

HAMPSHIRE



CONTROLS

*"Safeguarding
Your Precious
Biological
Materials"*



LD-215 Liquid Nitrogen Level Detector/Alarm

PRODUCT DESCRIPTION:

Safeguard your precious biological materials in liquid nitrogen (LN2) with the LD-215 Liquid Nitrogen Level Detector/Alarm. The LD-215 is designed to monitor liquid nitrogen level within the cryogenic Dewars typically used for the cryopreservation of genetic/biological materials, for the cold storage of vaccines, for in vitro fertilization (IVF), and for other processes using liquid nitrogen.

The LD-215 tracks liquid nitrogen level using a cryogenic RTD sensor positioned in the Dewar just above, or just below, the target liquid/gas phase boundary. The cryogenic RTD is housed in a stainless-steel probe with an application-specific length and configuration. When the cryogenic RTD sensor registers a sudden increase in temperature due to LN2 evaporation or inflow disruption, the LD-215 goes into alert condition. Alternatively, in overflow mode, the LD-215 goes into alert condition when the cryogenic RTD registers a sudden decrease in temperature due to LN2 immersion.

LD-215 alert condition is signified by 90 dB audio and flashing red LED visual alarms, so that corrective action can be taken before cold storage materials are compromised. An output relay is also engaged upon encountering alert conditions, so that building alarm systems, auto dialers, etc. can be triggered. Once optimum sensor position is established and the alarm thresholds are set, the LD-215 is ready to continuously monitor LN2 levels and inform you of alert conditions. The LD-215 is shipped with a plug-in power supply and 2 rechargeable AA backup batteries.

**Custom programming
and packaging can be provided
to satisfy any cryogenic
temperature monitoring
application.**



FEATURES:

- Continuously monitors LN2 level to customizable levels (2" to 24", 51 mm to 610 mm)
- Application specific probe lengths for different freezers/containers and required LN2 levels. Shaft collar and wrench included for probe positioning
- ¼" (6 mm) LN2 level sensing resolution
- Simple pushbutton calibration
- Low-level or overflow alarm modes
- Audible & visual LN2 level alarms
- Relay contact output for central alarm systems and automatic notification systems
- User adjustable initial alert delay and mute periods
- Battery backup (2 rechargeable AA batteries included)

AVAILABLE OPTIONS:

- User specified LN2 detection level, cryogenic RTD at the end of a 2" to 24" (51 mm to 610 mm) stainless steel sheath
- Customizable probe configurations. Add 90° bends to the stainless-steel sheath to mount the probe over the lip of the Dewar
- Single Form C (SPDT) relay contact output, normally open (NO) or normally closed (NC)
- Optional mounting bracket

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LD-215 Liquid Nitrogen Level Detector/Alarm

Liquid Nitrogen Level Sensor			
Sensor & Probe	100-ohm cryoRTD at the end of a s.s. sheath, 10' (3m) lead, PTFE jacketed		
Customer Specified LN2 Level	2" – 24" (51 mm to 610 mm), customer specified stainless steel (s.s.) sheath depth, customizable configurations upon request (e.g., 90° bends)		
LN2 Level Resolution	¼" (6 mm)		
Sampling Interval	~4 seconds		
LN2 Low Level Indicator	ALARM when tip of probe is NOT immersed in LN2		
-OR- LN2 High/Overflow Indicator	ALARM when tip of probe IS immersed in LN2		
Alarm	Frequency	Amplitude	User-adjustable initial alarm delay period
Audio	~3.6 kHz	90 dB at 10 cm	Programmable: enable/disable Selectable Alarm Mute Periods : 5, 10, 15, 20, 30 or 60 minutes Output Relay and LED remain in alarm state during Alarm Mute Period
ALARM LED	~1 Hz flashing red LED		
TIMING LED			
LN2 Level Good	Blinks GREEN every ~4 seconds (~0.25 Hz)		
LN2 Level Out of Tolerance	Blinks YELLOW every ~4 seconds (~0.25 Hz) including during Alarm Delay Period		
Output Relay			
Selectable Alarm Delay Periods	0, ½, 1, 5, 10, or 30 minutes		
SPDT Relay	Form C – user selectable normally open (NO) or normally closed (NC). Relay thrown after Alarm Delay Period upon encountering alarm condition.		
SPDT Relay Electrical	DC	AC	
UL Rated Load	1 A @ 30 VDC	0.5A @ 125 VAC	
Maximum Switched Power	30 W	62.5 VA	
Maximum Switched Voltage	220 VDC	250 VAC	
Maximum Switched/Carry Current	1 A switched, 2 A carry		



LD-215 Liquid Nitrogen Level Detector/Alarm Connections

Battery Backup		
2 ea. AA Rechargeable	1.2 V NiMH, 2500 mAh, 30 mA built-in trickle charger, ~12-hour life	
	Load	Supply
Power Requirements	12 Vdc, 600 mA max	100-240 VAC, 50/60 Hz, 0.35 A max, 2-prong US, UL listed
Mechanical & Environmental		
Mounting Options	Standard: Adhesive VELCRO® mounting strips (included) Optional: Mounting bracket (order with P/N 56027)	
Dimensions, WxHxD	2.75 x 5.5 x 1.1 in. (70 x 140 x 28 mm)	
Weight	0.43 lbs. (194 g)	
Case	Black ABS	
Operating Temperature Range	-18 to 55 °C (0 to 130 °F)	

One-year warranty on all Hampshire Controls products.

About Us: Established in 1975, Hampshire Controls provides standard and custom-designed electronics to the biomedical and industrial markets. In addition to the **LD-215 Liquid Nitrogen Level Detector/Alarms**, our product portfolio includes:

- **MPS Multi-Probe Monitor/Alarms**
- **TT-150/200** temperature & humidity Wi-Fi transmitters
- **T° Sentry Model 140** single probe temperature monitor/alarms
- **Air Flow Monitors** (50 to 2500 FPM)
- **STEDIVOLT SV2005 Line Voltage Controls**
- Customized OEM electronics design and manufacturing
- **T° Sentry ALERT Monitoring System** data logging
- **CO₂, LN2 CA5000 Freezer Backup Systems**
- **TC-25 & TC-25+ TEMPHECK Rapid Response Thermometers**
- **ADM-215 Remote Alarm Delay Modules**
- Customized monitoring, alarm notification, and logging

