

## Single Pack BD50F 12/24V DC PM

Single pack code number: **195B4747**

| Position | Title                                      | Code     | Amount |
|----------|--|----------|--------|
| 1        | Compressor BD50F                           | 101Z1220 | 1      |
| 2        | Bolt joint for one compressor   M6   ø16mm | 118-1917 | 1      |

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## BD50F Direct Current Compressor R134a, R1234yf, 12/24V DC & 100-240V AC 50/60Hz



### General

|   |                            |
|---|----------------------------|
| Code number (without electronic units)          | 101Z1220                   |
| Electronic unit 12/24V DC - Standard            | 101N0242, 30 pcs: 101N0243 |
| Electronic unit 12/24V DC - AEO                 | 101N0340, 30 pcs: 101N0341 |
| Electronic unit 12/24V DC & 100-240V AC 50/60Hz | 101N0510, 28 pcs: 101N0511 |
| Electronic unit 12/24V DC - Automotive          | 101N0680, 30 pcs: 101N0681 |
| Compressors on pallet                           | 150                        |

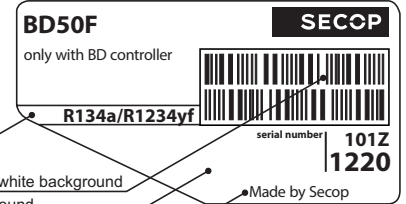
### Approvals

| R134a | R134a/R1234yf |
|-------|---------------|
| -     | -             |
| VDE   | UL / CB       |
| VDE   | UL / CB       |
| -     | UL / CB       |



### Application

|   |                        |
|---|------------------------|
| Application                                       | LBP/MBP/HBP            |
| Evaporating temperature °C                        | -30 to 0 (10)          |
| Voltage range DC VDC                              | 9.6 - 17 / 21.3 - 31.5 |
| Voltage range AC V/Hz                             | 100 - 240 / 50 - 60    |
| Max. condensing temperature continuous (short) °C | 60 (70)                |
| Max. winding temperature continuous (short) °C    | 125 (135)              |



Blue stripe  
Barcode on white background  
Grey background  
Country of origin or manufacturer  
Made by Secop

### Cooling requirements

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

Remarks on application: Fan cooling F<sub>1</sub> depending on application and speed.

- 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

### Motor

|                                     |                |
|-------------------------------------|----------------|
| Motor type                          | variable speed |
| Resistance, all 3 windings (25°C) Ω | 1.8            |

### Design

|   |                       |
|---|-----------------------|
| Displacement cm <sup>3</sup>                  | 2.50                  |
| Oil quantity (type) cm <sup>3</sup>           | 150 (polyolester)     |
| Maximum refrigerant charge g                  | 300                   |
| Free gas volume in compressor cm <sup>3</sup> | 870                   |
| Weight - Compressor/Electronic unit kg        | 4.3 / 0.19 (Standard) |

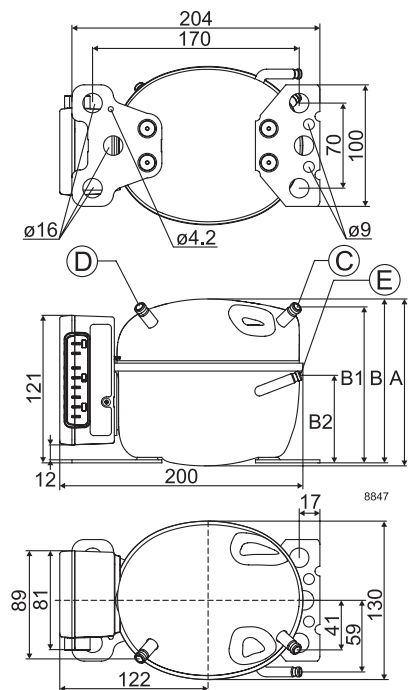
### Standard battery protection settings (refer to electronic unit Instructions for optional settings)

|             |      |      |
|-------------|------|------|
| Voltage     | 12V  | 24V  |
| Cut out VDC | 10.4 | 22.8 |
| Cut in VDC  | 11.7 | 24.2 |

### Dimensions

|  |                    |                           |
|--|--------------------|---------------------------|
| Height mm                                    | A                  | 137                       |
|  | B                  | 135                       |
|  | B1                 | 128                       |
|  | B2                 | 73                        |
| Suction connector location/I.D. mm   angle   | C                  | 6.2   40°                 |
|  | material   comment | Cu-plated steel   Al cap  |
| Process connector location/I.D. mm   angle   | D                  | 6.2   45°                 |
|  | material   comment | Cu-plated steel   Al cap  |
| Discharge connector location/I.D. mm   angle | E                  | 5.0   21°                 |
|  | material   comment | Cu-plated steel   Al cap  |
| Connector tolerance I.D. mm                  |                    | ±0.09, on 5.0 +0.12/+0.20 |

Remarks:



# Performance Data with Refrigerant R134a

| Capacity (EN 12900 Household/CECOMAF) |      |      |       |      |      |      |      |      |      |      |      |    |
|---------------------------------------|------|------|-------|------|------|------|------|------|------|------|------|----|
| 12V DC, static cooling                |      |      |       |      |      |      |      |      |      |      | watt |    |
| rpm \ °C                              | -30  | -25  | -23.3 | -20  | -15  | -10  | -5   | 0    | 5    | 7.2  | 10   | 15 |
| 2,000                                 | 20.9 | 30.1 | 33.8  | 41.8 | 56.1 | 72.8 | 92.1 | 114  | 138* | 150* | 165* |    |
| 2,500                                 | 26.1 | 37.0 | 41.4  | 50.9 | 68.0 | 88.7 | 113  | 142* | 175* | 191* |      |    |
| 3,000                                 | 31.2 | 44.8 | 50.2  | 61.8 | 82.4 | 107  | 136* | 169* |      |      |      |    |
| 3,500                                 | 37.0 | 52.0 | 58.0  | 71.1 | 94.7 | 123* | 157* |      |      |      |      |    |

| Capacity (ASHRAE LBP)  |      |      |       |      |      |      |      |      |      |      |      |    |
|------------------------|------|------|-------|------|------|------|------|------|------|------|------|----|
| 12V DC, static cooling |      |      |       |      |      |      |      |      |      |      | watt |    |
| rpm \ °C               | -30  | -25  | -23.3 | -20  | -15  | -10  | -5   | 0    | 5    | 7.2  | 10   | 15 |
| 2,000                  | 25.9 | 37.2 | 41.8  | 51.7 | 69.3 | 90.0 | 114  | 141  | 171* | 185* | 205* |    |
| 2,500                  | 32.3 | 45.9 | 51.3  | 63.1 | 84.3 | 110  | 140  | 176* | 217* | 237* |      |    |
| 3,000                  | 38.5 | 55.4 | 62.0  | 76.4 | 102  | 132  | 168* | 210* |      |      |      |    |
| 3,500                  | 45.5 | 64.2 | 71.6  | 87.8 | 117  | 152* | 194* |      |      |      |      |    |

| Power consumption      |      |      |       |      |      |       |       |       |       |       |       |    |
|------------------------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|----|
| 12V DC, static cooling |      |      |       |      |      |       |       |       |       |       | watt  |    |
| rpm \ °C               | -30  | -25  | -23.3 | -20  | -15  | -10   | -5    | 0     | 5     | 7.2   | 10    | 15 |
| 2,000                  | 25.0 | 31.6 | 33.8  | 38.0 | 44.3 | 50.8  | 57.7  | 65.3  | 73.8* | 77.9* | 83.5* |    |
| 2,500                  | 30.7 | 39.5 | 42.4  | 48.0 | 56.5 | 64.9  | 73.4  | 82.0* | 90.9* | 94.9* |       |    |
| 3,000                  | 37.4 | 48.1 | 51.6  | 58.3 | 68.3 | 78.1  | 87.9* | 98.0* |       |       |       |    |
| 3,500                  | 45.0 | 56.8 | 60.7  | 68.2 | 79.5 | 91.2* | 104*  |       |       |       |       |    |

| Current consumption (for 24V applications the following must be halved) |     |     |       |     |     |      |      |      |      |      |      |    |
|---|-----|-----|-------|-----|-----|------|------|------|------|------|------|----|
| 12V DC, static cooling  |     |     |       |     |     |      |      |      |      |      | A    |    |
| rpm \ °C  | -30 | -25 | -23.3 | -20 | -15 | -10  | -5   | 0    | 5    | 7.2  | 10   | 15 |
| 2,000   | 2.1 | 2.6 | 2.8   | 3.1 | 3.7 | 4.3  | 4.9  | 5.6  | 6.3* | 6.6* | 7.1* |    |
| 2,500   | 2.6 | 3.2 | 3.5   | 3.9 | 4.6 | 5.4  | 6.1  | 6.9* | 7.6* | 8.0* |      |    |
| 3,000   | 3.2 | 4.0 | 4.3   | 4.8 | 5.6 | 6.5  | 7.3* | 8.2* |      |      |      |    |
| 3,500   | 3.9 | 4.7 | 5.0   | 5.6 | 6.6 | 7.6* | 8.7* |      |      |      |      |    |

| COP (EN 12900 Household/CECOMAF) |      |      |       |      |      |       |       |       |       |       |       |    |
|----------------------------------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|----|
| 12V DC, static cooling           |      |      |       |      |      |       |       |       |       |       | W/W   |    |
| rpm \ °C                         | -30  | -25  | -23.3 | -20  | -15  | -10   | -5    | 0     | 5     | 7.2   | 10    | 15 |
| 2,000                            | 0.84 | 0.95 | 1.00  | 1.10 | 1.27 | 1.43  | 1.60  | 1.74  | 1.87* | 1.92* | 1.97* |    |
| 2,500                            | 0.85 | 0.94 | 0.98  | 1.06 | 1.20 | 1.37  | 1.54  | 1.73* | 1.92* | 2.01* |       |    |
| 3,000                            | 0.83 | 0.93 | 0.97  | 1.06 | 1.21 | 1.37  | 1.54* | 1.72* |       |       |       |    |
| 3,500                            | 0.82 | 0.92 | 0.96  | 1.04 | 1.19 | 1.35* | 1.51* |       |       |       |       |    |

| COP (ASHRAE LBP)       |      |      |       |      |      |       |       |       |       |       |       |    |
|------------------------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|----|
| 12V DC, static cooling |      |      |       |      |      |       |       |       |       |       | W/W   |    |
| rpm \ °C               | -30  | -25  | -23.3 | -20  | -15  | -10   | -5    | 0     | 5     | 7.2   | 10    | 15 |
| 2,000                  | 1.04 | 1.19 | 1.25  | 1.37 | 1.58 | 1.79  | 1.99  | 2.18  | 2.34* | 2.40* | 2.47* |    |
| 2,500                  | 1.05 | 1.16 | 1.21  | 1.32 | 1.50 | 1.70  | 1.93  | 2.16* | 2.41* | 2.52* |       |    |
| 3,000                  | 1.03 | 1.15 | 1.21  | 1.32 | 1.50 | 1.71  | 1.93* | 2.16* |       |       |       |    |
| 3,500                  | 1.01 | 1.13 | 1.18  | 1.29 | 1.48 | 1.68* | 1.89* |       |       |       |       |    |

| Test conditions with electronic units |                                  | EN 12900/CECOMAF | ASHRAE LBP |
|---------------------------------------|----------------------------------|------------------|------------|
| Condensing temperature                | 101N0242<br>101N0510<br>101N0680 | 55°C             | 54.4°C     |
| Ambient temperature                   |                                  | 32°C             | 32°C       |
| Suction gas temperature               |                                  | 32°C             | 32°C       |
| Liquid temperature                    |                                  | no subcooling    | 32°C       |

| Accessories for BD50F      |  | Code number                |
|----------------------------|--|----------------------------|
| Bolt joint for one comp.   | Ø:16 mm  | 118-1917                   |
| Bolt joint in quantities   | Ø:16 mm  | 118-1918                   |
| Snap-on in quantities      | Ø:16 mm  | 118-1919                   |
| Remote kit (without cable) |  | 105N9210                   |
| Secop Gateway              |  | 105N9518                   |
| DC usage:                  | Automobile fuse, DIN 7258 12V: 15A   24V: 7.5 A<br>Main switch | Not deliverable from Secop |
| AC usage:                  | Fuse, 100-240V<br>Main switch                                  |                            |

| Compressor speed  |                   |             |
|-------------------|-------------------|-------------|
| Electronit unit   | Resistor (R1) [Ω] | Motor speed |
| Code number       | calculated values | [rpm]       |
| 101N0242          | 0                 | 2,000       |
| 101N0510          | 277               | 2,500       |
| 101N0680          | 692               | 3,000       |
|                   | 1523              | 3,500       |
| 101N0340 with AEO | 0                 | AEO         |
|                   | 173               | 2,000       |
|                   | 450               | 2,500       |
|                   | 865               | 3,000       |
|                   | 1696              | 3,500       |

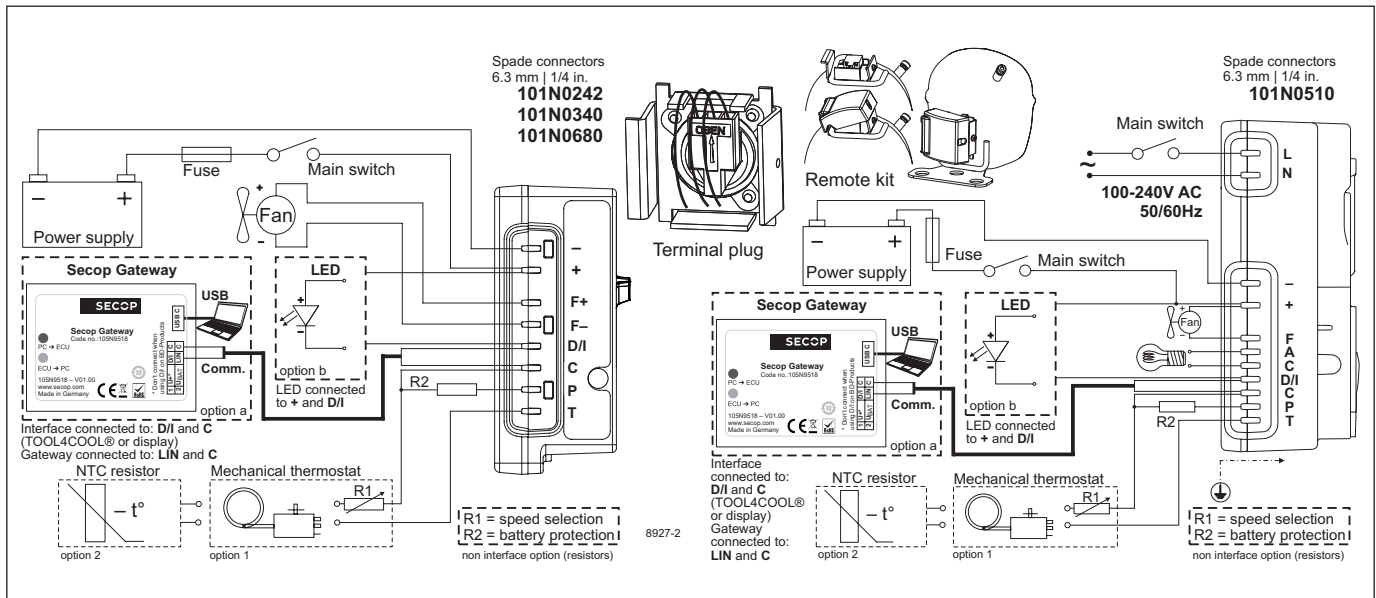
In AEO (Adaptive Energy Optimizing) speed mode the BD compressor will always adapt its speed to the actual cooling demand.

| Wire dimensions DC |       |         |                            |       |                            |       |
|--------------------|-------|---------|----------------------------|-------|----------------------------|-------|
| Cross section      | Size  |         | Max. length* 12V operation |       | Max. length* 24V operation |       |
|                    | [mm²] | [Gauge] | [m]                        | [ft.] | [m]                        | [ft.] |
| 2.5                | 12    |         | 2.5                        | 8     | 5                          | 16    |
| 4                  | 12    |         | 4                          | 13    | 8                          | 26    |
| 6                  | 10    |         | 6                          | 20    | 12                         | 39    |
| 10                 | 8     |         | 10                         | 33    | 20                         | 66    |

\*Length between battery and electronic unit

Wire dimensions AC  
Cross section min. 0.75 mm² or AWG 18

| Operational errors        |  |
|---------------------------|--|
| Error code or LED flashes | Error type   |
|                           | Can be read out in the software<br><b>TOOL4COOL®</b>   |
| 6                         | <b>Thermostat failure</b><br>(If the NTC thermistor is short-circuit or has no connection).  |
| 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 (>5 bar)).  |
| 2                         | <b>Too many start attempts or fan over current</b><br>(Too many compressor or fan starts in short time or fan current higher than 0.5A <sub>avg</sub> ).                             |
| 1                         | <b>Battery protection cut-out</b><br>(The voltage is outside the cut-out setting).   |



# Performance Data with Refrigerant R1234yf

| Capacity (EN 12900 Household/CECOMAF) |      |      |       |      |      |      |      |      |      |      |      |    |
|---------------------------------------|------|------|-------|------|------|------|------|------|------|------|------|----|
| 12V DC, static cooling                |      |      |       |      |      |      |      |      |      |      | watt |    |
| rpm \ °C                              | -30  | -25  | -23.3 | -20  | -15  | -10  | -5   | 0    | 5    | 7.2  | 10   | 15 |
| 2,000                                 | 23.4 | 32.3 | 35.9  | 43.5 | 56.7 | 72.1 | 89.7 | 109  | 131* | 142* | 155* |    |
| 2,500                                 | 28.9 | 39.6 | 43.8  | 52.8 | 68.8 | 88.0 | 110  | 136* | 166* | 181* |      |    |
| 3,000                                 | 34.7 | 48.0 | 53.1  | 64.1 | 83.4 | 106  | 133* | 163* |      |      |      |    |
| 3,500                                 | 42.1 | 57.6 | 63.6  | 76.5 | 99.0 | 126* | 156* |      |      |      |      |    |

| Capacity (ASHRAE LBP)  |      |      |       |      |      |      |      |      |      |      |      |    |
|------------------------|------|------|-------|------|------|------|------|------|------|------|------|----|
| 12V DC, static cooling |      |      |       |      |      |      |      |      |      |      | watt |    |
| rpm \ °C               | -30  | -25  | -23.3 | -20  | -15  | -10  | -5   | 0    | 5    | 7.2  | 10   | 15 |
| 2,000                  | 30.1 | 41.6 | 46.2  | 56.0 | 73.1 | 93.0 | 116  | 141  | 170* | 183* | 201* |    |
| 2,500                  | 37.3 | 51.1 | 56.5  | 68.2 | 88.9 | 114  | 143  | 177* | 216* | 235* |      |    |
| 3,000                  | 44.6 | 61.7 | 68.4  | 82.6 | 108  | 137  | 171* | 211* |      |      |      |    |
| 3,500                  | 54.2 | 74.1 | 81.9  | 98.5 | 128  | 162* | 202* |      |      |      |      |    |

| Power consumption      |      |      |       |      |      |       |       |       |       |       |       |    |
|------------------------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|----|
| 12V DC, static cooling |      |      |       |      |      |       |       |       |       |       | watt  |    |
| rpm \ °C               | -30  | -25  | -23.3 | -20  | -15  | -10   | -5    | 0     | 5     | 7.2   | 10    | 15 |
| 2,000                  | 26.7 | 32.8 | 34.9  | 39.0 | 45.3 | 51.8  | 58.5  | 65.5  | 72.9* | 76.2* | 80.5* |    |
| 2,500                  | 33.3 | 42.0 | 44.9  | 50.5 | 58.8 | 66.9  | 74.8  | 82.4* | 89.7* | 92.8* |       |    |
| 3,000                  | 40.1 | 50.7 | 54.2  | 60.9 | 70.7 | 80.2  | 89.5* | 98.4* |       |       |       |    |
| 3,500                  | 49.1 | 59.9 | 63.6  | 70.8 | 82.0 | 93.6* | 106*  |       |       |       |       |    |

| Current consumption (for 24V applications the following must be halved) |     |     |       |     |     |      |      |      |      |      |      |    |
|---|-----|-----|-------|-----|-----|------|------|------|------|------|------|----|
| 12V DC, static cooling  |     |     |       |     |     |      |      |      |      |      | A    |    |
| rpm \ °C  | -30 | -25 | -23.3 | -20 | -15 | -10  | -5   | 0    | 5    | 7.2  | 10   | 15 |
| 2,000   | 2.2 | 2.7 | 2.9   | 3.2 | 3.8 | 4.3  | 4.9  | 5.5  | 6.1* | 6.3* | 6.7* |    |
| 2,500   | 2.8 | 3.5 | 3.7   | 4.2 | 4.9 | 5.6  | 6.2  | 6.9* | 7.5* | 7.7* |      |    |
| 3,000   | 3.3 | 4.2 | 4.5   | 5.1 | 5.9 | 6.7* | 7.5* | 8.2* |      |      |      |    |
| 3,500   | 4.1 | 5.0 | 5.3   | 5.9 | 6.8 | 7.8* | 8.8* |      |      |      |      |    |

| COP (EN 12900 Household/CECOMAF) |      |      |       |      |      |       |       |       |       |       |       |    |
|----------------------------------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|----|
| 12V DC, static cooling           |      |      |       |      |      |       |       |       |       |       | W/W   |    |
| rpm \ °C                         | -30  | -25  | -23.3 | -20  | -15  | -10   | -5    | 0     | 5     | 7.2   | 10    | 15 |
| 2,000                            | 0.87 | 0.98 | 1.02  | 1.11 | 1.24 | 1.38  | 1.52  | 1.65  | 1.78* | 1.84* | 1.91* |    |
| 2,500                            | 0.87 | 0.94 | 0.97  | 1.04 | 1.17 | 1.31  | 1.47  | 1.64* | 1.84* | 1.93* |       |    |
| 3,000                            | 0.87 | 0.94 | 0.98  | 1.05 | 1.17 | 1.31  | 1.47* | 1.64* |       |       |       |    |
| 3,500                            | 0.86 | 0.96 | 1.00  | 1.08 | 1.20 | 1.33* | 1.47* |       |       |       |       |    |

| COP (ASHRAE LBP)       |      |      |       |      |      |       |       |       |       |       |       |    |
|------------------------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|----|
| 12V DC, static cooling |      |      |       |      |      |       |       |       |       |       | W/W   |    |
| rpm \ °C               | -30  | -25  | -23.3 | -20  | -15  | -10   | -5    | 0     | 5     | 7.2   | 10    | 15 |
| 2,000                  | 1.13 | 1.27 | 1.33  | 1.44 | 1.61 | 1.80  | 1.98  | 2.16  | 2.33* | 2.41* | 2.50* |    |
| 2,500                  | 1.12 | 1.22 | 1.26  | 1.35 | 1.51 | 1.70  | 1.91  | 2.15* | 2.41* | 2.53* |       |    |
| 3,000                  | 1.11 | 1.22 | 1.26  | 1.36 | 1.52 | 1.71  | 1.92* | 2.14* |       |       |       |    |
| 3,500                  | 1.10 | 1.24 | 1.29  | 1.39 | 1.56 | 1.73* | 1.91* |       |       |       |       |    |

\* fan cooling of electronic unit compulsory

| Test conditions with electronic units |                                  | EN 12900/CECOMAF | ASHRAE LBP |
|---------------------------------------|----------------------------------|------------------|------------|
| Condensing temperature                | 101N0242<br>101N0510<br>101N0680 | 55°C             | 54.4°C     |
| Ambient temperature                   |                                  | 32°C             | 32°C       |
| Suction gas temperature               |                                  | 32°C             | 32°C       |
| Liquid temperature                    |                                  | no subcooling    | 32°C       |

| Accessories for BD50F      |  | Code number                |
|----------------------------|--|----------------------------|
| Bolt joint for one comp.   | Ø:16 mm  | 118-1917                   |
| Bolt joint in quantities   | Ø:16 mm  | 118-1918                   |
| Snap-on in quantities      | Ø:16 mm  | 118-1919                   |
| Remote kit (without cable) |  | 105N9210                   |
| Secop Gateway              |  | 105N9518                   |
| DC usage:                  | Automobile fuse, DIN 7258 12V: 15A   24V: 7.5 A<br>Main switch | Not deliverable from Secop |
| AC usage:                  | Fuse, 100-240V<br>Main switch                                  |                            |

| Compressor speed  |                   |             |
|-------------------|-------------------|-------------|
| Electronit unit   | Resistor (R1) [Ω] | Motor speed |
| Code number       | calculated values | [rpm]       |
| 101N0242          | 0                 | 2,000       |
| 101N0510          | 277               | 2,500       |
| 101N0680          | 692               | 3,000       |
|                   | 1523              | 3,500       |
| 101N0340 with AEO | 0                 | AEO         |
|                   | 173               | 2,000       |
|                   | 450               | 2,500       |
|                   | 865               | 3,000       |
|                   | 1696              | 3,500       |

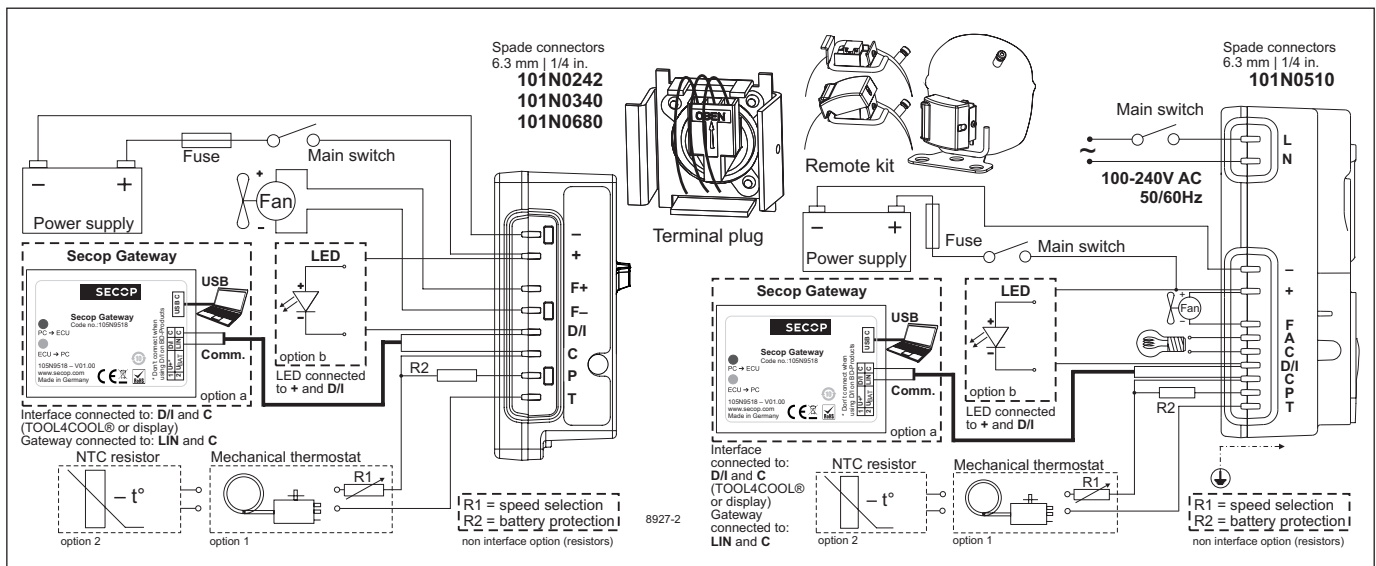
In AEO (Adaptive Energy Optimizing) speed mode the BD compressor will always adapt its speed to the actual cooling demand.

| Wire dimensions DC |       |         |                            |       |                            |       |
|--------------------|-------|---------|----------------------------|-------|----------------------------|-------|
| Cross section      | Size  |         | Max. length* 12V operation |       | Max. length* 24V operation |       |
|                    | [mm²] | [Gauge] | [m]                        | [ft.] | [m]                        | [ft.] |
| 2.5                | 12    |         | 2.5                        | 8     | 5                          | 16    |
| 4                  | 12    |         | 4                          | 13    | 8                          | 26    |
| 6                  | 10    |         | 6                          | 20    | 12                         | 39    |
| 10                 | 8     |         | 10                         | 33    | 20                         | 66    |

\*Length between battery and electronic unit

Wire dimensions AC  
Cross section min. 0.75 mm² or AWG 18

| Operational errors        |  |
|---------------------------|--|
| Error code or LED flashes | Error type   |
|                           | Can be read out in the software<br><b>TOOL4COOL®</b>   |
| 6                         | <b>Thermostat failure</b><br>(If the NTC thermistor is short-circuit or has no connection).  |
| 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 (>5 bar)).  |
| 2                         | <b>Too many start attempts or fan over current</b><br>(Too many compressor or fan starts in short time or fan current higher than 0.5A <sub>avg</sub> ).                             |
| 1                         | <b>Battery protection cut-out</b><br>(The voltage is outside the cut-out setting).   |



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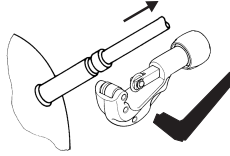
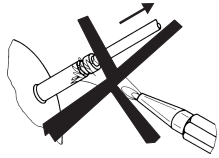
Instructions for Electronic Units  
are available for download on  
[www.secop.com](http://www.secop.com)



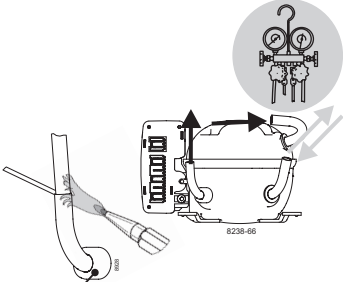
# BD Compressors



## Service/Repair



### BD Nano

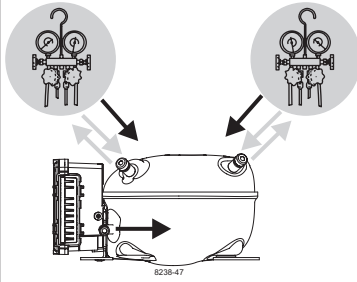


**! max. 150°C/302°F !**  
at socket

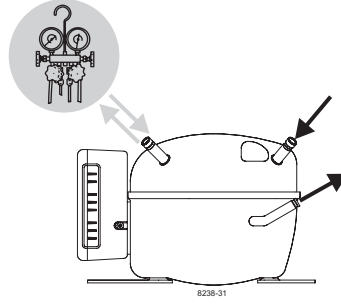
brazing solder: silver with flux

Do not heat up the bottom of the discharge connector directly.  
Do not braze longer than 10 seconds and wait for 5 minutes for the next soldering attempt (Product Bulletin DES.N.101.M1).

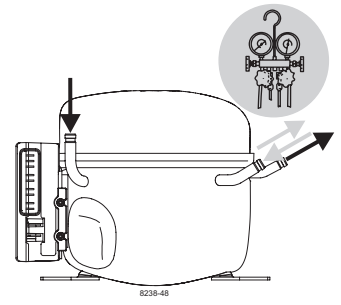
### BD Micro



### BD P-Housing



### BD T-Housing



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