BD35F
Direct Current Compressor
R134a
12 - 24V

Data Sheet (Replaces CD.46.A5.02)

General

Compressor	**BD35F**
Code number: Comp. without electronic unit	101Z0200
Code number: Electronic unit 12-24V DC	single: 101N0210, 30 pcs: 101N0211

Application

Application		LBP/MBP/(HBP)
Evaporating temperature range	°C	-30 to 0 (10)
Voltage range / max. voltage		12 - 24V DC / 31.5V DC
Max. machine compartment temperature	°C	55
Comp. cooling at ambient temp.	43°C	S or F_1*

Design

* depending on application

Displacement	cm^3	2.00
Oil quantity	cm^3	150
Maximum refrigerant charge	g	300
Free gas vol. in compressor	cm^3	870
Weight: Compressor/Electronic unit	kg	4.3/0.25

Motor

Motor type		Variable speed
Resistance, all 3 windings (25°C)	Ω	2.3
Approvals (electronic unit)		E4 72/245 95/54 0277 00

Dimensions

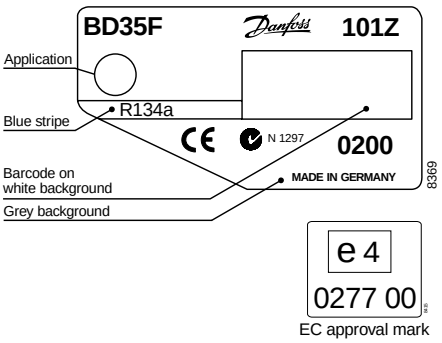
Height	mm	A	137
		B	135
		B1	128
		B2	73
Suction connector	location/I.D. mm	C	6.2 ±0.09
Process connector	location/I.D. mm	D	6.2 ±0.09
Discharge connector	location/I.D. mm	E	5.0 +0.12/+0.20
Compressors on a pallet	pcs.		120

Standard battery protection settings

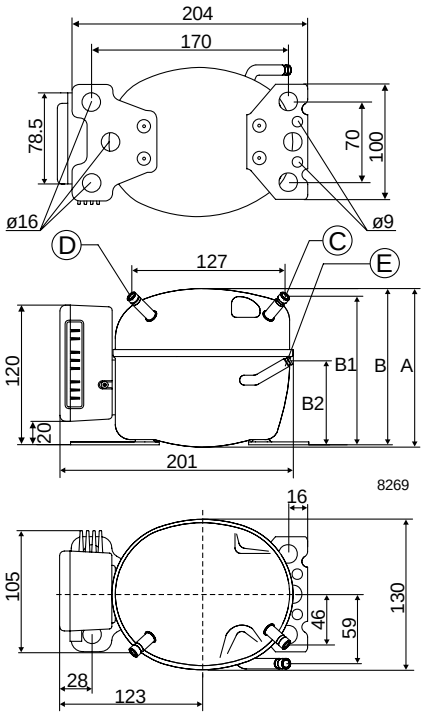
12V cut-out [V]	12V cut-in [V]	24V cut-out [V]	24V cut - in [V]
10.4	11.7	22.8	24.2

Optional battery protection settings

Resistor (R2) [kΩ]	12V cut-out [V]	12V cut-in [V]	12V max. Voltage	24V cut-out [V]	24V cut-in [V]	24V max. Voltage
0	9.6	10.9	17.0	21.3	22.7	31.5
1.6	9.7	11.0	17.0	21.5	22.9	31.5
2.4	9.9	11.1	17.0	21.8	23.2	31.5
3.6	10.0	11.3	17.0	22.0	23.4	31.5
4.7	10.1	11.4	17.0	22.3	23.7	31.5
6.2	10.2	11.5	17.0	22.5	23.9	31.5
8.2	10.4	11.7	17.0	22.8	24.2	31.5
11	10.5	11.8	17.0	23.0	24.5	31.5
14	10.6	11.9	17.0	23.3	24.7	31.5
18	10.8	12.0	17.0	23.6	25.0	31.5
24	10.9	12.2	17.0	23.8	25.2	31.5
33	11.0	12.3	17.0	24.1	25.5	31.5
47	11.1	12.4	17.0	24.3	25.7	31.5
82	11.3	12.5	17.0	24.6	26.0	31.5
220	9.6	10.9				31.5



S = Static cooling normally sufficient
O = Oil cooling
F_1 = Fan cooling 1.5 m/s (compressor compartment temperature equal to ambient temperature)
F_2 = Fan cooling 3.0 m/s necessary



Capacity (EN 12900/CECOMAF) watt

rpm \ °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	10
2,000	15.8	23.9	26.9	33.1	43.8	56.6	71.7	89.9	111	136
2,500	20.2	29.9	33.5	41.2	54.6	70.7	89.7	112	139	
3,000	22.5	32.4	36.5	45.4	61.8	81.7	105	133		
3,500	26.2	35.9	40.4	50.5	69.8	93.6	122			

Capacity (ASHRAE) watt

rpm \ °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	10
2,000	19.5	29.4	33.1	40.7	54.0	69.8	88.6	111	137	169
2,500	24.9	36.8	41.3	50.7	67.3	87.1	111	139	172	
3,000	27.7	39.9	44.9	55.9	76.1	101	130	164		
3,500	32.2	44.2	49.7	62.2	86.0	115	150			

Power consumption watt

rpm \ °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	10
2,000	17.6	23.4	25.3	28.7	33.6	38.3	43.0	48.0	53.4	59.5
2,500	23.3	30.9	33.3	37.8	44.1	50.2	56.2	62.3	68.7	
3,000	29.9	36.0	38.3	43.0	50.7	58.7	66.8	74.8		
3,500	36.0	42.8	45.4	50.8	59.5	68.9	78.5			

Current consumption (for 24V applications the following must be halved) A

rpm \ °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	10
2,000	1.5	2.0	2.1	2.4	2.8	3.2	3.6	4.0	4.5	5.0
2,500	1.9	2.6	2.8	3.2	3.7	4.2	4.7	5.2	5.8	
3,000	2.5	3.0	3.2	3.6	4.2	4.9	5.6	6.2		
3,500	3.0	3.6	3.8	4.3	5.0	5.7	6.5			

COP (EN 12900/CECOMAF) W/W

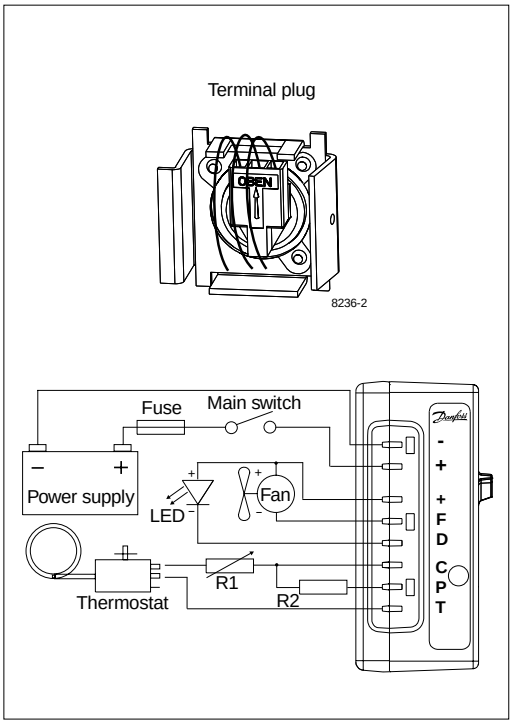
rpm \ °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	10
2,000	0.90	1.02	1.06	1.15	1.31	1.48	1.67	1.87	2.08	2.29
2,500	0.87	0.97	1.01	1.09	1.24	1.41	1.60	1.80	2.02	
3,000	0.75	0.90	0.95	1.06	1.22	1.39	1.58	1.78		
3,500	0.73	0.84	0.89	1.00	1.17	1.36	1.55			

COP (ASHRAE) W/W

rpm \ °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	10
2,000	1.10	1.25	1.31	1.42	1.61	1.82	2.06	2.31	2.57	2.84
2,500	1.07	1.19	1.24	1.34	1.53	1.74	1.97	2.23	2.50	
3,000	0.93	1.11	1.17	1.30	1.50	1.72	1.95	2.20		
3,500	0.89	1.03	1.09	1.23	1.44	1.68	1.91			

Test conditions	EN 12900/CECOMAF	ASHRAE
Condensing temperature	55°C	55°C
Ambient and suction gas temp.	32°C	32°C
Liquid temperature	55°C	32°C

Static cooling, 12V DC
1 Watt = 0.86 kcal/h



Compressor speed

Resistor (R1) [Ω]	Motor speed [rpm]	Control circ. Current [mA]
0	2,000	5
277	2,500	4
692	3,000	3
1523	3,500	2

Wire dimensions

Cross section [mm²]	Max. length*) [m] 12V operation	Max. length*) [m] 24V operation
2.5	2.5	5
4	4	8
6	6	12
10	10	20

***) Length between battery and electronic unit**

Operational errors shown by LED (optional)

Number of flashes	Error type
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 $1A_{peak}$).
1	**Battery protection cut-out** (The voltage is outside the cut-out setting).

Accessories

Devices	BD35F
Standard automobile fuse DIN 7258 12V: 15A 24V: 7.5A	Not deliverable from Danfoss
Mounting accessories Bolt joint for one compressor Bolt joint in quantities Snap on in quantities	118-1917 118-1918 118-1919