INTRODUCING

CONTROL UNIT HEADER GEN 2 (CH2)

- Maximize PCB Space Without Compromising Performance
- Design Flexibility That Accelerates Development



As vehicle architectures evolve toward zonal and domain controllers, more signal and power circuits must fit within increasingly compact electronic control units. TE Connectivity's Control Unit Header (CH2) is a compact, modular mixed wire-to-board connector platform designed to help meet these growing space and performance demands. CH2 combines trusted NanoMQS 0.50mm, MCON 1.2mm, and AMP MCP 2.8/6.3mm terminal technologies in a space-efficient, horizontal (90°), stackable header design. Available in multiple mixed-pin configurations - including 12P, 23P, 28P, 29P, 52P, and 73P, the platform provides the flexibility to integrate signal and power connectivity while supporting scalable ECU designs. With its compact footprint, modular architecture, and proven terminal technologies, CH2 helps customers maximize PCB space, simplify development, and confidently design for next-generation automotive electronics.

KEY BENEFITS

- **Compact miniaturized design:** Maximizes PCB space for high-density electronic control units
- **Smart design:** Horizontal (90°) stackable header design with multiple mixed-pin variants (12P, 23P, 28P, 29P, 52P and 73P)
- **Mixed signal & power platform:** Combines proven NanoMQS 0.50, MCON 1.2, and AMP MCP 2.8/6.3 terminals in one connector
- **Scalable connector platform:** Stackable headers support flexible pin-count configurations and common PCB designs
- **High-current performance:** Supports applications from 6A to 52A across multiple wire sizes (0.22mm² – 6mm²)
- **Automotive-grade reliability:** Designed to meet demanding USCAR and OEM performance requirements
- **Manufacturing ready:** Supports Pin-in-Paste assembly and reflow soldering for efficient production
- **Error-proof assembly:** Mechanical keying and color coding help prevent mis-mating
- **Future-ready connectivity:** Optimized for zonal and domain controller architectures

ELECTRICAL

- Contact size systems: 0.50, 1.2, 2.8 & 6.3mm
- Compatible with reflow soldering (up to 260°C peak)
- Current capacity: 6A – 52A @ 80°C
- Supports signal, low, medium to high-power systems

MECHANICAL

- F-Type terminal crimping technology
- Suitable wire sizes: 0.22mm² to 6mm²
- Vibration rating: USCAR-2 V1
- Duration: 20 times of insertion and extraction
- Insertion/extraction force: 75N

APPLICATIONS

- **Zonal Control Unit**
  - High-performance Control Unit
- **Telematic Control Unit**
  - Power Supply
  - I/O Interface
- **Vehicle Body Control Units**
  - Body Control Module (BCM)
  - Lighting Module
  - Door Module
  - Mirror Module
- **Body and Comfort Systems**
  - Seat Control Module
  - Window Lift Module
  - HVAC Controller
  - Sunroof Controller
- **Infotainment**
  - Power Supply
  - Display Backlight Power
  - Button/HMI Interface
  - Audio Control
- **ADAS**
  - Camera Power Distribution
  - Radar Power Interface
  - Sensor Power Module

STANDARDS AND SPECIFICATIONS

- Standards: USCAR & LV214 (under validation)
- Product specification: 108-160835
- Product application note: 114-160539
- RoHS compliant

LEARN MORE

- Control Unit Header Landing Page
- Mixed Connectors (Signal and Power) Landing Page
- Control Unit Header Brochure
- Radar/LiDAR Interactive Application Guide

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