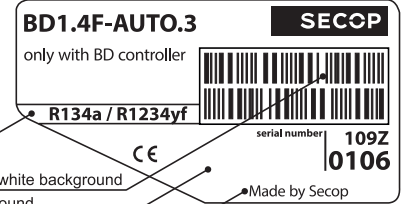


## BD1.4F-AUTO.3 Direct Current Compressor R134a, R1234yf 12V DC



### General

Code number (without electronic unit)	109Z0106
Electronic unit - Automotive	101N1000, 30 pcs: 101N1001
Electronic unit - Automotive	101N1010, 30 pcs: 101N1011
Approvals	-
Compressors on pallet	180

### Application

Application	LBP/MBP
Evaporating temperature °C	-25 to 5
Voltage range VDC	8.5 - 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	S	S	-
38°C	S	S	-
43°C	S	S	-

Remarks on application:  
 - New generation with optimized noise level  
 - New generation also released for R1234yf

### Motor

Motor type	permanent magnet, brushless DC	
Speed rpm		3,000
Resistance, all 3 windings (25°C) mΩ		370

### Design

Displacement cm <sup>3</sup>	1.41
Oil quantity (type) cm <sup>3</sup>	75 (polyolester)
Maximum refrigerant charge g	70
Free gas volume in compressor cm <sup>3</sup>	500
Weight - Compressor/Electronic unit kg	2.1/0.17

### Standard battery protection settings (refer to 101N1000 Instructions for optional settings)

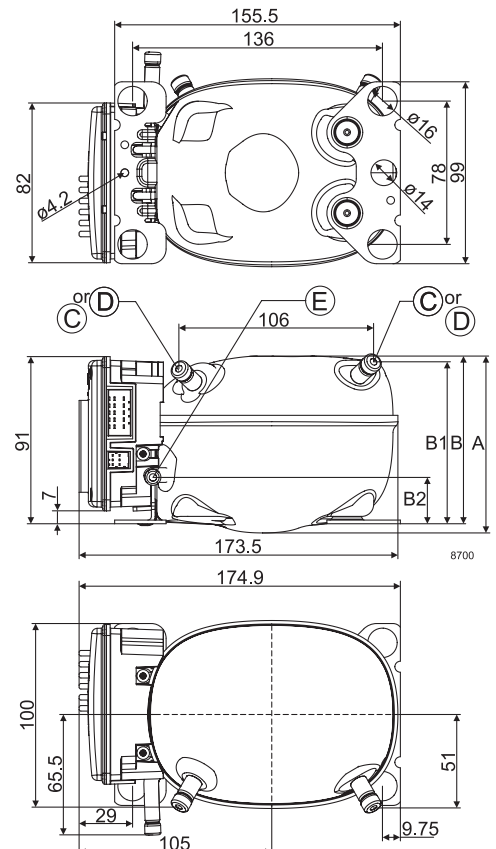
Voltage	Min. value	Default	Max. value
Cut out (0.1 steps) VDC	8.5	8.5	17
Cut in diff. (0.1 steps) VDC	0.5	0.5	8

### Dimensions

Height mm	A	96.25
	B	91.25
	B1	88.00
	B2	25.20
Suction connector location/I.D. mm   angle	C	6.2   25°
	material   comment	Cu-plated steel   Al cap
Process connector location/I.D. mm   angle	D	6.2   25°
	material   comment	Cu-plated steel   Al cap
Discharge connector location/I.D. mm   angle	E	5.0   0°
	material   comment	Cu-plated steel   Al cap
Connector tolerance I.D. mm		±0.09, on 5.0 +0.12/+0.20
Remarks		

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

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



# Performance Data with Refrigerant R134a & R1234yf

## EN 12900 Household (CECOMAF), R134a

Evap. temp. in °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5
Capacity in W	16.1	19.2	25.7	37.4	51.2	61.5	67.1	85.2	105.4
Power cons. in W	24.1	25.7	29.0	34.1	39.3	42.9	44.7	50.3	56.0
Current cons. in A	1.84	1.96	2.20	2.59	2.99	3.26	3.40	3.84	4.29
COP in W/W	0.67	0.74	0.89	1.10	1.30	1.43	1.50	1.69	1.88

## EN 12900 Household (CECOMAF), R1234yf

Evap. temp. in °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5
Capacity in W	17.4	20.5	27.2	38.8	52.0	61.5	66.7	82.7	99.9
Power cons. in W	26.5	28.2	31.4	36.3	41.1	44.3	45.9	50.6	55.2
Current cons. in A	2.02	2.15	2.39	2.76	3.13	3.37	3.50	3.86	4.22
COP in W/W	0.66	0.73	0.87	1.07	1.26	1.39	1.45	1.63	1.81

## ASHRAE LBP, R134a

Evap. temp. in °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5
Capacity in W	20.2	23.9	32.0	46.5	63.7	76.4	83.5	106.0	131.3
Power cons. in W	24.0	25.7	29.0	34.0	39.2	42.8	44.6	50.1	55.8
Current cons. in A	1.84	1.96	2.20	2.59	2.98	3.25	3.40	3.82	4.27
COP in W/W	0.84	0.93	1.11	1.37	1.62	1.79	1.87	2.12	2.35

## ASHRAE LBP, R1234yf

Evap. temp. in °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5
Capacity in W	22.7	26.8	35.4	50.4	67.5	80.0	86.7	107.7	130.4
Power cons. in W	26.4	28.1	31.3	36.2	41.0	44.1	45.7	50.4	54.9
Current cons. in A	2.37	2.53	2.85	3.34	3.83	4.16	4.33	4.81	5.29
COP in W/W	0.93	1.02	1.20	1.45	1.69	1.84	1.92	2.13	2.32

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®
7	<b>Communication failure</b>
6	<b>Thermostat failure</b> (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> (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> (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> (The rotor is blocked or the differential pressure in the refrigeration system is too high (>5 bar)).
2	<b>Fan over-current cut-out</b> (The fan loads the electronic unit with more than 0.65A <sub>peak</sub> ).
1	<b>Battery protection cut-out</b> (The voltage is outside the cut-out setting).

## Accessories for BD1.4F-AUTO.3

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
One Wire/LIN gateway	105N9501
Not deliverable from Secop	
Automobile fuse DIN 7258	15A

### NTC Temperature Sensors Software-Setup

**Power:** -12V  
+  
**DI**  
**Dim**  
**Com**

S1  
C  
S2  
F+  
F-

8704-2

### Mechanical Temperature Sensor Hardware-Setup

**Power:** -12V  
+  
**DI**  
**Dim**  
**Com**

S1  
C  
S2  
F+  
F-

### Resistors

Marking	Value [Ω]	Function
R1	see Instructions	battery protection
R2	750	resistor LED 1
R3	750	resistor LED 2
R4	1500	coding resistor S1
R5	330	coding resistor S2

### Connectors (Tyco Electronics)

Code no	Male	Female	Crimp
<b>Power</b>	178305-5	178289-5	1-175218-20
<b>MMI</b>	1376136-1	1-1318119-3	1-318108-1

### Wire Dimensions DC

Cross section [mm²]	Size		Max. length* 12V operation	
	AWG [Gauge]	[m]	[ft.]	
2.5	12	2.5	8	
4	12	4	13	
6	10	6	20	
10	8	10	33	

\*Length between battery and electronic unit

### MMI

D1  
D2  
D3  
Sw1  
Sw2  
C

Secop accepts no responsibility for possible errors in catalogs, brochures, and other printed material. Secop reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without substantial changes being necessary to specifications already agreed. All trademarks in this material are the property of the respective companies. Secop and the Secop logotype are trademarks of Secop GmbH. All rights reserved. [www.secop.com](http://www.secop.com)