

# Explosion Proof Solenoid

(Electric Control Head)  
P/N 81-100000-001

 **Kidde Fire Systems**

A UTC Fire & Security Company

Effective: February 2008  
**K-90-9049**

## FEATURES

- **Explosion Proof:**
  - **UL Listed as Suitable for Hazardous Locations Class I Div 1 Groups C and D Class II Div 1 Groups E, F and G**
- **FM Approved**
- **Compatible with UL Listed and FM Approved Suppression Systems:**
  - **FM-200® Systems, Including the ADS**
  - **Carbon Dioxide Systems**
  - **FE-13™ Systems**
- **Operated By:**
  - **Control Panel**
  - **Mechanical Manual Actuator**
- **Nominal 24 Vdc Operation**
- **Low Current Consumption**
- **Operates:**
  - **Cylinder Valves**
  - **Stop Valves**
  - **Directional Valves**
- **Wide Operating Temperature Range**
- **Rugged Brass Body**

## DESCRIPTION

The Explosion Proof Control Head is designed to operate FM-200®, ADS, Carbon Dioxide and FE-13™ cylinder valves, stop valves and directional valves. The Explosion Proof Control Head can be operated electronically from the Detection and Control system, or by local manual operation via an affixed manual control head. The Explosion Proof Control Head has a continuous current draw, which must be accommodated for at the Control Panel. The actuating pin latches in the released position and must be mechanically reset prior to re-arming the system.

A suitable Control Panel, Listed and/or Approved for use with the Explosion Proof Control Head, shall be provided for supervision of the releasing circuit per NFPA requirements.

The Explosion Proof Control Head is designed and rated for use in the following hazardous areas: Class I Division 1 Group C and D and Class II Division 1 Group E, F and G.



## INSTALLATION

The Explosion Proof Control Head can be mounted directly on either the cylinder valve, stop/directional valve.

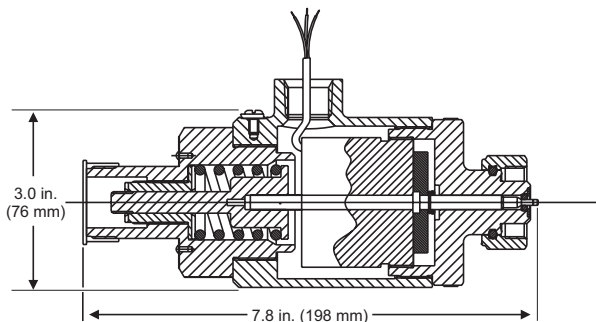


Figure 1. Assembly Drawing



Care should be taken to ensure that the actuating pin is in the set position when attaching the control head to the cylinder or the stop/directional valve. Accidental system discharge could occur, which could cause property damage, personal injury and/or death.

Tighten the swivel nut securely in place.

When installing the Explosion Proof Control Head in hazardous locations, wiring connections must be terminated in explosion proof junction boxes.

The lead wires must be connected using the indicated polarity (red to positive, black to negative) in order to obtain correct operation.

### MAINTENANCE

Regular scheduled maintenance should be performed on the Explosion Proof Control Head to ensure that the unit operates correctly if and when required.

### MONTHLY

The Explosion Proof Control Head should be inspected for any signs of physical damage, deterioration, corrosion, distortion, cracks, dirt ingress and loose couplings. Tighten any loose couplings. Replace damaged or missing caps. Replace control head if damage is found. Ensure that all explosion proof control heads are in the "set" position.

### SEMI-ANNUALLY

The Explosion Proof Control Head should be tested for proper operation.



**All Explosion Proof Control Heads should be removed from agent cylinders (Carbon Dioxide, FM-200 or FE-13) to avoid accidental system discharge, which could cause property damage, personal injury and/or death.**

Remove control heads from all master cylinders within the hazard area being tested. Let the Explosion Proof Control Head hang freely from the flexible electrical conduit connections. Operate the Explosion Proof Control Head, either by actuation at the system control panel or via manual operation of an electric pull station. Ensure that the control head has operated. Observe that the actuating pin has moved to the fully released position. If any control heads have not operated, check circuit for electric continuity. Replace all damaged control heads. Repeat operation test if any control heads have been replaced. Replace any damaged control head, which fails to reset properly. Make certain that electric control heads are in the set position before reconnecting to agent cylinders. Reattach all control heads to threaded ports on cylinder valves and tighten swivel nuts securely.

## SPECIFICATIONS

<b>Part Number:</b>	81-100000-001
<b>Applications:</b>	FM-200, ADS, Carbon Dioxide and FE-13 Suppression Systems
<b>Approval/Listing:</b>	Releasing Device— UL, FM HazLoc— UL, FM
<b>HazLoc Ratings:</b>	Class I Division 1 Group C and D Class II Division 1 Group E, F and G
<b>Operating Voltage:</b>	18 Vdc @ 0.20 A to 30 Vdc @ 0.50 A
<b>Current Draw:</b>	At 24 Vdc— 270 mA continuous At 30 Vdc— 500 mA continuous
<b>Wiring Connections:</b>	Wire Size— 18 AWG Lead Length— 36 in. (914 mm)
<b>Ambient Temperature:</b>	-40°F to 130°F (-40°C to 55°C)
<b>Construction:</b>	Material— Brass body Weight— 8.1 lb. (3.7 kg)
<b>Dimensions:</b>	3 in. D x 7.8 in. L (76 mm D x 198 mm L)

## ORDERING INFORMATION

Part Number	Description
81-100000-001	Explosion Proof Solenoid (Electric Control Head)
870652	Mechanical Manual Actuator
81-129958-001	Reset Tool Assembly

This literature is provided for informational purposes only. KIDDE-FENWAL, INC. assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to work correctly. If you need more information on this product, or if you have a particular problem or question, contact KIDDE-FENWAL, INC., Ashland, MA 01721. Telephone: (508) 881-2000.



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