



Certificate of Compliance

Certificate: 80147310

Master Contract: 150143

Project: 80147310

Date Issued: 2024-03-14

Issued To: Altronic, LLC
712 Trumbull Ave
Girard, Ohio, 44420
United States

Attention: Glenn Terry

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

Issued by:

William E. Miller



PRODUCTS

CLASS - C225802 - PROCESS CONTROL EQUIPMENT For Hazardous Locations

CLASS - C225882 - PROCESS CONTROL EQUIPMENT For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C, D; T4

AFR-500 - Advanced Air-Fuel Ratio Control System

Rated: 18-32 VDC, 1.6 A

Ambient temperature rating $-40\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$

Conditions of Acceptability:



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- Model AFR-500 shall be powered by either a certified SELV power source or on-engine DC power supplied by battery and alternator.
- Supply shall have an external 5A overcurrent protection device in line.
- Model AFR-500 is open type equipment and shall be mounted in a suitable, tool-secured enclosure that will prevent operator access to fuses and the marking overlay.
- Wiring to and from the AFR-500 shall be of insulated wire and cables with a VW-1 or better flame rating.
- Field wiring must use wire type that has a temperature rating $\geq 85\text{ }^{\circ}\text{C}$
- Model AFR-500 shall be used with the following Altronics fuel control valve models 690abb-c

Where:

a denotes valve type: 1 = Piston style, 2 = Butterfly style

bb denotes the housing / pipe thread size

for piston style: 53 = $\frac{3}{4}$ " NPT, 54 = 1.5" NPT

for butterfly style: 20 = 2", 25 = 2.5", 30 = 3"

c denotes plunger length and does not affect the safety of the product.

APPLICABLE REQUIREMENTS

CSA C22.2 NO. 61010-1-12 + UPD 1 (July 2015) + UPD 2 (April 2016) + UPD 3 (June 2023)	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements - Third Edition
CAN/CSA C22.2 No. 213-17 + UPD 1 (2018) + UPD 2 (2019) + UPD 3 (2021) (R2022)	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
ANSI/UL 61010-1 - 2023 Third Edition	Standard for Safety Electrical Equipment for Measurement, Control, and Laboratory Use; Part 1: General Requirements - Third Edition
ANSI/UL 121201-2021 Ninth Edition	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.



The products listed are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US (indicating that products have been manufactured to the requirements of both Canadian and U.S. Standards) or with adjacent indicator 'US' for US only or without either indicator for Canada only.



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The following markings appear on .030-inch polycarbonate overlay held onto the open equipment using slots in the PCB carrier channel. See specific conditions of use.

- Manufacturers name: "Altronic", or CSA Master Contract Number "150143".
- Model number, as specified in the PRODUCTS section, above.
- Hazardous Location designation: As specified in the PRODUCTS section, above. The word "Class" may be abbreviated "CL", the word "Division" may be abbreviated "DIV", and the word "Groups" may be abbreviated "GRP" or "GP".
- Temperature code: As specified in the PRODUCTS section, above.
- The manufacturing location shall be identified if the equipment can be produced in more than one facility.
- ISO 3864 Symbol B.3.1  or ISO 7000 symbol 0434  (triangle with exclamation point)
- Ambient temperature rating, as specified in the PRODUCTS section, above.
- The CSA Mark with or without the "c" and/or "us" indicators.
- The words "Use wire rated $\geq 85^{\circ}\text{C}$ ", or equivalent.

Documentation Requirements



An installation manual, data sheet, or other documentation shall be supplied with each unit, containing the following minimum information:

- Name and address of manufacturer from whom technical assistance may be obtained.
- A description of the intended use of the equipment.
- A statement that if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- Mounting and installation instructions, including dimensions, and the following words, or equivalent:
 - This device is OPEN type equipment that must be used within a suitable end-use system enclosure, the interior of which is accessible only through the use of a tool. The suitability of the enclosure is subject to investigation by the local Authority Having Jurisdiction at the time of installation.
 - Wiring to or from this device, which enters or leaves the system enclosure, must utilize wiring methods suitable for Class I, Division 2 Hazardous Locations for the installation.
- Electrical ratings, as specified in the PRODUCTS section, above.
- Specification for ambient temperature rating, as specified in the PRODUCTS section, above.
- Specification that installer must use wire type that has a temperature rating $\geq 85^{\circ}\text{C}$
- Specification that this equipment may only be powered by a power supply unit with a limited energy electric circuit in accordance with CAN/CSA C22.2 No. 61010-1-12 and ANSI/UL 61010-1, or Class 2 as defined in the Canadian Electrical Code C22.1, Section 16-200 and/or National Electrical Code (NFPA 70), article 725.121, or utilize on-engine DC power supplied by battery and alternator of the voltage specified in the PRODUCTS section above.
- A description of all input and output connections.
- Specification for replacement battery type.
- Specification for rating and characteristics of replacement fuses.
- Specific commissioning instructions and, if necessary for safety, warnings against hazards which could arise during installation or commissioning of the equipment.



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- Statement that the safety of any system incorporating the equipment is the responsibility of the assembler of the system.
- Instructions for safety addressing the following areas:
 - on-site assembling;
 - any specialized installation information for the user, such as a specific sequence of assembling;
 - information about the mechanical assembling such as pipe connections;
 - installation and erection;
 - information, other than the general requirements given in Canadian Electrical Code (CAN/CSA C22.1), and National Electrical Code (ANSI/NFPA 70);
 - information about bonding, shield earthing, or overvoltage protection.
- Conditions of Use –
 - Model AFR-500 shall be powered by either a certified SELV power source or on-engine DC power supplied by battery and alternator.
 - Supply shall have an external 5A overcurrent protection device in line.
 - Model AFR-500 is open type equipment and shall be mounted in a suitable, tool-secured enclosure that will prevent spread of fire and operator access to hot components and the marking overlay.
 - Wiring to and from the AFR-500 shall be of insulated wire and cables with a VW-1 or better flame rating.
 - Field wiring must use wire type that has a temperature rating ≥ 85 °C
 - Model AFR-500 shall be used with the following Altronics fuel control valve models 690abb-c
Where:
 - a denotes valve type: 1 = Piston style, 2 = Butterfly style
 - bb denotes the housing / pipe thread size
for piston style: 53 = ¾" NPT, 54 = 1.5" NPT
for butterfly style: 20 = 2", 25 = 2.5", 30 = 3"
 - c denotes plunger length and does not affect the safety of the product.
- ISO 3864 Symbol B.3.1  or ISO 7000 symbol 0434  (triangle with exclamation point) with a statement that the manual must be consulted in all cases where this symbol is marked, in order to find out the nature of the potential HAZARDS and any actions which have to be taken to avoid them.
- Instructions for interconnection to accessories and other equipment, including indication of suitable accessories, detachable parts and any special materials.
- Identification and description of operating controls or parameter setting and their use in all operating modes.
- Instructions in sufficient detail to permit safe maintenance and inspection of the equipment, including requirements for the maintenance of the explosion protection, and to ensure continued safety of the equipment after the maintenance and inspection procedure.

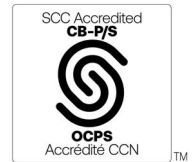


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Notes:

Products certified under Class C225802, C225882 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca





Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below,
are eligible to be marked in accordance with the referenced Certificate.*

Product Certification History

Project	Date	Description
80147310	2024-03-14	Original Certification of Advanced Air-Fuel Ratio Control System, Model AFR-500, for Class I, Division 2, Groups A,B,C,D, T4.