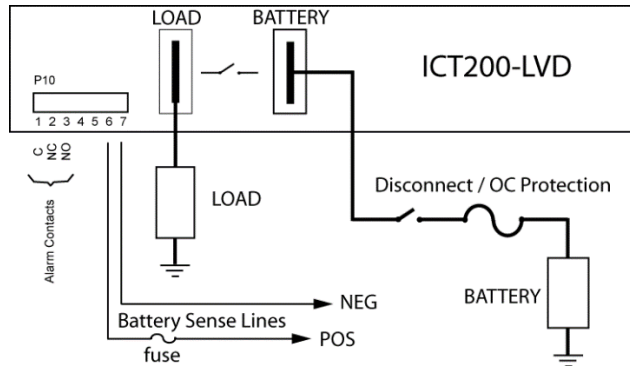


## ICT200-LVD LOW VOLTAGE DISCONNECT SWITCH

This automatic LVD switch is designed to protect your battery from excessive discharge that may cause permanent degradation of the cells. The ICT200-LVD disconnect switch may be wired in series with the battery positive or negative lead for use with any dc grounding configuration.

The intelligent back-lit LCD display makes set up simple. Selecting your nominal battery voltage at first power up will automatically set the disconnect and reconnect voltages to standard levels for the battery voltage chosen. Custom voltage thresholds may be set for specialized applications, and the internal contactor may be manually set to an open or closed state if required. The display also shows the battery voltage and the current drawn by the load, along with the operating state of the LVD and any alarm conditions.

### CONNECTION DIAGRAM



### ⚠️ WARNINGS

**Risk of personal injury or damage to equipment and property!**  
Always observe the following:

- Use an appropriate over-current protection device in line with the battery sense connection, and in line with the main load battery connection
- Use a disconnect switch or circuit breaker in series with the main load battery connection, for installation and service
- Use wire and connectors rated for the maximum load current, and size of fuse or circuit breaker. Tighten all connections
- Ensure load current does not exceed max rating of unit

### INSTALLATION

Mount the unit in a standard 19" equipment rack using the front panel mounting ears (included).

With the main battery service disconnect switch open; connect the LVD LOAD and BATTERY terminals using appropriately sized wire, disconnect, and an over-current protection device rated for the application. Bond the chassis to ground using the ground stud located on the back panel.

### Installation (continued)

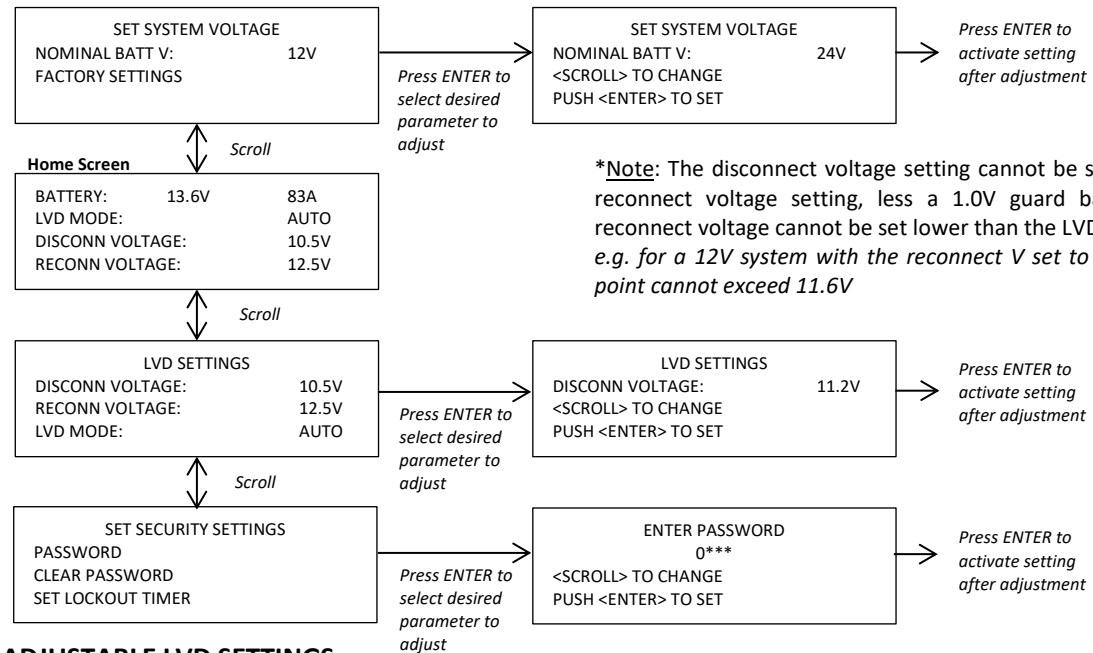
Connect the alarm output contacts (if desired) to an external monitoring system, using the REMOTE connector (P10) terminals 1, 2, and 3 as shown in the REMOTE table, below. Use the mating 7 pin REMOTE connector plug (included).

Connect the battery sense lines using 22 AWG or larger wire and an over current protection device (5A fuse or circuit breaker) to the battery terminals. These lines provide power to the unit, and allow the control circuitry to sense the battery voltage. The internal display should then power up, allowing the nominal battery voltage to be set (see Initial Set Up section).

REMOTE Connector P10: (pins 4, 5 not used)

Pin Number	Name	Note
1	Common	Alarm out common
2	NC	Alarm NC (alarm state)
3	NO	Alarm NO (alarm state)
6	BATT POS	Battery sense Positive
7	BATT NEG	Battery sense Negative

### CONTROL PANEL MENUS



### ADJUSTABLE LVD SETTINGS:

System Voltage Setting (Nominal)	LVD (min)	LVD (default)	LVD (max)*	Reconnect (min)*	Reconnect (default)	Reconnect (max)
12V (default)	10.5	11.5	12.5	12.0	12.5	13.8
24V	21.0	23.0	25.0	24.0	25.0	27.6
48V	42.0	46.0	50.0	48.0	50.0	55.2

### FRONT PANEL CONTROL

Use the front panel scroll knob, ENTER, and BACK buttons to navigate the interface menus and set up the following parameters:

- Nominal battery SYSTEM VOLTAGE (set to 12/24/48V to correctly scale factory default LVD points)
- Restore to FACTORY SETTINGS (default values, 12V system, AUTO mode, contactor open)
- LVD SETTINGS (set custom disconnect and reconnect voltage levels, set mode for AUTO disconnect or MANUAL-OPEN/MANUAL-CLOSED configuration)
- SECURITY SETTINGS (set a four digit password and lock-out timer to prevent unauthorized adjustment of LVD settings, if desired) (default is no password)

Use the scroll knob to cycle between the top-level menus, press ENTER to select a menu for adjustment, and then use the scroll knob to select the parameter for adjustment, press ENTER to select.

Adjust the selected parameter with the scroll knob; press ENTER to activate the setting. Use the BACK button to return to a higher level menu

## INITIAL SET UP

Wire the unit per the installation instructions and connect power to the battery sense terminals. The **SET SYSTEM VOLTAGE** screen should be displayed on the front panel. Press **ENTER** to select that screen, then use the scroll wheel to select the **NOMINAL BATT V** line, press **ENTER** to select, and then adjust the encoder knob to select 12, 24 or 48V as required. Press **ENTER** to select. The unit disconnect and reconnect thresholds will now be set to the factory default levels for that battery voltage.

Normally this is the only setting required on the unit unless custom disconnect or reconnect points are desired, or the internal LVD contactor is to be manually set to open or closed. The external battery service disconnect switch may now be closed, allowing the load to be powered through the LVD unit.

## ALARMS

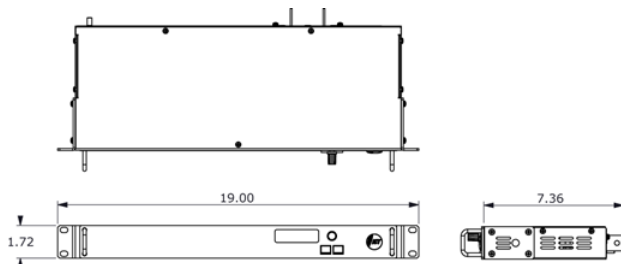
The Form-C alarm contact on the back panel is triggered for LVD trip, Over Current trip, or internal Over Temperature trip. The main LVD contactor will open for all alarm conditions, and must be manually re-set for an Over Current event by setting the **LVD Mode** back to **AUTO**.

ALARM BATT LOW BATT DISCONN BY LVD	10.5VDC	ALARM OVER CURRENT BATT DISCONN BY LVD
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Alarm Screens: *(any button press will return to home screen)*

## SPECIFICATIONS

Battery Voltage:	10 to 65V
Maximum Load Current:	200A (12/24V), 100A (48V)
Auto Overload Disconnect Current: (+/- 5%)	
12/24V System setting	220A
48V System setting	110A
Display Accuracy (V):	+/- 2%
(Amps):	+/- 5%
LVD Delay (approx. time to switch state)	3s
Operating power (Tare loss):	< 1W
Alarm Contact (Form-C):	0.5A, 125Vac/dc max
Dimensions: (inches)	



## LIMITED WARRANTY

The warranty period on ICT products is two (2) years from date of purchase from an authorized ICT reseller or OEM with valid proof of purchase, or from date of shipment from the ICT manufacturing facility. The warranty period for a repaired product or part is ninety (90) days or the remainder of the unexpired term of the new product warranty period, whichever is greater. Repair or replacement of a defective product or part does not extend the original warranty coverage period. ICT Limited Warranty is only intended for the benefit of the original purchaser and user of this product. This Warranty is not transferable or assignable without the prior written permission of ICT. ICT's sole obligation and liability under this warranty is limited to either repairing or replacing defective products at the sole discretion of ICT. When repairing or replacing the products, ICT may use products or parts that are new, equivalent to new or re-conditioned. Parts repaired or replaced during the warranty period will be under warranty for the remainder of the warranty period.

No claim will be accepted unless written notice of the claim is received by ICT in accordance with ICT's Return Material Authorization (RMA) procedure, as soon as reasonably possible after the defect is discovered. A valid product serial number must be provided with the RMA claim to prove eligibility. The RMA form is available on the ICT website at [www.ict-power.com/support/warranty-repair/](http://www.ict-power.com/support/warranty-repair/).

The Purchaser shall at their own risk and cost return the defective product to ICT's factory or designated repair center once an RMA is issued by ICT. Return of the products to the customer after repair is completed shall be prepaid by ICT unless otherwise mutually agreed between the parties. Products shipped to ICT which have incurred freight damage will not be covered by this Warranty and any repairs or replacement parts, components or products needed will be invoiced in the full current price amount and returned freight collect to Purchaser. It is the Purchaser's responsibility to check the product upon receipt for any damage during shipping and to contact the carrier or shipper regarding such damage. Product that is returned as defective, which is determined to operate within published specifications will be returned to the Purchaser freight collect.

ICT assigns to Purchaser any warranties which are made by manufacturers and suppliers of components of, or accessories for, the ICT product and which are assignable. ICT makes no representations as to the effectiveness or extent of such warranties, assumes no responsibility for any matters which may be warranted by such manufacturers or suppliers and extends no additional coverage under this Warranty to such components or accessories.

In no event shall ICT be liable for any special, indirect or consequential damages such as, but not limited to, loss of use, business or goodwill, loss of revenue, or loss of profits, which may result, either directly or indirectly, from defects in products provided by ICT.

This Warranty will be void if the product has been subjected to misuse, neglect, accident, exposure to environmental conditions not conforming to the products' limits of operation, improper installation or maintenance, improper use of an electrical source, defects caused by sharp items or by impact pressure, a force majeure event, has been modified or repaired by anyone other than ICT or its authorized representative, has been subjected to unreasonable physical, thermal or electrical stress, improper maintenance, or causes external to the unit including but not limited to general environmental conditions such as rust, corrosive atmospheres, sustained temperatures outside the specified operating range of the equipment, exposure to power surges and/or electrical surges, improper grounding, mold or dust, animal or insect damage, water damage or immersion in liquid of any kind, or if the serial number has been altered, defaced, or removed.

ICT does not control the installation and use of any ICT product. Accordingly, it is understood this does not constitute a warranty of performance or a warranty of fitness for a particular purpose. This Warranty represents the entire agreement between ICT and Purchaser with respect to the subject matter herein and supersedes all prior verbal or written communications, representations, understandings or agreements relating to this subject.

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## ICT200-LVD LOW VOLTAGE DISCONNECT INSTRUCTION MANUAL



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