CWC-A Control Module

**GENERAL SPECIFICATIONS:**
- **OPERATING TEMPERATURE:** -40°C to +70°C
- **STORAGE TEMPERATURE:** -55°C to +85°C
- **OPERATING HUMIDITY:** 20% ~ 80% (non-condensing)
- **STORAGE HUMIDITY:** 5% ~ 95% (non-condensing)
- **COOLING:** Free-Air Convection (No forced airflow required)
- **VIBRATION:** 10-55Hz, 2G, 3Min Period, 60 min each (3 axes)
- **SHOCK:** 20G Peak Acceleration
- **RELIABILITY:** MTBF: 267,956 hours (50°C, per MIL STD 217F)
- **SIZE (LxWxH):** 10.69” x 1.693” x 3.47”

**SAFETY STANDARDS:**
- **DESIGNED TO MEET:** UL / cUL 60950-1, CE Mark, NEBS
- **DESIGNED TO MEET:** Telcordia; GR-1089-CORE section 2
- **DESIGNED TO MEET:** Telcordia; GR-1089-CORE section 4
- **DESIGNED TO MEET:** Telcordia; GR-1089-CORE section 4.4

**INPUT SPECIFICATIONS:**
- **VOLTAGE:** 85VAC to 264VAC
- **FREQUENCY:** 47~63 Hz
- **HARMONICS:** EN61000-3-2 Class D compliant (0.97 PF)

**PRODUCT FEATURES:**
- Designed for Power Shelf Control, Alarms, & Monitoring:
  - AC Input Voltage and Current
  - Multi-Output DC Voltages and Currents
  - Rectifier Module Status, Configurable Output & Alarms
  - Intelligent Battery Charging with Temp Compensation,
  - BatteryCell Monitors, Configurable LVD Controls
- Monitors Temps for Battery Shelf and Rack (Cabinet)
- Controls Multiple Dry Relays (See Dry Relay Example, Page 2)
- Communicates via RS232, Ethernet, and SNMP
- Meets Conducted EMI, Class A
- Designed to Meet cULus, CE, and NEBS

Contact DongAh for Communication Software or additional details.

**EMISSIONS:**
- **EMISSIONS:** EN55022 Level A (Conducted)
- **ESD:** EN61000-4-2, 4KV Contact/ 8KV Air
- **RADIATED SUSCEPTIBILITY:** EN61000-4-3, 26MHz-2000MHZ, 10V/m, 80%AM
- **EFT/BURSTS:** EN61000-4-4, 2KV
- **SURGES:** EN61000-4-5, 2KV Earth, 1KV Line-Line
- **CONDUCTED IMMUNITY:** EN61000-4-6, 150KHz-80MHz, 10Vrms, 80%AM
- **VOLTAGE DIPS:** EN61000-4-10, 95% Dip,10ms / 30% Dip,500ms
- **VOLTAGE INTERRUPTIONS:** EN61000-4-11, 95% reduction, 5ms
- **FLUCTUATIONS & FLICKER:** EN61000-3-3
CWC-A Control Module Block Diagram

- **Real-time Clock**
- **Microprocessor**
- **A/D Converter**
- **Rectifier Alarm & Control**
- **RS232**
- **Ethernet/SNMP**

**System Monitor**
- AC Input Voltage
- AC Input Current
- DC Output Voltage
- DC Output Current
- Battery String Voltage(s)
- Battery Cell Voltage(s)
- Battery Current(s)
- Battery Shelf Temp
- Rack Shelf Temp
- LVD (s) Status
- Circuit Breaker(s) Status
- Alarm History
- Date/Time

**Rectifier #1**
**Rectifier #2**
**Rectifier #3**
**Rectifier #4**

**DWC-A CONTROL MODULE BLOCK DIAGRAM:**

**DRY RELAY ALARM EXAMPLE:**

<table>
<thead>
<tr>
<th>No.</th>
<th>Alarm</th>
<th>Definition</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ACF</td>
<td>AC Fail- (Input)</td>
<td>AC#1 Input and/or AC#2 Input is &lt; 80VAC or ≥ 280VAC</td>
</tr>
<tr>
<td>2</td>
<td>DCF</td>
<td>DC Fail- (High)</td>
<td>DC Output Bus is &gt; 58V (default; configurable 56V~60V)</td>
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<tr>
<td></td>
<td></td>
<td>DC Fail- (Low)</td>
<td>DC Output Bus is &lt; 48V (default; configurable 40V~50V)</td>
</tr>
<tr>
<td>3</td>
<td>RML</td>
<td>Rectifier Module Loss</td>
<td>One or more DRM-440 Rectifier Modules has failed, or Shelf Configuration mismatch</td>
</tr>
<tr>
<td>4</td>
<td>BF</td>
<td>Battery Fail- (Low Voltage)</td>
<td>Battery Bank Voltage &lt; 44Vdc (default; configurable 40V~50V)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Battery Fail- (LVD)</td>
<td>LVD1 and/or LVD2 Low Voltage Disconnect is open. [Battery is discharged below 42Vdc (default; configurable 40V~50V), or BATT cables not connected, or BATT cables are reversed]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Battery Fail- (Breaker Trip)</td>
<td>BATT#1 or BATT#2 Circuit Breaker is tripped</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Battery Fail- (TEMP/CELL cables)</td>
<td>BATT TEMP, RACK TEMP, or CELL cable(s) not installed or defective</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Battery Fail- (BATT TEMP)</td>
<td>BATT TEMP HIGH or BATT TEMP LOW (Ambient Temp) Alarm</td>
</tr>
</tbody>
</table>