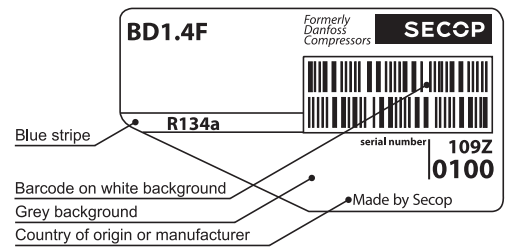


BD1.4F Direct Current Compressor R134a 12V



General

Code number (without electronic unit)	109Z0100
Electronic unit	101N1000, 30 pcs: 101N1001
Approvals	–
Compressors on pallet	150

Application

Application		LBP/MBP
Evaporating temperature	°C	-25 to 5
Voltage range	VDC	9 - 17
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	–
38°C	S	S	–
43°C	S	S	–

Remarks on application:

Motor

Motor type		permanet magnet, brushless DC
Speed	rpm	3,000
Resistance, all 3 windings (25°C)	mΩ	50

Design

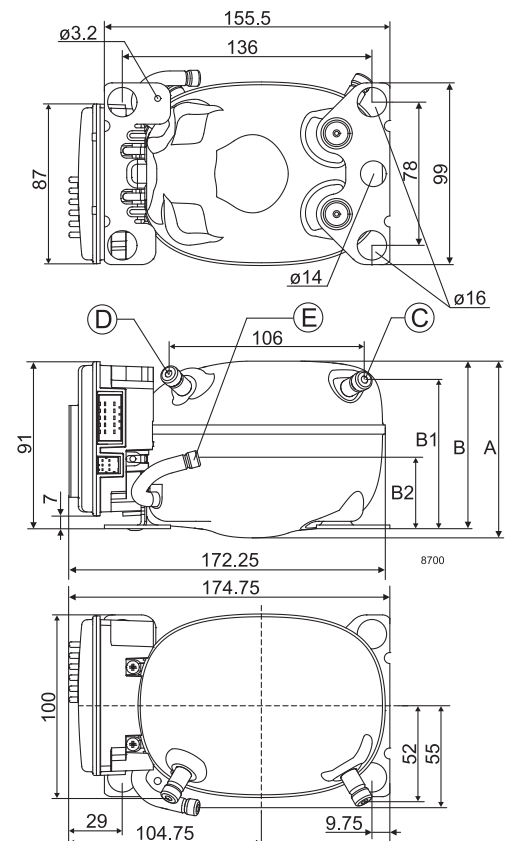
Displacement	cm ³	1.41
Oil quantity (type)	cm ³	75 (polyolester)
Maximum refrigerant charge	g	150
Free gas volume in compressor	cm ³	500
Weight - Compressor/Electronic unit	kg	2.1/0.17

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	81.00
		B2	38.50
Suction connector	location/I.D. mm angle	C	6.2 15°
	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 15°
	material comment		Cu-plated steel Al cap
Connector tolerance	I.D. mm		±0.09, on 5.0 +0.12/+0.20
Remarks			



EN 12900 Household (CECOMAF)

Evap. temp. in °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5
Capacity in W	14.3	17.5	24.3	36.1	50.0	60.5	66.4	85.5	108
Power cons. in W	26.1	27.5	30.3	35.0	40.0	43.4	45.2	50.4	55.6
Current cons. in A	1.98	2.08	2.30	2.65	3.03	3.29	3.42	3.82	4.21
COP in W/W	0.55	0.64	0.80	1.03	1.25	1.39	1.47	1.70	1.94

EN 12900 Household (CECOMAF)

Evap. temp. in °F	-13	-10	0	10	14	20	30	40	41
Capacity in W	14.3	17.5	29.3	43.6	50.0	60.6	81.0	105	108
Power cons. in W	26.1	27.5	32.3	37.7	40.0	43.4	49.3	55.0	55.6
Current cons. in A	1.98	2.08	2.45	2.86	3.03	3.29	3.73	4.17	4.21
COP in W/W	0.55	0.64	0.91	1.15	1.25	1.40	1.64	1.91	1.94

ASHRAE LBP

Evap. temp. in °F	-13	-10	0	10	14	20	30	40	41
Capacity in BTU/h	61.8	75.1	125	185	212	257	344	446	457
Power cons. in W	26.2	27.5	32.3	37.7	39.9	43.4	49.1	54.8	55.3
Current cons. in A	1.98	2.08	2.45	2.86	3.03	3.28	3.72	4.15	4.19
ERR in BTU/h	2.36	2.73	3.86	4.91	5.32	5.94	7.00	8.15	8.27

ASHRAE LBP

Evap. temp. in °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5
Capacity in W	18.1	22.1	30.5	45.0	62.3	75.3	82.6	106	134
Power cons. in W	26.2	27.5	30.3	35.0	39.9	43.3	45.1	50.3	55.3
Current cons. in A	1.98	2.08	2.30	2.65	3.03	3.28	3.42	3.81	4.19
COP in W/W	0.69	0.80	1.00	1.29	1.56	1.74	1.83	2.12	2.43

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	Communication failure
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 (>5 bar)).
2	Fan over-current cut-out (The fan loads the electronic unit with more than 0.65A _{peak}).
1	Battery protection cut-out (The voltage is outside the cut-out setting).

Accessories for BD1.4F

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-

SECOP
101N1000

PRE-FUSED-REQUIRED

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
Power	178305-5	178289-5	1-175218-20
MMI	1376136-1	1-1318119-3	1-318108-1

Wire Dimensions DC

Cross section	Size		Max. length* 12V operation	
	AWG		[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

Power

MMI

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