



BATTERYBOARD TECHNICAL DATASHEET

Part Number: TEK8

Manufacturer: Teknikio

Lead-Free: Yes (HASL Lead-Free finish)

PRODUCT DESCRIPTION

Teknikio's Battery Board is a sewable PCB featuring a coin cell battery holder that accepts CR2032 and LIR2032 coin cell batteries (batteries sold separately). This lightweight, sewable board is easy to use, making it ideal for textile engineering, paper, and fabric projects. The board provides the electrical connections and mechanical retention for coin cell batteries in e-textile projects.

KEY FEATURES

- Sewable PCB with coin cell battery holder socket
- Compatible with CR2032 and LIR2032 batteries (sold separately)
- Lightweight and compact PCB design
- Sewable connection pads for positive and negative terminals
- Compatible with textile engineering projects
- Easy to use in paper and fabric circuits
- Secure battery retention mechanism in holder
- Low-profile design for wearables
- Educational electronics projects
- Batteries not included - sold separately

ELECTRICAL SPECIFICATIONS

Compatible Battery Types: CR2032 (primary lithium) and LIR2032 (rechargeable lithium)

Output Voltage:

- CR2032: 3.0V nominal (2.0V-3.6V range)
- LIR2032: 3.6V nominal (3.0V-4.2V range)

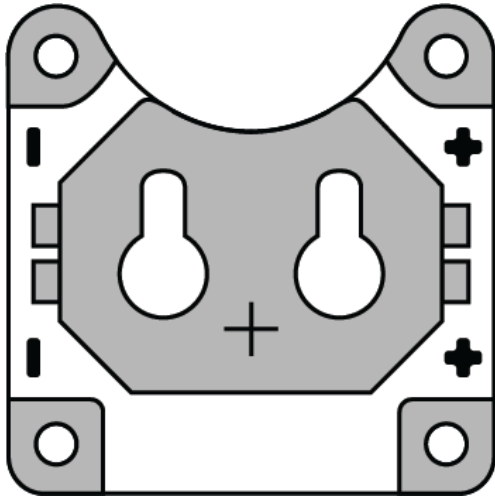
Output Current: Limited by battery specifications

Maximum Continuous Current:

- CR2032: ~20mA continuous, 30mA peak
- LIR2032: ~40mA continuous, higher peak capability

PINOUT & CONNECTIONS

Typical Battery Board Connections:



- (+) Positive: Battery positive terminal connection
- (-) Negative/GND: Battery negative terminal connection

Battery Installation:

1. Insert coin cell battery with positive (+) side facing up
2. Negative (-) side contacts bottom of holder
3. Spring contacts or clips hold battery in place
4. Check polarity markings on PCB

POWER SUPPLY CHARACTERISTICS

CR2032 Power Delivery:

- Nominal Output: 3.0V at 225mAh
- Continuous Current: 20mA (recommended maximum)
- Peak Current: 30mA (short duration)
- Internal Resistance: 10-15 Ω (fresh battery)
- Voltage Regulation: None (voltage decreases with discharge)
- Low Battery Voltage: 2.4V (consider replacement)
- End of Life Voltage: 2.0V

LIR2032 Power Delivery:

- Nominal Output: 3.6V at 40-50mAh
- Continuous Current: 40mA (higher than CR2032)
- Peak Current: Higher peak capability than CR2032

- Internal Resistance: 20-50 Ω
- Voltage Regulation: None (voltage decreases with discharge)
- Low Battery Voltage: 3.2V (consider recharging)
- End of Life Voltage: 3.0V

----- **INSTALLATION GUIDELINES** -----

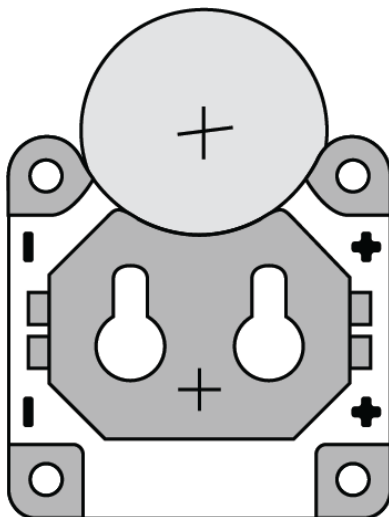
Sewable Connection:

1. Use conductive thread for e-textile projects
2. Recommended thread: Stainless steel conductive thread
3. Make secure knots at connection pads
4. Test continuity before final installation
5. Keep positive and negative connections separated
6. Plan for easy battery replacement access

Soldering Connection:

1. Use lead-free solder (SAC305 recommended) or standard 60/40 solder
2. Keep soldering time minimal to prevent heat damage
3. Use flux for clean connections
4. Test voltage output immediately after soldering
5. PCB is manufactured with HASL lead-free finish

Battery Installation:



1. Check battery polarity before insertion
2. Insert battery with (+) marking facing up (toward PCB top)
3. Ensure battery sits flat in holder
4. Test output voltage after installation
5. Check that battery is securely retained

----- **APPLICATIONS** -----

Educational Projects:

- Introduction to electronic circuits
- Battery and power concepts
- Paper circuit projects
- STEM education activities
- Basic electronics learning

Wearable Technology:

- Power source for LED clothing
- Haptic feedback devices
- Wearable sensors
- Interactive costumes
- Smart accessories

Art & Craft Projects:

- Light-up greeting cards
- Interactive art installations
- Illuminated decorations
- Paper circuit art
- Electronic textiles

Electronic Prototyping:

- Breadboard power supply
- Portable project power
- Low-power device testing
- Sensor network nodes

----- **TROUBLESHOOTING** -----

No Power Output:

1. Check battery installation and polarity
2. Test battery voltage with multimeter (should be >2.4V for CR2032)
3. Verify connection continuity
4. Check for corroded battery contacts
5. Test with fresh battery

Low Voltage Output:

1. Battery may be depleted - check voltage
2. High current draw may cause voltage sag

3. Check for excessive resistance in connections
4. Verify battery type matches circuit requirements
5. Consider internal resistance of aging battery

Intermittent Power:

1. Check battery retention - may be loose
2. Verify solder joint integrity
3. Check for loose sewable connections
4. Inspect battery contacts for corrosion
5. Test for mechanical stress on connections

Short Battery Life:

1. Measure actual current draw vs expected
2. Check for short circuits or current leaks
3. Verify components match battery capabilities
4. Consider using lower power components
5. Add power management features

STORAGE & HANDLING

Storage Conditions:

- Temperature: -20°C to +70°C (without battery)
- Humidity: < 85% RH
- Avoid direct sunlight
- Store in anti-static packaging
- Keep connection pads clean and dry

Handling Guidelines:

- Handle by edges to avoid damage
- Avoid applying pressure to battery holder
- Keep connection pads clean
- Test battery voltage before installation