

BD350GH Direct Current Compressor R134a 48-56V DC



General

Code number (without electronic units)	102Z3031
Electronic unit - Telecom	101N0720, 36 pcs: 101N0721
Approvals	UL, CCC
Compressors on pallet	125

Application

Application	LBP/MBP/HBP	
Evaporating temperature	°C	-25 to 15
Voltage range	VDC	32 - 60
Max. condensing temperature continuous (short)	°C	60 (70)
Max. winding temperature continuous (short)	°C	125 (135)

Cooling requirements

Application	LBP	MBP	HBP
32°C	F ₁	F ₁	F ₁
38°C	F ₁	F ₁	F ₁
43°C	F ₁	F ₁	F ₁

Remarks on application:
 - evaporator fan max. 60W
 - condenser fan max. 40W
 - starting ability: LST (low starting torque) only

Motor

Motor type	variable speed
Resistance, all 3 windings (25°C)	Ω 0.4

Design

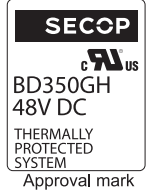
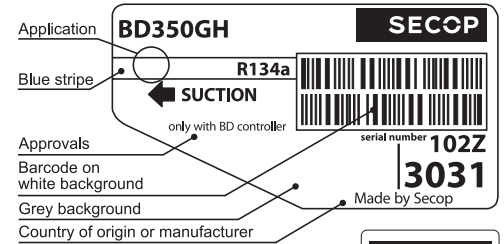
Displacement	cm ³	5.08
Oil quantity (type)	cm ³	280 (polyolester)
Maximum refrigerant charge	g	400
Free gas volume in compressor	cm ³	1690
Weight - Compressor/Electronic unit	kg	7.9/0.27

Battery protection settings

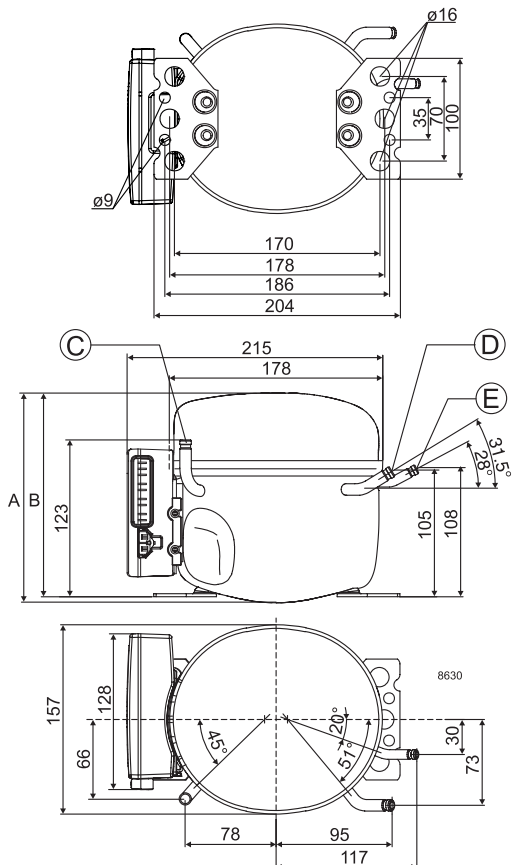
Voltage	Min. value	Default	Max. value
Cut out (0.1 steps)	VDC 32	36	60
Cut in diff. (0.1 steps)	VDC 0.5	4.0	10.0

Dimensions

Height	mm	A	173
		B	169
		B1	-
		B2	-
Suction connector	location/I.D. mm angle	C	6.2 90°
	material comment		Cu-plated steel Al cap
Process connector	location/I.D. mm angle	D	6.2 31.5°
	material comment		Cu-plated steel Al cap
Discharge connector	location/I.D. mm angle	E	5.0 28°
	material comment		Cu-plated steel Al cap
Connector tolerance	I.D. mm		±0.09, on 5.0 +0.12/+0.20
Remarks			



- 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



Capacity (EN 12900 Household/CECOMAF) 56V DC, fan cooling F₁ watt

rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	84,7	93,7	113	147	188	219	236	292	358	390	434	520
3,000	101	112	135	176	224	261	282	349	428	466	518	622
3,500	112	125	151	196	251	293	316	392	480	523	582	698
4,000	121	135	164	216	277	324	350	436	535	584	650	781

Capacity (ASHRAE LBP) 56V DC, fan cooling F₁ watt

rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	105	116	140	182	233	271	292	363	444	484	539	648
3,000	125	138	167	217	278	324	349	433	531	579	644	775
3,500	139	154	186	243	311	362	391	486	596	650	723	870
4,000	150	167	203	267	343	401	434	540	664	725	808	973

Power consumption 56V DC, fan cooling F₁ watt

rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	85.2	89.6	98.3	112	127	137	142	158	174	181	190	205
3,000	95.0	100	111	129	147	159	166	185	205	214	225	244
3,500	107	114	127	147	169	184	192	215	238	249	262	285
4,000	131	139	155	181	208	226	236	265	294	307	323	352

Current consumption 56V DC, fan cooling F₁ A

rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	1.52	1.60	1.76	2.01	2.27	2.45	2.54	2.82	3.11	3.23	3.39	3.67
3,000	1.70	1.79	1.99	2.30	2.62	2.85	2.96	3.31	3.66	3.81	4.01	4.35
3,500	1.92	2.03	2.26	2.63	3.02	3.29	3.43	3.84	4.26	4.44	4.67	5.08
4,000	2.34	2.48	2.77	3.23	3.71	4.04	4.22	4.73	5.25	5.48	5.77	6.28

COP (EN 12900 Household/CECOMAF) 56V DC, fan cooling F₁ W/W

rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	0.99	1.05	1.15	1.31	1.48	1.59	1.66	1.85	2.06	2.16	2.29	2.53
3,000	1.06	1.11	1.21	1.37	1.53	1.64	1.70	1.88	2.09	2.18	2.31	2.55
3,500	1.05	1.09	1.19	1.33	1.48	1.59	1.65	1.82	2.01	2.10	2.22	2.45
4,000	0.92	0.97	1.06	1.19	1.33	1.43	1.48	1.64	1.82	1.90	2.01	2.22

COP (ASHRAE LBP) 56V DC, fan cooling F₁ W/W

rpm \ °C	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10	15
2,500	1.23	1.30	1.43	1.63	1.84	1.98	2.06	2.31	2.57	2.70	2.86	3.18
3,000	1.32	1.38	1.51	1.70	1.90	2.04	2.12	2.35	2.61	2.73	2.89	3.20
3,500	1.30	1.36	1.48	1.66	1.85	1.98	2.05	2.27	2.52	2.63	2.79	3.08
4,000	1.15	1.21	1.31	1.48	1.66	1.78	1.85	2.05	2.28	2.38	2.52	2.79

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

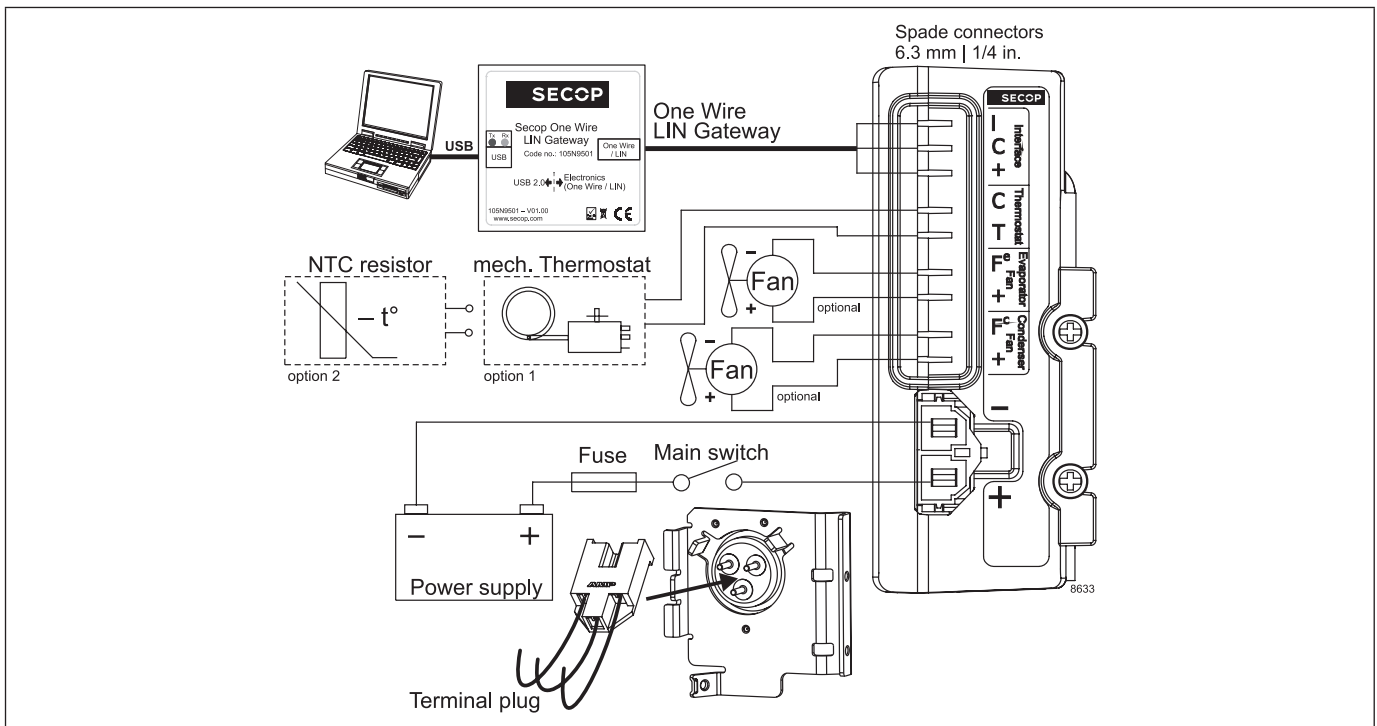
Error code	Error type
	Can be read out in the software TOOL4COOL®
6	Thermostat failure (If the NTC thermostat is short-circuit or has no connection, the electronic unit will enter manual mode).
5	Thermal cut-out of electronic unit (If the refrigeration system has been too heavily loaded, or if the ambient 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).
2	Fan over-current cut-out (The fan loads the electronic unit with more than 1.8A _{peak}).
1	Battery protection cut-out (The voltage is outside the cut-out setting).

Accessories for BD350GH

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	

Electrical (cables, sensors, etc.)	Code number	
	Single pack	I - Pack
DC line cord, 900 mm	105N9542	105N9543, 36 pcs.
DC line cord, 2000 mm	105N9540	105N9541, 36 pcs.
DC line cord, 5000 mm	105N9538	105N9539, 36 pcs.
Temperature sensor 470 mm	105N9612	105N9613, 200 pcs.
Temperature sensor 1000 mm	105N9614	105N9615, 100 pcs.
Temperature sensor 1500 mm	105N9616	105N9617, 100 pcs.
One Wire/LIN gateway	105N9501	-
Comm. cable, 1500 mm	-	105N9545, 100 pcs.
Comm. cable, 3000 mm	-	105N9547, 50 pcs.

Not deliverable from Secop	
Slow-blow fuse	16A
Main switch	rated to min. 25A



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