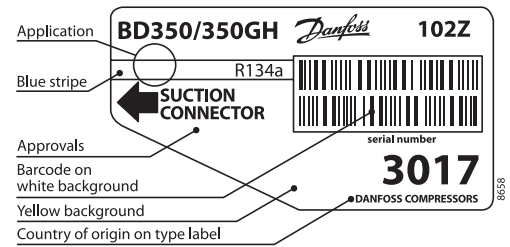


BD350/350GH

Direct Current Twin Compressor

R134a

24V - with 101N07xx Series Controllers



General

| | |
|--|------------------------------------|
| Code number (without electronic units) | 102Z3017 |
| Electronic unit (2 pcs. required) | single: 101N0715, 36 pcs: 101N0714 |
| Approvals | - |
| Compressors on pallet | 50 |

Application

| | | |
|--|-----|-------------|
| Application | | LBP/MBP/HBP |
| Evaporating temperature | °C | -25 to 15 |
| Voltage range | VDC | 19.6-31.5 |
| 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 | S | S | S |
| 38°C | S | S | S |
| 43°C | S | S | S |
| Remarks on application: | <ul style="list-style-type: none"> • each fan max. 60W • starting ability: LST (low starting torque) only | | |

Motor

| | |
|-----------------------------------|----------------|
| Motor type | Variable speed |
| Resistance, all 3 windings (25°C) | Ω 0.1 |

Design

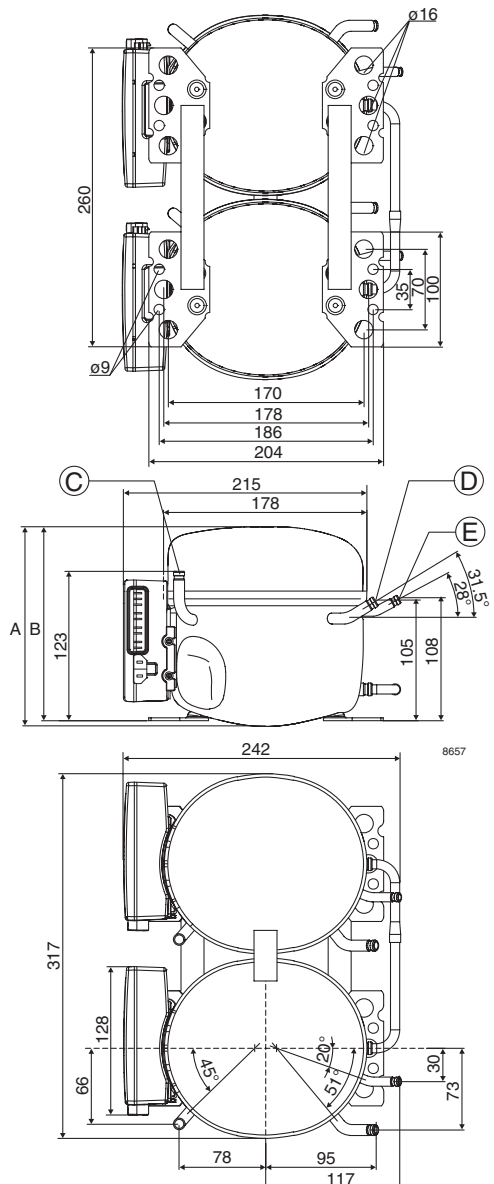
| | | |
|-------------------------------------|-----------------|-------------------|
| Displacement | cm ³ | 2 x 5.08 |
| Oil quantity (type) | cm ³ | 560 (polyolester) |
| Maximum refrigerant charge | g | 800 |
| Free gas volume in compressor | cm ³ | 2 x 1690 |
| Weight - Compressor/Electronic unit | kg | 15.8/2 x 0.3 |

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 caps |
| Process connector | location/I.D. mm angle | D | 6.2 31.5° |
| | material comment | | Cu-plated steel Al caps |
| Discharge connector | location/I.D. mm angle | E | 5.0 28° |
| | material comment | | Cu-plated steel Al caps |
| 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 | 169.4 | 187.4 | 226 | 294 | 376 | 438 | 472 | 584 | 716 | 780 | 868 | 1040 |
| 3,000 | 202 | 224 | 272 | 352 | 450 | 524 | 566 | 702 | 860 | 936 | 1042 | 1250 |
| 3,500 | 228 | 252 | 304 | 396 | 508 | 592 | 638 | 792 | 970 | 1056 | 1176 | 1412 |
| 4,000 | 252 | 278 | 338 | 440 | 564 | 658 | 710 | 880 | 1080 | 1176 | 1308 | 1572 |

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 | 210 | 232 | 280 | 364 | 466 | 542 | 584 | 726 | 890 | 970 | 1078 | 1296 |
| 3,000 | 252 | 278 | 336 | 438 | 558 | 650 | 702 | 870 | 1068 | 1164 | 1296 | 1558 |
| 3,500 | 282 | 312 | 376 | 492 | 628 | 732 | 790 | 982 | 1204 | 1312 | 1462 | 1758 |
| 4,000 | 312 | 346 | 418 | 546 | 698 | 814 | 880 | 1092 | 1340 | 1462 | 1628 | 1958 |

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 | 154.8 | 163.6 | 181.6 | 210 | 240 | 260 | 272 | 304 | 336 | 350 | 368 | 400 |
| 3,000 | 191 | 202 | 224 | 258 | 296 | 320 | 334 | 372 | 412 | 430 | 452 | 490 |
| 3,500 | 218 | 230 | 256 | 298 | 342 | 372 | 388 | 434 | 482 | 502 | 528 | 576 |
| 4,000 | 244 | 258 | 288 | 338 | 388 | 424 | 442 | 496 | 552 | 576 | 606 | 660 |

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 | 6.46 | 6.82 | 7.56 | 8.76 | 10.02 | 10.86 | 11.32 | 12.64 | 14.00 | 14.58 | 15.34 | 16.66 |
| 3,000 | 7.96 | 8.40 | 9.32 | 10.78 | 12.30 | 13.34 | 13.90 | 15.52 | 17.16 | 17.88 | 18.80 | 20.42 |
| 3,500 | 9.04 | 9.58 | 10.68 | 12.42 | 14.24 | 15.50 | 16.16 | 18.10 | 20.06 | 20.92 | 22.02 | 23.96 |
| 4,000 | 10.14 | 10.76 | 12.04 | 14.06 | 16.20 | 17.64 | 18.40 | 20.68 | 22.96 | 23.98 | 25.26 | 27.50 |

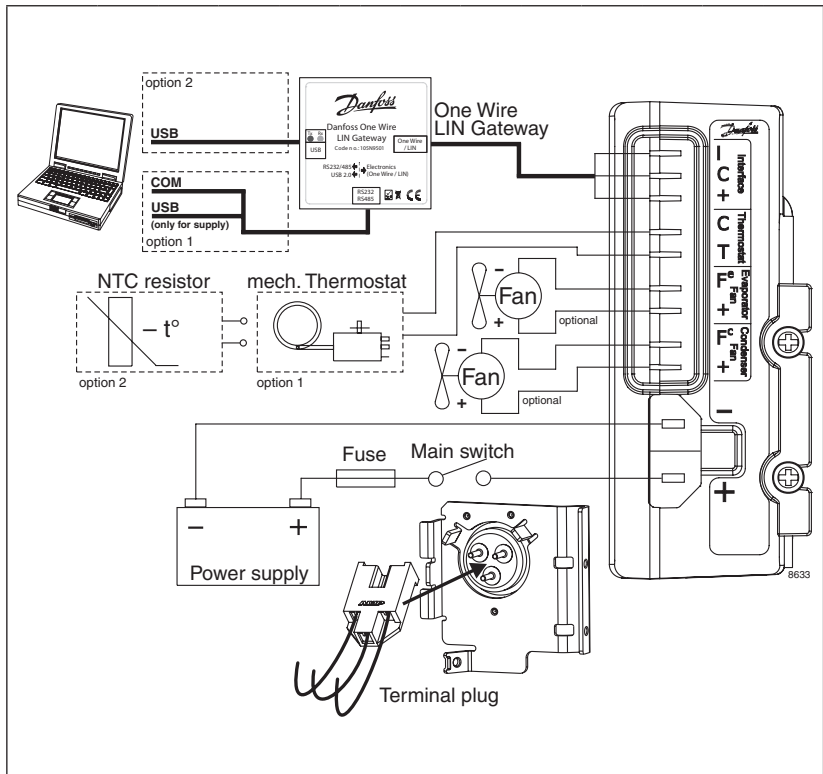
COP (EN 12900 Household/CECOMAF) 24V DC, fan cooling F₁ W/W

| | | | | | | | | | | | | |
|----------|------|-------|------|------|------|------|------|------|------|------|------|------|
| 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 |
|-------------------------|------------------|--------|
| 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 fan loads the electronic unit with more than 1.8A _{peak}). |
| 1 | Battery protection cut-out (The voltage is outside the cut-out setting). |

Accessories for one 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 |
| DC line cord, 900 mm | 105N9542 | 105N9543, 36 pcs. |
| DC line cord, 2000 mm | 105N9540 | 105N9541, 36 pcs. |
| DC line cord, 5000 mm | 105N9538 | 105N9539, 36 pcs. |
| 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 | - |
| Bluetooth® gateway | 105N9502 | - |
| Communication cable | 105N9525 | - |
| Comm. cable, 1500 mm | - | 105N9545, 100 pcs. |
| Comm. cable, 3000 mm | - | 105N9547, 50 pcs. |

Not deliverable from Danfoss

| | | |
|--------------------------|----------|-------------------|
| Standard automobile fuse | DIN 7258 | 24V: 30A |
| Main switch | | rated to min. 50A |

Further Information

For detailed installation and operation instructions, please refer to other literature, currently available from Danfoss Compressors (compressor.danfoss.com).

| Title | Literature Number |
|---|--|
| Tool4Cool® Operating Instructions Tool4Cool® Bedienungsanleitung | DEHC.PI.300.B__02 DEHC.PI.300.B__03 |
| BD350GH Controller BD350GH Controller | Operation Instructions DEHC.PI.100.I__02 DEHC.PI.100.I__03 |
| BD350GH with Tool4Cool® LabEdition BD350GH mit Tool4Cool® LabEdition | Quick Start Guide DEHC.PI.100.J__02 DEHC.PI.100.J__03 |
| Danfoss Bluetooth® Gateway with Tool4Cool® LabEdition | Operation Instructions DEHC.PS.300.D__02 |
| Danfoss One Wire/LIN Gateway 105N9501 | Instructions DEHC.PI.100.K__02 |
| Electronic Unit for BD350GH Compressor 101N0715 24 V DC | Instructions DEHC.EI.100.Z__02 |
| DC Line Cord for BD350GH Electronic Unit 24V | Instructions DEHC.PI.100.E__02 |
| Temperature Sensors for BD350GH Electronic Unit | Instructions DEHC.PI.100.G__02 |
| Communication Cable | Instructions DEHC.PI.100.H__02 |

"__" = version number

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