

Minitek® Pwr CEM-5 PCIe® Connector System

Amphenol ICC introduces the Gen 5, Minitek® Pwr PCIe® connector system. This new introduction CEM 5.0 PCI Express® 12VHPWR auxiliary hybrid connector and cable assembly support the 600W GPU cards. The 12VHPWR connector is not designed to mate with legacy PCI Express® 2x3 and 2x4 12V Auxiliary Power connectors. The 12VHPWR connector power pins have a 3.00mm pitch, while the contacts in a legacy 2x3 and 2x4 connector lie on a larger 4.20mm pitch. New PCIe® Connector System (CEM5) is designed for power applications with current rating up to 9.5A/pin (12 pins energized) and the 4 signal pins supporting signal transmission.

- Rated current up to 9.5A per contact with all 12 power contacts and 4 Signal contacts
- Fully isolated terminals
- Positive locking on housing with low thumb latch operation
- Low level contact resistance: 6mΩ max.



TARGET MARKETS



FEATURES

- High current alloy material used for contacts
- Fully isolated terminals
- Positive locking on housing with low thumb latch operation
- Fully polarized housings
- High retention force in housing
- UL94V-0 flammability rated Nylon material
- RoHS compliant and lead-free

BENEFITS

- Rated up to 9.5A per contact with all 12 power contacts and 4 signal contacts loaded
- Prevents terminals from potential damage during operation
- Ensures secured mating retention
- Prevents accidental mismatching
- Well secured terminals in housing
- High flammability rating
- Meets environmental, health and safety requirements

TECHNICAL INFORMATION

MATERIAL

- Header Pin: High conductivity copper alloy and copper alloy with tin plating
- Housing: Nylon 66 and LCP, black, UL94V-0
- Crimping Terminal: High conductivity copper alloy and Copper alloy with tin plating

MECHANICAL PERFORMANCE

- Insertion Force: 8.0N max.
- Withdrawal Force: 2.4N min.
- Durability: 30 mating cycles
- Wire Pullout Force: Refer to product specifications

ELECTRICAL PERFORMANCE

- Low Level Contact Resistance: 6mΩ max.
- Insulation Resistance: 1000MΩ min.
- Voltage Rating: 12V DC
- Current Rating: 9.5A (Power)/1A (Signal)
- Dielectric Withstand Voltage: 1000V AC
- Temperature Rise: 30°C max.

PACKAGING

- PCB Header: Tray
- Crimping Housing: Bulk
- Terminal: Reel

APPROVALS & CERTIFICATION

- Glow Wire Ignition Temperature (GWIT) per IEC 60695-2-13
- Glow Wire Flammability Index (GWFI) per IEC 60695-2-12

SPECIFICATION

- Amphenol Product Specification: [GS-12-1706](#)
- Amphenol Application Specification: [GS-20-0704](#)
- Amphenol Packaging Specification: GS-14-2802

ENVIRONMENTAL

- Operating Temperature Range: -40°C to +105°C
*Includes 30°C terminal temperature rise at rated current

TARGET MARKETS/APPLICATIONS



AI and Cloud
Gaming Consoles
Graphic Interface
Networking



Computing System
Server and storage

PART NUMBERS

Type	Description	Product Series
Dual Row	PCIe® CEM-5 Right Angle Through Hole Hybrid Header	10160920
	PCIe® CEM-5 Hybrid Receptacle Housing	10161719
Terminals	Receptacle Terminal(Pwr)	10132447
	Receptacle Terminal (Pwr) with low insertion force	10134160
	Receptacle Terminal (Signal)	10161952

▶ Minitek® Pwr CEM-5 PCIe® Connector System

*Amphenol supports PCIe® CEM-5 Pigtails and Cable assemblies on request



TOOLING INFORMATION

APPLICATORS

Terminal Part Number	AWG Range	Semi-Auto Crimping Machine	Fully-Auto Pneumatic Crimping Applicator	Fully-Auto Mechanical Crimping Applicator
10132447-121PLF	16 AWG	10159974-002	10159975-002	10159976-002
	18 AWG			
	20 AWG			
10134160-2310LF	16 AWG	10159974-003	10159975-003	10159976-003
	18 AWG			
	20 AWG			
10161952-2210LF	28 AWG	10164100-001*	10164101-001*	10164102-001*

HAND CRIMP TOOL

Terminal Part Number	AWG Range	Hand Crimp Tool Part Number
10132447-121PLF	16 AWG	10159387-002
	18 AWG	
	20 AWG	
10134160-2310LF	16 AWG	10159387-003
	18 AWG	
	20 AWG	
10161952-2210LF	28 AWG	10163639-001*

*P/N under qualification, Contact PM before placing orders

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