



AVC1 (XB101-1)

Advanced Voltage Controller

Quick Start Guide

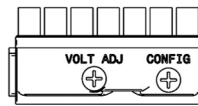
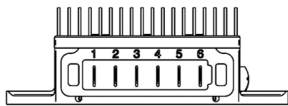
TECHNICAL SUPPORT
WE'RE HERE
TO HELP
316-283-8000

MONDAY-FRIDAY 9:00 - 4:30 CENTRAL

*Download the full AVC1 Technical Manual
for more detailed installation guidance:
www.BandC.com/AVC1install28*

Overview

The AVC1 (XB101-1) is an 28V external voltage regulator/rectifier designed for use with single-phase permanent-magnet alternators up to 20A in size. Over-voltage protection, Charging System-fault and Low-voltage warning output, and field-adjustable charging voltage are integrated into the AVC1 control package.



Terminals 1 & 2 - AC Input **Terminal 5** - Warning Output
Terminals 3 & 4 - DC Output (+) **Terminal 6** - Control Input
Case - Ground **VOLT ADJ** - Voltage Regulation Adjustment
CONFIG - LV Warning Configuration

LV Warning Configuration

The AVC1 provides warning output for Charging-System Fault (CSF) and Low-Voltage (LV) conditions. LV warning is user-selected to trigger at one of three voltage thresholds. It may be disabled, also, if desired.

LV warning-select DIP switches



LV warning options may be selected by positioning two small DIP switches behind the machine screw cap labeled "CONFIG" on the side of the AVC1 enclosure. The factory preset is 25.4v.

LV Warning	Switch 1	Switch 2
Disabled	DOWN	DOWN
25.4v	DOWN	UP
26.0v	UP	DOWN
26.6v	UP	UP

Installation

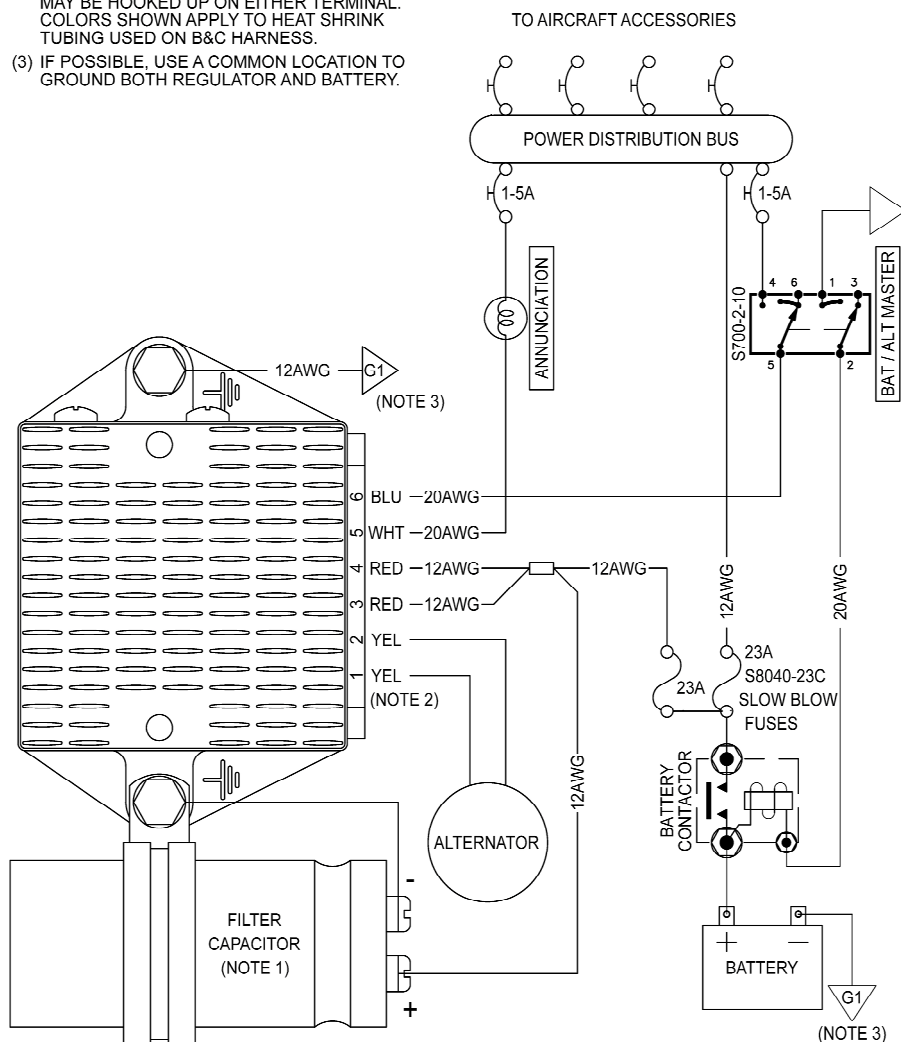
- ◆ For Ducati retrofit, AVC1 may be installed with no wiring changes. Otherwise, refer to Diagrams 1 & 2 (reverse) for suggested wiring configurations.
- ◆ Disconnect ship's battery, Negative (-) post first.
- ◆ Mount the AVC1 & filter capacitor (if used) on the firewall or selected location, terminal strip DOWN.
- ◆ **Wire the AC input.** Connect Terminals 1 & 2 to the two AC leads from the alternator/dynamo, using the supplied wire terminals and heatshrink, if needed. Note: there is no polarity in these wires.
- ◆ **Wire the DC power (+) output.** Connect Terminals 3 & 4 to the positive (+) post on the filter capacitor (if used) and the aircraft bus at the output current limiter(s) or panel circuit breaker.

Installation (Continued)

- ◆ **Wire the Warning Output.** Connect Terminal 5 to appropriate EFIS input or the panel indicator light.
- ◆ **Wire the Control Circuit.** Connect Terminal 6 to the battery/alternator master switch.
- ◆ **Wire the Ground circuit.** Using 12AWG M22759/16 wire, connect one of the two mounting flanges on the AVC1 to the aircraft firewall Ground, Grounding block, or battery Negative (-) post.
- ◆ Connect ship's battery, Positive (+) post first.
- ◆ Test the installation. Perform a normal engine start. Charging should be indicated at 27.6v to 28.8v. LV indication may occur initially, but should cease as bus voltage rises above the selected warning threshold.

**PM Alternator w/ firewall-forward
power feed & battery contactor**

- (1) STANDARD B&C CAPACITOR IS 10,000uF. 22,000uF CAPACITOR IS AVAILABLE. RETROFIT INSTALLATIONS MAY USE EXISTING CAPACITOR.
- (2) ALTERNATOR WIRES HAVE NO POLARITY AND MAY BE HOOKED UP ON EITHER TERMINAL. COLORS SHOWN APPLY TO HEAT SHRINK TUBING USED ON B&C HARNESS.
- (3) IF POSSIBLE, USE A COMMON LOCATION TO GROUND BOTH REGULATOR AND BATTERY.



**PM Alternator w/ panel-mount
power feed & battery contactor**

(1) STANDARD B&C CAPACITOR IS 10,000uF.
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INSTALLATIONS MAY USE EXISTING CAPACITOR.

- (2) ALTERNATOR WIRES HAVE NO POLARITY AND MAY BE HOOKED UP ON EITHER TERMINAL. COLORS SHOWN APPLY TO HEAT SHRINK TUBING USED ON B&C HARNESS.
- (3) IF POSSIBLE, USE A COMMON LOCATION TO GROUND BOTH REGULATOR AND BATTERY.
- (4) SIZE CIRCUIT PROTECTION & WIRE PER TABLE BELOW. FEEDER FUSE MUST BE A SLOW BLOW TYPE FUSE. DO NOT SUBSTITUTE A FAST ACTING FUSE.

ALTERNATOR SIZE	CB	MIDI FUSE	WIRE SIZE
8A (SD8)	10A	S8040-23C	12 AWG
12A (200G)	15A	S8040-23C	12 AWG
15-18A	20A	S8040-30C	10 AWG
20A	25A	S8040-30C	10 AWG

