LIQUI-TECT MONITORING SYSTEM
Product Specification/Installation Sheet
Description

The Liebert Liqui-tect Monitoring System is the ultimate in leak detection and retrofitting capabilities for computer rooms and other large areas. The Liqui-tect Monitoring System provides direct-read at the control unit location, as well as the ability to communicate with the Liebert SiteScan Web enterprise monitoring system or a building management system.

The Liqui-tect Monitoring System features an easy-to-use liquid crystal display (LCD) panel with readout of normal and alarm conditions, as well as leak location. Display and measurement modules are contained in a single compact package.

The panel can monitor up to 10,000 ft. (3048m) of Liebert LT500Y leak detection cable, divided into two zones of up to 5,000 ft. (1524m) each.

Points along the cable may be mapped by one person, making it easy to configure within the critical space and pinpoint the location of leaks when they occur. The system determines the location of the water on the detection cable and reports the distance from the Liqui-tect panel in feet or meters. To ensure proper protection, the system continuously monitors operation, signaling system normal, leak detected and cable fault.

For other applications, contact your local Liebert representative or call 1-800-222-5877.

Features and Benefits

- Audible and visual alarms
- Adjustable sensitivity setpoints for leaks and contamination
- Continuous scrolling of data
- History logs
- Connection to a building management system
- Automatic detection of broken cables and contaminated cables
- Password protection
- Retention of configuration after a power failure
- Configuration via local LCD or SiteScan Web

Liqui-tect Components and Key Features
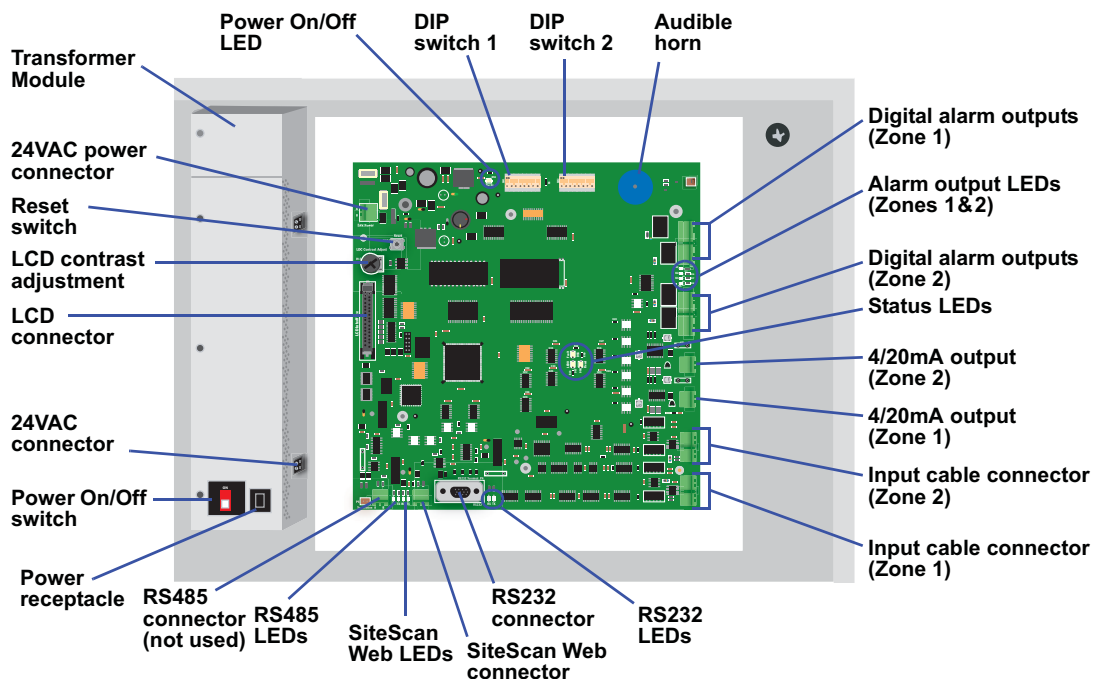
Hardware and Components

The Liqui-tect panel kit includes these components:

Standard Components
Liqui-tect panel - large or small enclosure
User manual
Keys (2) to panel door lock
Connection cables (2) (CONNECT10)
End terminators (2) (LT500-ET)

Two sizes of enclosures provide flexibility and expansion to meet evolving application needs:

- The small Liqui-tect panel comes standard with an enclosure, controller board and liquid crystal display (LCD).
- The large Liqui-tect panel comes standard with an enclosure, controller board, liquid crystal display (LCD) and Transformer Module.

Large and Small Enclosures

Both the large and small enclosures feature a key lock for added security. The enclosures are made of metal to accommodate secure conduit fittings and protect components against environmental debris.

Both enclosures are designed for easy wire routing and terminations. Access slots for communication cables and network wires are located on both the top and bottom of each enclosure.

Two sizes of enclosures

Each enclosure is 2-3/4" deep, allowing for recess mounting in a wall.

- The **Large Enclosure** houses the LCD, the controller board and a Transformer Module (either 115VAC or 230VAC).
- The **Small Enclosure** houses the LCD and the controller board.

Controller Board
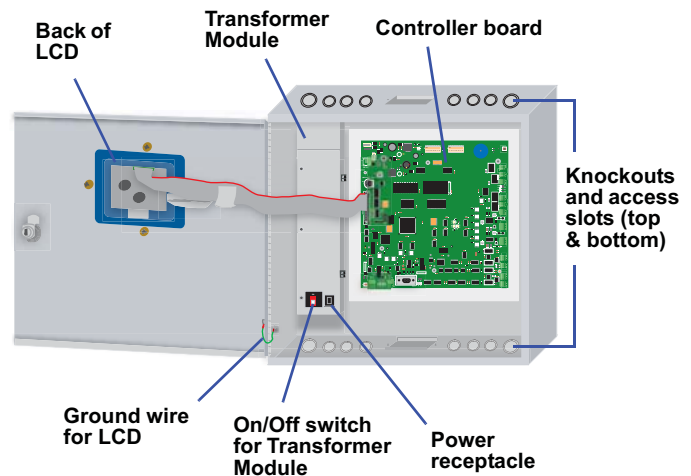
The controller board supports a total of eight points:

- Two cable inputs for leak detection cables
- Two analog outputs for connecting to a building management system or external alarm.

Point Type	Point Count
Cable input	2
Analog output	2
Digital output	4

- Four digital outputs (two for leak detection alarms, two for cable break alarms)

The point terminations are made using removable terminal blocks. This allows for easier access to the terminators, streamlining the process of connecting external devices to the Liqui-tect panel.

The controller board is a microprocessor-based platform for program execution.

Liqui-tect enclosure - Internal features
(Large enclosure shown)

Back of LCD · Transformer Module · Controller board · Knockouts and access slots (top & bottom) · Ground wire for LCD · On/Off switch for Transformer Module · Power receptacle

Keypad Display

The keypad display is a user interface mounted on the enclosure door of the Liqui-tect panel. The display provides for complete monitoring and configuration of the panel and is password-protected. The keypad

Keypad display

display provides the ability for the Liqui-tect panel to operate as a complete standalone panel.

Transformer Module

The large Liqui-tect panel comes with either of two Transformer Modules: 115VAC and 230VAC.

- The **115VAC Transformer Module** provides step-down power from 115VAC to 24VAC, two Class 2 24VAC power terminations (40VA for the Liqui-tect panel and 40VA for auxiliary devices) and one 115VAC outlet to power accessory devices, such as a Portable Operator's Terminal.

115VAC Transformer

- The **230VAC Transformer Module** provides step-down power from 230VAC to 24VAC and two Class 2 24VAC power terminations. An outlet is not provided on this Transformer Module.
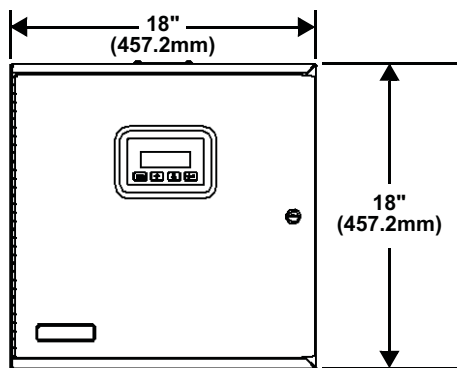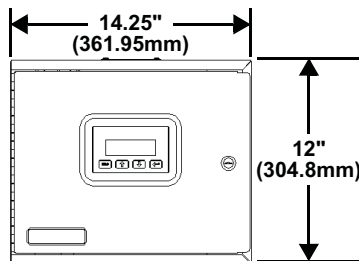
230VAC Transformer

Either Transformer Module can be ordered as an option for the small Liqui-tect panel and mounted outside the enclosure.
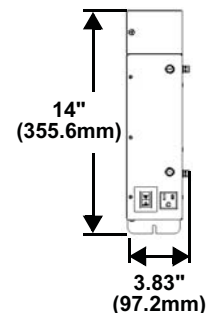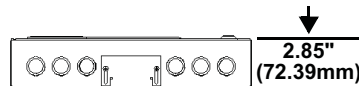
Dimensions

**18"
(457.2mm)**

**18"
(457.2mm)**

**Large enclosure
Front view**

**2.85"
(72.39mm)**

**Large enclosure
Top/bottom view**

**14.25"
(361.95mm)**

**12"
(304.8mm)**

**Small enclosure
Front view**

**2.85"
(72.39mm)**

**Small enclosure
Top/bottom view**

**14"
(355.6mm)**

**3.83"
(97.2mm)**
**Transformer module*
Front view**
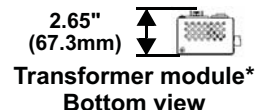
**2.65"
(67.3mm)**
**Transformer module*
Bottom view**

** 115V module shown.
Dimensions apply
to both 115V and
230V modules.*

Wiring Specifications

Connection	Supported Wire Type	Maximum Wire Length		Rating
Cable Input	4 wire Liebert Connection Cable (CONNECT10) - furnished with Liqui-tect panel	Connection cable - 10 ft. (3m) Leak detection cable - 5000 ft. (1524m)		N/A
Alarm Output	18-22 AWG Stranded & Unshielded **18 AWG* (recommended)** Non Plenum - Belden 9740 Plenum - Belden 89740	**18 AWG***	**@ 1A 200 ft. (60m)**	24VAC @ 1A
		20 AWG	@ 1A 100 ft. (30m)	
		22 AWG	@ 1A 75 ft. (23m)	
Analog Output	18-22 AWG Stranded & Unshielded **18 AWG* (recommended)** Non Plenum - Belden 9740 Plenum - Belden 89740	750 ft. (225m)		4-20mA Signal Output
Communication IGM422 SiteScan	18-22 AWG Stranded & Shielded **22 AWG* (recommended)** Non Plenum - Belden 9461 Plenum - Belden 88761	1000 ft. (300m)		N/A
24VAC Power Connection (TB7)	18-22 AWG Stranded & Unshielded **18 AWG* (recommended)** Non Plenum - Belden 8770 Plenum - Belden 88770	150 ft. (45m)		24VAC @ 1A

* Recommended

Liqui-tect Panel Specifications

Power Requirements	Small Enclosure	Large Enclosure	
	LPS0240	**115VAC LPL1150**	**230VAC LPL2300**
	24VAC ±10% of nominal; 50/60 Hz, 0.3A, 8VA	115VAC ±10% of nominal; 60 Hz, 4A, 460VA	230VAC ±10% of nominal; 50 Hz, 0.5A, 115VA
Dimensions W x D x H, in. (mm)	14-1/4 x 2-3/4 x 12 (361.95 x 69.85 x 304.8)	18 x 2-3/4 x 18 (457.2 x 69.85 x 457.2)	
Weight (Assembled)	7.68 lb. (3.48 kg)	20.56 lb. (9.33 kg)	
Enclosure Type	NEMA 1		
Liquid Crystal Display (LCD)	Four line, 20 character, backlit		
Mounting Surface	Building Wall or Structural Member		
Ambient Operating Environment	32°F to 104°F (0°C to 40°C) 0% RH to 95% RH (non-condensing)		
Processor Specifics			
Model	MC68HC16Z1		
Clock speed	20MHz		
Total RAM	128Kb		
Total FLASH	256Kb		
Total NVRam	32Kb		
A/D Resolution (Analog IN)	14 bits		
Clock Type	Real-Time Clock		
Clock battery backup type	Internal		
Clock battery life	10 years, constant, no power		
Communications			
SiteScan Web	IGM Protocol, 422		
Agency Listings	**No Transformer Module**	**With Transformer Module**	
UL	UL3121	UL3121, UL1012	UL3121, UL1585
CSA	C22.2 No. 1010	C22.2 No. 1010, C22.2 No. 66	C22.2 No. 1010, C22.2 No. 107.1
CE	Yes	Yes	
FCC Compliance	CFR 47 Part 15		
Inputs & Outputs (Quantity)			
Cable Input (2)	N/A		
Analog Output (2)	4-20mA signal output		
Alarm Output (4)	24VAC, 1A		

Ordering Information

Quantity	Part #	Description
	LPS0240	Liqui-tect panel small enclosure
	LPL1150	Liqui-tect panel large enclosure with 115VAC Transformer Module
	LPL2300	Liqui-tect panel large enclosure with 230VAC Transformer Module
	TM115	Transformer Module 115VAC with two 24VAC outputs (40VA each) and 115VAC receptacle
	TM230	Transformer Module 230VAC with two 24VAC outputs (40VA each)