



C. E. Niehoff & Co.
BRUSHLESS ALTERNATORS

Technical Bulletin

Product Information

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Product: A2-213 and A2-214 Regulators

C.E. Niehoff & Co. has just released the next generation of regulators. The new A2-213 and A2-214 regulators are designed to handle rigorous engine compartment environments and the requirements of charging system control technologies.

See Chart below for interchange:

A2-205, A2-207, and A2-211 regulators are no longer available as replacements.

A2-321 and A2-322 regulators are still available as replacements.

| Regulator Model Interchange | Next Generation Regulator Model |
|-----------------------------|---------------------------------|
| A2-205, A2-207, A2-322 | A2-213 |
| A2-211, A2-321 | A2-214 |

Technical Specifications:

| | Next Generation Regulator Model | |
|--------------------------|---------------------------------|------------------|
| | A2-213 | A2-214 |
| Terminals | IGN*, D+**, P*** | IGN*, D+**, P*** |
| Connector Plug | No Change | |
| Mounting Hardware | No Change | |

* IGN terminal same function as E terminal.

** D+ same function as D+ terminal on A2-211/A2-207.

*** P terminal same function as R terminal on A2-211/A2-205.

The new A2-213 and A2-214 regulators have a green-lens LED on the end of the regulator housing opposite the receptacle end. This LED indicates the operational status of the regulator.

Installation of New Regulators:

See attached installation instructions, I10103B.

Please file this CEN Technical Bulletin with your CEN Literature.

Please forward a copy of this information to the appropriate people in your company.



Table 1 – Voltage Select Switch Position

| 4 Voltage Setpoints (Fig. 1) | | Battery Type |
|------------------------------|--------|-----------------------------|
| Position 1 | 27.5 V | Maintenance (D Category) |
| Position 2 | 28.0 V | Maintenance-Free (Group 31) |
| Position 3 | 28.5 V | Maintenance-Free (Group 31) |
| Position 4 | 29.0 V | Battery Isolator setpoint |

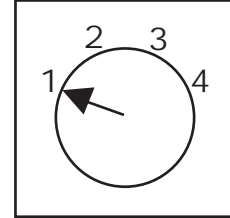


Figure 1 – 4 Voltage Setpoints

Note: On Group 31 batteries, if boiling or excessive gassing occurs with high voltage setpoint (position 3), change to medium voltage setpoint (position 2).

- Before installing, turn regulator over and select appropriate voltage setpoint for battery type (See Table 1 and Fig. 1).
- Install new regulator as described below:
 - Mount new regulator on alternator in the same position as the previous regulator.
 - Use screws and washers (if supplied), **2 or 4 depending on number of original mounting holes in alternator.** Torque regulator mounting screws to 8.5 Nm/75 lb. in.
- Plug the alternator-to-regulator harness into the regulator.
- A2-214 regulator connections:
 - Connect IGN terminal to ignition source through existing switch. Torque M5 terminal nut on regulator to 4.5 Nm/40 lb. in.
 - D+ terminal provides 28 VDC sense voltage to multiplex controller. When connecting D+ terminal to controller through a relay, the relay coil must be diode protected and rated for proper voltage. Torque M6 terminal nut on regulator to 4.5 Nm/40 lb. in.
 - Connect P terminal to tachometer or relay. P terminal taps AC voltage, typically half the charge voltage. Torque M6 terminal nut on regulator to 4.5 Nm/40 lb. in.

NOTE: If you are replacing an A2-211 regulator with an A2-214 regulator, the existing R terminal lead should now be connected to the P terminal on the new A2-214 regulator. See step above for details.
- A2-213 regulator connections:
 - Connect IGN terminal to ignition source through existing switch. Torque M5 terminal nut on regulator to 4.5 Nm/40 lb. in.
 - D+ terminal provides 28 VDC sense voltage to multiplex controller. When connecting D+ terminal to controller through a relay, the relay coil must be diode protected and rated for proper voltage. Torque M6 terminal nut on regulator to 4.5 Nm/40 lb. in.
 - Connect P terminal to tachometer or relay. P terminal taps AC voltage, typically half the charge voltage. Torque M6 terminal nut on regulator to 4.5 Nm/40 lb. in.

Note: If you are replacing an A2-205 regulator with an A2-213 regulator, make sure you connect the existing R terminal lead to the P terminal on the A2-213. The remaining D+ terminal on the A2-213 will not have a connecting cable.

If you are replacing an A2-207 regulator with an A2-213 regulator, make sure your connect the existing D+ terminal lead to the D+ terminal on the A2-213. The remaining P terminal on the A2-213 will not have a connecting cable.
- LED operation modes:
 - Green lens LED will light STEADY when regulator is energized and functioning properly.
 - Green lens LED will FLASH once every five seconds when regulator is energized and engine is not running.
 - Green lens LED will not be lit when regulator is not energized.