



LDRA6

ARCHITECT AND
ENGINEER SPECIFICATIONS

RLE TECHNOLOGIES
Rev 1.0 110062

1. GENERAL SPECIFICATION

- 1.1 The contractor shall provide RLE Technologies' SeaHawk LDRA6 Multi-Functional Alarm Panel (hereinafter referred to as the "SeaHawk LDRA6 Alarm Panel" or "Alarm Panel") as described in subsequent sections of this specification to perform the functions of water leak detection, event annunciation, and notification. The system shall include but not be limited to: a SeaHawk LDRA6 Alarm Panel, SeaHawk Water Leak Detection Cable—patent # 6144209 (no substitutions permitted), an LC-kit (leader cable and end-of-line terminator), and optional installation accessories.**
- 1.2 The SeaHawk LDRA6 System components listed above 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 LDRA6 System 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 E162948 (for SeaHawk Water Leak Detection Cable)

3. COMPONENT DESCRIPTION

3.1 SEAHAWK LDRA6 ALARM PANEL

- 3.1.1 The SeaHawk LDRA6 Alarm Panel shall be constructed as a stand alone unit suitable for vertical surface wall mounting. The LDRA6 Alarm Panel shall be housed in a metal Type 1 enclosure.
- 3.1.2 The overall size of the LDRA6 Alarm Panel shall be 10.5"W x 8.0"H x 2.0"D (267mmW x 203mmH x 51mmD)
- 3.1.3 The LDRA6 Alarm Panel shall operate on externally supplied 24VAC/VDC @600mA max, 50/60 Hz power supply.
- 3.1.4 The LDRA6 Alarm Panel shall be suitable for operating at ambient temperatures between 32°F and 122°F (0°C and 50°C), relative humidity between 5% and 95%, non-condensing and a maximum altitude of 15,000 feet (4572m). The LDRA6 Alarm Panel shall be suitable for storage at temperatures between -4°F and 158°F (-20°C and 70°C).
- 3.1.5 Each input of the SeaHawk LDRA6 Alarm Panel shall be capable of either digital dry contact input or leak detection. The configuration shall be selectable by means of six slide switches located inside the LDRA6 Alarm Panel.
- 3.1.6 When configured for leak detection, each input of the LDRA6 Alarm Panel requires a 15 foot (4.57m) long leader cable and EOL (product code: LC-KIT) to facilitate remote mounting.
- 3.1.7 Each input of the SeaHawk LDRA6 Alarm Panel shall be capable of monitoring up to 1,000 feet (304.8m) of RLE Technologies SeaHawk Water Leak Detection Cable and shall have a leak response time of less than 30 seconds.
- 3.1.8 The SeaHawk LDRA6 Alarm Panel shall include one (1) Form C Summary relay and six (6) Form C Zone relays with contacts rated at 1A at 24VDC, 0.5A resistive at 120VAC. The relays shall be configurable as latched or non-latched and supervised or non-supervised.
- 3.1.9 The LDRA6 Alarm Panel shall include an EIA-232 serial configuration port to interface with a PC allowing access to limited functions and diagnostics within the system. Baud rate is 9600, 8, N, 1.

- 3.1.10 The SeaHawk LDRA6 Alarm Panel shall be capable of Modbus communications via an optional EIA-485 serial port.
- 3.1.11 The LDRA6 Alarm Panel shall continuously monitor the SeaHawk Water Leak Detection Cable for contact with water and other conductive liquids. In case a leak is detected, the LDRA6 Alarm Panel shall sound an audible alarm, flash the Status/Zone LED red, and activate both the Summary relay output and a Zone relay output.
- 3.1.12 The LDRA6 Alarm Panel shall continuously supervise the electrical integrity of the SeaHawk Water Leak Detection Cable. In case of a cable fault, the LDRA6 Alarm Panel shall sound an audible alarm, flash the Status /Zone LED yellow, and activate both the Summary relay output and a Zone relay output.
- 3.1.13 When an input is configured as a digital dry contact input, the LDRA6 Alarm Panel shall continuously monitor the input for a change of state. When the input changes state, the LDRA6 Alarm Panel shall sound an audible alarm, flash the Status/Zone LED red, and activate both the Summary relay output and a Zone relay output.
- 3.1.14 When a Status/Zone LED is flashing and the audible alarm is sounding, pressing the Test/Reset/Silence pushbutton once shall silence the alarm and cause the flashing LED to change to solid red or yellow. Pressing and holding the Test/Reset/Silence pushbutton shall reset the LDRA6 Alarm Panel and initiate a self-test.
- 3.1.15 When a Zone alarm is silenced but not reset, it shall remain silenced for that particular zone for a user-defined period of 8, 16, or 24 hours, or until the LDRA6 Alarm Panel is reset.
- 3.1.16 The SeaHawk LDRA6 Alarm Panel shall have the following indicators, switches and/or buttons:
 - A.) One green Power LED that illuminates when the power is on and the system is operating normally.
 - B.) Six green/red/yellow tri-color Status/Zone LEDs that illuminate green for normal conditions, red when a leak is detected, and yellow when a cable fault is detected.
 - C.) One audible alarm with an 85 DBA sound output at 2 feet (0.6 m) which shall sound for cable fault and leak detected conditions and shall be silenced by the depression of the Test/Reset/Silence pushbutton, or via the Modbus (EIA-485) interface.
 - D.) One Test/Reset/Silence multifunction pushbutton to silence an alarm, reset all alarms, and activate the self-test.
- 3.1.17 The LDRA6 Alarm Panel shall allow leak detection sensitivity and cable contamination setting adjustments.
- 3.1.18 The LDRA6 Alarm Panel shall allow modification of the default alarm responses.
- 3.1.19 The Status and Zone relay outputs shall be capable of being linked together, to act in unison in response to an alarm condition.

3.2 SEAHAWK WATER LEAK DETECTION CABLE

- 3.2.1 The SeaHawk Water Leak Detection Cable shall detect the presence of water and other conductive liquids and shall be constructed of two sensing wires and two insulated wires with an abrasion resistant, non-conductive polymer core. Each individual sensing wire shall be covered with a non-conductive polymer mesh to help prevent false alarms from contaminants. The SeaHawk Water Leak Detection Cable shall be fast drying and highly flexible allowing for small bend radii. The SeaHawk Leak Detection Cable 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.
- 3.2.2 The SeaHawk Water Leak Detection Cable 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 Water Leak Detection Cable 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 (ANSI/NFPA262). The SeaHawk Water Leak Detection Cable shall have a Sheer Strength of > 180 lbs. (81.65kg) and a Cut Through Resistance of > 40 lbs (18.14kg) with a .005in (0.127mm) blade.

3.3 INSTALLATION ACCESSORIES

- 3.3.1 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 Spot Detector connected to the system) is required for the LDRA6.
- 3.3.2 SeaHawk Non-Sensing Cable (NSC) shall be used to bridge between sections of SeaHawk Water Leak Detection Cable where water 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.
- 3.3.3 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). SD-Z has preinstalled male and female connectors for integration between lengths of SC and/or NSC cable.
- 3.3.4 The SD-Z1 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-Z1 shall be 1.55"W x 2.0"H x 1.0"D (39.37mmW x 50.8mmH x 25.4mmD). The SD-Z1 uses a 14 foot (4.27m) leader cable to be connected to the zone input.
- 3.3.5 J-Clips (JC) shall be used to secure cables every 4 feet (1.22m) and on any corners or bends of the SeaHawk Water Leak Detection Cable and/or SeaHawk Non-Sensing Cable. The overall dimensions of the J-clips shall be 12.5"W x 10"H x 3.25"D (318mmW x 254mmH x 82.5mmD). J-clips shall be available in quantities of 10, 25, 50, and 200.

3.4 SYSTEM COMMISSIONING AND MAINTENANCE

- 3.4.1 The RLE Technologies Leak Detection System shall be installed and maintained as recommended in the RLE Technologies' SeaHawk LDRA6 User Guide.



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