

# ConnTAK50 Connectors >

Providing compact connectivity solutions for next-generation automotive modules, versatile 1.80mm-pitch ConnTAK50 Connectors employ the Arbeitskreis (AK) interface and deliver significant space savings and superior reliability. The connectors offer single- and dual-row versions, vertical and right-angle headers and no-void connector position assurance (CPA) options, supporting design flexibility in space-constrained applications.

## ADVANTAGES AND FEATURES

### Simplifies design and sourcing through its industry-standard interface

The connector uses the Arbeitskreis (AK) terminal, making it intermateable with other AK connectors, while meeting LV214 and USCAR specifications.

### Eases space constraints

The 1.80mm-pitch AK interface offers one of the smallest available automotive-grade connector options and delivers exceptional electrical performance.

### Streamlines assembly operations

Four polarization and color-keying options aid assembly and help prevent mis-mating errors.

### Improves design flexibility

Various header options, including right-angle, vertical and pick-and-place vertical SMT types, are available to meet application needs.

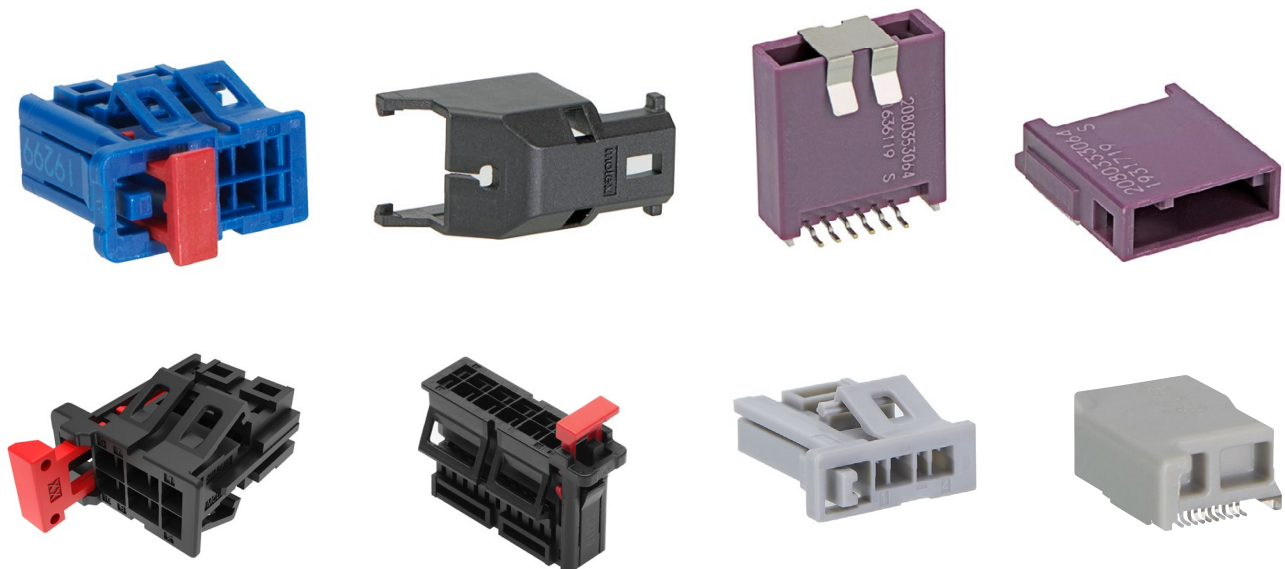
Terminal	0.50mm Arbeitskreis (AK)
Pitch	1.80mm
Validation	LV214 and USCAR
Circuit Counts	No-Void CPA: 10, 12, 16, 22 (18 in development) Standard CPA: 8, 20 No CPA: 2 to 6, 10, 22 (18 in development)
Current	Up to 6.0A
Operating Temperatures	-40 to +105°C

### Delivers compact reliability

No-void CPA eliminates the need for extra circuit voids, saving space and weight while ensuring secure, vibration-resistant connections and improving assembly efficiency.

### Offers versatility to meet varied application needs

With multiple available circuit counts and wire sizes from 0.13 to 0.35mm<sup>2</sup>, the connectors can support a wide range of devices and systems.



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## MARKETS AND APPLICATIONS

### Automotive

Battery management systems  
Bluetooth equipment  
Camera modules  
HVAC systems  
In-vehicle switches  
Lighting systems  
Seat and mirror controls

### Industrial Automation

Factory automation equipment  
Industrial control systems  
Robotics

### Telecommunications

Base stations  
Fiber optic systems  
Network switches

### MedTech

Diagnostic equipment  
Imaging systems  
Patient monitoring systems

### Appliances

Dishwashers  
Ovens  
Refrigerators

### Aerospace and Defense

Avionics systems  
Communication systems  
Navigation instruments

### Wearables

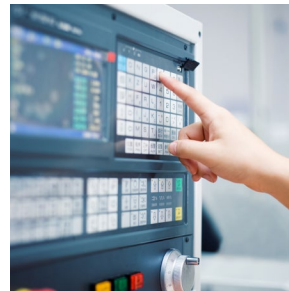
Wearable devices

### Mobile Devices

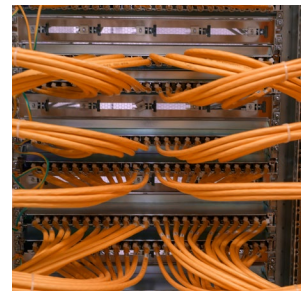
Smartphones



*In-Vehicle Switches*



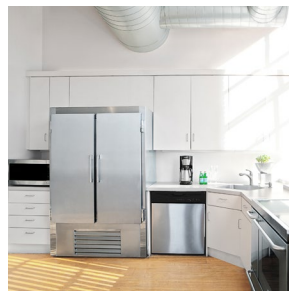
*Industrial Control Systems*



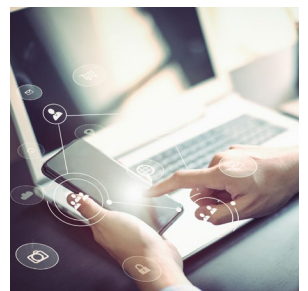
*Network Switches*



*Imaging Systems*



*Refrigerators*



*Smartphones*

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## SPECIFICATIONS

### Reference Information

Packaging: Tape and reel  
Designed in: Millimeters  
RoHS: Yes  
Halogen Free: Yes  
Validations: LV214, USCAR  
Use With: AK standard terminal interfaces

### Electrical

Voltage (max.): 14V  
Current (max.): 6.0A  
Contact Resistance (max.): 25 milliohms  
Insulation Resistance: 100 Megohms

### Mechanical

Pitch: 1.80mm  
Wire Sizes: 0.13 to 0.35mm<sup>2</sup>  
Connector Retention Force (min.):  
Per USCAR—110N  
Per VW75174—60N  
Terminal Insertion Force (max.): 1.9N  
Circuit Size:  
No-Void CPA—10, 12, 16, 22 (18 in development)  
Standard CPA—8, 20  
No CPA—2 to 6, 10, 22 (18 in development)  
Durability (max.): 20 cycles

### Physical

Receptacle Housing: PA66  
Header Housing: PA9T  
Terminal: Copper alloy and stainless steel  
Terminal Plating: Tin  
Operating Temperatures: -40 to +105°C