### CR3000 Specifications

#### Electrical Specifications

- **Input Voltage:** 10 to 16 Vdc
- **Sleep Mode:** < 2 mA
- **Real-Time Clock Accuracy:** ±3 min per year
- **Memory:** 2 MB of flash for operating system; 4 MB of additional memory
- **Communications:**
  - **Serial Device:** RS-232 support (0 to 5 Vdc UART)
  - **DCE 9-pin (electrically isolated):** for computer connection
  - **DTE 9-pin:** for telemetry connection
- **Power:**
  - **Base:** 7 Ah rechargeable battery plus base available as primary power source.
  - **Power Supply:** 17 to 24 Vdc or 18 V RMS ac
- **Dimensions:** 24.1 x 17.8 x 9.6 cm (9.5 x 7.0 x 3.8 in)

#### Analog Inputs (SE1-SE8 or DI1-DI14)

- 14 differential (DI) or 28 single-ended (SE) individually configured input channels.
- Channels expanded by optional analog multiplexers.
- **Ranges Resolution:** Basic resolution (Basic Res) is the resolution of a single A/D conversion. A DIFF measurement with input reversal has better (finer) resolution by twice Basic Res.

#### Analog Outputs (VX1-VX4, Ix1-Ix3, CA01, CA02)

- 4 switched voltage and 3 switched current outputs sequentially active during measurement. Two continuous outputs.

#### Analog Input Specifications

<table>
<thead>
<tr>
<th>Range (mV)</th>
<th>DF Res (µV)²</th>
<th>Basic Res (µV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>±5000</td>
<td>±1.31</td>
<td>167</td>
</tr>
<tr>
<td>±2500</td>
<td>±1.64</td>
<td>33.4</td>
</tr>
<tr>
<td>±1000</td>
<td>±2.00</td>
<td>6.7</td>
</tr>
<tr>
<td>±500</td>
<td>±2.67</td>
<td>1.67</td>
</tr>
</tbody>
</table>

#### Analog Output Specifications

<table>
<thead>
<tr>
<th>Voltage Gain</th>
<th>Input Range (mV)</th>
<th>Signal peak to peak</th>
<th>Min Pulse Width (µs)</th>
<th>Max Freq (kHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VX 1-4</td>
<td>±1000</td>
<td>±3.31</td>
<td>9.72</td>
<td>10</td>
</tr>
<tr>
<td>IX 1-2</td>
<td>±2000</td>
<td>±6.67</td>
<td>1.95</td>
<td>±5</td>
</tr>
</tbody>
</table>

#### Analog Measurement Speed

- **Input Noise Voltage:** For DIFF measurements with input reversal on ±20 mV input range, digital resolution dominates for higher ranges.
- **Input Grounding:** ±5 Vdc
- **Digital Resolution:** ±0.01% of setting + 0.5 µA, -40° to 85°C (XT only)
- **Accuracy:** Includes 250 µs for conversion to engineering units.

#### Pulse Counters (P1-P4)

- 4 inputs individually selectable for switch closure, high frequency pulse, or low-level AC. Independent 24-bit counters for each input.

#### Ratiometric Measurements

- **Accuracy:** ±(0.07% of reading + resolution), -25° to 50°C

#### Digital Control Ports (CI-C8, SDM)

- 8 ports software selectable as binary inputs or control outputs.
- **Output Specifications:**
  - DC source with modulation, edge timing, sub-routine interrupts / wake up, switch-closure pulse counting, high frequency pulse counting, asynchronous communications (UARTs), and SDI-12 communications.
  - **Low Frequency MAX:** <1 kHz
  - **High Frequency MAX:** 400 kHz

#### Warranty

- 3 years against defects in materials and workmanship.