Bussmann BP/AGC-2-RP

Bussmann BP/AGC-2-RP 2 Amp Electronic Glass Fuse Instruction Manual

Model: BP/AGC-2-RP

1. Product Overview

The Bussmann BP/AGC-2-RP is a fast-acting glass tube fuse designed for reliable circuit protection in various applications, including automotive and electronic systems. This 2 Amp fuse is engineered to respond quickly to overloads, safeguarding equipment from potential damage.

Key features include a 1/4 inch x 1-1/4 inch size, a 2 Amp at 250 Volt rating, and a high interrupting capacity of 100A. Its durable construction features a clear glass tube and nickel-plated brass endcaps, allowing for easy visual inspection of the fuse element. This product meets UL standards for quality and safety.

Image 1: A single Bussmann AGC-2-RP 2 Amp glass fuse, showing its clear glass body and metallic end caps.

2. Specifications

This section provides detailed technical specifications for the Bussmann BP/AGC-2-RP fuse.

- **Model:** AGC-2 (BP/AGC-2-RP)
- **Current Rating:** 2 Amps
- **Voltage Rating:** 250 Volts
- **Interrupting Capacity:** 100A
- **Fuse Type:** Fast-acting glass tube fuse
- **Dimensions (L x Dia):** 1-1/4 inches x 1/4 inch (31.75 mm x 6.35 mm)
- **Material:** Glass tube, nickel-plated brass endcaps
- **Mounting Type:** Through-Hole Mount
- **Compliance:** UL Listed
- **Weight:** Approximately 1.44 ounces (for a pack of 5)

AGC

1/4" x 1-1/4" Fast-acting glass tube fuses

RoHS

Product features

- Fast-acting
- Optional axial leads available
- 1/4" x 1-1/4" (6.3 mm x 32 mm) physical size
- Glass tube, nickel-plated brass end cap construction
- UL Listed product meets standard 248-14

Applications

Primary circuit protection

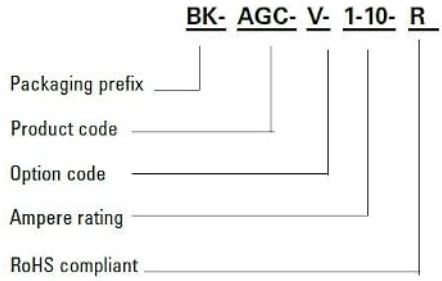
- Power supplies
- Battery chargers
- Monitors
- Consumer electronics
- Test equipment

Agency information

- UL Listed card: File E19180, Guide JDYX (AGC 1/10 A - 10 A)
- UL Recognition card: File E19180, Guide JDYX2 (AGC 11 A - 40 A)
- CSA Component acceptance card (Class No. 1422-30)
- CSA Certification acceptance card (Class No. 1422–01)

Ordering code

The ordering code is the part number replacing the "/" with a "-" plus adding the packaging prefix and option code.



Packaging prefix

- Blank (5 ferrule/cartridge parts in a 5 inch tin, 4 axial lead parts in a 5 inch tin)
- BK- (100 parts packed into a cardboard carton with flaps folded)

Option code

- -B- (Board washable - Hermetically sealed to withstand aqueous cleaning)
- -V- (Axial leads - copper tinned wire with nickel-plated brass end caps)

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Image 2: Technical Data Sheet Page 1, detailing AGC fast-acting glass tube fuses, applications, agency information, and ordering codes.

Electrical characteristics

Amp Rating	% of Amp Rating	Opening Time
1/10 A – 40 A	100%	4 hours minimum
1/10 A – 40 A	135%	60 minutes maximum
1/10 A – 40 A	200%	120 seconds maximum

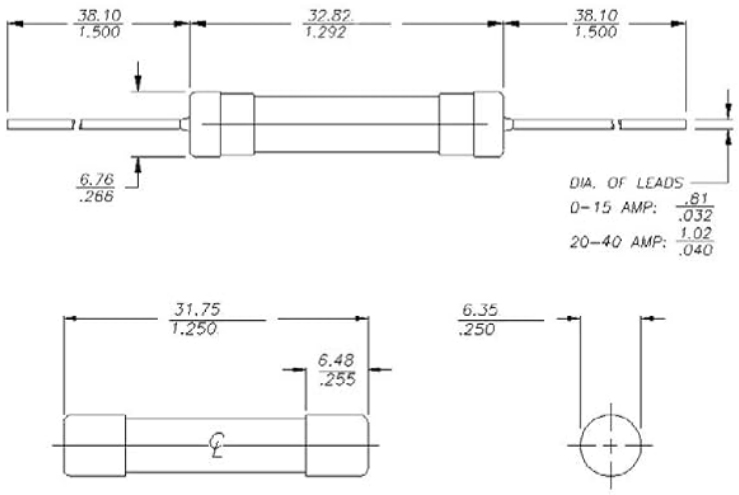
Product specifications

			AC Interrupting rating (A)					
Part Number	Current rating (A)	Voltage rating (Vac)	250 V	125 V	32 V	Typical DC cold resistance[1] (Ω)	Typical melting[2] I^2t (A^2s)	Typical voltage drop[3] (V)
AGC-1/10-R	0.1	250	35	10,000	1000	17.55	0.0010	15.168
AGC-1/8-R	0.125	250	35	10,000	1000	10.825	0.0020	10.854
AGC-3/16-R	0.1875	250	35	10,000	1000	6.050	0.0070	7.652
AGC-2/10-R	0.5	250	35	10,000	1000	4.800	0.0080	6.105
AGC-1/4-R	0.25	250	35	10,000	1000	1.550	0.0160	0.984
AGC-3/10-R	0.3	250	35	10,000	1000	1.084	0.0270	0.886
AGC-3/8-R	0.375	250	35	10,000	1000	0.703	0.0900	0.548
AGC-1/2-R	0.5	250	35	10,000	1000	0.483	0.3850	0.324
AGC-3/4-R	0.75	250	35	10,000	1000	0.272	1.7160	0.309
AGC-1-R	1.0	250	35	10,000	1000	0.167	3.2400	0.256
AGC-1-1/4-R	1.25	250	100	10,000	1000	0.122	5.0940	0.222
AGC-1-1/2-R	1.5	250	100	10,000	1000	0.077	9.0230	0.218
AGC-2-R	2.0	250	100	10,000	1000	0.063	17.520	0.199
AGC-2-1/4-R	2.25	250	100	10,000	1000	0.052	22.832	0.194
AGC-2-1/2-R	2.5	250	100	10,000	1000	0.045	28.688	0.193
AGC-3-R	3.0	250	100	10,000	1000	0.035	45.900	0.191
AGC-4-R	4.0	250	200	10,000	1000	0.024	86.560	0.179
AGC-5-R	5.0	250	200	10,000	1000	0.019	131.500	0.170
AGC-6-R	6.0	250	200	10,000	1000	0.015	144.360	0.165
AGC-7-R	7.0	250	200	10,000	1000	0.012	195.02	0.159
AGC-7-1/2-R	7.5	250	200	10,000	1000	0.012	216.00	0.155
AGC-8-R	8.0	250	200	10,000	1000	0.009	256.00	0.152
AGC-9-R	9.0	250	200	10,000	1000	0.009	395.28	0.148
AGC-10-R	10	250	200	10,000	1000	0.008	486.00	0.141
AGC-12-R	12	32	—	—	1000	0.006	696.96	0.138
AGC-14-R	14	32	—	—	1000	0.005	776.16	0.132
AGC-15-R	15	32	—	—	1000	0.005	807.75	0.128
AGC-20-R	20	32	—	—	1000	0.0034	2440.00	0.125
AGC-25-R	25	32	—	—	1000	0.0027	3875.00	0.120
AGC-30-R	30	32	—	—	1000	0.0024	4950.00	0.135
AGC-35-R	35	32	—	—	1000	0.0021	7350.00	0.130
AGC-40-R	40	32	—	—	1000	0.0016	11360.00	0.125

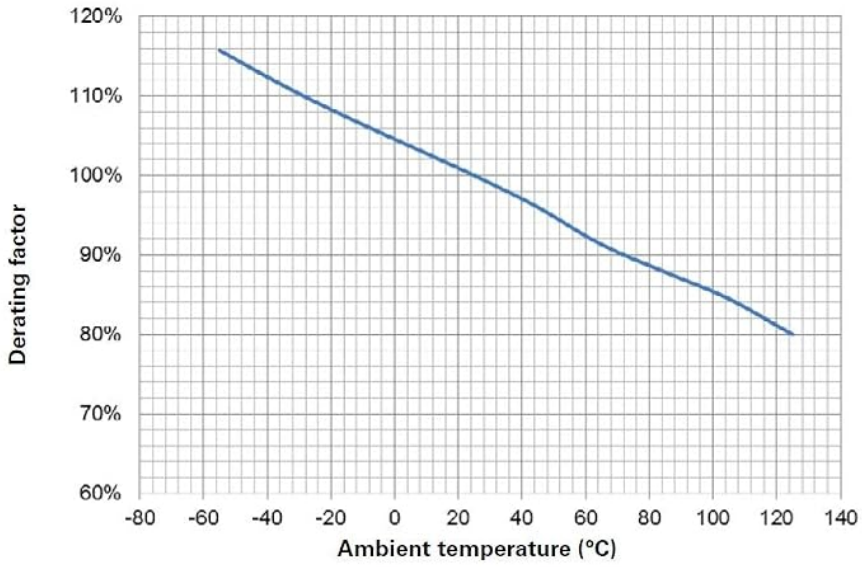
1. DC cold resistance measured at <10% of rated current
2. Typical melting I^2t measured at listed interrupting rating and rated voltage
3. Typical voltage drop measured at +25 °C and rated current

Image 3: Technical Data Sheet Page 2, showing electrical characteristics and a product specifications table with AC interrupting ratings for various AGC fuses.

Dimensions–mm



Temperature derating curve



General specifications

Operating temperature: -55 °C to +125 °C (with derating)
Shock: 1/10 A to 3/4 A, MIL-STD-202, Method 213, Test Condition I 1 A to 30 A, MIL-STD-202, Method 207, (HI Shock)
Vibration: 1/10 A to 30 A MIL-STD-202, Method 204, Test Condition A (Except 5f, 500HZ)

Image 4: Technical Data Sheet Page 3, illustrating fuse dimensions, a temperature derating curve, and general specifications.

Time current curve

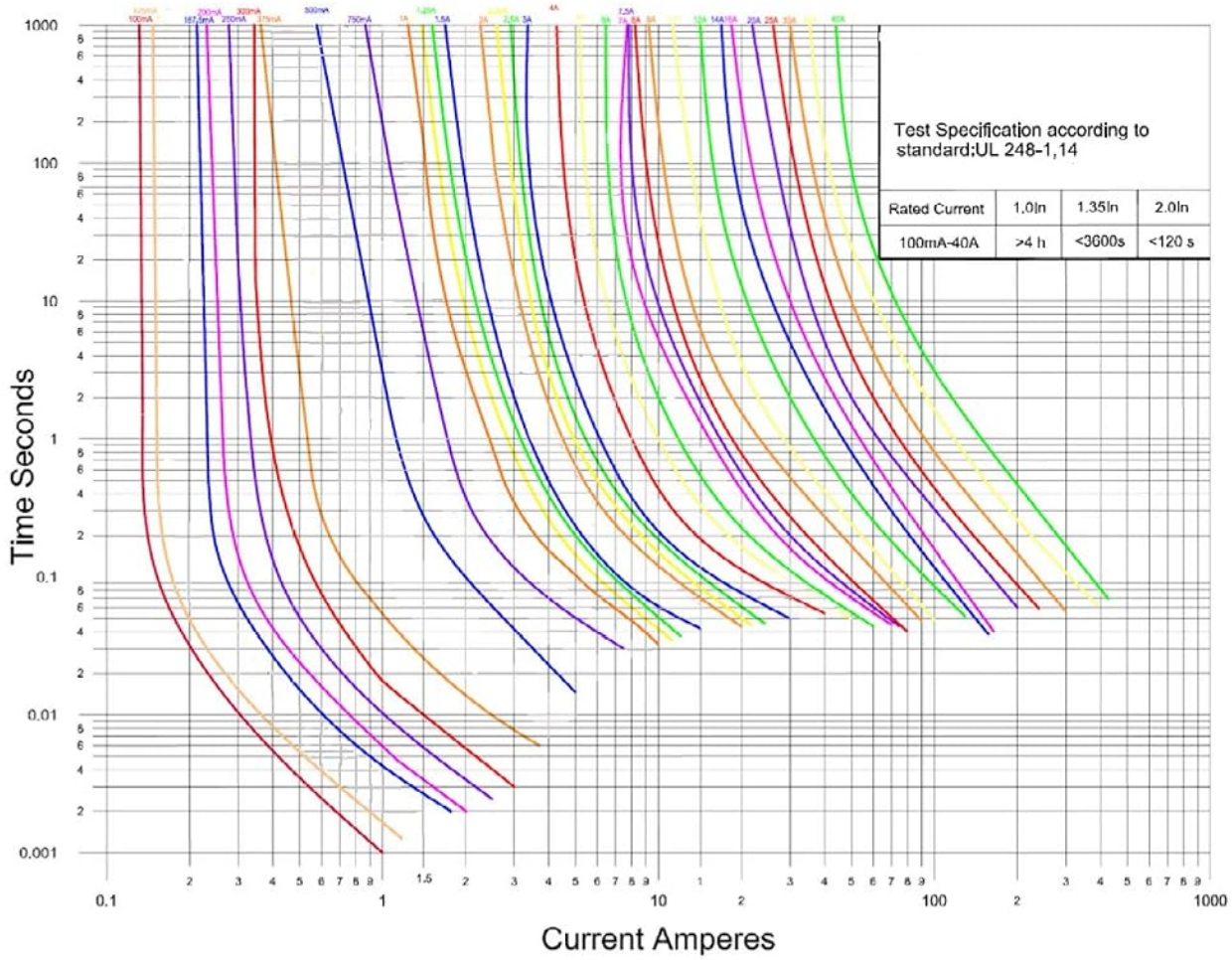


Image 5: Technical Data Sheet Page 4, displaying the time-current curve for AGC fuses, indicating their response time to various overcurrent conditions.

3. Installation and Replacement

Fuses are critical safety components. Always ensure the power supply to the circuit is disconnected before attempting installation or replacement.

1. **Identify the Correct Fuse:** Ensure the replacement fuse matches the original fuse's specifications (e.g., 2 Amp, 250V, AGC type). Using an incorrect fuse can lead to improper circuit protection or damage.
2. **Disconnect Power:** Turn off the power to the circuit or device where the fuse is located. This is crucial for safety.
3. **Locate Fuse Holder:** Identify the fuse holder. This may be a clip-type holder, a screw-in holder, or part of a fuse block.
4. **Remove Old Fuse:** Carefully remove the blown fuse. For glass tube fuses, a fuse puller tool is recommended to avoid breakage or injury.
5. **Inspect Fuse Holder:** Check the fuse holder for any signs of damage or corrosion. Clean if necessary.
6. **Insert New Fuse:** Insert the new Bussmann BP/AGC-2-RP fuse into the fuse holder, ensuring it is seated firmly and correctly.
7. **Restore Power:** Once the new fuse is securely in place, restore power to the circuit.
8. **Test Functionality:** Verify that the device or circuit is functioning correctly.

Note: If the new fuse blows immediately, there may be an underlying electrical issue that requires professional diagnosis.

4. Operation

The Bussmann BP/AGC-2-RP fuse is a passive safety device designed to protect electrical circuits from overcurrent conditions. It operates by containing a metallic wire or filament that melts and breaks the circuit when the current flowing through it exceeds a specified rating for a certain duration. This interruption prevents damage to sensitive components and wiring due to excessive current or short circuits.
As a fast-acting fuse, it is designed to open quickly under overload conditions, making it suitable for protecting components that are sensitive to even brief overcurrents.

5. Maintenance

Fuses generally require minimal maintenance. However, periodic inspection can help ensure continued circuit protection.

- **Visual Inspection:** Due to its clear glass construction, the fuse element can be visually inspected. A blown fuse will typically show a broken or melted filament.
- **Replacement:** Fuses are single-use devices. Once a fuse blows, it must be replaced with a new one of the exact same type and rating. Do not attempt to repair a blown fuse.
- **Storage:** Store spare fuses in a dry, cool place, away from direct sunlight and extreme temperatures, to maintain their integrity.

6. Troubleshooting

If a device or circuit stops working, a blown fuse is a common cause. Follow these steps to troubleshoot:

1. **Check for Power:** Ensure the device is plugged in and the main power supply is active.
2. **Locate the Fuse:** Refer to your device's manual to find the fuse location.
3. **Inspect the Fuse:** Visually check the fuse. If the filament inside the glass tube is broken or discolored, the fuse is blown.
4. **Replace the Fuse:** If the fuse is blown, replace it with a new Bussmann BP/AGC-2-RP fuse, following the installation instructions in Section 3.

5. **Persistent Blowing:** If the new fuse blows immediately or shortly after replacement, it indicates a persistent electrical fault (e.g., a short circuit or overload) in the device or circuit. In such cases, discontinue use and consult a qualified electrician or service technician. Do not repeatedly replace fuses without addressing the underlying problem.

7. Safety Information

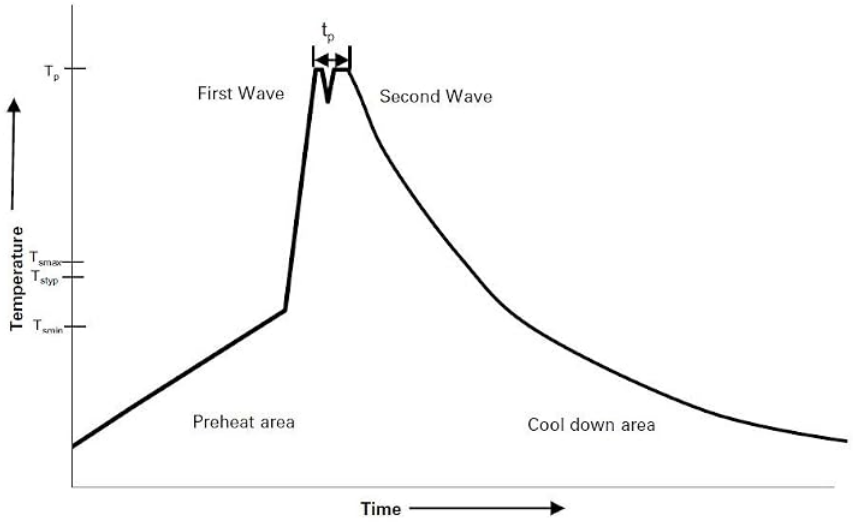
Always adhere to safety precautions when working with electrical components.

- **Disconnect Power:** Always disconnect power to the circuit before installing, inspecting, or replacing fuses.
- **Use Correct Rating:** Only replace a fuse with one of the identical current (Amps) and voltage (Volts) rating. Using a fuse with a higher rating can lead to overheating, fire, or severe damage to equipment. Using a fuse with a lower rating will cause it to blow prematurely.
- **Avoid Bridging:** Never bypass or "bridge" a fuse with wire, foil, or any other conductive material. This eliminates the safety protection and can cause severe damage or fire.
- **Handle with Care:** Glass fuses can break. Handle them carefully to avoid injury.
- **Professional Assistance:** If you are unsure about any electrical work, consult a qualified professional.

8. Support and Contact

For further technical assistance or inquiries regarding Bussmann products, please refer to the official Bussmann documentation or contact their customer support.
Bussmann is a brand of Eaton. Additional technical data and support resources may be available on the Eaton website.

Wave solder profile (Axial lead only)



Reference EN 61760-1:2006

Profile feature		Standard SnPb solder	Lead (Pb) free solder
Preheat	• Temperature min. (T_{smin})	100 °C	100 °C
	• Temperature typ. (T_{styp})	120 °C	120 °C
	• Temperature max. (T_{smax})	130 °C	130 °C
	• Time (T_{smin} to T_{smax}) (t_s)	70 seconds	70 seconds
Δ preheat to max Temperature		150 °C max.	150 °C max.
Peak temperature (Tp)*		235 °C – 260 °C	250 °C – 260 °C
Time at peak temperature (t_p)		10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate		~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25 °C to 25 °C		4 minutes	4 minutes

Manual solder

+350 °C (4-5 seconds by soldering iron), generally manual/hand soldering is not recommended

Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com/electronics

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Image 6: Technical Data Sheet Page 5, providing wave solder profile, manual solder recommendations, life support policy, and contact information for Eaton/Bussmann.

Manufacturer: Bussmann Electrical (an Eaton brand)
For the most current information, please visit the official Bussmann or Eaton website.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question