



SPECIFICATION FOR SPEAKER ALARM

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Customer	Caterpillar	Model Name	BUS102PT-KT
Customer P/N	454-8480	Product No.	116843
Date	09 Jan. 2013	Issue No.	BS/TEA01.592F
Page	01 of 07	Issue Date	2018/01/17

Approval:

1. Characteristic
2. Test method
3. Drawing
4. Reliability Test
5. Packing
6. History change record

Drawn by	Checked by	Approved by	Customer approved
宣泽 2018.01.17	龚云 2018.01.17	程久生 2018.01.17	

BESTAR HOLDING CO.,LTD

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BUS102PT-KT

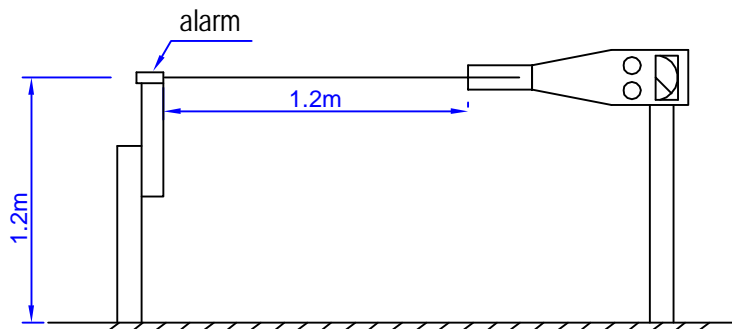


1. Technical Terms

No.	Type	Specifications
1.	Rated Voltage(DC)	14V/28V
2.	Operating Voltage(DC)	9-32V
3.	Current Consumption	≤ 1A
4.	SPL at 1.2m	102±4dB
5.	Resonant Frequency	960Hz-1440Hz
6.	Tone	Pulse
7.	ON-OFF-cycles	60C/M±10
8.	Temperature Range	-40-+85°C
9.	Storage Range	-50-+85°C
10.	Housing material	PA66+15%GF
11.	IP-rating	IP67
12.	Housing color	black

2. Test Method

The alarm is located in a free field or an equivalent fully anechoic room. The microphone is directed toward the alarm sound output opening along the zero degree axis and at the distance specified by the test requirement.

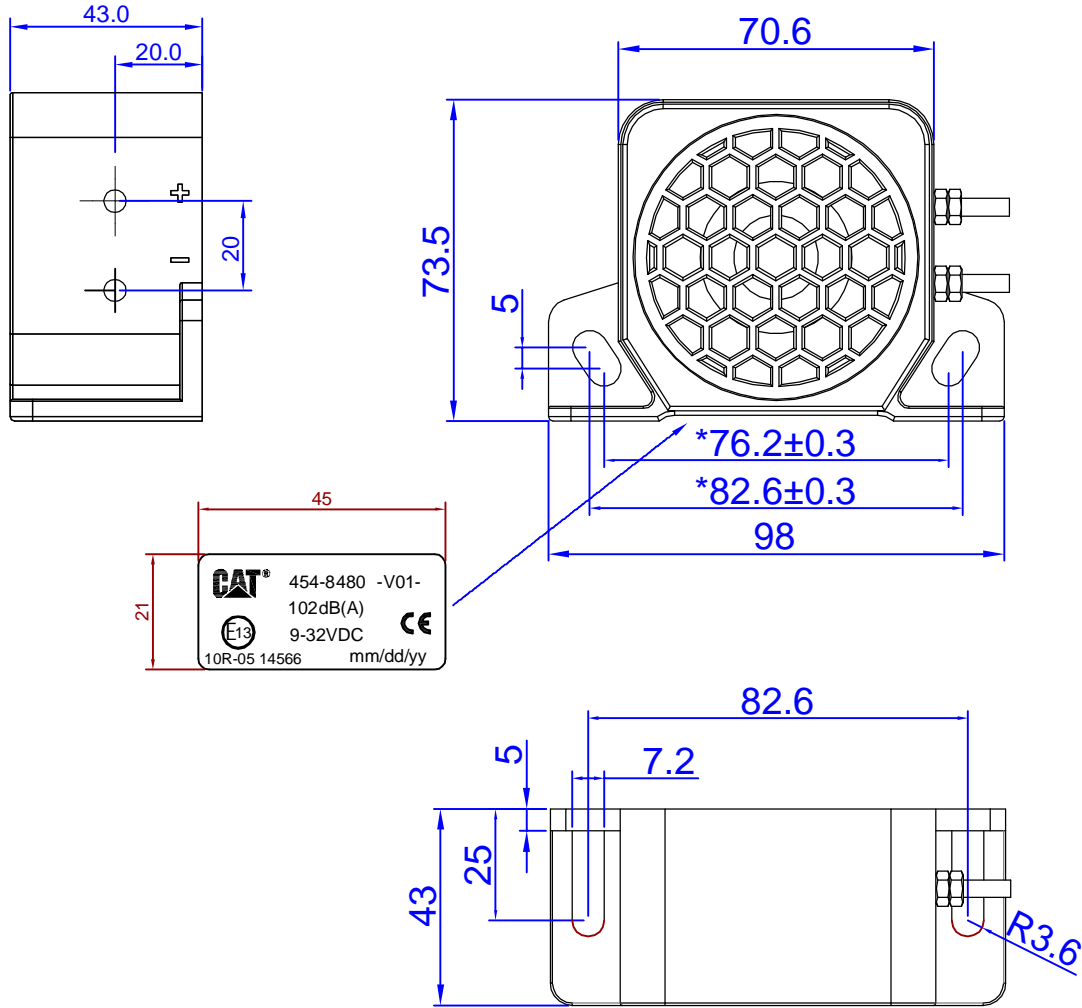


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3.Drawing



*Other dimension tolerance: ±0.5mm

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4. Reliability Test

4.1 Temperature Test

4.1.1 Low Temperature, System Voltage Extremes (Test standard: SAE J994 7.1)

Rated Voltage	Extreme Low System Voltage : 9VDC Extreme High System Voltage : 32VDC Nominal System Voltage : 14VDC
Duration	2hrs
Temperature	- 40°C ± 3°C

4.1.2 High Temperature, System Voltage Extremes (Test standard: SAE J994 7.2)

Rated voltage	Extreme Low System Voltage : 9VDC Extreme High System Voltage : 32VDC Nominal System Voltage : 14VDC
Duration	2hrs
Temperature	+ 85°C ± 3°C

4.2 Rain Test (Test standard: SAE J994 7.3)

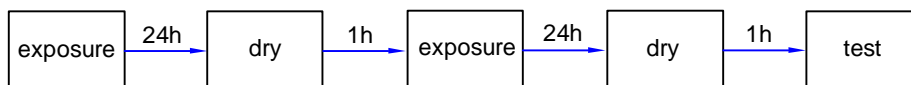
Precipitation rate	2.5 (+ 1.6/- 0) mm/min
Duration	Min. 2hrs
Direction	Delivered at an angle of 45 degrees from a nozzle with a solid cone spray and Subject all exposed sides of the alarm item to simulated blown rain.

4.3 Vibration Test

Vibration	15.32Grms, 24-2kHz	W/power on or W/O
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4.4 Corrosion Test (Test standard: SAE J994 7.5)

Duration 50hrs (NaCl 5%)



4.5 High Pressure Hot Water Test (Test standard: SAE J994 7.6)

Hot water temperature	Min. + 85°C
Pressure	Min. 6.9MPa
Flow rate	Min. 18.9L/min
Direction	15 degree spray angle and distance alarm sound opening 300 mm

Spray and drain cycle is a cycle . Spray needs 10s and drain cycle needs 30s. A total of 50 cycles.

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4.6 Dust Test (Test standard: SAE J994 7.7)

Dust 50% fine and 50% coarse particles
 Direction and Method compress air or fan blower blasts in a downward direction to diffuse the dust uniformly throughout the cube
 Duration 5hrs (Among them every 15min±0.5min for approximately a 2 s period compress air or fan blower blasts in a downward direction)

4.7 Life test (Test standard: SAE J994 8)

4.7.1 Endurance Test at Low Temperature (Test standard: SAE J994 8.1)

Power 30s ON then 30s OFF
 Rated voltage 9±0.2 VDC
 Temperature - 40°C±3°C
 Duration 4hrs

4.7.2 Endurance Test at High Temperature (Test standard: SAE J994 8.2)

Rated voltage 32±0.2 VDC
 Temperature + 85°C±3°C
 Duration 4hrs

4.7.3 Room Temperature Endurance Test (Test standard: SAE J994 8.3)

Rated voltage 14±0.2 VDC
 Temperature + 25°C±11°C
 Duration 100hrs

Notice: All specification must be satisfied in this condition.

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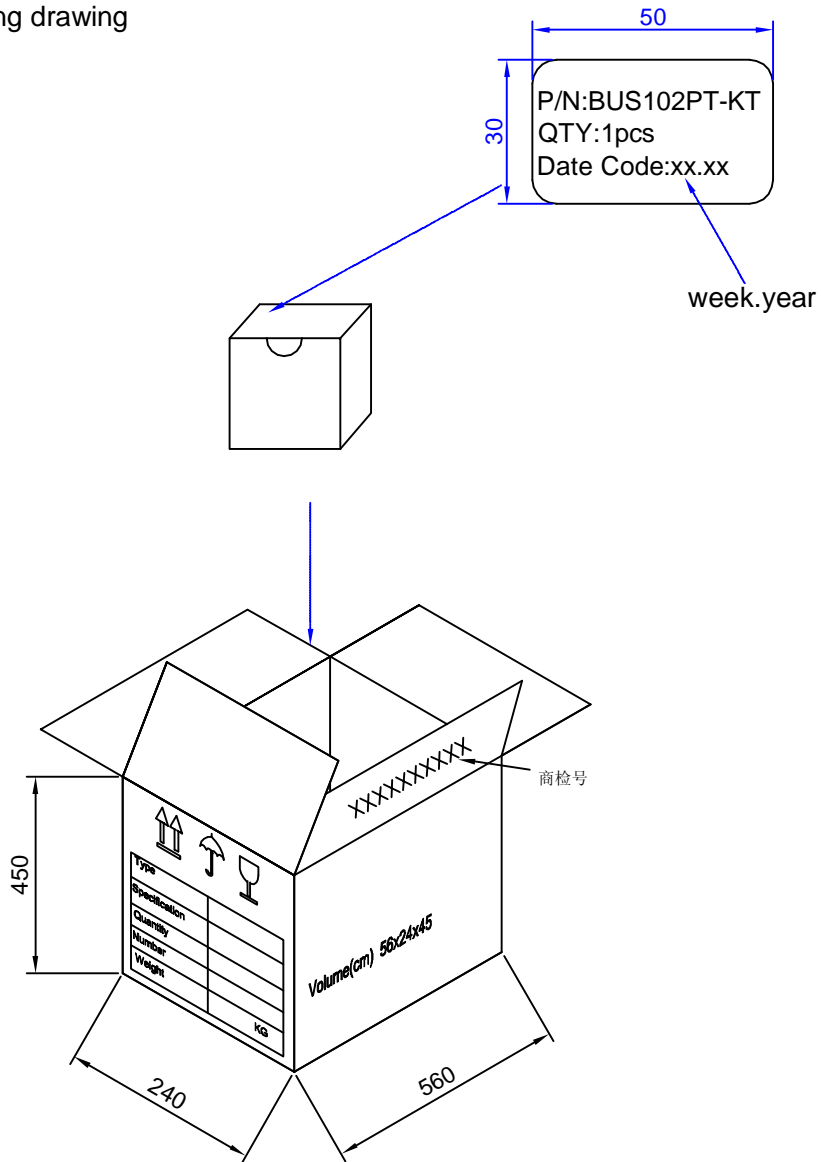
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5.Packing

5.1 Packing quantity: 1pcs per small box.
 Box size: 105x105x74(mm)
 Total 60 pcs per carton
 Carton size: 56x24x45(cm)

5.2 Packing drawing



注：外盒尺寸：56x24x45cm

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6. History change record

version No.	Change Items		Date	Drawn	Approved
	Before	After			
A			13/01/09	付秋萍	程久生
B		Correct the dimation of housing	14/04/20	付秋萍	程久生
C		change the customer P/N	15/04/20	付秋萍	程久生
D	the housing is old	the housing is new	16/09/06	龚云	朱卫华
E	vibration condition:6hours	vibration condition:15.32Grms	16/09/29	龚云	朱卫华
F		Change the label of products	18/01/17	宣泽	程久生

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