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Minitek® Pwr

Wire-to-wire / Wire-to-board / Board-to-board connectors

FCi Basics

Minitek® Pwr Overview

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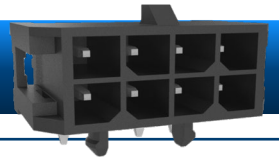
Minitek® Pwr is an optimized unsealed wire-to-wire and wire-to-board solution, which supports mid-power applications, inpitch sizes of 3.00mm, 4.20mm, and 5.70mm, with current ratings from 5A to 30A.





Pitch	3.00 mm	4.20 mm	5.70 mm
Poles and Rows	2-24 Poles (Dual)	2-24 Poles (Dual)	2-12 Poles (Dual)
	2-12 Poles (Single)	3-5 Poles (Single)	2-6 Poles (Single)
Current (A) (max.)	12	13	30
Voltage (V) (max.)	600	600	600
Operating Temperature	-40°C to 105°C	-40°C to 105°C	-40°C to 120°C
Wire thickness (AWG)	16 - 30	16 - 28	12-16
Housing Material	LCP and Nylon	LCP and Nylon	LCP and Nylon
Header Configurations	VH/R/A	VH/R/A	VH/R/A
Header Terminations	TH/SMT	TH	TH
Application	WTW/WTB	WTW/WTB	WTW/WTB
Status	Available	Available	Available

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Minitek® Pwr Features

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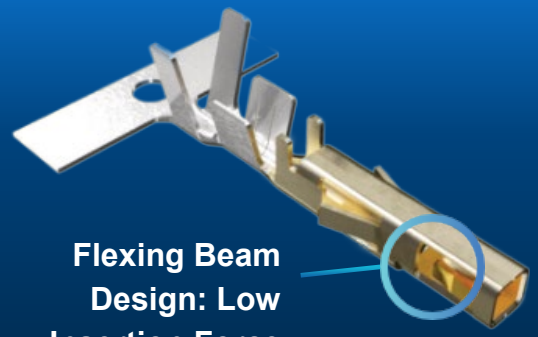
Durable



Flexing Beam Design: Low Insertion Force during Mating

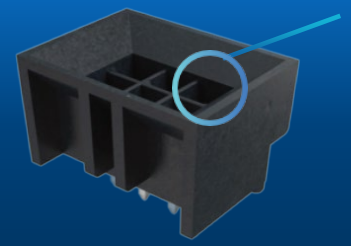
Fully **Polarized interfaces:** Prevents accidental mis-mating





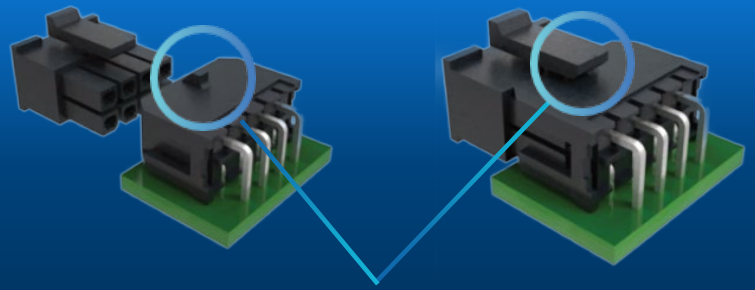
Scoop Proof Assy: Scoop proof contacts provide protection to contacts from being damaged during mating/unmating.

Fuss-Free Mateability

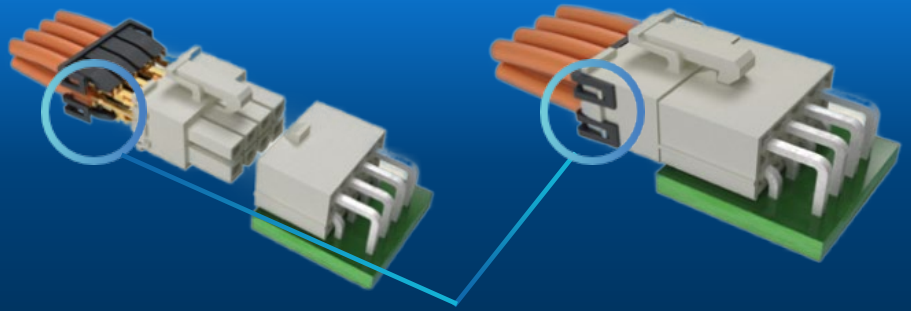


Blind-Mate Interface: BMI provides a self-aligning feature molded into housin

Reliable Connection



Positive locking system ensures the connectors are securely mated and prevents accidental un-mating



Terminal Position Assurance (TPA) Wire-to-Board version

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Minitek® Pwr- OCP M-PIC CONNECTOR

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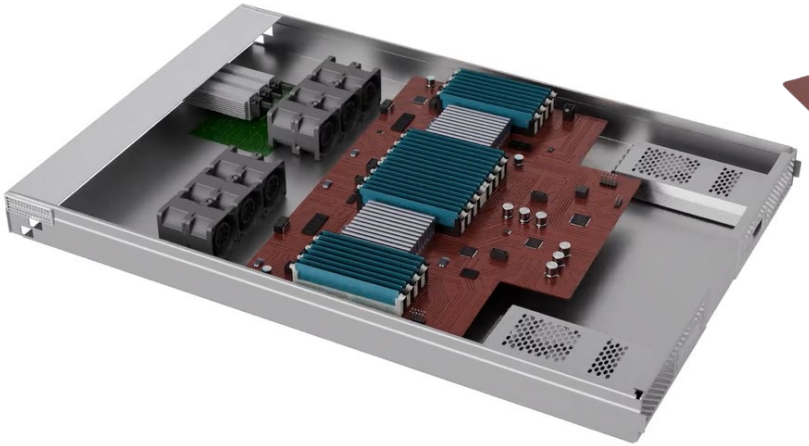
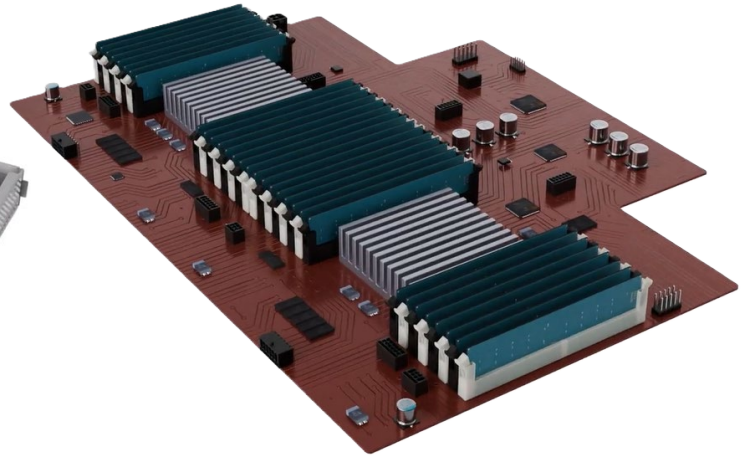
Amphenol introduces the new PICPWR OCP® connector system. This new introduction PICPWR 2x6+12SB or 2x3+6SB auxiliary power connector and cable assembly supports the 864W (2x6) / 486W (2x3) power distribution within the HPM and to/from peripheral subsystems to HPM or peripheral subsystems. M-PIC connectors provide the Hybrid(Power/Signal) solution to meet various server system architectures, including Open Compute Project (OCP) Open Rack v3 & Modular Hardware Systems (DCMHS).

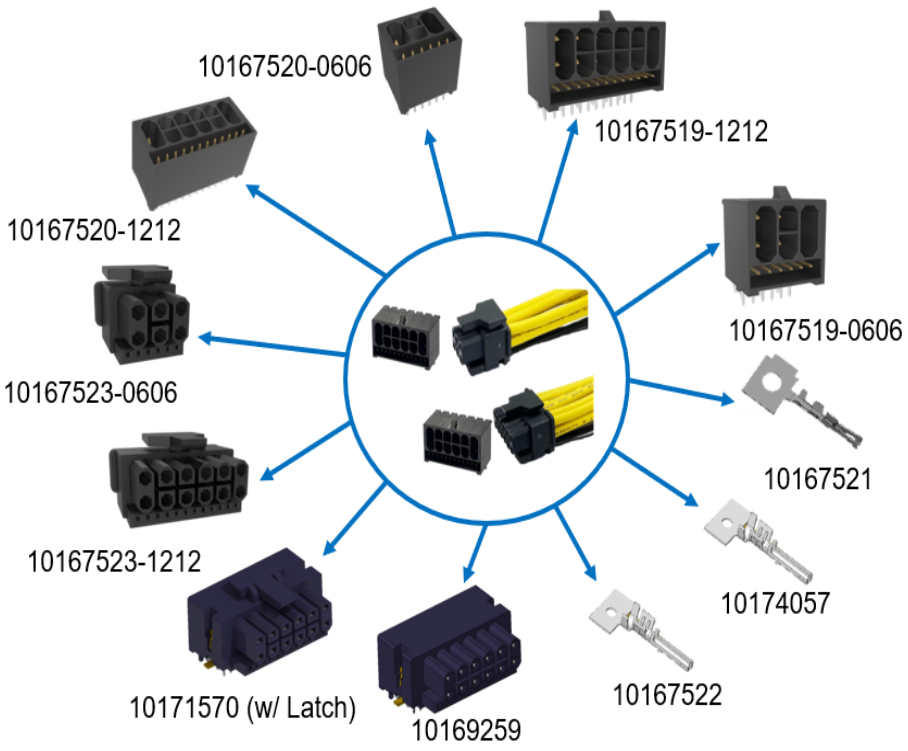
- Rated current up to 12A for 2X6+12SB and 13.5A for 2X3+6SB with all power contacts
- Fully isolated terminals
- Positive locking on housing with low thumb latch operation

Application





Product offering



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Minitek® Pwr 12VHPWR CONNECTOR

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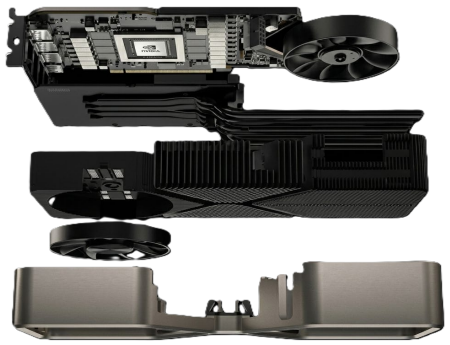
Amphenol introduces the Gen 5, Minitek® 12VHPWR connector system. This new introduction CEM 5.0 PCI Express® 12V-2x6 auxiliary power connector and cable assembly support the 600W GPU cards. The 12V-2x6auxiliary power connector is not designed to mate with legacy PCI Express® 2x3 and 2x4 12V Auxiliary Power connectors. The 12VHPWR connector power pins have a 3.00mm pitch, while the contacts in a legacy 2x3and 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 (12pins energized) and the 4 signal pins supporting signal transmission.

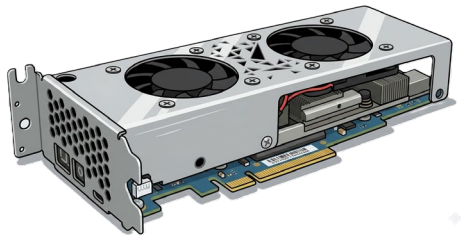
- Rated current up to 9.5A per contact with all 12 power contacts
- Fully isolated terminals
- Positive locking on housing with low thumb latch operation

Low level contact resistance: 5mΩ max.; Side band: 10Ωm max.

Application



GPU & Gaming Console

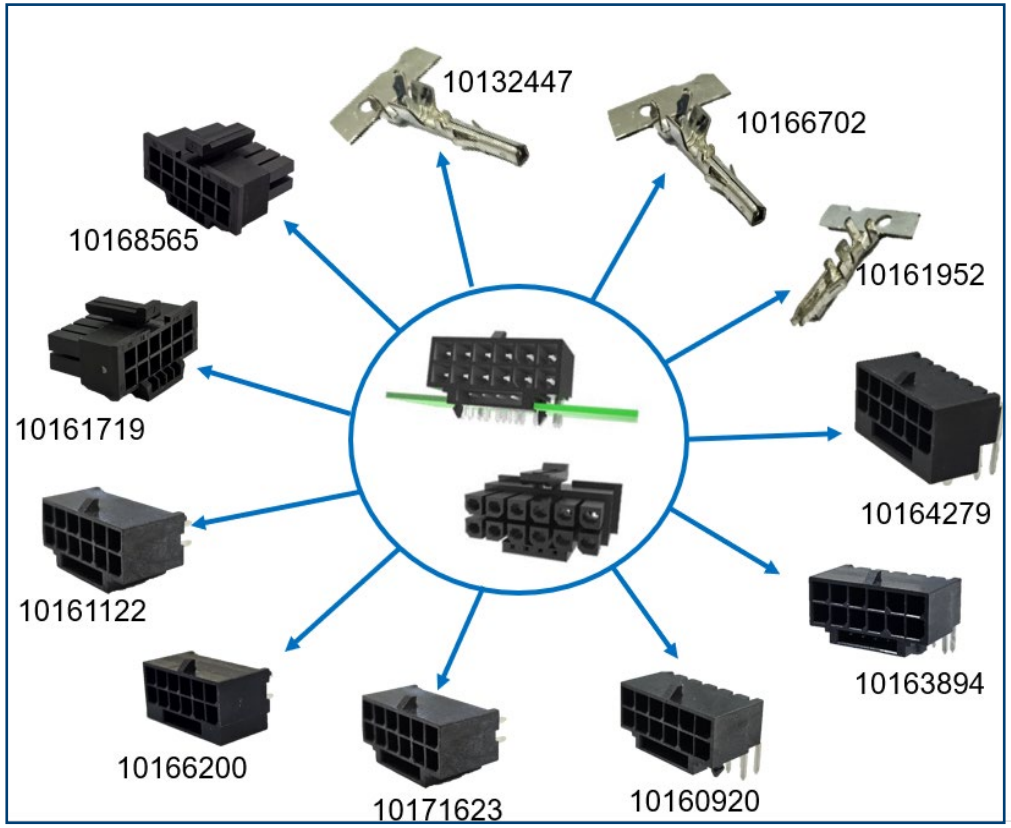


Accelerator cards /Add on cards



GPU PSU's

Product offering



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MINITEK® PWR FOCUS SEGMENTS:

Segments Focus Applications

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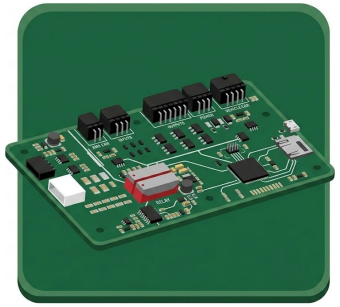
IT Datacom
- Hot plug Server
- NVR Servers
- Server – Fan applications
- Rack Servers
- OCP DC-MHS



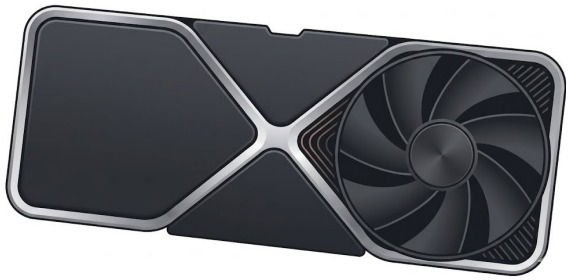
Automotive
- EV BMS and Charger
- Intelligent Transport system
- Auto Drive Controller
- GPS tracker
- Tail lamp and Rear Light



Telecom/Networking
- Baseband (Fan unit)
- Network Router & Switch
- Networking Gateway



Consumer
- Gaming GPU & PSU
- White Goods
- LED Signage
- NextGen Xbox
- Vending Machine
- Appliances



Industrial
- Energy Storage ESS
- Warehouse Robotics
- Industrial control units
- Drives and Motors
- Factory Automation
- Industrial UPS /Inverters



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Minitek® Pwr – Key Applications and Products Offered

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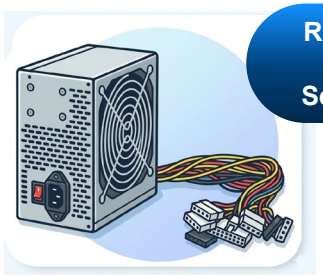
OPEN Compute Project®



Rack and Hot Plug Servers/PSUs



Minitek Pwr 5.7



Minitek Pwr 3mm BMI



Minitek Pwr 4.2 R/A assy

OCP-DCMHs

PICPWR WTB



PICPWR BTB



PICPWR Cable Assy





GPU & Gaming

Aux Pwr 4.2mm

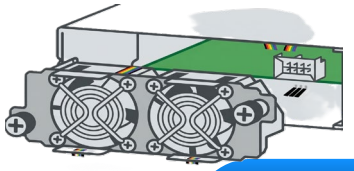


CEM-5 12V-2x6



CEM5 Cable Assy





Base Band Fan Units & Networking

Minitek Pwr HCC 3mm



BMI 3mm WTW®



Minitek Pwr4.2 HCC®



Robotics & Industrial Servo Motors



Minitek Pwr 4.2TPA

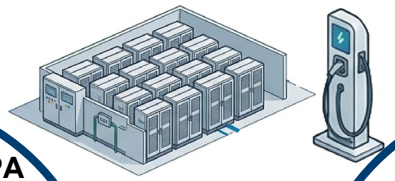


BMI 3mm



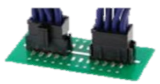
Custom Assy





ESS/BMS/EV

Minitek Pwr 3 WTB





Minitek Pwr Cable Assy

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Minitek® Pwr -Cable Assembly capabilities

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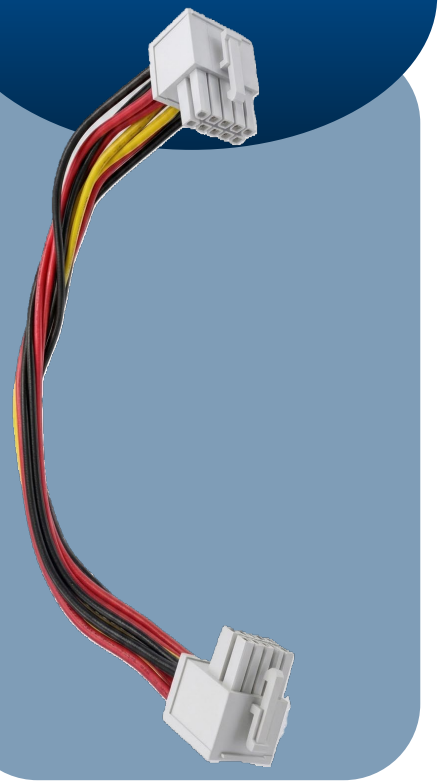
Customer’s cable assy requirements can be supported from either China(NT) or India (Cochin)Manufacturing Locations.

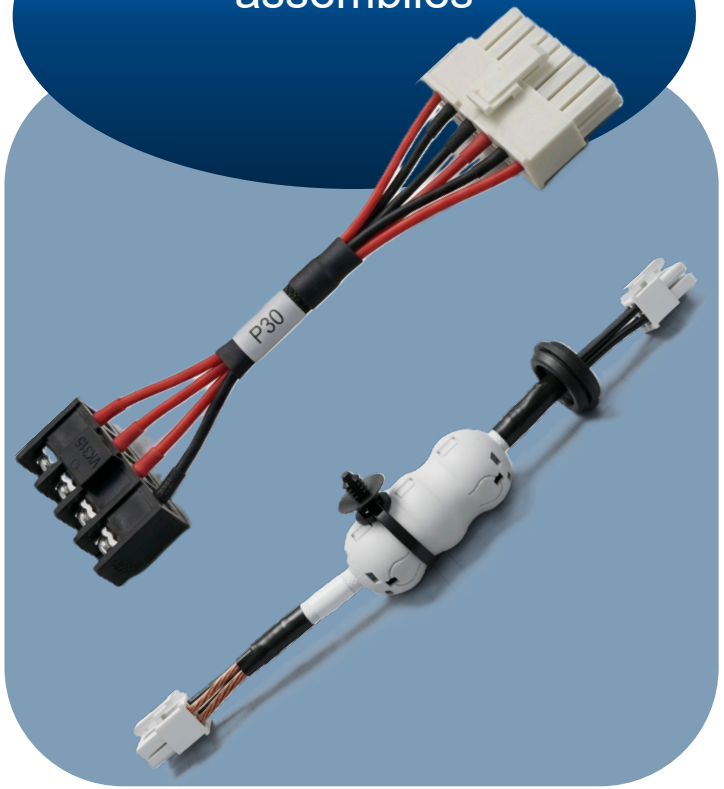
4.2 R/A Cassy



Pig tails



Customized wire assemblies



Molded assemblies



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Minitek® Pwr 3.0 Product Range

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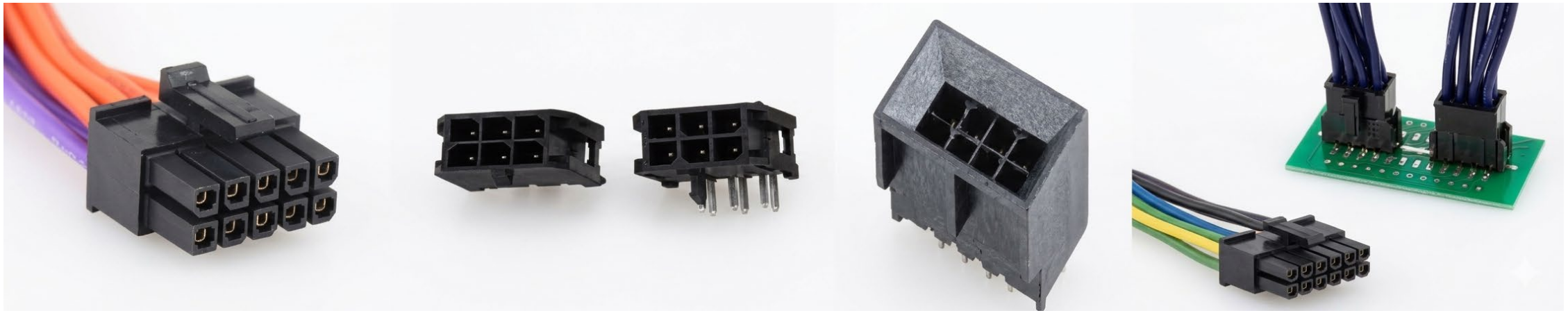

ROWS AND POLES		HEADERS									PLUG		RECEPTACLE	
		Right Angle TH	Vertical TH	R/A SMT Tails & Hold	R/A SMT Tails & DIP Hold	Vertical SMT Tails & Hold	Vertical SMT Tails & DIP	Vertical TH BMI	Right Angle TH	VTH Metal Harpoon	Housing	Terminals	Housing	Terminals
Minitek® Pwr 3.0	Dual Row (2-24)	10127720 10161838	10127721	10137924	10137925	10137926	10137927	10138980	10144754		10127717 10160855 (BMI)	10127719 10161703	10127716 10159684 (BMI)	10134160 10127718
	Single Row (1-12)	10136654	10136656 10157052	10136655						10158340		10127719 10161703	10136653	10134160 10127718
Minitek® Pwr 3.0 HCC	Dual Row (2-24)	10132449	10132450	10152198	10148440		10148439	10175354	10175353		10132446	10132448 10161703	10132445 10159684 (BMI)	10134160 10132447 10166702
	Single Row (1-12)	10142730									10160965	10132448 10161703	10142744	10134160 10132447 10166702

10151857 - Right Angle Through Hole Header with Metallic Board Lock (Single Row)	10159410 - Vertical SMT Header (Single Row)
10137867 - Right Angle SMT Tails and DIP Board Lock Header (Single Row)	10161838 - Right Angle Through Hole Header with Metallic Board Lock (Dual Row)
10162511** - Vertical SMT Header with Solder Tab (Single Row)	10159685** - Vertical Press Fit Header (Dual Row)

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Minitek® Pwr 4.2 Product Range

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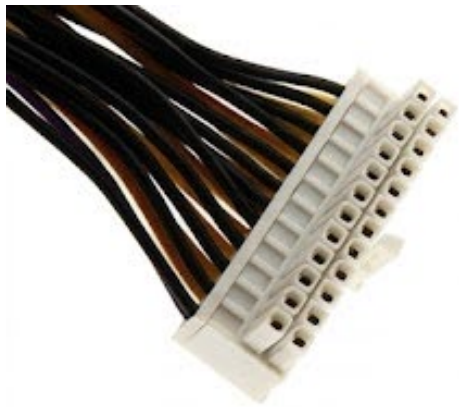




ROWS AND POLES		BOARD SIDE			CABLE SIDE								PCIe Aux			
		Headers			Plug		Receptacle			TPA Housing						
		Right Angle TH	Vertical TH Header	BMI VT Header	Housing	Terminals	Vertical HSG	Right Angle HSG	Terminals	TPA Plug	TPA Receptacle	TPA Aligner	Right Angle Header	Vertical Header	Receptacle Housing	Receptacle Terminal
Minitek® Pwr 4.2	Dual Row (2-24)	10127819	10127820	10138978	10127816 10144559	10156852 10127818	10127815	10122956	10134170 10127817	10153592	10153466	10153465	10147579	10147580	10147577	10147578
	Single Row (3-5)	10136646	10136647		10136645	10156852 10127818	10136644		10134170 10127817		10153467					
Minitek® Pwr 4.2 HCC	Dual Row (2-24)	10131318	10131319		10127816	10156852 10136290	10127815	10122956	10134170 10130517 10136289							
	Single Row (3-5)	10137784	10137785		10136645	10156852 10136290	10136644		10134170 10130517 10136289							

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Minitek® Pwr 5.7 Product Range

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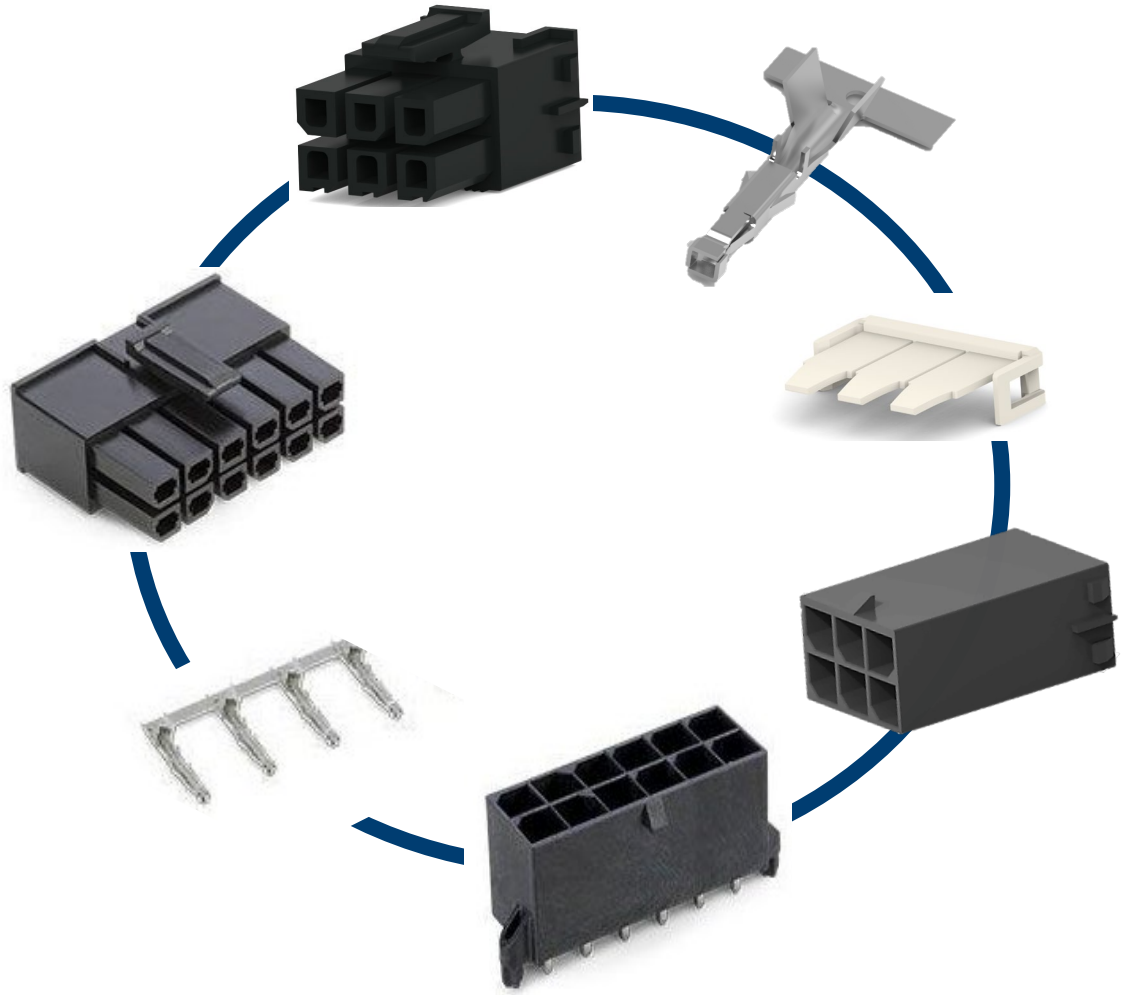
PN	CONFIGURATION	ROW	POSITIONS	PLATING
10142707	Receptacle Housing (94 V-2)	Dual	2-12	NA
10142708	Vertical Through Hole Header	Dual	2-12	Tin 15µ"Gold 30µ"Gold
10146997	Right Angle Through Hole Header	Dual	2-12	Tin 15µ"Gold 30µ"Gold
10158070	Female Terminal	NA	NA	Tin 15µ"Gold 30µ"Gold Gold Flash
10158453	Receptacle Housing (94 V-0)	Dual	2-12	NA
10173924	Plug Housing (94 V-0)	Dual	2-12	NA
10174854	TPA receptacle Housing	Dual	2-12	NA
10174855	TPA	Dual	1-6	NA
10173925	Plug Terminal	NA	NA	Tin 15µ"Gold 30µ"Gold Gold Flash
10174856	TPA Receptacle terminal	NA	NA	Tin 15µ"Gold 30µ"Gold Gold Flash
10176091	Right Angle Receptacle housing & back cover	Dual	2-12	NA
10160960	Right Angle receptacle short & long terminal	NA	NA	Tin 15µ"Gold 30µ"Gold Gold Flash



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Minitek® Pwr Hand Tool & Application

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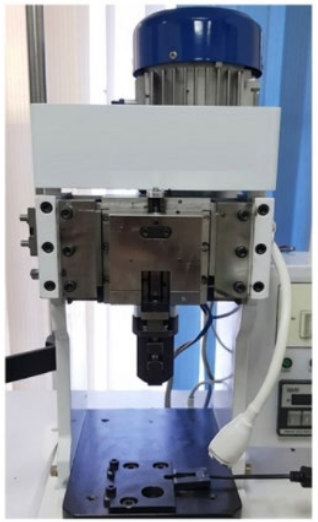
Series	Terminal Series	Terminal part number	AWG range	Hand Crimp Tool part number
MTK PWR 3.0	10127719 10127718	10127719-00XXLF 10127718-00XXLF	20AWG 22AWG 24AWG	10159387-001
	10132447 10132448	10132447-00XXLF 10132448-00XXLF	16AWG 18AWG 20AWG	10159387-002
	10134160	10134160-XX10LF	16AWG 18AWG 20AWG	10159387-003
	10134160	10134160-XX20LF	20AWG 22AWG 24AWG	10159387-004
	10134160	10134160-XX30LF	26AWG 28AWG 30AWG	10159387-005
MTK PWR 4.2	10134170	10134170-XX10LF	16AWG	10159388-001
	10127817 10130517 10136289 10127818 10136290	10127817-XX1XLF 10130517-1X1XLF 10136289-1X1XLF 10127818-XX1XLF 10136290-1X1XLF	18AWG 20AWG 22AWG	10159388-002
	10127817 10127818	10127817-XX2XLF 10127818-XX2XLF	24AWG 26AWG 28AWG	10159388-003
	10134170	10134170-XX30LF	22AWG 24AWG 26AWG 28AWG	10159388-004
	10134170	10134170-XX20LF	18AWG 20AWG 22AWG 24AWG	10159388-005

Series	Terminal part number	AWG range	Semi-Auto crimping machine	Fully-Auto Pneumatic Crimping Applicator	Fully-Auto Mechanical Crimping Applicator
MTK PWR 4.2	10127818-XX2XLF	24AWG 26AWG 28AWG	10157894-001	10158621-001	10158622-001
	10134170-XX30LF	22AWG 24AWG 26AWG 28AWG	10157894-002	10158621-002	10158622-002
	10127817-XX2XLF	24AWG 26AWG 28AWG	10157894-003	10158621-003	10158622-003
	10134170-XX20LF	18AWG 20AWG 22AWG 24AWG	10157894-004	10158621-004	10158622-004
	10127817-XX1XLF 10130517-1X1XLF 10136289-1X1XLF	18AWG 20AWG 22AWG	10157894-005	10158621-005	10158622-005
	10134170-XX10LF	16AWG	10157894-006	10158621-006	10158622-006
	10127818-XX1XLF 10136290-1X1XLF	18AWG 20AWG 22AWG	10157894-007	10158621-007	10158622-007
MTK PWR 3.0	10127719-00XXLF 10127718-00XXLF	20AWG 22AWG 24AWG	10159974-001	10159975-001	10159976-001
	10132447-00XXLF 10132448-00XXLF	16AWG 18AWG 20AWG	10159974-002	10159975-002	10159976-002
	10134160-XX10LF	16AWG 18AWG 20AWG	10159974-003	10159975-003	10159976-003
	10134160-XX20LF	20AWG 22AWG 24AWG	10159974-004	10159975-004	10159976-004
	10134160-XX30LF	26AWG 28AWG 30AWG	10159974-005	10159975-005	10159976-005



Applicator



Hand Tool

5.7mm Terminal P/N Series	Applicable Hand Tool P/N
10158070-1XXLF	10160974-001

Amphenol P/N	DESCRIPTION/FAMILY	PRODUCT LINE
10129274-030LF	Extraction Tool for 3.0 housing	Minitek PWR 3.0
10129274-042LF	Extraction Tool for 4.2 housing	MINITEK PWR 4.2

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Thank You

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