



**CS Series Liquid Level Controllers - Specifications
& Features Comparison**

CS200

CS100

Level Measurement

| | | |
|---------------------|---|--------------------------|
| Sensor Type | 8-Thermistor (Std) 4-Thermistor (Optional) | 4-Thermistor Fixed |
| Accuracy | +1" - 0" (25.4mm - 0mm) | +1" - 0" (25.4mm - 0mm) |
| Resolution | 1" | 1" |
| Range | Freezer usable height | Low, Normal, High |
| Redundancy | Multiple discrete points | Multiple discrete points |
| Level Display Units | English/Metric | Low, Normal, High |

Control

| | | |
|--------------------------|--------|--------|
| LN2 Level | Yes | Yes |
| Temperature | Yes | Yes |
| Solenoid Valves (On/Off) | 12 VDC | 12 VDC |

Temperature Measurement

| | | |
|------------------------------------|--|--|
| Sensor Type | Type T Thermocouple 1° or 1.5% of reading(minimum) | Type T Thermocouple 1° or 1.5% of reading(minimum) |
| Standard Accuracy | .5° or .75% of reading(minimum) | N/A |
| Greater Accuracy - Optional | 0.1°C | 0.1°C |
| Resolution | 2 | 1 |
| Number of sensors (channels) | No - not needed | No - not needed |
| Altitude Compensation for accuracy | Automatic | Automatic |
| Full Range Calibration | Software based | No |
| High Temp Alarm Testing | °C, °F, °K, °R | °C |

Power

| | | |
|-------------------------------|-------------------------|------------------|
| Power Supply | 12 VDC Universal | 12 VDC Universal |
| Battery Backup | 12 Volt | N/A |
| Battery Backup Duration | 72 hours plus on a 18aH | N/A |
| Battery Conservation firmware | Yes | N/A |
| Input Voltage | 100-240 VAC | 100-240 VAC |
| Input Current (Max) | 1.75 A | 1.75 A |
| Input Current (Continuous) | 0.5 A | 0.5 A |

| | | |
|---|-----------------------------|-----------------------------|
| Power Consumption (Max) | 21 W | 21 W |
| Frequency | 50/60 Hz | 50/60 Hz |
| Output | 12VDC | 12VDC |
| Control Input Voltage | 12VDC | 12VDC |
| Power Cord | Available for all countries | Available for all countries |
| Solenoid Valve | | |
| Input Voltage | 12VDC | 12VDC |
| Input Current | 0.96 A | 0.96 A |
| Communications | | |
| RS232 (Serial) | Optional | Optional |
| RS422 (Serial) | Optional | Optional |
| RS485 (Serial) | Optional | Optional |
| MODBUS | Optional | Optional |
| USB | Optional | Optional |
| Crowire Secure™ | Yes | Yes |
| Number of Communication Ports | 3 + expandable | 1 port + expandable |
| User Interface | | |
| Display Type | Graphics VFD | LED Array |
| Keys | 11 | 4 |
| Display Brightness Adjustment | Yes | Yes |
| Filling LED | Yes | Yes |
| "Status Wheel" provides at a glance system status | Yes | No |
| Large Fonts for easy viewing (one button font change) | Yes | Yes |
| Small Fonts to display more information | Yes | No |
| Languages | English, German | English |
| Quick look at "LASTS" screen | Yes | No |
| Choose Main Screen Format | Yes | No |
| Screen Saver | Yes | No |
| Proportionally spaced fonts | Yes | No |
| Graphics to enhance usability (scroll bars) | Yes | No |
| Tests | | |
| Temperature circuit | Yes | No |
| Low battery | Yes | N/A |
| Thermistor Status | Yes | Yes |
| Power Up Self-Test | Yes | Yes |
| Alarms | | |
| Low Level Alarm | Yes | Yes |
| High Level Alarm | Yes | Yes |
| Sensor Error Alarm | Yes | Yes |
| Low Temperature (Probe A, Probe B) | Yes | No |
| High Temperature (Probe A,Probe B) | Yes | Yes |
| Temperature Probe A calibration alarm | Yes | No |

| | | |
|---|----------------------------|----------------------|
| Temperature Probe B calibration alarm | Yes | No |
| Thermocouple Open Alarm | Yes | Yes |
| Remote Alarm | Yes | Yes |
| Power Failure (Remote only) | Yes | Yes |
| Low LN2 Supply Alarm | Yes | Yes |
| Fill Time Alarm (shuts off automatic filling) | Low LN2 Supply Alarm | Low LN2 Supply Alarm |
| Battery Backup Alarm | Yes | N/A |
| Lid Open Too Long Alarm | Yes | No |
| Valve Stuck Open Alarm | Yes | No |
| Unauthorized Access Warning | Yes | No |
| Usage Warning | Yes | No |
| Temperature Calibration Alarm | Yes | No |
| Usage Alarm | Yes | No |
| Bypass Sensor Failure | Yes | No |
| Bypass Time | N/A (actual LN2 detection) | No |
| Bypass Sensor Calibration | N/A (actual LN2 detection) | No |
| Power Failure (Audible, visual, remote) | Yes | Yes |
| Low Battery Voltage | Yes | N/A |
| Audible Alarm | Yes | Yes |
| Audible Alarm Re-trigger | Yes | Yes |
| Audible Alarm Disable | Yes | No |
| Visual Alarm Indicator | Yes | Yes |
| Mute Button | Yes | Yes |

Logging

| | | |
|----------------|-----|-----|
| Temperature | Yes | Yes |
| Level | Yes | Yes |
| Alarms | Yes | Yes |
| Events | Yes | Yes |
| Diagnostics | Yes | Yes |
| Encrypted Data | Yes | Yes |

Security

| | | |
|-------------------------------|----------------|----|
| Password Protected - Settings | Yes | No |
| Password Protected - Power | Yes | No |
| Multiple Passwords | Yes | No |
| Multiple Security Levels | Yes - flexible | No |
| Free password recovery | Yes | No |

Outputs

| | | |
|---------------------------|----------|----------|
| Visual LED | Yes | Yes |
| Audible | Yes | Yes |
| Global Remote Alarm Relay | Yes | Yes |
| Discrete Remote Contacts | Optional | Optional |
| Open Collector | Optional | Optional |
| 4-20ma | Optional | Optional |
| ASCII Text | Yes | Optional |

| | | |
|-----------------------------|-----|----------|
| Encrypted Data and Commands | Yes | Optional |
|-----------------------------|-----|----------|

Scheduled Events

| | | |
|---|----------------------|----|
| Timed Fillings (Scheduled Fill) | Day and Time of Week | No |
| Indicates the Next Scheduled Fill | Yes | No |
| Maintenance Reminder | Month & Day | No |
| Indicates the Next Maintenance Reminder | Yes | No |
| Check LN2 Supply Reminder | Day | No |
| Indicates the next LN2 Supply reminder | Yes | No |

Features

| | | |
|---|------------------------|------------------------|
| LN2 Usage | Yes | No |
| Memory | 500,000 events onboard | 500,000 events onboard |
| External Data Storage - Flight Recorder | Optional | Optional |
| One Fill all Fill | Peer to Peer | Optional |
| Sequential Fill | Peer to Peer | Optional |
| Bypass Sensor calibration | N/A | N/A |
| Valve Open Duration | Yes | No |
| Valve Stuck Open Detection | Yes | No |
| Date/Time Format | US / International | No |
| Lid Switch | Yes | No |
| UL Lid Switch (Hardwired to disable fill when lid is open) | In software | No |
| Quick Chill Timer | Yes | No |
| Manual Defog Timer | Yes | No |
| Auto Defog Timer | Yes | No |
| User Access | Yes | No |
| User Identification Labels | Yes | No |
| Freezer Identification | Yes | No |
| Smart Harness - Redundant Setting Storage and Automatic setting transfer for a replacement control) | Yes | No |
| Online Support Contact Information | Yes | Yes |
| Elapsed time with no temperature alarm | Yes | No |
| Audible Re-trigger Feature | Yes | Yes |

Options

| | | |
|--------------------------|----------|-------------------|
| Local Gas Bypass | Optional | Optional (Future) |
| System Gas Bypass | Optional | Optional (Future) |
| ciSmart Com Global View | Optional | Optional |
| ciSmart Cloud Monitoring | Optional | Optional |
| ciSmart Com Reminders | Optional | Optional |
| Ethernet Connectivity | Optional | Optional |