



# BATTERY TEMPERATURE SENSOR HARNESS

## WHY CME?

CME designs and manufactures wire assemblies for automotive, transportation, energy, and aerospace/defense applications ranging from single-circuit designs up to 500 circuits with varying complexity. As an effective wire harness manufacturing supplier, CME applies customer proven processes. We are people and process oriented and our electrical/electronic assembly and wire harness production and test capabilities are an important part of our production operations and quality assurance.

Since the late 1990s, CME developed and has been continuously manufacturing a special wire harness assembly called the Temperature Sensor Harness. This harness is integral to the BB-716/A Nickel-Cadmium vented battery box on the UH-60 Blackhawk helicopter and variants. It is an integrated, multi-branched sensor harness assembly that features molded encapsulated connections, thermo-switches, and thermistors. This NSN 6140-01-162-5234 is used on the Blackhawk Helicopter's battery system. The harness consists of multiple temperature sensors and voltage measurement devices encapsulated to resist corrosion inside the battery box.

This high reliability harness was developed by CME to a formal government performance specification. For qualification, CME completed validation and first article testing and all associated documentation.

## PRODUCT HIGHLIGHTS

For this wire harness product, CME's design responsibilities included selection of components, encapsulation, corrosion resistant materials, cable assembly processes, connectorization, and test. Special processes required include soldering to J-STD-001 standards, custom encapsulation, and special testing. CME has produced more than 10,000 of these harnesses as of 2017 under multiple production contracts or orders.

CME production associates are certified under IPC/WHMA-A-620, *Requirements and Acceptance for Cable and Wire Harness Assemblies*; IPC J-STD-001, *Requirements for Soldered Electrical and Electronic Assemblies*; as well as IPC-A-610, *Acceptability of Electronic Assemblies*. CME's Manufacturing Operations group employs production staff and operators trained in quality assurance and technical process requirements.



*Temperature Sensor Harness, Branched*  
NSN 6140-01-162-5234  
P/N A3263896

## APPLICATIONS

The Temperature Sensor Harness is an integrated, multi-branched sensor harness assembly used with the BB0716/A NiCad vented battery box found on the UH-60 Blackhawk helicopter and variant rotary aircraft.



*We Love to Design and Build!*

Custom Manufacturing & Engineering™ ♦ ISO 9001:2008 & AS9100C Registered & ISO/TS16949:Conformance  
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Battery Temperature Sensor Harness Datasheet 063017(A)

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## CABLE & WIRE HARNESS ASSEMBLY CAPABILITY OVERVIEW

For customers, CME produces many discrete cable assemblies utilizing proven components. These cable assemblies are designed to meet customer specific requirements and suit the application. These assemblies are all terminated with in-house application tooling supporting low to medium volume production. In addition to wire harness manufacturing, CME can also apply engineering resources to support the design and design verification test of product solutions needed. In-house process control workstations include wire stripping, tinning, soldering, crimping, IDC termination and wire wrapping. This ensures efficient process manufacturing for lower costs. Complete overmolding, four-color ink stamping, ultrasonic welding, UV curing, epoxy sealing, cord coiling and testing support the build of custom wire harness or cable products that meet your specification.

We use a Cami Research CableEye M3U for cable continuity and resistance testing, and have designed special fixtures for test-while-build capability using the M3U. With our cable and harness testers, we can easily find defective or mis-wired cables instantly before they damage equipment or waste valuable technician time. The CableEye tester has a unique, patented graphic wiring display to visually pinpoint problems when wiring errors are detected, and offer one-second pass/fail testing for production environments. Quickly locate intermittent connections and identify their position in the cable. We can expand CableEye to over 2000 test points for large cables and wiring harnesses, and measure cables of up to 4000 feet (1219.200 m) in length. With CME's Model M3U tester, we can set two resistance thresholds, one for good connections down to 0.3 ohms, and one for isolation up to 10 Megohms. We can also measure embedded resistors and resistor networks, check the orientation of diodes, and measure diode forward voltage. Additional test and measurement instrumentation includes: hi-pot, signal generators, function generators, and spectrum and network analyzers for RF measurements from 20 Hz to 40 GHz. In addition, there are temperature chambers for environmental testing and local outside facilities for additional environmental testing as needed.

We offer customers turnkey solutions for wire harness assembly, integration, and test to include:

- Electronic/electrical assembly
- Process, Material, and/or Equipment specification
- Application/Process development
- Prototype fabrication and design verification testing
- Encapsulation and Potting (including vacuum)
- Subcontract application services
- Acceptance and Qualification test services
- Design/Engineering services



*We Manufacture Various Electronic/Electrical Assemblies, Special Cables/Harnesses, and Overmolded Cables*

