



SENSING CABLE (SC)

ARCHITECT AND
ENGINEER SPECIFICATIONS

RLE TECHNOLOGIES
REV. 1.0 110065

1. GENERAL SPECIFICATION

- 1.1 **The contractor shall provide a RLE Technologies SeaHawk Leak Detection Cable (hereinafter referred to as “SeaHawk SC” or “SC”) – patent # 6144209 as described in subsequent sections of this specification to perform the functions of leak detection, event annunciation, and notification.**

NOTE: Leak Detection Cables containing conductive polymers in their construction are not acceptable substitutions for this system.

- 1.2 **The SeaHawk SC shall be capable of detecting the presence of any conductive fluid in contact, at any point, along its entire length. When a conductive fluid contacts the SeaHawk SC the change in the SeaHawk SC’s electrical performance shall result in an alarm condition on a SeaHawk controller/panel.**
- 1.3 **The SeaHawk SC shall be manufactured by RLE Technologies, 104 Racquette Drive, Fort Collins, CO 80524, U.S.A. Tel (970) 484-6510, Fax (970) 484-6650, URL: www.rletech.com.**

2. CODES/STANDARDS COMPLIANCE

- 2.1 The SeaHawk System including SeaHawk SC shall have the following listings and approvals:
- 2.1.1 CE Certified; EMC – EN61326 Class A
- 2.1.2 UL STD 61010A-1; EN STD 61010-1; CAN/CSA C22.2 STD NO. 61010-1
- 2.1.3 CL2P/CMP per UL STD, ANSI/NFPA 262 (SeaHawk SC)

3. COMPONENT DESCRIPTION

- 3.1 The SeaHawk SC shall be provided with pre-installed mating connectors.
- 3.2 The SeaHawk SC shall have the ability to connect to a controller/panel that will either (1) detect that a conductive fluid is in contact with the SeaHawk SC (Zone Panel), or (2) detect the precise location of where a conductive fluid is in contact with the SeaHawk SC (Distance Read Panel).
- 3.3 The SeaHawk SC shall be constructed of two sensing wires and two insulated wires. Each individual sensing wire shall be covered with a non-conductive polymer mesh to help prevent false alarms from contaminants, or shorts.
- 3.4 The SeaHawk SC shall have the ability to be wiped dry, allowing the controller/panel to quickly return to a normal, non-alarm, condition.
- 3.5 The SeaHawk SC shall be highly flexible allowing for small bend radii.
- 3.6 The SeaHawk SC shall be suitable for operating at ambient temperatures between 32°F and 167°F (0°C and 75°C), relative humidity between 5% and 95%, non-condensing and a maximum altitude of 15,000 feet (4572m). The SeaHawk SC shall be suitable for storage at temperatures between -22°F and 185°F (-30°C and 85°C) and shall be plenum rated to CL2P per UL.
- 3.7 The diameter of the SeaHawk SC shall not exceed 0.25 inches (6.35 mm) and shall have a sheer strength greater than 180 lbs. (81.65kg), a cut through resistance greater than 40 lbs. (18.14kg) with a 0.005 inch (.0127 cm) blade and an abrasion resistance greater than 60 cycles per UL 719. The diameter of the pre-installed connectors will not exceed 1 inch (25.4 mm).
- 3.8 To interconnect sections of the SeaHawk SC, the contractor shall use RLE Technologies SeaHawk Non-Sensing Cable. The SeaHawk SC and SeaHawk Non-Sensing Cable shall be available in standard lengths of 10, 25, 50 and 100 feet (3.05, 7.62, 15.24 and 30.48 meters, respectively) with pre-tested and pre-installed mating end connectors.

4. SEAHAWK SC INSTALLATION

- 4.1 The SeaHawk SC shall be installed after all piping, air conditioning, raised flooring, and other mechanical work has been completed. The cable path shall be clear of fluids, solder, flux, dirt or other materials.
- 4.2 When used on a floor, the SeaHawk SC shall be secured using the manufacturer's recommended method of affixing J-Clips at approximately 4 feet (1.22m) intervals along the cable length.
- 4.3 The SeaHawk SC shall be routed at a minimum distance of 6 feet (1.8m) beyond the perimeter of all air conditioning units. When installed around the perimeter of air conditioning units, J-Clips shall be placed every 18 inches (500 mm).
- 4.4 **INSTALLATION ACCESSORIES**
 - 4.4.1 An LC-KIT is required for any SeaHawk connection to a controller/panel. The LC-KIT includes a 15 feet (4.57m) leader cable and an end-of-line terminator (used on the last length of cable or SD-Z Spot Detector connected to the system).
 - 4.4.2 SeaHawk Non-Sensing Cable (NSC) shall be used to bridge between sections of SeaHawk SC where leak detection is not needed. The SeaHawk NSC shall be plenum rated to CL3P per UL. NSC shall be available in 10 feet (3.05m), 25 feet (7.62m), 50 feet (15.24m), 100 feet (30.48m), and custom lengths with mating connectors (male/female) pre-installed.
 - 4.4.3 The SD-Z spot detector can be integrated into the system for use in areas where only a spot detector may be needed. The overall size of the SD-Z shall be 1.55"W x 2.0"H x 1.0"D (39.37mmW x 50.8mmH x 25.4mmD). Preinstalled male and female connectors on the SD-Z allow for integration between lengths of SC and/or NSC cable. The SD-Z Detector shall appear as a 50 foot (15.24m) length of SC cable. A leak detected by the SD-Z Detector shall appear as a leak located at the midpoint, or at a point 25 feet (7.62m) along the simulated 50 foot (15.24m) section of SeaHawk SC.
 - 4.4.4 An X-Connector (X-CON) shall be used to branch the SeaHawk SC in multiple directions. The X-CON shall be constructed with a single cable input, a single cable output and two additional branch lines. Multiple X-CONs can be used within a single system and the accuracy of the system shall not be affected. The cable output and both branch lines will add the equivalent of 50 feet (15.24m) to the system to add distinct separation of the output and branch lines. The overall size of the X-CON shall be 2.0"W x 0.9"H x 3.0"D (50.8mm x 22.86mm x 76.2mm).
 - 4.4.5 J-Clips (JC) shall be used to secure cables every 4 feet (1.22m) and on any corners or bends of the SeaHawk SC and/or SeaHawk Non-Sensing Cable. The overall size of the J-clips shall be 1"W x 1.1"H x 0.5"D (25mmW x 28mmH x 12mmD). J-clips shall be available in quantities of 10, 25, 50, and 200.
 - 4.4.6 A Weighted Cable Connector (WCCS-50) shall be used to simulate 50 feet (15.24m) of SeaHawk SC and provide distinct separation between areas of coverage when the SeaHawk SC is connected to a SeaHawk Distance Read controller. The overall size of the WCCS-50 shall be 2.5" x 1.0" (63.5mm x 25.4mm).
 - 4.4.7 A Leak Detection Reference Map (FM1114) shall be available for purchase from RLE Technologies to identify the actual location of any leaks detected by a SeaHawk Distance Read System. This map shall be prepared from "as built" drawings created after complete system installation. The FM1114 shall identify room layout, cable routing and distance markers in feet or meters. The overall size of the FM1114 shall be 11" x 14" (27.9cm x 35.6cm).

5. SYSTEM COMMISSIONING AND MAINTENANCE

- 5.1 The RLE Technologies Leak Detection System shall be installed and maintained as recommended in the RLE Technologies' SeaHawk Product User Guide.



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