to the proper neutral sensor per Table 1.
4. Using Figure 4, connect a low voltage current source thru the neutral sensor and from line side to load side of phase A.
5. Close the circuit breaker.
6. Apply a test current equal to 125 percent of the ground fault pickup setting for 10 seconds.
7. Turn off the low voltage current source.
8. Verify that the circuit breaker did not trip and record the results on the Test Record sheet page 6.
9. Repeat steps 4 – 8 for circuit breaker phases B and C.
10. Remove the low voltage current source from the neutral sensor . The low voltage current source should only be connected from line side to load side of phase A as shown in Figure 3.
11. Close the circuit breaker.
12. Apply a test current equal to 125 percent of the ground fault pickup setting.
13. Verify that the circuit breaker tripped in less than 3 seconds and record the results on the Test Record sheet page 6.
14. Turn off the low voltage current source.
15. Repeat steps 10 – 14 with low voltage current source connected to the circuit breaker phases B and C.
16. Testing is completed.

Figure 4



	⚠ Danger	⚠ Peligro	⚠ Danger
	Hazardous Voltage Will cause death or serious injury Turn off and lock out all power supplying this equipment before working on this device. Replace all covers before power supplying this device is turned on.	Tensión peligrosa. Puede causar la muerte o lesiones graves. Desenergice totalmente el equipo antes de instalar o darle servicio. Reemplace todas las barreras y cubiertas antes de energizar el interruptor.	Tension dangereuse. Provoquera la mort ou des blessures graves. Mettre hors tension et cadenasser l'alimentation avant d'intervenir sur cet appareil. Remettre tous les couvercles en place avant de remettre cet appareil sous tension.
	⚠ Danger	⚠ Peligro	⚠ Danger
	Hazardous Voltage Can cause personal injury and equipment damage. Neutral Sensor terminals must be properly connected or shorted together before energizing the circuit.	Tensión peligrosa. Riesgo de lesiones y daños materiales. Los bornes del transformador de intensidad del neutro deberán estar correctamente conectados o estar cortocircuitados antes de la puesta bajo tensión del circuito.	Tension dangereuse. Risque de blessures et de dommages matériels. Les bornes du transformateur de courant de neutre doivent être raccordées correctement ou être court-circuitées avant la mise sous tension du circuit.

GROUND FAULT GROUND RETURN METHOD - 3 Phase / 3 Wire or 3 Phase / 4 Wire

1. Verify that the Ground Fault Method is set to GROUND RETURN. See Figure 1.
2. Set all protection settings to their maximum setting.
3. Using Figure 3, connect a low voltage current source from line side to load side of phase A.
4. Close the circuit breaker.
5. Apply a test current equal to 125 percent of the ground fault pickup setting for 10 seconds.
6. Turn off the low voltage current source.
7. Verify that the circuit breaker did not trip and record the results on the Test Record sheet page 6.
8. Repeat steps 3 – 7 for circuit breaker phases B and C.
9. Using Figure 4, connect the supplied neutral sensor wires exiting the breaker to the proper neutral sensor per Table 1.
10. Using Figure 4, connect a low voltage current source thru the neutral sensor and from line side to load side of phase A.
11. Apply a test current equal to 125 percent of the ground fault pickup setting.
12. Verify that the circuit breaker tripped in less than 3 seconds and record the results on the Test Record sheet page 7.
13. Turn off the low voltage current source.
14. Repeat steps 10 – 13 for circuit breaker phases B and C.
15. Testing is completed.

