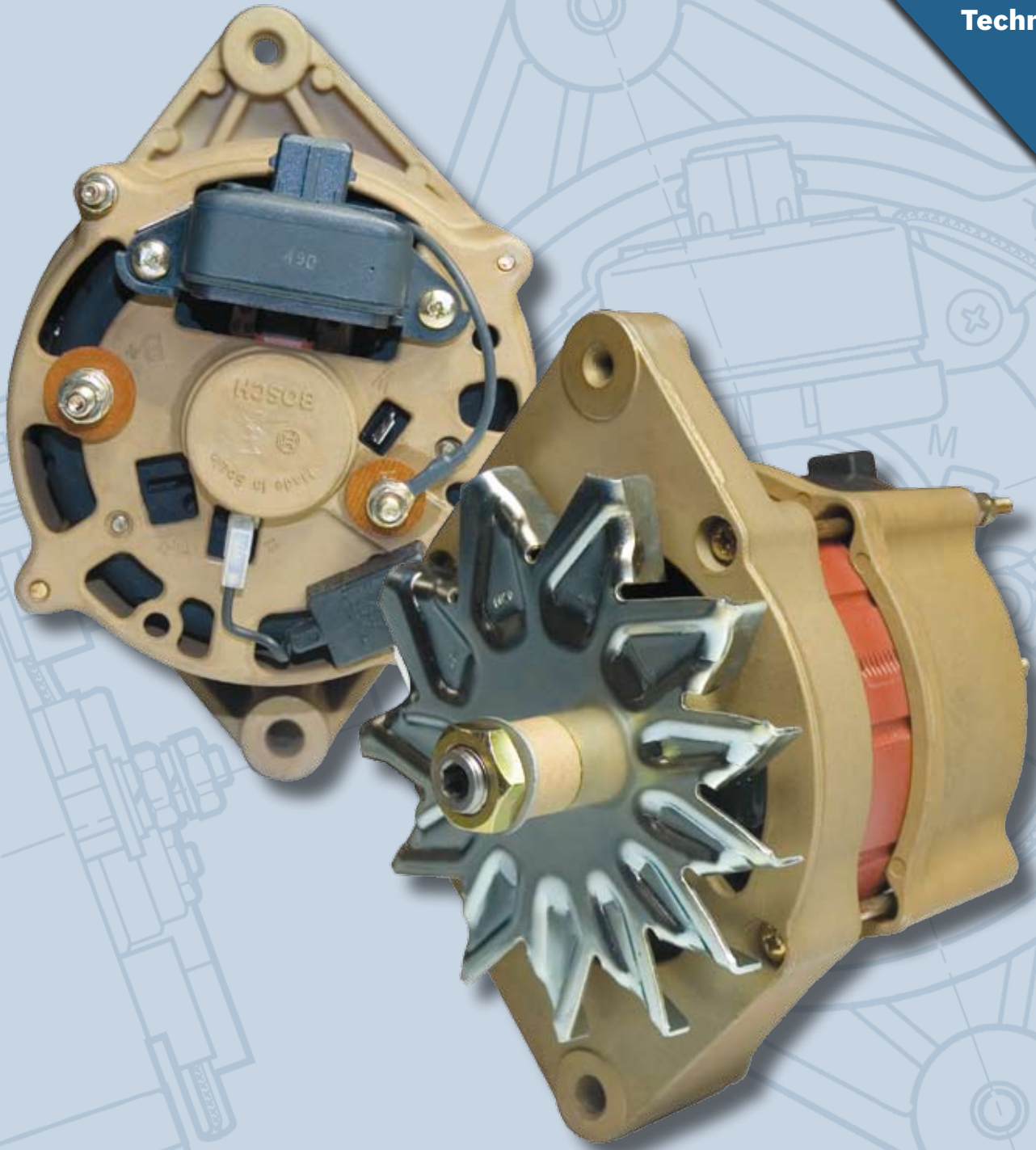


Premium OE
Replacement
Technology



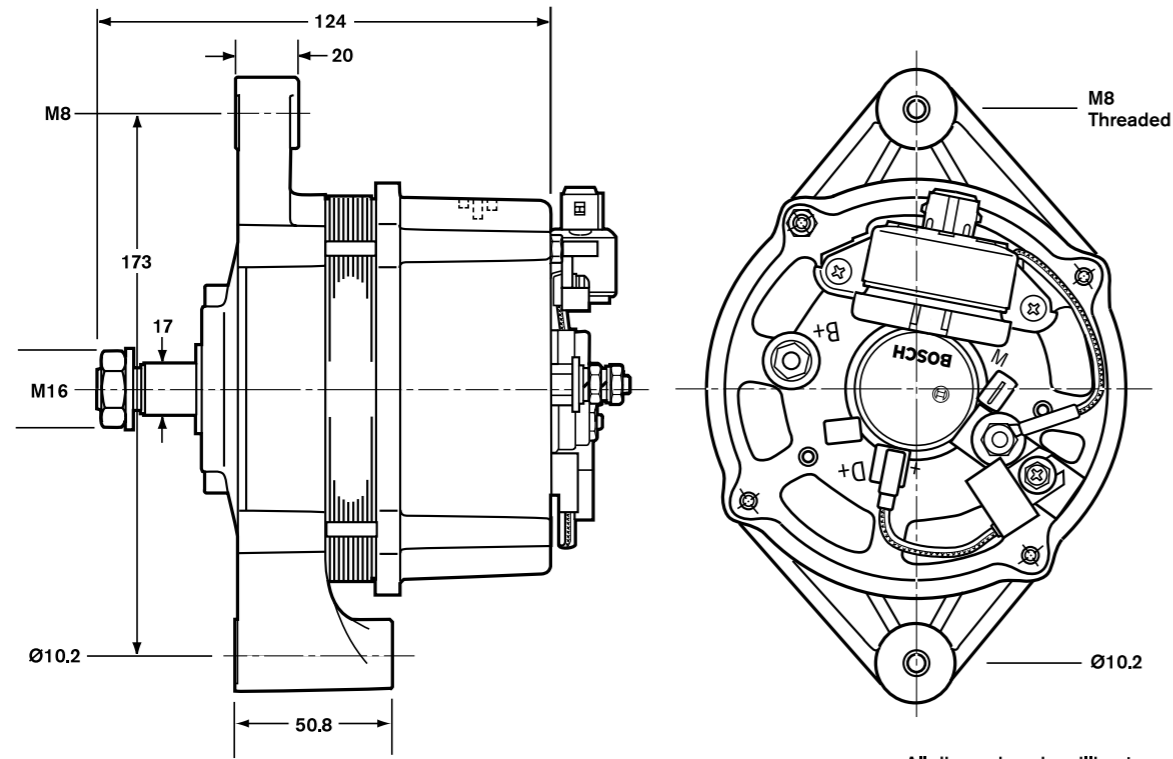
Refrigeration Alternators

Application Guide



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Refrigeration Alternators

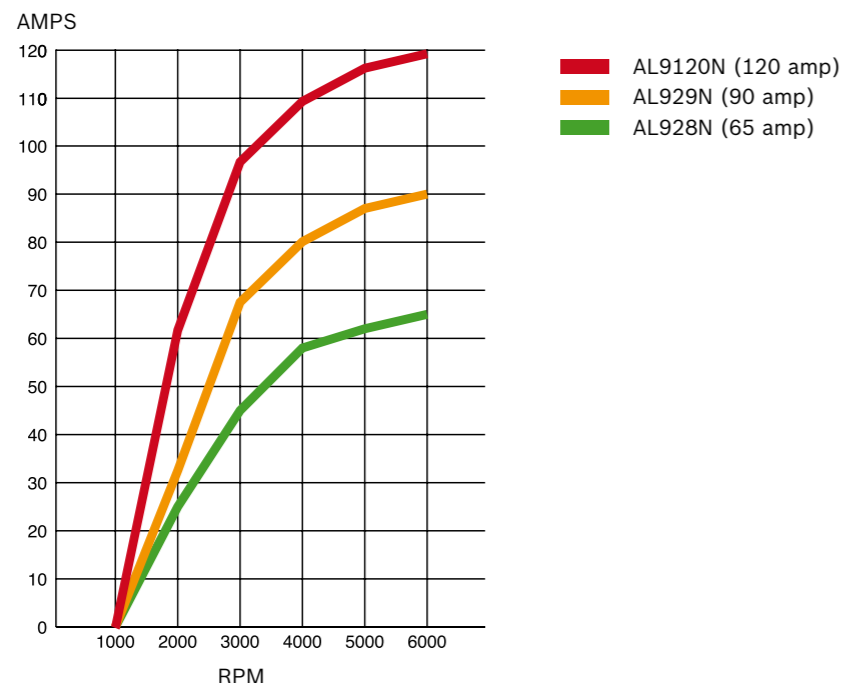


All dimensions in millimeters

Replacement Cross-reference Chart

| AL928N | AL929N | AL9120N |
|------------|------------|------------|
| 9120060023 | 0120484049 | 0120484028 |
| 0120488296 | 0986AN0537 | 5D50461G01 |
| 5D38604G01 | | 41-5456 |
| 44-9572 | | 0986AN0538 |
| 0986AN0536 | | |

Output Curves



Refrigeration Alternators

FEATURES

Alternator Specifications

| Bosch Part No. | AL928N | AL929N | AL9120N |
|-------------------|------------|------------|------------|
| Type designation | K1 14V | K1 14V | K1 14V |
| Power Rating | 17 / 65A | 10 / 90A | 20 / 120A |
| Regulated voltage | 13.5 Volts | 13.5 Volts | 13.5 Volts |
| Cut in speed | 1,250 RPM | 1,250 RPM | 1,250 RPM |
| Maximum speed | 15,000 RPM | 15,000 RPM | 15,000 RPM |

- ▶ Cut in Speed – 1,250 RPM
- ▶ Heavy duty, high tolerance bearings
- ▶ Sealed brush box
- ▶ Zener diode rectifier plate
- ▶ Single mounting foot

INSTALLATION PROCEDURES

The following instructions must be adhered to when installing these refrigeration alternators

1. Disconnect negative battery cable from battery.
2. Remove existing (B+) connector from alternator.
3. Remove the voltage regulator plug connector from the original alternator.
4. Loosen alternator mounting hardware and remove belt from pulley.
5. Remove alternator mounting hardware and remove alternator.
6. Remove pulley, fan and spacers from original alternator.
7. Install pulley and fan from original alternator on replacement alternator and tighten to 54Nm - 68Nm (40ft.lbs. - 50ft.lbs.) torque. (See installation notes below.)
8. Using original mounting hardware, install replacement alternator.
9. Plug voltage regulator plug from wiring harness into alternator voltage regulator.
10. Reconnect (B+) connector to B+ stud and tighten to 2.5Nm - 3Nm (22in.lbs. - 27in.lbs.) torque. (See installation notes below.)
11. Adjust belt to correct tension and tighten alternator mounting bolts.
12. Ensure that battery is fully charged.
13. Reconnect negative battery cable.

INSTALLATION NOTES

Pulley: It is important that the original pulley and spacers are utilized with these replacement alternators. If a replacement pulley is required for any reason, it must be of the same diameter as the original. Pulleys smaller in diameter than the original may cause the alternator to exceed its maximum RPM rating of 15,000 RPM.

Fan: If a replacement fan is required for any reason, two different fans are recommended depending upon direction of rotation.
 Clockwise Rotation: Bosch Fan # 1 126 610 070
 Counter Clockwise Rotation: Bosch Fan # 1 126 610 046

B+ Cable (notice): If a higher amp output rated alternator is substituted for a lower amp unit, it is important that the B+ cable is of sufficient diameter to support the increased load. Depending upon the wiring configuration of the alternator unit being serviced the following lengths and gauges of wiring are recommended.

- B+ wiring up to 2m (6.5ft.) in total length=>requires 15mm 2/6 gauge wiring**
- B+ greater than 2m (6.5ft.) in total length=>requires 20mm 2/4 gauge wiring**

Refrigeration Alternators

| Model/Engine | Year | Application | Volts | Amp | Sys Mfg | Plug Conf | OE Number | Can use |
|-------------------------------------|---------|------------------|-------|-----|---------|-----------|-----------|---------|
| Miscellaneous Units | | | | | | | | |
| Super II | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Super II SR | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Super II TC SR+ | | | | | | | | |
| w/TK486 Diesel Eng. | 1993-Up | All | 12 | 120 | BO | B21 | AL9120N | |
| Super II 30 MAX | | | | | | | | |
| w/C201 Isuzu Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Super II 30 TC Multi-Temp | | | | | | | | |
| w/2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Super II 30 TCI-3 Multi-Temp | | | | | | | | |
| w/2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Super II 50 MAX | | | | | | | | |
| w/C201 Isuzu Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| Super II 190 | | | | | | | | |
| w/TK486 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| TD-II | | | | | | | | |
| | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| URD Units | | | | | | | | |
| | 1996-Up | All | 12 | 90 | BO | B21 | AL929N | AL9120N |
| Trailer Units | | | | | | | | |
| LND 30 | | | | | | | | |
| w/TK353 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| LND 50 | | | | | | | | |
| | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| LND 50 II | | | | | | | | |
| w/Mercedes Diesel Eng. | 1993-Up | All | 12 | 35 | BO | B21 | AL928N | AL929N |
| SB-II | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/C201 Isuzu Diesel Eng. | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-II SR | | | | | | | | |
| Isuzu 2.2L (TK DI2.2 -SE) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SB-II 30 di | | | | | | | | |
| w/C201 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-II 30 3000 | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-II 50 | | | | | | | | |
| di w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-II 50 di | | | | | | | | |
| w/C201 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-II TC di | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III | | | | | | | | |
| w/C201 Diesel Eng. | 1990-Up | W/Std Alternator | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/C201 Diesel Eng. | 1990-Up | W/Opt Alternator | 12 | 65 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III Max | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III SR | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SB-III SR+ | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |

Refrigeration Alternators

| Model/Engine | Year | Application | Volts | Amp | Sys Mfg | Plug Conf | OE Number | Can use |
|-----------------------------------|---------|------------------|-------|-----|---------|-----------|-----------|---------|
| SB-III SR+ Whisper Edition | | | | | | | | |
| w/TK486 Diesel Diesel Eng. | 1999-Up | W/Std Alternator | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/TK486 Diesel Diesel Eng. | 1999-Up | W/Opt Alternator | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III SR MP IV + | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III SR TCI SR+ | | | | | | | | |
| w/TK486 Diesel Eng. | 1998-Up | All | 12 | 120 | BO | B21 | AL9120N | |
| SB-III SR TG VI | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III 30 | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III 30 MAX TC | | | | | | | | |
| w/C201 Diesel Eng. | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/C201 Diesel Eng. | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III 30 SR + | | | | | | | | |
| w/C201 Isuzu Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/se 2.2 Diesel Eng. | 1993-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III 30 TC | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III 50 | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-III 50 MAX TC | | | | | | | | |
| w/C201 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/C201 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1991-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-190 | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SB-200 | | | | | | | | |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SB-200 30 | | | | | | | | |
| w/TK486 Diesel Eng. | 1999-Up | W/Std Alternator | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/TK486 Diesel Eng. | 1999-Up | W/Opt Alternator | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-200 50 | | | | | | | | |
| w/TK486 Diesel Eng. | 1999-Up | W/Std Alternator | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/TK486 Diesel Eng. | 1999-Up | W/Opt Alternator | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-210 | | | | | | | | |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SB-300 30 | | | | | | | | |
| w/TK486 Diesel Eng. | 1999-Up | W/Std Alternator | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/TK486 Diesel Eng. | 1999-Up | W/Opt Alternator | 12 | 65 | BO | B21 | AL928N | AL929N |
| SB-310 | | | | | | | | |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SDZ | | | | | | | | |
| Kubota Z400 Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| Kubota Z400 Diesel | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Sentry | | | | | | | | |
| Isuzu 2.2L (TK DI2.2, -SE) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| Sentry II | | | | | | | | |
| | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Sentry 30 TC | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| Sentry 30 3000 | | | | | | | | |
| w/di 2.2 Diesel Eng. | 1991-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |

Refrigeration Alternators

| Model/Engine | Year | Application | Volts | Amp | Sys Mfg | Plug Conf | OE Number | Can use |
|-----------------------------------|---------|------------------|-------|-----|---------|-----------|-----------|---------|
| Trailer Units (Cont'd) | | | | | | | | |
| SG 2000 | | | | | | | | |
| w/TK486 Diesel Eng. | 1998-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SL100 | | | | | | | | |
| Yanmar 482 / 486 (TK 4.82 / 4.86) | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SL100e | | | | | | | | |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SL200 | | | | | | | | |
| Yanmar 482 / 486 (TK 4.82 / 4.86) | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SL200e | | | | | | | | |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SL300 | | | | | | | | |
| Yanmar 482 / 486 (TK 4.82 / 4.86) | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SL400 | | | | | | | | |
| Yanmar 482 / 486 (TK 4.82 / 4.86) | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SL400e | | | | | | | | |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SL400 SR2 | | | | | | | | |
| Yanmar 486 (TK 4.86) Diesel | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SMX | | | | | | | | |
| | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| | 1990-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| SMX SR | | | | | | | | |
| | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| SMX II | | | | | | | | |
| | 1990-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| Magnum Whisper Edition | | | | | | | | |
| w/TK486 Diesel Eng. | 1998-Up | W/Std Alternator | 12 | 37 | BO | B21 | AL928N | AL929N |
| w/TK486 Diesel Eng. | 1998-Up | W/Opt Alternator | 12 | 65 | BO | B21 | AL928N | AL929N |
| MD-TLE | | | | | | | | |
| w/TK3.74 Diesel Eng. | 1998-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| MD-TLE 50 | | | | | | | | |
| w/TK3.74 Diesel Eng. | 1998-Up | All | 12 | 65 | BO | B21 | AL928N | AL929N |
| MD-II TCI | | | | | | | | |
| w/TK3.74 Diesel Eng. | 1997-Up | All | 12 | 37 | BO | B21 | AL928N | AL929N |
| RD-TLE | | | | | | | | |
| w/TK3.95 Diesel Eng. | 1998-Up | All | 12 | 90 | BO | B21 | AL929N | AL9120N |
| Spectrum SB | | | | | | | | |
| w/se 2.2 Diesel Eng. | 1998-Up | All | 12 | 120 | BO | B21 | AL9120N | |

Refrigeration Alternators

Cross Reference

| AFTERMARK | Bosch | MAGNETON/THERMO KING | Bosch |
|---------------------------|----------|----------------------|----------|
| 10-41-5456B | AL9120N | 1E32215G01 | AL928N |
| 10-41-5457B | AL928N | 1E32216G01 | AL928N |
| 10-41-5458B | AL928N | 1E32217G01 | AL9120N |
| BOSCH OE | | Bosch | |
| 9120060023 | AL928N | 41-6780 | AL928N |
| 9120060027 | AL928N | 41-6781 | AL928N |
| 9120060038 | AL929X/N | 41-6782 | AL9120N |
| 0120484028 | AL9120N | THERMO KING | |
| 0120484049 | AL929X/N | 10-44-9572 | AL928N |
| 0120488296 | AL928N | 20-41-5456 | AL9120N |
| 0120488297 | AL928N | 20-41-5456B | AL9120N |
| F005A00020 | AL9120N | 41-5456 | AL9120N |
| F005A00028 | AL929X/N | 41-5456B | AL9120N |
| CARGO | | Bosch | |
| 111216 | AL928N | 41-5457 | AL928N |
| 111672 | AL928N | 41-5458 | AL928N |
| CARRIER TRANSICOLD | | Bosch | |
| 20-44-9571 | AL928N | 44-8949 | AL928N |
| 20-44-9571RM | AL928N | 44-8950 | AL928N |
| 20-44-9572 | AL928N | 44-9571 | AL928N |
| 20-44-9572RM | AL928N | 44-9572 | AL928N |
| 29-50340-00 | AL928N | 44-9716 | AL929X/N |
| DELCO REMAN | | Bosch | |
| 19020507 | AL928N | 5D33839G01 | AL928N |
| 19020508 | AL928N | 5D33841G01 | AL928N |
| DIXIE | | Bosch | |
| A-6250 | AL928N | 5D38603G01 | AL928N |
| A-6252 | AL928N | 5D38604G01 | AL928N |
| A-6381 | AL9120N | 5D50461G01 | AL9120N |
| LESTER | | Bosch | |
| 12223 | AL928N | 844-9571 | AL928N |
| 12224 | AL928N | 844-9572 | AL928N |
| 12334 | AL9120N | WILSON | |
| | | 90-15-6233 | AL928N |
| | | 90-15-6280 | AL928N |
| | | 90-15-6384 | AL9120N |
| | | 90-15-6435 | AL929X/N |

Stockist Details

For further information please contact your leading automotive distributor or call the Bosch Customer Service Line in Australia **1300 30 70 40** or New Zealand **0800 452 896** www.bosch.com.au

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