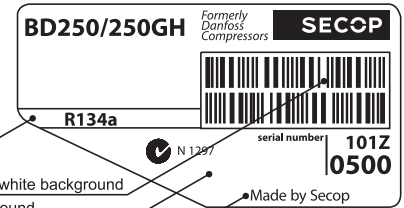


# BD250/250GH

## Direct Current Twin Compressor

### R134a

### 12 - 24V



Blue stripe  
R134a  
N 1247  
serial number 101Z0500  
Barcode on white background  
Grey background  
Country of origin or manufacturer  
Made by Secop

#### General

Code number (without electronic units)	101Z0500
Electronic unit	101N0290, 28 pcs: 101N0291
Remote kit (2 pcs. required)	105N9210
Approved compressor - electronic unit combinations	refer to <i>Instructions</i> for 101N0290
Additional approvals	e4, C-Tick
Compressors on pallet	40

#### Application

Application		LBP/MBP/HBP
Evaporating temperature	°C	-25 to 15
Voltage/max. voltage	VDC	12-24/31.5
Max. condensing temperature continuous (short)	°C	60 (70)
Max. winding temperature continuous (short)	°C	125 (135)

- 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

#### Cooling requirements

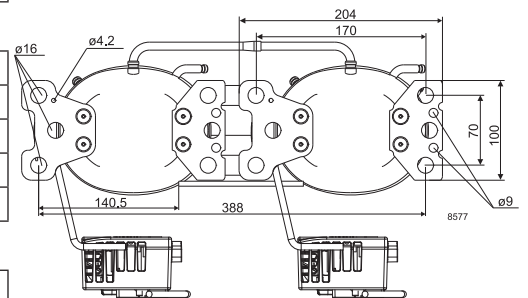
Application	LBP	MBP	HBP
32°C	S	S	S
38°C	S	S	S
43°C	S	S	S
Remarks on application:			

#### Motor

Motor type	Variable speed
Resistance, all 3 windings (25°C)	Ω 1.8

#### Design

Displacement	cm <sup>3</sup>	2 x 2.50
Oil quantity (type)	cm <sup>3</sup>	400 (polyolester)
Maximum refrigerant charge	g	600
Free gas volume in compressor	cm <sup>3</sup>	2 x 870
Weight - Compressor/Electronic unit	kg	8.8/2 x 0.3

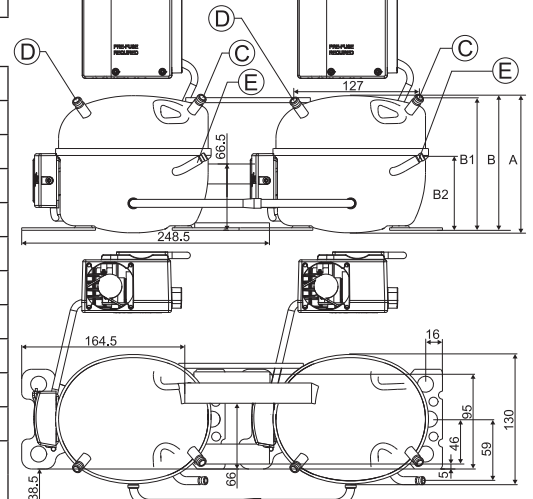


#### Standard battery protection settings (refer to 101N0290 *Instructions* for optional settings)

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   41.5°
	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			



Capacity (EN 12900 Household/CECOMAF)		12V DC, static cooling										watt
rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	76.0	85.1	105	139	181	213	231	290	358	392	438	529
3,100	92.5	103	126	168	217	255	277	347	429	469	524	633
3,800	112	125	153	203	262	308	333	417	514	562	627	757
4,400	126	141	174	231	299	349	378	471	580	633	705	849

Capacity (ASHRAE LBP)		12V DC, static cooling										watt
rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	94.0	105	129	172	224	264	286	359	444	486	544	658
3,100	114	128	156	207	269	316	343	430	532	582	651	787
3,800	138	155	189	251	325	381	413	517	638	698	779	942
4,400	156	175	216	286	370	433	468	584	719	785	876	1057

Power consumption		12V DC, static cooling										watt
rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	81.5	86.9	97.8	115	134	146	152	171	189	197	207	224
3,100	102	108	121	141	163	179	187	211	237	248	263	291
3,800	126	134	150	176	203	222	233	265	300	316	338	380
4,400	145	155	175	206	239	263	275	314	358	379	406*	460*

Current consumption (for 24V applications the following must be halved)												A
rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	6.79	7.24	8.15	9.61	11.12	12.15	12.68	14.24	15.79	16.45	17.28	18.69
3,100	8.46	8.99	10.07	11.79	13.61	14.88	15.54	17.58	19.71	20.68	21.93	24.25
3,800	10.51	11.18	12.52	14.65	16.94	18.54	19.40	22.07	24.99	26.35	28.17	31.66
4,400	12.11	12.95	14.60	17.19	19.94	21.88	22.93	26.20	29.82	31.54	33.85	38.35

COP (EN 12900 Household/CECOMAF)		12V DC, static cooling										W/W
rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	0.93	0.98	1.07	1.21	1.36	1.46	1.52	1.69	1.89	1.98	2.11	2.36
3,100	0.91	0.96	1.05	1.18	1.33	1.43	1.48	1.64	1.81	1.89	1.99	2.17
3,800	0.89	0.93	1.02	1.15	1.29	1.38	1.43	1.57	1.72	1.78	1.86	1.99
4,400	0.87	0.91	0.99	1.12	1.25	1.33	1.37	1.50	1.62	1.67	1.74	1.85

COP (ASHRAE LBP)		12V DC, static cooling										W/W
rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	1.16	1.21	1.33	1.50	1.68	1.82	1.89	2.11	2.36	2.48	2.64	2.96
3,100	1.13	1.18	1.30	1.47	1.65	1.78	1.85	2.05	2.26	2.36	2.49	2.73
3,800	1.10	1.15	1.26	1.43	1.60	1.72	1.78	1.96	2.14	2.22	2.32	2.50
4,400	1.07	1.13	1.23	1.39	1.55	1.65	1.71	1.87	2.02	2.09	2.17	2.31

\* Possible thermal cut-out of electronic unit due to heavy loaded refrigeration system.

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 errors shown by LED (optional)

Error code	Error type
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 2,450 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 1A <sub>peak</sub> ).
1	<b>Battery protection cut-out</b> (The voltage is outside the cut-out setting).

### Compressor speed

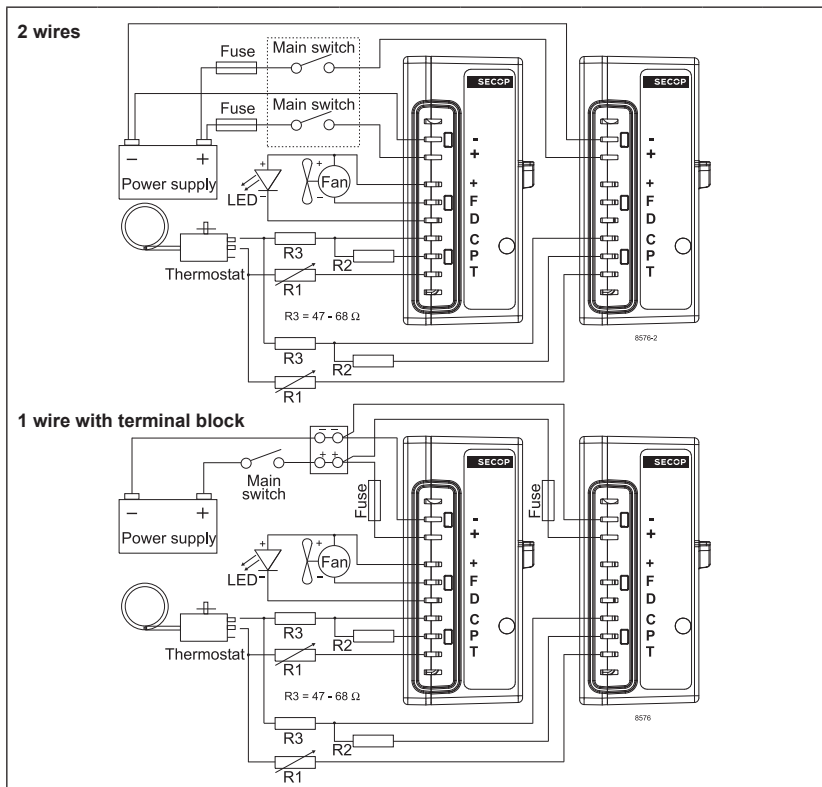
Electronit unit	Resistor (R1) [Ω]	Motor speed	Control circuit current [mA]
Code number	calculated values	[rpm]	
	0	AEO	6
	203	2,500	5
	451	3,100	4
	867	3,800	3
1700	4,400	2	

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

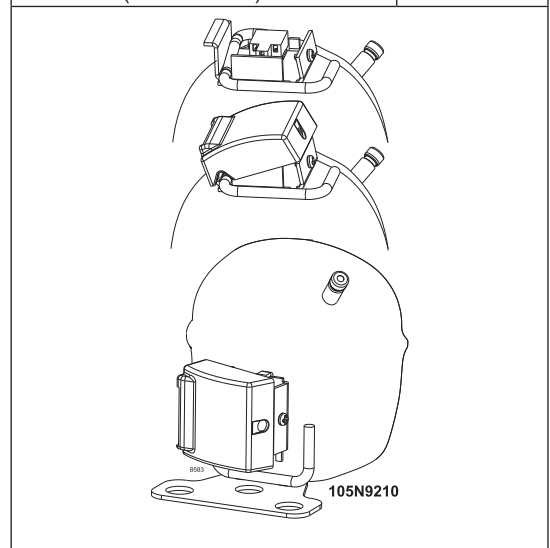
### Wire Dimensions DC

Cross section [mm <sup>2</sup> ]	Size AWG [Gauge]	Max. length* 12V operation		Max. length* 24V operation	
		[m]	[ft.]	[m]	[ft.]
2 wires					
8	8	2.5	8	5	16
1 wire with terminal block					
8	8	1	3	2	7

\*Length between battery and electronic unit



Accessories for BD250/250GH	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
Remote kit (without cable)	105N9210



Standard automobile fuse	12V: 30A	Not deliverable from Secop
DIN 7258	24V: 15A	
Main switch	min. 30A	

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