



**Repair of this equipment shall only be carried out by C.E. Niehoff & Co.**

**C192/C193 Alternator Description**

CEN models C192/C193 are isolated ground, flameproof/hazardous location alternators rated at 14V/70A (C192) and 28V/35A (C193). Both alternator models have a 4 inch hinge mount, with multiple gland locations (see Figure 1) and housing cover options (see Figure 2) installed at the factory. **Contact CEN for options to select the correct configuration for your application.**

**WARNING** **DO NOT DISASSEMBLE OR DISMANTLE.** Alternator contains no serviceable parts. Failure to observe any instructions may invalidate any certificate or warranty agreement, and may create an explosion hazard if unit is opened where explosive environment is present, leading to severe personal injury, death, or substantial property damage.

**Certificates**

- Sira 09ATEX1345X
- IECEx SIR 09.0144X
- CSAE 22UKEX1190X

**Marking**

- II 2 G
- Ex db IIB T3 Gb (Ta = -40° C to +93° C)
- Ex db IIB 100° C (Ta = -40° C to +40° C)

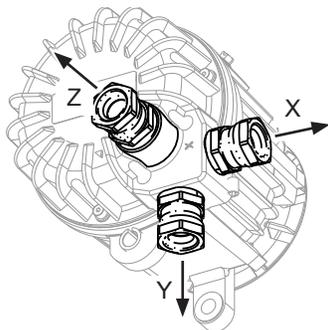
**Specific Conditions of Use**

Alternator incorporates flameproof joints with dimensions that are other than relevant maximum or minimum specified in Table 1 of IEC 60079-1. User shall contact manufacturer for information on dimensions of flameproof joints.

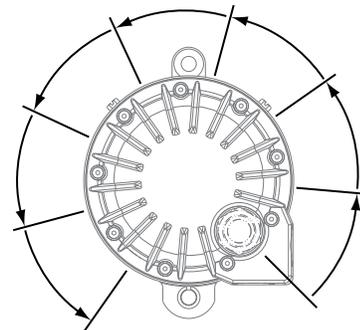
User shall refer to manufacturer's instructions with respect to enclosure providing a degree of ingress protection IP66.

**C192/C193 Alternator Installation**

Alternator is shipped with factory-installed cable gland and wiring, and fan/pulley combinations. Contact CEN for configurations.



**Figure 1: C192/C193 Gland Locations**  
(unit is shipped with gland in one of three orientations)



**Figure 2: C192/C193 Housing Orientations**  
(unit is shipped with housing cover in one of eight clock positions)

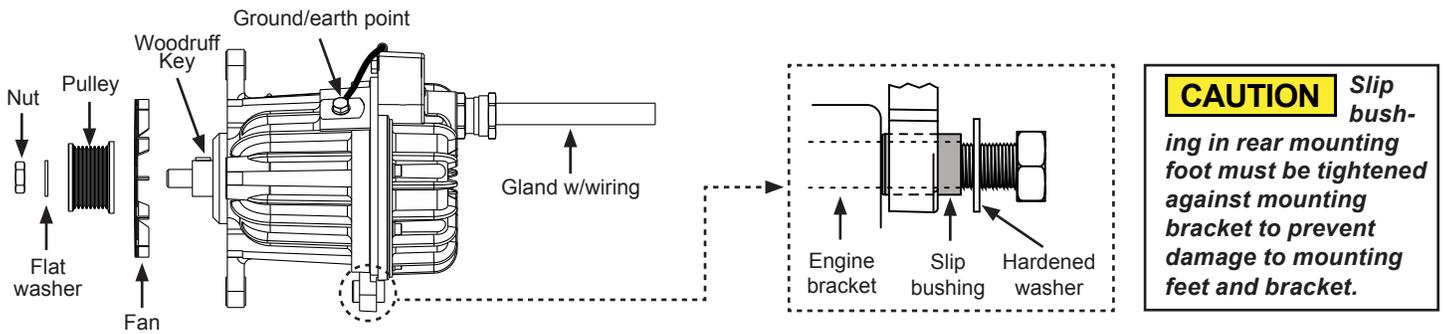
1. If pulley comes factory-installed, skip to step 2. If unit does not come with pulley installed:
  - a. Make sure Woodruff key is fully seated and level in shaft keyway.
  - b. Align fan keyway with key on shaft and fully seat fan on drive end (DE) bearing. See Figure 3 on page 2.
  - c. Slide pulley on shaft until seated on fan.
  - d. Fasten pulley to shaft with included disc spring washer (with beveled side facing pulley) and M16 x 1.5 nut. Torque to 68 Nm/50 ft. lb.

**CAUTION** Do not hammer pulley when installing pulley on shaft. Carefully slip-fit pulley over shaft to prevent Woodruff key from moving out of place.

2. Install alternator on mounting bracket according to engine manufacturer's specifications.
  - Use self-locking type flange screws and locking-type flange nuts.
  - Tighten alternator belt tension/adjusting upper bracket before tightening alternator mounting lower bracket to engine manufacturer's specification.
  - Mounting bolts should be Grade 5 (Metric Class 8.8), minimum.

**CAUTION** Slip bushing in rear mounting foot must be tightened against mounting bracket to prevent damage to mounting feet and bracket. See Figure 3 detail drawing on page 2.

3. Ensure alternator is suitably grounded/earthed at point referenced in Figure 3 on page 2. Torque ground screw to 15 Nm/132 lb. in.
4. Install electrically-conductive belt appropriate for application and tension belt to vehicle manufacturer's specifications. Typical belt tension is between 80-120 lbs. nominal for poly-V belts and 80 lbs. max for single V belts.
5. Connect gland wiring per instructions on page 2.



**CAUTION** Slip bushing in rear mounting foot must be tightened against mounting bracket to prevent damage to mounting feet and bracket.

Figure 3: C192/C193 Installation

### C192/C193 Wiring

C192/C193 ships preassembled with one of two types of wired glands. Identify cable type by wire insulation color and sleeve labels (see Figure 4). Route cabling as required while maintaining a minimum bend radius of 8 inches. Connect wiring as follows:

- Terminate and connect larger (16mm<sup>2</sup> or 6 AGW) black wire with “BLACK B- (BTRY NEG)” label to battery negative terminal.
- Terminate and connect larger (16mm<sup>2</sup> or 6 AGW) grey wire with “WHITE B+ (BTRY POS)” label to battery positive terminal.
- Terminate and connect smaller (2.5mm<sup>2</sup> or 14 AGW) blue or light blue wire with “BLUE P (PHASE)” or “LIGHT BLUE P (PHASE)” label to tachometer or relay if required by application. Phase wire taps AC voltage from alternator, typically half the charge voltage (3A maximum). Phase wire provides alternator RPM frequency at 10:1.

**NOTICE** If using relay for P (PHASE) circuit, coil must be diode-protected and properly rated.

- Terminate and connect smaller (2.5mm<sup>2</sup> or 14 AGW) brown or black wire with “BROWN D+ (LAMP)” or “BLACK D+ (LAMP)” label to charge indicator lamp, relay, or multiplex if required by application. D+ wire provides DC system battery voltage (5A maximum) while alternator is producing output.

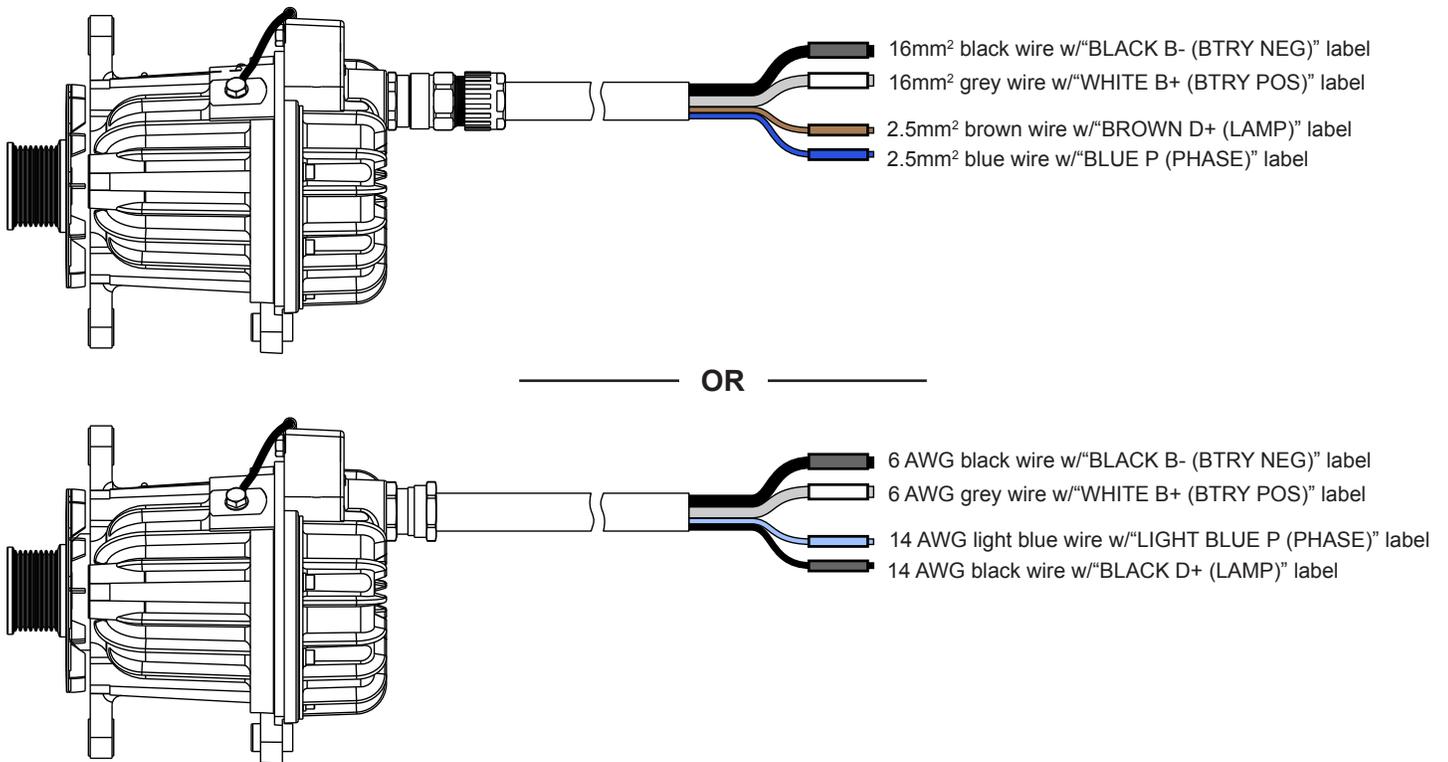


Figure 4: C192/C193 Gland Wiring Designations

If you have questions about your alternator or any of these instructions, or if you need to locate a Factory Authorized Service Distributor, please contact us at:  
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