TECHNICAL DATA

DETECTOR / PLFA-FPL CABLE

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058
Telephone: 269-945-9501 Technical Services 877-384-5464 Fax: 269-945-4495 Email: techsvcs@vikingcorp.com

1. DESCRIPTION

The Detector/PLFA-FPL Cable is an industrial, high temperature, fire resistant Detector/PLFA-FPL Cable designed for use in abusive environments. When properly installed in conduit, Detector/PLFA-FPL Cable meets the requirements for use as the electrical conductor in the detection systems.

Features:

1. Fire resistant.
2. Non-toxic: No toxic or noxious fumes are emitted during a fire.
3. Will not propagate a flame.
4. Small size and light weight.
5. Can be cut to length in field.
6. Cable may be spliced, but all splices must be made in conduit box.

2. LISTINGS AND APPROVALS

UL Listed: VLTR

3. TECHNICAL DATA

Viking Technical Data may be found on The Viking Corporation's Web site at http://www.vikinggroupinc.com. The Web site may include a more recent edition of this Technical Data Page.

Specifications: (refer to Table 1)
Nominal resistance (single conductor): Per 1000 ft. (304.8 m) at 68 °F (20 °C)
Flame Temperature Rating: 1,742 °F (950 °C) direct flame for two hours.

Materials:
Insulation: Silicone Rubber
Jacket: Thermoplastic zero halogen for use in steel conduit.
Note: Cable may be shipped with or without aluminum/polyester laminated tape shielding and/or drain wire. Shielding and/or drain wire does not affect approvals or operation of the cable.

Ordering Information:
Part Number - Refer to Table 1
Available since 1997

Accessories:
Porcelain wire nuts - Viking part number 04631A.
Detector box assembly - Viking part number 04629A.
Aluminum and rubber straight watertight connector - Viking part number 04016A (For connecting aluminum clad cable to detector box)

4. INSTALLATION (Refer to Figures 1 & 2)

1. The detection circuit must:
   a. Originate from the appropriate contact in the control panel.
   b. Connect all detectors in series. A two-conductor cable is required.
   c. Terminate at the appropriate contact in the control panel.
   d. Comply with all applicable federal, state, and local codes and requirements.
   e. The maximum circuit resistance must be less than 100 Ohms. Quantity of detectors and cable length determine wire size.
2. Detectors must be located and installed according to instructions provided in Viking Technical Data for Model B or C-OH Detector.
   a. Detector boxes are equipped with ½" (15 mm) NPT threaded conduit connections.
3. Detector/PLFA-FPL Cable must be installed in steel conduit (EMT is acceptable, however, joints must be water proof). When pulling Detector/PLFA-FPL Cable through conduit:
   a. The pulling radius should be at least ten times the cable diameter.

Table 1 - Specifications

Part Number	# of Conductors	AWG Size	Nominal Cable Diameter		Weight		Nominal Resistance (Ohm/1000 ft.)
			In	mm	lbs / ft	kg / m	
09954	2	16	.35	8,9	62.8 / 1000	28,5 / 305	4.1
11988	2	18	.33	8,4	53.5 / 1000	24,3 / 305	6.5

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b. The minimum training radius should be six times the cable diameter.
c. The maximum sidewall pressure should be 300 pounds per ft. of bend.
d. The maximum pulling tension allowed for a straight run is 41 pounds.
   i. Calculation is for a single two-conductor cable.
   ii. Pulling tension applies when using pulling eyes.
e. Minimum installing temperature is 14 °F (-10 °C).
f. Use of non-liquid pulling lubricant, such as mica dust, is recommended.
g. The raceway must be clean, dry, free of rough edges. Use suitable bushings, and/or dropouts, as well as strain relief and cable ties (or other support) where appropriate.
h. Detector/PLFA-FPL Cable must be handled carefully.
i. Comply with applicable federal, state, and local codes.

4. To connect Detectors in series: Refer to Figure 1.
   a. Detectors must be connected in series into a continuous circuit of cable that originates and terminates at the Panel. After the cable has been pulled through the detector boxes, connect detectors to the cable.
   b. The detector probe must be threaded into the detector box cover. Follow instructions provided on Viking Technical Data describing Model B or C-OH Detectors.
   c. With the cover and probe assembly removed from the detector box, cut the Detector/PLFA-FPL Cable to allow connection of Detector in series.
   d. Slit and strip away enough cable jacket and shield (if present) to expose conductors.
   e. Clip and remove drain wire (if present).
   f. Strip approximately ½" (13 mm) of insulation from the ends of each conductor.
   g. For Model B Detector use one porcelain wire connector (two provided with detector) to connect the ends of the two Detector/PLFA-FPL Cable conductors entering the detector box with either one of the two conductors from the detector probe. For Model C Detector connect to provided terminal as described.
   h. Use the remaining porcelain wire connector to connect the two ends of the Detector/PLFA-FPL Cable continuing out of the detector box with the unused conductor from the detector probe.
   i. Install the detector box cover, with probe, onto the detector box, replacing and tightening all screws.
   j. Repeat steps 4-a, through 4-h to connect each Detector in series.
5. In high humidity areas, threaded conduit with pipe sealant may be used.
6. To connect the Detector/PLFA-FPL Cable to the appropriate contacts in the Control Panel, refer to Viking Technical Data describing the Control Panel.

Splicing Procedure

A. To splice Detector/PLFA-FPL Cable:

1. A junction box is required. Use either option a or b below.
   a. For Model B Detector use a detector box assembly (part number 04629A) with a ½" (15 mm) metal pipe plug (not included) installed in the ½" (15 mm) NPT threaded detector probe connection or,
   b. A steel electrical junction box with ½" (15 mm) NPT connections.
   c. For Model C-OH System install a standard octagonal approved electrical box and conduit.
2. Porcelain wire connectors are required. Use Viking part number 04631A.

NOTE: DETECTOR/PLFA-FPL CABLE MUST BE INSTALLED IN STEEL CONDUIT THREADED INTO THE ½" NPT CONNECTIONS OF THE JUNCTION BOX USED.

3. With the cover removed from junction box used, pull the ends of the two Detector/PLFA-FPL Cables to be spliced, into the open junction box.
4. Slit and strip away enough cable jacket and shield (if present) to expose conductors.
5. Clip and remove drain wire (if present).
6. Strip approximately ½" (13 mm) of insulation from the ends of each conductor.
7. Use the porcelain wire connectors to connect the wire leads of the detector probe to the Cable conductors as shown in Figure A and described in steps "a" through "d" below.
   a. Twist the pair of cable wires entering the junction box together with one of the wire leads from the detector probe.
   b. Secure the twisted wire connection by installing a porcelain wire connector.
   c. Twist the pair of cable wires exiting the junction box together with the remaining (unused) wire lead from the detector probe.
   d. Secure the twisted wire connection by installing a porcelain wire connector.
8. Install the junction box cover, tightening all cover screws.
9. Verify that the detection circuit complies with Installation section above.

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B. To Splice Detector/PLFA-FPL Cable to existing aluminum sheathed Detector/PLFA-FPL Cable.

1. A detector box is required. Use either option a or b below.
   a. Use a detector box assembly (part number 04629A) with a ½" (15 mm) metal pipe plug (not included) installed in the ½" (15 mm) NPT threaded detector probe connection or,
   b. Make the connection inside the detector box.
2. Porcelain wire connectors are required. Use Viking part number 04631A (two are included with Model B Detectors or may be ordered separately).
3. Refer to instructions provided in this technical data for splicing Detector/PLFA-FPL Cable and/or making connections to a detector probe.
4. Refer to instructions provided on Viking technical data describing aluminum sheathed cable to connect cable to detector box assembly and/or detector probe.
5. Install the detector box cover and tighten all cover screws.
6. Verify that the detection circuit complies with Installation section above.

5. OPERATION

Refer to the operation section of the applicable detector.

6. INSPECTIONS, TESTS AND MAINTENANCE

Annual testing of the entire circuit is required.

7. AVAILABILITY AND SERVICE

Detector/PLFA-FPL Cable is available through a network of domestic and international distributors. See the Viking web site for the closest distributor or contact The Viking Corporation directly.

8. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

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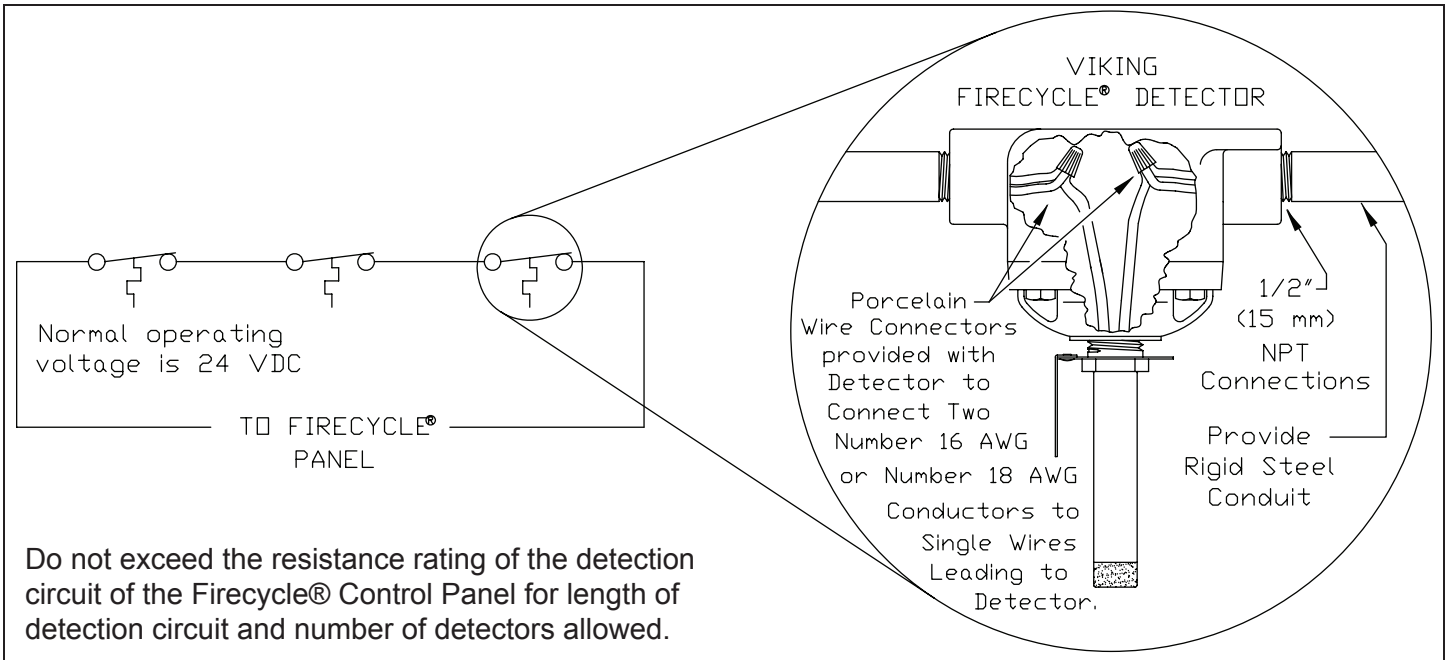

Do not exceed the resistance rating of the detection circuit of the Firecycle® Control Panel for length of detection circuit and number of detectors allowed.

Figure 1 - Model B Detector Wiring Diagram

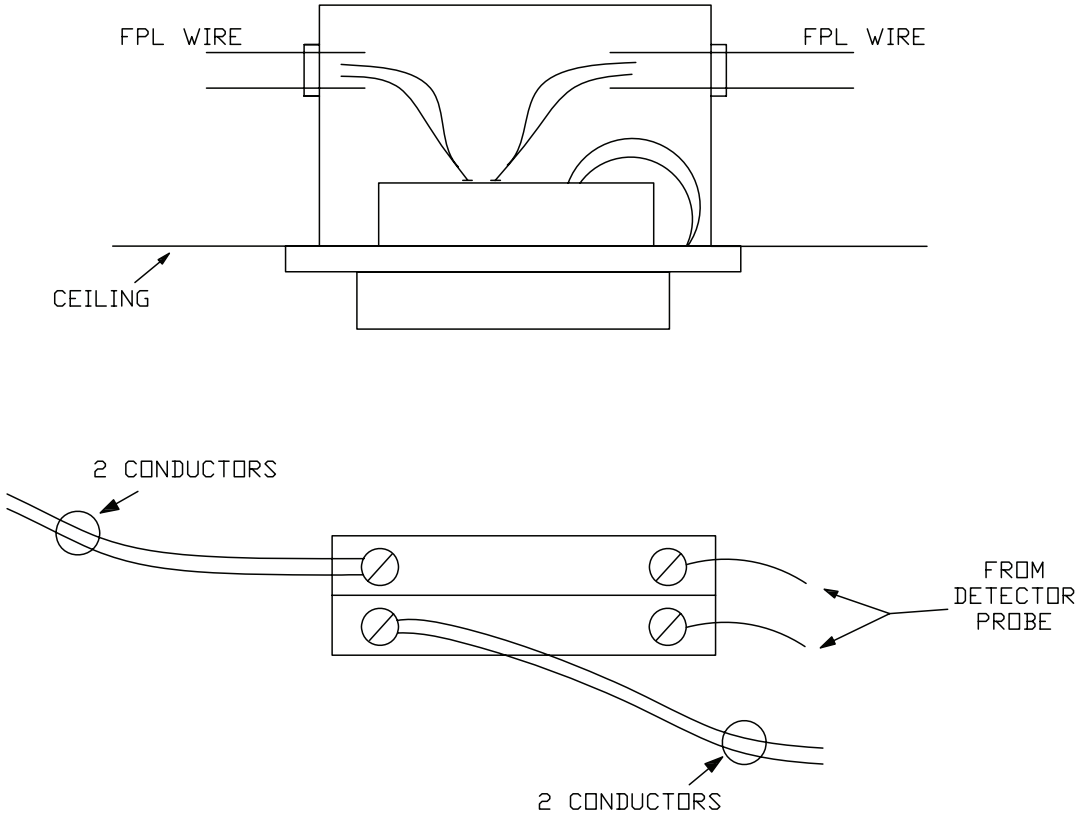

Figure 2 - Model C -OH Detector Wiring Diagram