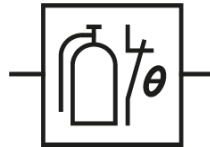


Specifications:



Features:

- Reliable temperature based activation
- Automatic fire detection
- Automatic fire extinguishing capability in electronic housings
- Irreversible power interruption
- Compact design
- Tested and recognized by independent bodies



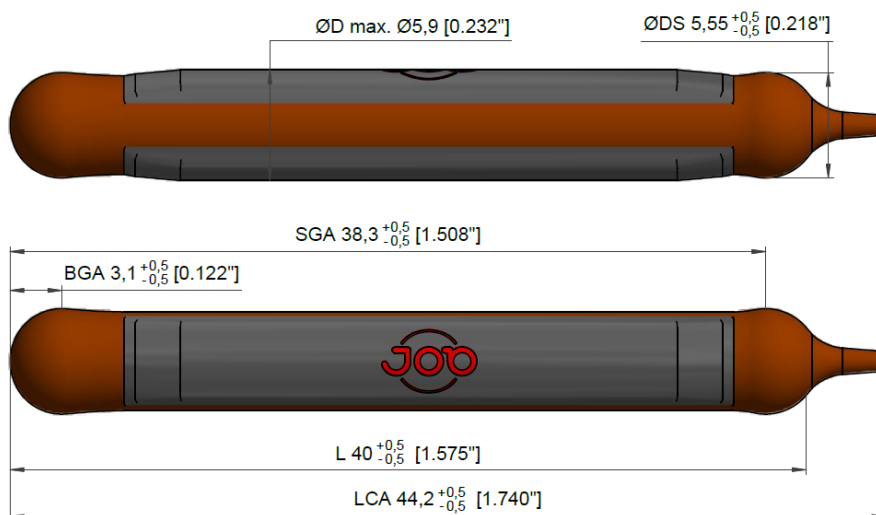
Product summary:

Specifications:	Parameter:
Part Name:	E-Bulb E5x40 10A 085-165
Part Number:	100724
Component Category:	CIFEA (UL 60692)
Dimension (in mm):	Ø 5 x 40
Fire Protected Volume [dm ³] ¹ :	1,364
Current Rating:	10 A
UL 60692, UL listed:	Yes
VdS certified:	Yes
VDE tested:	Yes

Product description: Extinguishing bulb E-Bulb at 5mm diameter and 40mm length (see drawings) and conductively coated for 10A (see electrical specs). The 10A E-Bulb comprises two conductive layers.

1. Component dimensions and protected volume

- *E-Bulb 5x40*



Technical drawings, 3D data and footprint plans are available from the manufacturer.

Specifications:	Parameter:
Part Number:	11048
Article Name:	E-Bulb E5x40 10A 085-165
Glass Color:	brown
Total Length (LCA) (in mm / inches):	44,2 +/- 0,5; 17.4" +/- 0.20"
Length (L) (in mm / inches):	40,0 +/- 0,5; 15.75" +/- 0.20"
Bottom Gripping Area (BGA, measured from bottom):	3,1 +/- 0,5; 1.22" +/- 0.20"
Shoulder Gripping Area (SGA, measured from bottom):	38,3 +/- 0,5; 15.08" +/- 0.20"
Diameter Bulb at Shoulder (ØDS):	5,55 +/- 0,5; 2.19" +/- 0.20"
Diameter (ØD):	Max. 5,9 ; 2.32"

2. Fire protection agent

Specifications:	Parameter:
Fire Protection Agent ² :	Dodecafluoro-2-methypentan-3-one CAS number: 756-13-8
Chemical Formula:	CF ₃ CF ₂ C(O)CF(CF ₃) ₂
Fire Protected Volume [dm ³] ¹ :	App. 1,364
Boiling Point:	App. 49°C / 120.2 F
Freezing Point:	App. -108°C / -162.4 F
Liquid Thermal Conductivity:	(Wm-K) = 0.063403 - 0.000188 T(°C)
Ozone Depletion Potential (ODP) ³ :	0.0
Global Warming Potential (GWP) ⁴ :	1
Atmospheric Lifetime (years):	0.014

¹Protected volume certified by VdS Schadenverhütung GmbH Germany


²For more information see datasheet of fire protection agent available via manufacturer.

³World Meteorological Organization (WMO) 1998, Model-Derived Method.

⁴Intergovernmental Panel on Climate Change (IPCC) 2007 Method, 100 Year ITH.

More details of fire protection agent available via E-Bulb manufacturer from the agent manufacturer.

3. Electrical data

Specifications:	Parameter:
Voltage:	0..250V AC/DC (0..60Hz)
Continuous current rating:	10 A <i>Maximum allowed current over the E-Bulb at 85°C/185°F and at 85% humidity.</i>
Short Term Current Rating:	150A DC for 3ms
Surge and Burst:	2kV for 30s
Official Electrical Symbol:	
Drop voltage, at 10A at room temperature (25°C) :	Max. 40 mV
Dielectric Strength:	UL 60692, Clause 10
Limited Short Circuit Test:	UL 60691, Clauses 11, 11.2 UL 60692, Clause 10.5
Sensitivity Oven Heat Test:	UL 60692, Clause 101
Functioning Test:	UL 60692, Clause 106
Interrupting Current Test:	UL 60692, Clause 10.3
Aging Test:	UL 60692, Clause 105
Temperature Holding Test:	UL 60691, Clauses 9.1, 9.3 UL 60692, Clause 102
Transient Overload Test:	UL 60692, Clause 10.4
Temperature Rise and Current-Carrying Capacity:	UL 60692, Clause 11.101

⁵Validated with UL 60692 first edition and UL 60691 third edition

4. Ambient conditions

The E-Bulb reliably activates based on ambient temperature within T_{O} and T_F

Specifications:	Parameter:
Holding Temperature (T_H):	85°C / 185 F
Max. Humidity at T_H :	85%
Lowest Operation Temperature:	-40°C / -40 F
Operation Temperature (T_O):	135°C / 275 F
Functional Temperature ($T_F = T_{Max}$):	165°C / 330 F
Shock Resistant in Holder based on DIN EN 60068-2-27:2008:	Yes, verified by PAConsult GmbH
Thermal Shock Resistance:	-40°C / -40 F - +85°C/185 F

T_F based on UL 60692 requirements

5. Mounting related specifications

Specifications:	Parameter:
E-Bulb Axial Load Strength:	Min. 3,1 kN
Max. Gripping Strength:	<20N

Specifications of manual or automatic assembly of E-Bulb in holder / on PCB can be found in dedicated assembly specification available from the manufacturer.

6. Transportation and Storage related specification

Specifications:	Parameter:
Transportation of E-Bulb:	In JOB blister and JOB Pizzabox
Max. Storage Temperature Packaging (Pizzabox/Blister):	+40°C / 104 F
Max. Storage Temperature E-Bulb:	85°C
Lowest Storage Temperature:	-40°C/-40°F
Max. Storage Humidity:	85%

7. Other conditions

Intentionally left blank

8. Tests, Approvals, Certification

Specifications:	Parameter:
VdS certified:	Yes
UL listed:	Yes
Fulfilling UL 60692 requirements for CIFEA:	Yes, tested by UL
Tested based on IEC 60691 ed. 4.0: 2015-10:	Yes, by VDE Germany

Additional tests

Specifications:	Parameter:
24h by 85°C test:	Yes, performed by VDE
Temperature cycle test (15.000 cycles, T1= 110°C for 50s T2= 25°C for 15s):	Performed regularly
Temperature cycle test (100.000 cycles, T1= 80°C T2= 25°C six cycles /min.):	Performed regularly
85°C, 85% rH, 504 h:	Performed regularly
Temperature Shock (DIN EN60068-2-14NA):	Yes, successfully performed
Mechanical Shock (EN60068-2-27EA):	Yes, successfully performed
Vibration Test with Temp. Cycles (DIN EN 60068-2-14NB):	Yes, successfully performed
Humidity-Temperature-Cycles (DIN EN 60068-2-38 Z/AD):	Yes, successfully performed
Humidity-Temperature-Constant (DIN EN 60068-2-67):	Yes, successfully performed

Manufacturer:

JOB GmbH
Kurt-Fischer-Str. 30
D-22926 Ahrensburg
Germany
www.e-bulb.com
www.job-group.com

Disclaimer:

The E-Bulb is designed to extinguish a fire and irreversibly interrupt current. Tests within a specific design can demonstrate the E-Bulbs capabilities, effectiveness and limitations. However, different test scenarios and procedures or design changes inside the system or the environment can lead to different results. Therefore JOB cannot be made accountable for any failures or unfavorable incidents using E-Bulb.