

SPRAYSAFE Autonomous Fire Suppression Programmable Logic Controller

Features

- The programmable logic controller (PLC) receives input from the flame detectors and autonomously operates the system
- The computing and software technology is programmed to instantly and autonomously extend the Autonomous Fire Suppression (AFS) Extension Boom and position the AFS Robotic Monitor to direct a high volume of water with high accuracy at the flame, as well as return the system to standby mode when the flame is suppressed
- Fully programmable and expandable
- Updates position of robotic monitor dynamically, at a rate of ten times per second (10 Hz)
- System can be remotely monitored and controlled
- Can be configured from any standard PC
- Simple and quick installation

Description

The SPRAYSAFE Autonomous Fire Suppression (AFS) System is installed in buildings and other structures to suppress fires. It typically includes a combination of robotic monitors, extensions booms, a PLC, water control valves and piping, and flame detectors.

The AFS System uses two or more FV300 Array IR Detectors that are directly connected to the AFS PLC by MODBUS and constantly detect for the presence of flames. The flame detectors identify the position of a flame, as well as the size and volume of the flame, and provide the coordinates to the PLC.

The specialised software is designed to:

- Triangulate the three-dimensional size and location of the fire, based on coordinates received from the flame detectors
- Autonomously extend the extension boom and position the robotic monitor to directly target the fire
- Actuate the deluge valve to open and allow water flow to suppress the identified fire
- Automatically adjust the spray angle of the stream, as well as adjust the position of the robotic monitor and dynamically follow the flame if it moves or spreads
- Automatically close the valve and return to standby mode when the flame is suppressed, ready to reactivate should the flame reignite



Technical Specifications

Functionality	User friendly display for set-up and system diagnostics
	Supports up to 6 x BLDC drivers
	USB-port for simple program upgrade
Material of PLC cabinet	IP66 rated sheet steel cabinet
Dimensions	300 x 400 x 210 mm (11.8 x 15.7 x 8.3 in)

Application

The SPRAYSAFE AFS System can be installed within buildings and other structures to automatically respond and suppress fires on structure exteriors. The typical application is on the exteriors of tall buildings. There are also a number of other applications for the system.

Graphical User Interface (Optional)

Each system can be used with a user-friendly graphical user interface. The PLC is linked with a 900 MHz Linux PC so that all functions of the PLC can be accessed, displayed and controlled from any standard web browser.

The graphic user interface allows to view and control any number of robotic monitors, valves, lights, tank levels, gauges, and other peripherals over any device with a standard web browser—tablet, smartphone, laptop, PC, Mac, or over the internet. The PLC can thereby also be remotely reprogrammed and or upgraded.

Ordering Information

<u>Part Number</u>	<u>Description</u>
AFS-1003	Programmable Logic Controller (PLC) for AFS
AFS-1004	Cable kit (12 x 10m cables) for AFS
AFS-1006	Targeting software for AFS

Optional Components

<u>Part Number</u>	<u>Description</u>
AFS-1101	Compact PC web server for AFS graphical user interface
AFS-1102	CAN bus cape for AFS graphical user interface
AFS-1103	Software for graphical user interface

Note: The converted values in this document are provided for dimensional reference only and do not reflect an actual measurement.

SPRAYSAFE, MODBUS and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited.

Licensed by Unifire AB