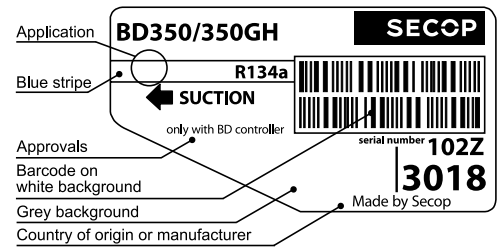


# BD350/350GH

## Direct Current Twin Compressor

### R134a

### 12V - with 101N08xx Series Controllers



#### General

|  |                            |
|--|----------------------------|
| Code number (without electronic units) | 102Z3018                   |
| Compressor module                      | 101N0800, 30 pcs: 101N0801 |
| Application module                     | 101N0820, 24 pcs: 101N0821 |
| Approvals                              | -                          |
| Compressors on pallet                  | 50                         |

#### Application

|  |             |           |
|--|-------------|-----------|
| Application                                    | LBP/MBP/HBP |           |
| Evaporating temperature                        | °C          | -25 to 15 |
| Voltage range                                  | VDC         | 9.6 - 17  |
| Max. condensing temperature continuous (short) | °C          | 60 (70)   |
| Max. winding temperature continuous (short)    | °C          | 125 (135) |

#### Cooling requirements

| Application | LBP            | MBP            | HBP            |
|-------------|----------------|----------------|----------------|
| 32°C        | F <sub>1</sub> | F <sub>1</sub> | F <sub>1</sub> |
| 38°C        | F <sub>1</sub> | F <sub>1</sub> | F <sub>1</sub> |
| 43°C        | F <sub>1</sub> | F <sub>1</sub> | F <sub>1</sub> |

Remarks on application:  
 - evaporator fan max. 200W  
 - condenser fan max. 100W  
 - starting ability: LST (low starting torque) only

#### Motor

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

#### Design

|                                     |                 |                         |
|-------------------------------------|-----------------|-------------------------|
| Displacement                        | cm <sup>3</sup> | 2 x 5.08                |
| Oil quantity (type)                 | cm <sup>3</sup> | 560 (polyolester)       |
| Maximum refrigerant charge          | g               | 800                     |
| Free gas volume in compressor       | cm <sup>3</sup> | 2 x 1690                |
| Weight - Compressor/Electronic unit | kg              | 15.8/2 x 0.33, 1 x 0.28 |

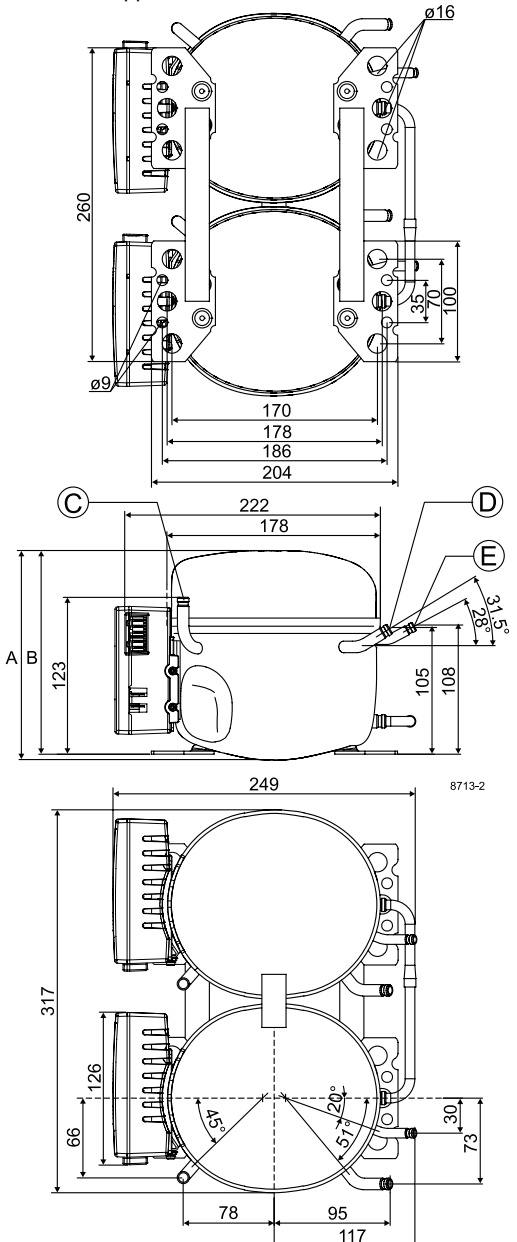
#### Battery protection settings

| Voltage                  | Min. value | Default | Max. value |
|--------------------------|------------|---------|------------|
| Cut out (0.1 steps)      | VDC 9.6    | 10.4    | 17         |
| Cut in diff. (0.1 steps) | VDC 0.5    | 1.3     | 10         |

#### 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             |                          |    |                           |

- S = Static cooling normally sufficient
- O = Oil cooling
- F<sub>1</sub> = Fan cooling 1.5 m/s  
(compressor compartment temperature equal to ambient temperature)
- F<sub>2</sub> = Fan cooling 3.0 m/s necessary
- SG = Suction gas cooling normally sufficient
- = not applicable in this area



| Capacity (EN 12900 Household/CECOMAF)   |     |       |     |     |     |      |     |     |      |      |      |      |
|---|-----|-------|-----|-----|-----|------|-----|-----|------|------|------|------|
| 12V DC, fan cooling F <sub>1</sub> watt |     |       |     |     |     |      |     |     |      |      |      |      |
| rpm \ °C                                | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5  | 0   | 5    | 7.2  | 10   | 15   |
| 2,500                                   | 175 | 194   | 234 | 304 | 388 | 452  | 488 | 604 | 740  | 806  | 896  | 1076 |
| 3,000                                   | 203 | 225   | 271 | 353 | 450 | 524  | 566 | 702 | 860  | 936  | 1042 | 1250 |
| 3,500                                   | 227 | 252   | 304 | 396 | 508 | 592  | 638 | 792 | 970  | 1056 | 1176 | 1412 |
| 4,000                                   | 251 | 279   | 337 | 440 | 564 | 658  | 710 | 880 | 1080 | 1176 | 1308 | 1572 |

| Capacity (ASHRAE LBP)                   |     |       |     |     |     |      |     |      |      |      |      |      |
|---|-----|-------|-----|-----|-----|------|-----|------|------|------|------|------|
| 12V DC, fan cooling F <sub>1</sub> watt |     |       |     |     |     |      |     |      |      |      |      |      |
| rpm \ °C                                | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5  | 0    | 5    | 7.2  | 10   | 15   |
| 2,500                                   | 216 | 240   | 290 | 376 | 480 | 560  | 604 | 750  | 918  | 1002 | 1114 | 1340 |
| 3,000                                   | 252 | 278   | 336 | 438 | 558 | 650  | 702 | 870  | 1068 | 1164 | 1296 | 1556 |
| 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                       |     |       |     |     |     |      |     |     |     |     |     |     |
|---|-----|-------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|
| 12V DC, fan cooling F <sub>1</sub> watt |     |       |     |     |     |      |     |     |     |     |     |     |
| rpm \ °C                                | -25 | -23.3 | -20 | -15 | -10 | -6.7 | -5  | 0   | 5   | 7.2 | 10  | 15  |
| 2,500                                   | 181 | 191   | 212 | 246 | 280 | 304  | 312 | 354 | 392 | 408 | 430 | 466 |
| 3,000                                   | 216 | 228   | 254 | 296 | 338 | 368  | 384 | 430 | 476 | 496 | 522 | 568 |
| 3,500                                   | 244 | 260   | 292 | 340 | 394 | 428  | 448 | 504 | 560 | 584 | 616 | 670 |
| 4,000                                   | 280 | 298   | 336 | 394 | 456 | 498  | 518 | 584 | 650 | 680 | 716 | 782 |

| Current consumption                  |       |       |       |       |       |       |       |       |       |       |       |       |
|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 12V DC, fan cooling F <sub>1</sub> A |       |       |       |       |       |       |       |       |       |       |       |       |
| rpm \ °C                             | -25   | -23.3 | -20   | -15   | -10   | -6.7  | -5    | 0     | 5     | 7.2   | 10    | 15    |
| 2,500                                | 15.42 | 16.30 | 18.06 | 20.90 | 23.86 | 25.90 | 26.96 | 30.12 | 33.30 | 34.72 | 36.50 | 39.64 |
| 3,000                                | 17.98 | 19.04 | 21.20 | 24.64 | 28.24 | 30.70 | 32.00 | 35.84 | 39.72 | 41.42 | 43.58 | 47.40 |
| 3,500                                | 20.92 | 22.2  | 24.78 | 28.94 | 33.3  | 36.26 | 37.82 | 42.46 | 47.14 | 49.20 | 51.80 | 56.42 |
| 4,000                                | 23.40 | 24.92 | 27.96 | 32.82 | 37.94 | 41.44 | 43.26 | 48.70 | 54.20 | 56.62 | 59.68 | 65.10 |

| COP (EN 12900 Household/CECOMAF)       |      |       |      |      |      |      |      |      |      |      |      |      |
|--|------|-------|------|------|------|------|------|------|------|------|------|------|
| 12V DC, fan cooling F <sub>1</sub> W/W |      |       |      |      |      |      |      |      |      |      |      |      |
| rpm \ °C                               | -25  | -23.3 | -20  | -15  | -10  | -6.7 | -5   | 0    | 5    | 7.2  | 10   | 15   |
| 2,500                                  | 0.97 | 1.01  | 1.10 | 1.24 | 1.38 | 1.48 | 1.54 | 1.71 | 1.89 | 1.97 | 2.09 | 2.30 |
| 3,000                                  | 0.94 | 0.98  | 1.07 | 1.20 | 1.33 | 1.43 | 1.48 | 1.63 | 1.81 | 1.89 | 1.99 | 2.20 |
| 3,500                                  | 0.93 | 0.97  | 1.04 | 1.16 | 1.29 | 1.38 | 1.43 | 1.57 | 1.73 | 1.81 | 1.91 | 2.10 |
| 4,000                                  | 0.90 | 0.93  | 1.01 | 1.12 | 1.24 | 1.32 | 1.37 | 1.51 | 1.66 | 1.73 | 1.83 | 2.01 |

| COP (ASHRAE LBP)                       |      |       |      |      |      |      |      |      |      |      |      |      |
|--|------|-------|------|------|------|------|------|------|------|------|------|------|
| 12V DC, fan cooling F <sub>1</sub> W/W |      |       |      |      |      |      |      |      |      |      |      |      |
| rpm \ °C                               | -25  | -23.3 | -20  | -15  | -10  | -6.7 | -5   | 0    | 5    | 7.2  | 10   | 15   |
| 2,500                                  | 1.20 | 1.26  | 1.37 | 1.54 | 1.72 | 1.85 | 1.92 | 2.13 | 2.36 | 2.47 | 2.61 | 2.89 |
| 3,000                                  | 1.17 | 1.22  | 1.33 | 1.49 | 1.66 | 1.78 | 1.84 | 2.04 | 2.26 | 2.36 | 2.50 | 2.76 |
| 3,500                                  | 1.15 | 1.20  | 1.30 | 1.45 | 1.61 | 1.72 | 1.78 | 1.96 | 2.17 | 2.26 | 2.39 | 2.64 |
| 4,000                                  | 1.11 | 1.16  | 1.25 | 1.39 | 1.54 | 1.65 | 1.70 | 1.88 | 2.08 | 2.17 | 2.29 | 2.53 |

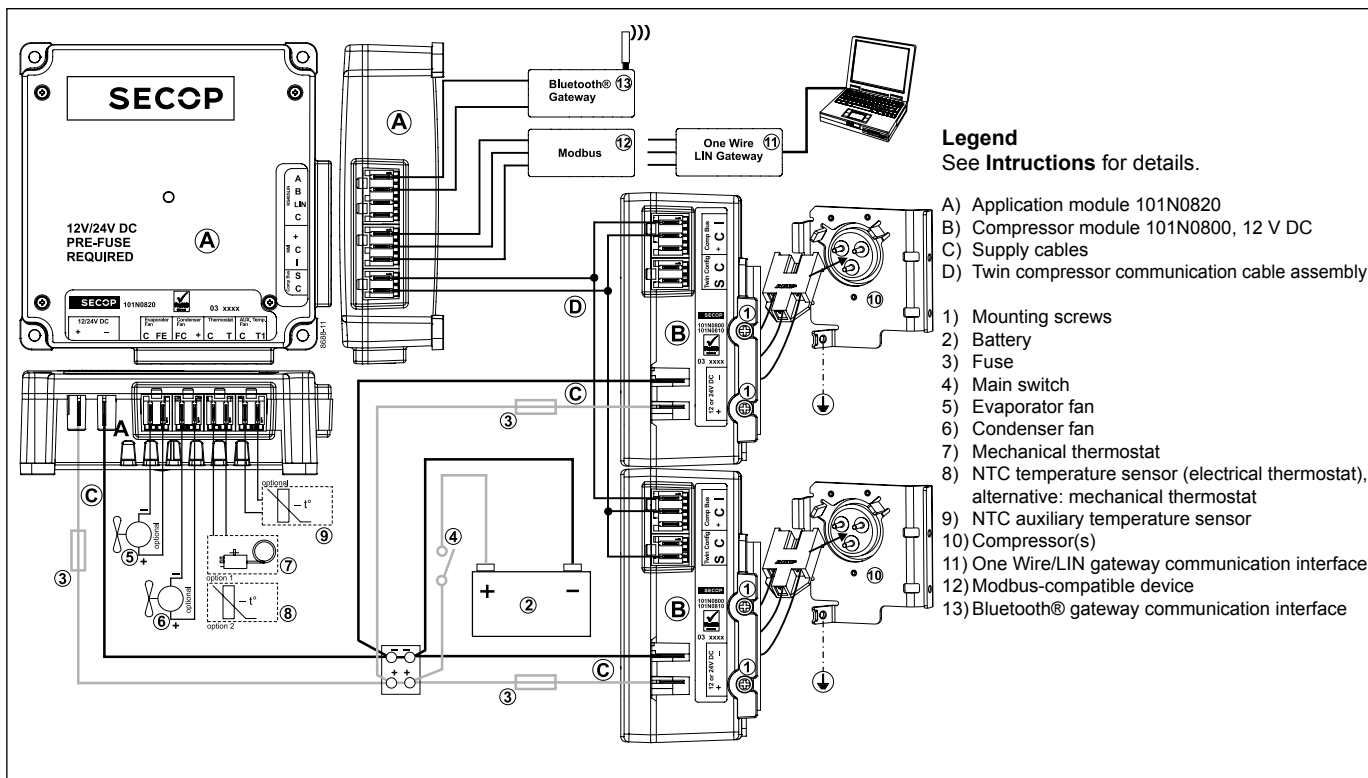
| Test conditions         | EN 12900/CECOMAF | ASHRAE LBP |
|-------------------------|------------------|------------|
| Condensing temperature  | 55°C             | 54.4°C     |
| Ambient temperature     | 32°C             | 32°C       |
| Suction gas temperature | 32°C             | 32°C       |
|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

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

| Accessories for BD350/350GH   |          |             |
|-------------------------------|----------|-------------|
| 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           |
| One Wire/LIN gateway communication cable | 105N9501    | -                  |
| Bluetooth® gateway communication cable   | 105N9502    | -                  |
| Temperature sensor 470 mm                | 105N9612    | 105N9613, 200 pcs. |
| Temperature sensor 1000 mm               | 105N9614    | 105N9615, 100 pcs. |
| Temperature sensor 1500 mm               | 105N9616    | 105N9617, 100 pcs. |
| Twin comm. cable, 800 mm                 | -           | 105N9561, 65 pcs.  |
| Twin comm. cable, 1500 mm                | -           | 105N9555, 65 pcs.  |
| Twin comm. cable, 3000 mm                | -           | 105N9556, 40 pcs.  |
| Display cable, 1500 mm                   | -           | 105N9557, 65 pcs.  |
| Display cable, 3000 mm                   | -           | 105N9558, 35 pcs.  |

|                                   |                    |
|-----------------------------------|--------------------|
| Not deliverable from Secop        |                    |
| Slow-blow fuse compressor modules | 2 x 60A            |
| Slow-blow fuse application module | 30A                |
| Main switch                       | rated to min. 160A |



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