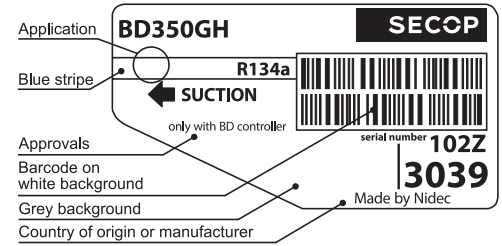


BD350GH Direct Current Compressor R134a 24V DC - with 101N07xx Series Controllers



General

| | |
|--|----------------------------|
| Code number (without electronic units) | 102Z3039 |
| Electronic unit | 101N0715, 36 pcs: 101N0714 |
| Approvals | - |
| Compressors on pallet | 125 |

Application

| | |
|---|-------------|
| Application | LBP/MBP/HBP |
| Evaporating temperature °C | -25 to 15 |
| Voltage range VDC | 19 - 31.5 |
| Max. condensing temperature continuous (short) °C | 60 (70) |
| Max. winding temperature continuous (short) °C | 125 (135) |

- S = Static cooling normally sufficient
- O = Oil cooling
- F₁ = Fan cooling 1.5 m/s
(compressor compartment temperature equal to ambient temperature)
- F₂ = Fan cooling 3.0 m/s necessary
- SG = Suction gas cooling normally sufficient
- = not applicable in this area

Cooling requirements

| Application | LBP | MBP | HBP |
|-------------|----------------|----------------|----------------|
| 32°C | F ₁ | F ₁ | F ₁ |
| 38°C | F ₁ | F ₁ | F ₁ |
| 43°C | F ₁ | F ₁ | F ₁ |

Remarks on application:
 - evaporator fan max. 60W
 - condenser fan max. 40W
 - starting ability: LST (low starting torque) only

Special version of the BD350GH optimized for rough vehicle motions.

Motor

| | |
|-------------------------------------|----------------|
| Motor type | variable speed |
| Resistance, all 3 windings (25°C) Ω | 0.2 |

Design

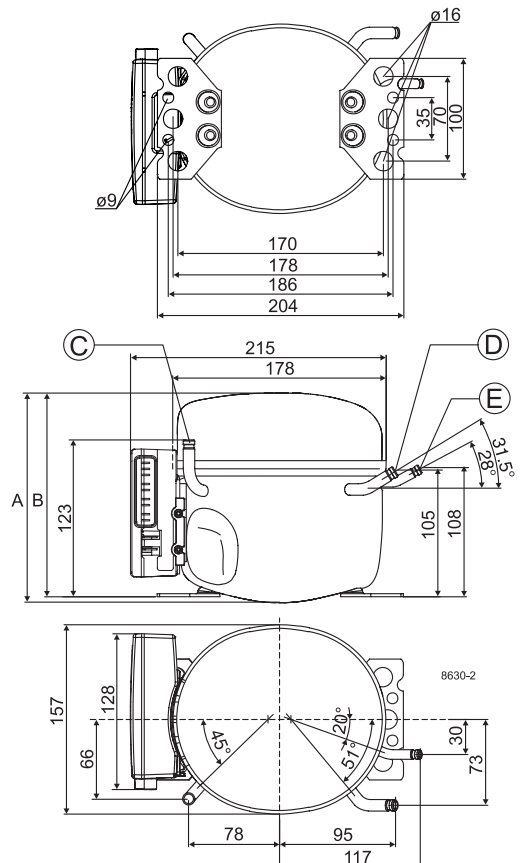
| | |
|---|-------------------|
| Displacement cm ³ | 5.08 |
| Oil quantity (type) cm ³ | 280 (polyolester) |
| Maximum refrigerant charge g | 400 |
| Free gas volume in compressor cm ³ | 1690 |
| Weight - Compressor/Electronic unit kg | 7.9/0.27 |

Battery protection settings

| Voltage | Min. value | Default | Max. value |
|------------------------------|------------|---------|------------|
| Cut out (0.1 steps) VDC | 19.0 | 21.1 | 27.0 |
| Cut in diff. (0.1 steps) VDC | 0.5 | 3.9 | 10.0 |

Dimensions

| Height mm | A | 173 |
|--|----|---------------------------|
| | B | 169 |
| | B1 | - |
| | B2 | - |
| Suction connector location/I.D. mm angle | C | 6.2 90° |
| material comment | | Cu-plated steel Al cap |
| Process connector location/I.D. mm angle | D | 6.2 31.5° |
| material comment | | Cu-plated steel Al cap |
| Discharge connector location/I.D. mm angle | E | 5.0 28° |
| material comment | | Cu-plated steel Al cap |
| Connector tolerance I.D. mm | | ±0.09, on 5.0 +0.12/+0.20 |
| Remarks | | |



Capacity (EN 12900 Household/CECOMAF) 24V DC, fan cooling F₁ watt

| | | | | | | | | | | | | |
|----------|------|-------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| rpm \ °C | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 |
| 2,500 | 84.7 | 93.7 | 113 | 147 | 188 | 219 | 236 | 292 | 358 | 390 | 434 | 520 |
| 3,000 | 101 | 112 | 136 | 176 | 225 | 262 | 283 | 351 | 430 | 468 | 521 | 625 |
| 3,500 | 114 | 126 | 152 | 198 | 254 | 296 | 319 | 396 | 485 | 528 | 588 | 706 |
| 4,000 | 126 | 139 | 169 | 220 | 282 | 329 | 355 | 440 | 540 | 588 | 654 | 786 |

Capacity (ASHRAE LBP) 24V DC, fan cooling F₁ watt

| | | | | | | | | | | | | |
|----------|-----|-------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| rpm \ °C | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 |
| 2,500 | 105 | 116 | 140 | 182 | 233 | 271 | 292 | 363 | 445 | 485 | 539 | 648 |
| 3,000 | 126 | 139 | 168 | 219 | 279 | 325 | 351 | 435 | 534 | 582 | 648 | 779 |
| 3,500 | 141 | 156 | 188 | 246 | 314 | 366 | 395 | 491 | 602 | 656 | 731 | 879 |
| 4,000 | 156 | 173 | 209 | 273 | 349 | 407 | 440 | 546 | 670 | 731 | 814 | 979 |

Power consumption 24V DC, fan cooling F₁ watt

| | | | | | | | | | | | | |
|----------|------|-------|------|-----|-----|------|-----|-----|-----|-----|-----|-----|
| rpm \ °C | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 |
| 2,500 | 77.4 | 81.8 | 90.8 | 105 | 120 | 130 | 136 | 152 | 168 | 175 | 184 | 200 |
| 3,000 | 95.5 | 101 | 112 | 129 | 148 | 160 | 167 | 186 | 206 | 215 | 226 | 245 |
| 3,500 | 109 | 115 | 128 | 149 | 171 | 186 | 194 | 217 | 241 | 251 | 264 | 288 |
| 4,000 | 122 | 129 | 144 | 169 | 194 | 212 | 221 | 248 | 276 | 288 | 303 | 330 |

Current consumption 24V DC, fan cooling F₁ A

| | | | | | | | | | | | | |
|----------|------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|
| rpm \ °C | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 |
| 2,500 | 3.23 | 3.41 | 3.78 | 4.38 | 5.01 | 5.43 | 5.66 | 6.32 | 7.00 | 7.29 | 7.67 | 8.33 |
| 3,000 | 3.98 | 4.20 | 4.66 | 5.39 | 6.15 | 6.67 | 6.95 | 7.76 | 8.58 | 8.94 | 9.40 | 10.21 |
| 3,500 | 4.52 | 4.79 | 5.34 | 6.21 | 7.12 | 7.75 | 8.08 | 9.05 | 10.03 | 10.46 | 11.01 | 11.98 |
| 4,000 | 5.07 | 5.38 | 6.02 | 7.03 | 8.10 | 8.82 | 9.20 | 10.34 | 11.48 | 11.99 | 12.63 | 13.75 |

COP (EN 12900 Household/CECOMAF) 24V DC, fan cooling F₁ W/W

| | | | | | | | | | | | | |
|----------|------|-------|------|------|------|------|------|------|------|------|------|------|
| rpm \ °C | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 |
| 2,500 | 1.09 | 1.15 | 1.25 | 1.40 | 1.56 | 1.68 | 1.74 | 1.93 | 2.13 | 2.23 | 2.36 | 2.60 |
| 3,000 | 1.06 | 1.11 | 1.21 | 1.37 | 1.53 | 1.64 | 1.70 | 1.88 | 2.09 | 2.18 | 2.31 | 2.55 |
| 3,500 | 1.05 | 1.09 | 1.19 | 1.33 | 1.48 | 1.59 | 1.65 | 1.82 | 2.01 | 2.10 | 2.22 | 2.45 |
| 4,000 | 1.03 | 1.08 | 1.17 | 1.31 | 1.45 | 1.55 | 1.61 | 1.77 | 1.96 | 2.05 | 2.16 | 2.38 |

COP (ASHRAE LBP) 24V DC, fan cooling F₁ W/W

| | | | | | | | | | | | | |
|----------|------|-------|------|------|------|------|------|------|------|------|------|------|
| rpm \ °C | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5 | 0 | 5 | 7.2 | 10 | 15 |
| 2,500 | 1.36 | 1.42 | 1.55 | 1.74 | 1.95 | 2.09 | 2.17 | 2.40 | 2.67 | 2.79 | 2.95 | 3.27 |
| 3,000 | 1.32 | 1.38 | 1.51 | 1.70 | 1.90 | 2.04 | 2.12 | 2.35 | 2.61 | 2.73 | 2.89 | 3.20 |
| 3,500 | 1.30 | 1.36 | 1.48 | 1.66 | 1.85 | 1.98 | 2.05 | 2.27 | 2.52 | 2.63 | 2.79 | 3.08 |
| 4,000 | 1.28 | 1.34 | 1.45 | 1.62 | 1.81 | 1.93 | 2.00 | 2.22 | 2.45 | 2.56 | 2.71 | 2.99 |

| Test conditions | EN 12900/CECOMAF | ASHRAE LBP |
|-------------------------|------------------|------------|
| Condensing temperature | 55°C | 54.4°C |
| Ambient temperature | 32°C | 32°C |
| Suction gas temperature | 32°C | 32°C |
| Liquid temperature | no subcooling | 32°C |

Operational errors

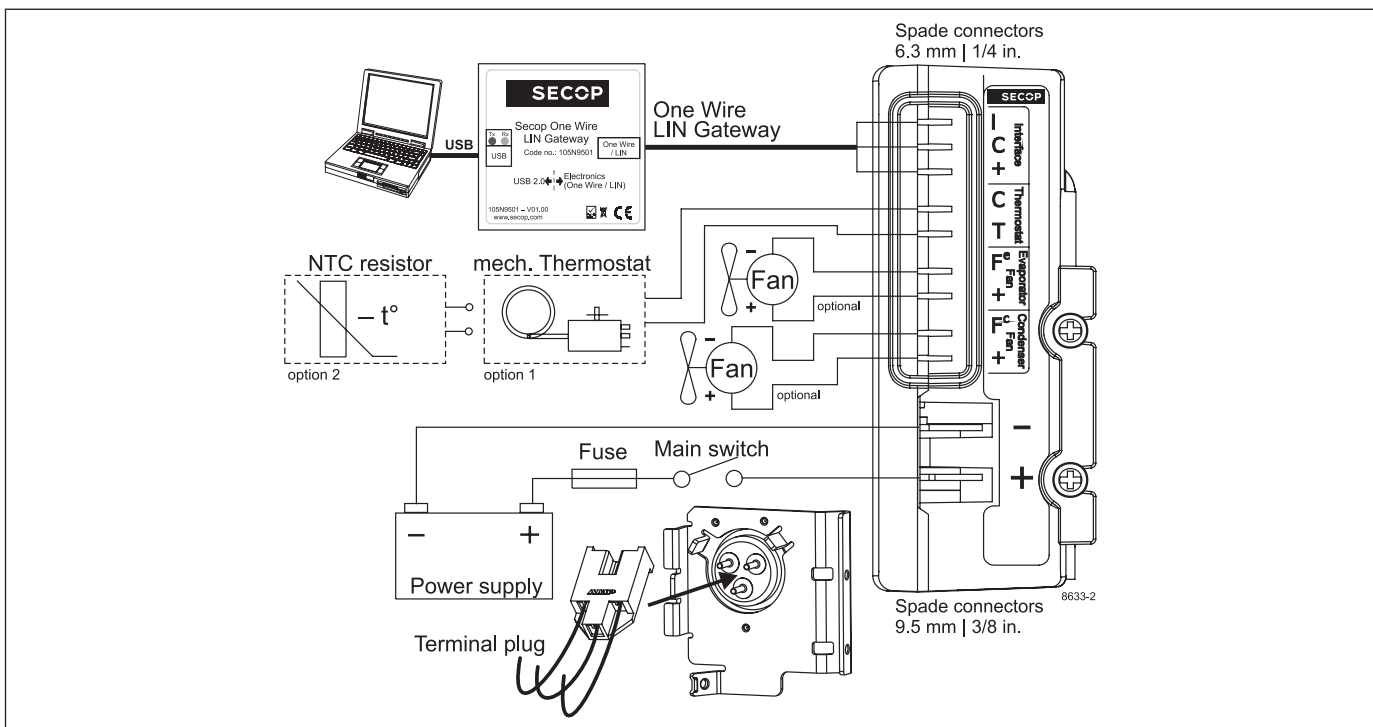
| Error code | Error type |
|------------|---|
| | Can be read out in the software TOOL4COOL® |
| 6 | Thermostat failure (If the NTC thermistor is short-circuit or has no connection, the electronic unit will enter manual mode). |
| 5 | Thermal cut-out of electronic unit (If the refrigeration system has been too heavily loaded, or if the ambient temperature is high, the electronic unit will run too hot). |
| 4 | Minimum motor speed error (If the refrigeration system is too heavily loaded, the motor cannot maintain minimum speed at approximately 1,850 rpm). |
| 3 | Motor start error (The rotor is blocked or the differential pressure in the refrigeration system is too high). |
| 2 | Fan over-current cut-out (The evaporator fan loads the electronic unit with more than 1.8A _{peak} / the condenser fan loads the electronic unit with more than 2.5A _{peak}). |
| 1 | Battery protection cut-out (The voltage is outside the cut-out setting). |

Accessories for BD350GH

| Mounting | Code number |
|--|-------------|
| Bolt joint for one compressor Ø: 16 mm | 118-1917 |
| Bolt joint in quantities Ø: 16 mm | 118-1918 |
| Snap-on in quantities Ø: 16 mm | 118-1919 |

| Electrical (cables, sensors, etc.) | Code number | |
|------------------------------------|-------------|--------------------|
| | Single pack | I - Pack |
| Temperature sensor 470 mm | 105N9612 | 105N9613, 200 pcs. |
| Temperature sensor 1000 mm | 105N9614 | 105N9615, 100 pcs. |
| Temperature sensor 1500 mm | 105N9616 | 105N9617, 100 pcs. |
| One Wire/LIN gateway | 105N9501 | - |
| Comm. cable, 1500 mm | - | 105N9545, 100 pcs. |
| Comm. cable, 3000 mm | - | 105N9547, 50 pcs. |

| Not deliverable from Secop | |
|----------------------------|-------------------|
| Slow-blow fuse | 30A |
| Main switch | rated to min. 50A |



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