

# Intelligent Load Unit

## What is the Intelligent Load Unit?

The Cyclad Intelligent Load Unit is an advanced purely resistive load system with voltage, current and temperature sensors bonded to a fan cooled heatsink. This unit can dissipate the heat from very large loads without significantly impacting room temperature.

## What does the Cyclad Intelligent Load Unit do?

The unit performs a short duration, high current, battery test on DC battery banks. It records minimum voltages and other test parameters to determine the stability of the battery voltage, and provide a simple pass/fail test result.

If battery voltages fall below recommended minimums during testing, the batteries are failing. If the batteries fail a subsequent series of tests, replacement should be considered.



## Features

- Assesses battery bank voltage stability.
- High current, short duration load test.
- Wide range of load operating voltages.
- Additional Cyclad Slave units stackable to increase to any required load.
- Cyclad master unit controls all Cyclad slave units
- Testing can be performed in less than 30 seconds.
- Test result history (LOG) can be downloaded to PC file
- Remote automatic testing available.
- Small footprint, high density thermal design.
- Mains powered controller and cooling system.



## Why is the Cyclad Intelligent Load Unit necessary?

- When aging or damaged batteries are instantly required to supply full load, they can fail completely or their carry over time (related to battery capacity) is far less than expected.

It is certainly possible to determine how long a battery will survive full load conditions by performing a full battery capacity test. However, capacity tests are extremely risky as they require a full battery discharge. Combined with the time to perform the test, then recharge the batteries after the test, this can leave the load vulnerable. Additional measures are usually required to protect the load should a power failure occur during testing. These additional measures are costly (generators, additional backup batteries and staffing). As a consequence, capacity discharge tests are not performed that often.

The Cyclad Intelligent Load Unit only takes the surface charge off the battery plate and does not deep discharge it. This means you get a meaningful analysis of the battery's condition and the battery then recharges very quickly to its 100% capacity without compromising the battery bank.

## How does the Cyclad Intelligent Load Unit help you?

- It performs, on demand, an instantaneous high energy load test.
- It's testing results will inform you immediately if there is a battery bank stability issue.
- It's test results are tracked over time to allow estimates of battery deterioration profiling to eventual end of life.
- It's testing can be performed weekly without significantly deteriorating life of battery.

## Cyclad Intelligent Load Unit Specifications\* And Power Requirements

- **Testing Voltage:** 24 – 220 Volts DC (current limits apply at 220VDC)
- **Testing Current:** 20 - 80 Amps\* (stackable to any load requirement)
- **Test Dissipation:** 2KW – 9KW (instantaneous)
- **Drive Output:** 24 Volts DC
  
- **AC Operating Voltage:** 84 – 240 Volts AC
- **AC Power Requirements:** 10 Watts (standby), 70 Watts (operating)
- **Comms Interface:** RS232 Serial @ 19200Kb (to Cyclad Software Interface)
- **External Signaling IO:**
  - 6 Relay Outputs (Operating, Load Enabled, Testing, Test Pass, Test Fail, System Error)
  - 2 Optically Isolated Switched (Voltage Free) Inputs (Test, Stop)
  - 2 Optically Isolated Powered (Max 220VDC) Inputs (Test, Stop)
  - 2 Front Panel Push Buttons (Test, Stop)

\*Load units can be connected in parallel to provide additional current capacity.



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