

# BCS Product Warranty

Bradshaw Communication Systems (BCS) products are warranted to be free from defects in material or workmanship for one (1) year from the date of sale to the original purchaser. Any part of the product covered by this warranty that, with normal installation and use, becomes defective will be repaired or replaced by BCS, at our option, provided the product is shipped insured and prepaid to: BCS Service Department, 6272 Old Dahlonega Hwy. Murrayville, Georgia 30564, USA. The product will be returned to you freight prepaid. This warranty does not extend to any BCS products that have been subjected to abuse, misuse, improper storage, neglect, accident, improper installation or have been modified, repaired or altered in any manner whatsoever, or where the serial number or date code has been removed or defaced. No employee, agent, dealer, or other person is authorized to give any warranties on behalf of BCS.

The foregoing limited warranty is the BCS sole and exclusive warranty and the purchaser's sole and exclusive remedy. BCS makes no other warranties of any kind, either express or implied, and all implied warranties of merchantability or fitness for a particular purpose are hereby disclaimed and excluded to the maximum extent of the law. BCS liability arising out of the manufacture, sale or supplying of products or their use or disposition, whether based upon warranty, contract, tort or otherwise, shall be limited to the repair or replacement of the product. In no event shall BCS be liable for special, incidental or consequential damages (including, but not limited to, loss of profits, loss of data or loss of use damages) arising out of the manufacture, sale or supplying of products, even if BCS has been advised of the possibility of such damages or losses. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Products that are out of warranty may also be repaired by the BCS Service Department. The parts and labor involved in out of warranty and general repairs are warranted for 90 days when repaired by the BCS Service Department. All shipping charges in addition to parts and labor charges will be at the owner's expense. All returns require a Return Authorization Number that may be obtained by contacting the BCS Service Department prior to return of the product.



# WFC1

## WEATHERPROOF FAN CONTROLLER INSTALLATION MANUAL



READ ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLATION.  
SAVE THIS INSTALLATION MANUAL FOR FUTURE REFERENCE.  
INSTALLATION SHOULD ONLY BE PERFORMED BY QUALIFIED  
SERVICE PERSONNEL.

BCS reserves the right to change specifications contained herein without notice.

(Release Date: 21NOV05)

BRADSHAW COMMUNICATION SYSTEMS

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## DESCRIPTION:

The WFC1 Weatherproof Fan Controller, developed by Bradshaw Communication Systems, provides user adjustable, temperature based, fan and/or cooler control. The WFC1 is typically used to control single-phase (AC or DC) fans and/or coolers found in earth station antenna hubs and electronic equipment enclosures. Alternately, the WFC1 may be used to provide user adjustable "over temperature" alarm indication in the event the ambient air temperature surrounding the WFC1 exceeds the preset temperature setting.

The WFC1 is housed in a IP66/NEMA 4X enclosure, thus supporting the most rugged outdoor applications. The WFC1 is available with up to five watertight cable entry glands that support the use of a wide range of cable diameters.

With a user adjustable set point temperature range of 30 to 140 degrees Fahrenheit, the WFC1 allows great flexibility for use in many applications and environments. Power is applied to the fans when the ambient temperature exceeds the selected setpoint value.

Electrical terminations located inside the WFC1 enclosure are provided via cage clamp style terminal blocks, providing fast, easy, and accurate termination of interface wiring. Individual terminals for up to two single-phase (AC or DC) fans and a terminal actuation tool are provided standard with each WFC1.

The WFC1 has been designed to provide long life and ease of adjustment while still allowing the system integrator great flexibility in use, configuration, and mounting.

## SPECIFICATIONS:

- **Sensing Element**
  - Thermostatic Bi-Metal
- **Adjustment Range**
  - 30 – 140° F (Contacts Close Above Setpoint)
- **Switching Difference (Hysteresis)**
  - +/-4° F
- **Electrical**
  - 15 Amps @ 120VAC
  - 10 Amps @ 250VAC
- **Electrical Termination**
  - Cage Clamp Style Terminal Blocks (Actuation Tool Provided)
  - 26-14 AWG Wire Size
- **Mounting**
  - Four 0.190" Diameter Mounting Holes
  - Hole to Hole Dimensions 4.53" Square
- **Cable Entry**
  - Cable O.D. Range: 0.230-0.530 inches
- **Environmental**
  - -40° F to +122° F, 95% humidity, condensing (-40° C to +50° C, 95% humidity, condensing)
  - Enclosure Rating: IP66 (NEMA 4X)
- **Physical**
  - Enclosure Dimensions  
5.12" wide x 5.12" high x 2.95" deep  
(130mm wide x 130mm high x 75mm deep)
  - Weight: 1 LB (0.45 Kg)
  - Enclosure Color/Type: Light Gray/Polystyrene
  - Cable Gland Protrusion: 1.25" (31.75mm) Nominal

- **Approvals**
  - The WFC1 has been designed to meet or exceed CE, UL, & CSA safety requirements.

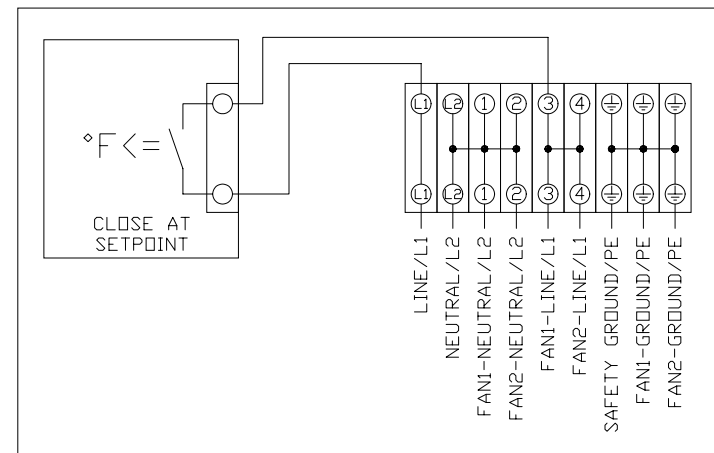
## PART NUMBERS:

- P/N 03-03000-1  
WFC1 w/ Two Cable Entry Glands
- P/N 03-03000-2  
WFC1 w/ Three Cable Entry Glands
- P/N 03-03000-3  
WFC1 w/ Four Cable Entry Glands
- P/N 03-03000-4  
WFC1 w/ Five Cable Entry Glands

## INSTALLATION & ADJUSTMENT:

Mount the WFC1 in an easily accessible location on the antenna. 8-32 Socket Head Cap Screws and associated hardware are normally used to secure the WFC1 to a mounting bracket or similar. Refer to the WFC1 Outline Mounting Drawing (provided separately) and verify the WFC1 is securely mounted. Open the cover to the WFC1. Install the input power and fan cables into the WFC1 cable glands. Electrically connect WFC1 TB1 per the WFC1 Schematic Diagram below. If more than two fans are controlled, wires may be installed on the upper side of the terminal block in addition to the standard lower terminals. Multiple wires may be installed in each terminal depending upon wire gauge used.

Locate the temperature-setting dial on the face of the thermostat module. Using a small flat blade pocket screwdriver (or similar) adjust the temperature setting dial to the desired "fan/s on" position. Apply power to the system and verify either the "fan/s on" or "fan/s off" condition is correct for the ambient temperature. The temperature-setting dial may be adjusted to a lower setting to verify fans operate correctly. Once verification has been completed, ensure the temperature setting dial is re-adjusted to the original (final) setting. Close the cover securely to ensure a watertight seal (DO NOT OVERTIGHTEN COVER SCREWS OR ENCLOSURE DAMAGE WILL RESULT!). The WFC1 will now automatically switch on the fan/s whenever the ambient temperature exceeds the temperature setting dial value and will switch the fan/s off whenever the ambient temperature drops below the temperature setting dial value. Remember, a switching difference (hysteresis) of +/-4 degrees Fahrenheit is implemented to ensure the fan/s do not alternately switch on and off at the set point).



WFC1 SCHEMATIC DIAGRAM