

Amphenol

COMMUNICATIONS SOLUTIONS

Minitek® Pwr
Wire-to-wire / Wire-to-board
connectors

 **Commercial**
ACPI

Minitek® Pwr Overview

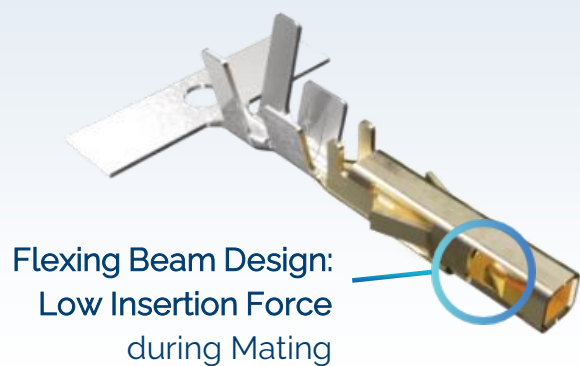
Minitek® Pwr is an optimized unsealed wire-to-wire and wire-to-board solution, which supports mid-power applications, in pitch sizes of 3.00mm, 4.20mm, and 5.70mm, with current ratings from 5A to 28A.



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)	
Current (A) (max.)	12	13	28
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)	30-16	28-16	16-12
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/Press fit	TH	TH
Application	WTW/WTB	WTW/WTB	WTB
Status	Available	Available	Available

Minitek® Pwr Features

Durable

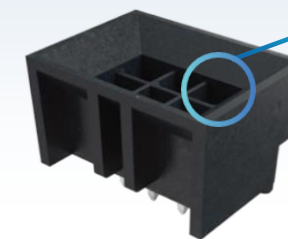


Fully Polarized
interfaces: Prevents
accidental mis-
mating



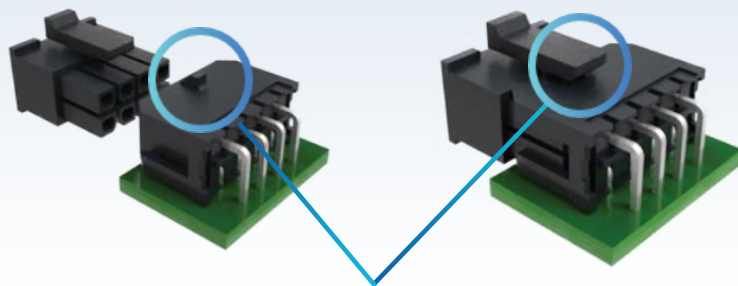
Scoop Proof Assy:
Scoop proof contacts
provide protection to
contacts from being
damaged during
mating/unmating.

Fuss-Free Mateability

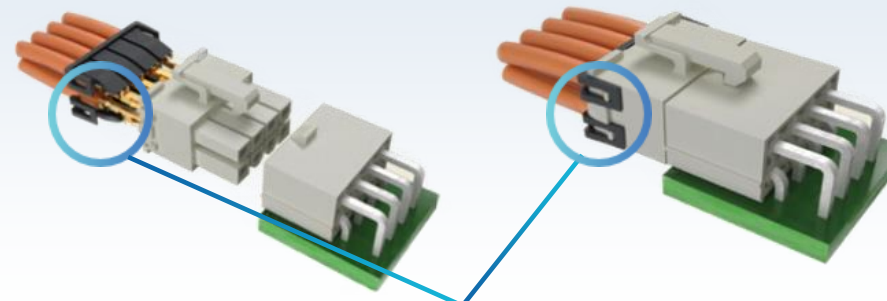


Blind-Mate
Interface: BMI
provides a self-
aligning feature
molded into
housings

Reliable Connection



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



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

Minitek Pwr® Everywhere

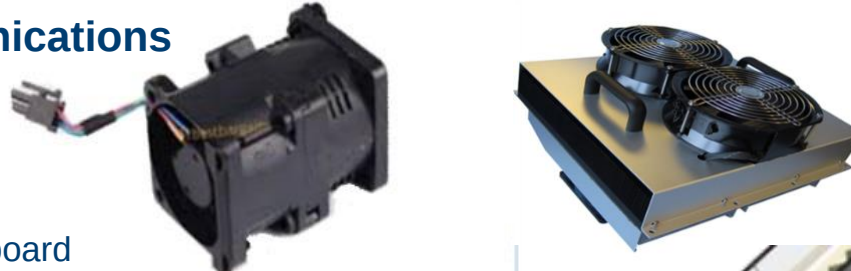
Consumer

- Air-conditioner
- Microwave Oven
- Set-Top Box
- Refrigerator / Freezer
- Printer / Copier
- Vending Machine
- Washing machine
- Gaming equipment



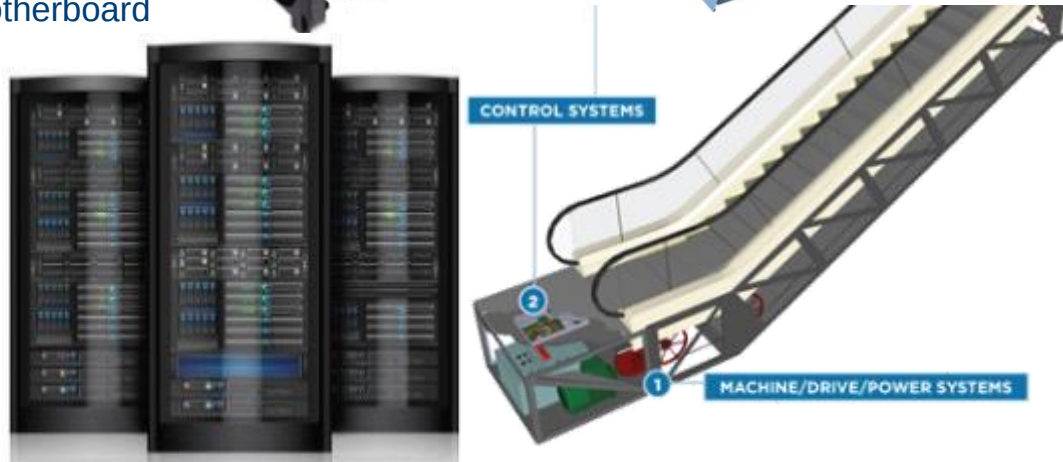
Networking / Data communications

- HDD Applications
- Hot plug Server
- NVR Server
- Server – Fan applications
- Desktop Computer and Motherboard



Telecommunications

- 1U Rack Box
- Wi-Max Box
- Interface Converter
- Customer Premises Equipment
- Hub
- Power supplies and Distribution



Medical

- Hospital Bed
- Defibrillator
- Patient Monitor
- Ultrasound Equipment



Industrial

- Food and beverage dispenser
- Industrial Control Panel
- Chemical detection system
- Radar Equipment
- Charging Panel



Minitek Pwr® 3.0 Product Range



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	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				10132446	10132448 10161703	10132445	10134160 10132447
	Single Row (1-12)	10142730									10160965	10132448 10161703	10142744	10134160 10132447
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)						

Minitek Pwr[®] 3.0 Product Technical Information

Performance Characteristics

- Durability: 30 cycles (50 for HCC version)
- Mating Force: 8.0N per contact max.
- Un-mating Force: 3.7N per contact min.
- Current Rating: Up to 8.5A per contact (12A per contact for HCC version)
- Voltage Rating: 600Vrms
- Insulation Resistance: 1000MΩ min.

Materials

- Housing: PA66 and LCP, Black & Natural, UL94V-0
- Board connector: Cu Alloy with optional Sn and Au plating
- Crimping terminal: Cu Alloy with optional Sn and Au plating

Tooling Information

- Hand crimping tool: Part number lists available in Datasheet
- Terminal extract tool: 10129274-030LF

Environmental

- Operating Temperature: -40°C to 105°C

Technical Documents

- Product Spec : GS-12-1177 & GS-12-1191
- Package Spec : GS-14-2359 & GS-14-2419
- Application Spec : GS-20-0399

Approvals and Certifications

- Dual Row: UL E66906 and E467317
- Single Row: UL Pending (Open to do on Request)

Minitek Pwr® 4.2 Product Range



ROWS AND POLES		CABLE SIDE										
		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
Minitek® Pwr 4.2	Dual Row (2-24)	10127819	10127820	10138978	10127816 10144559	10156852 10127818	10127815	10122956	10134170 10127817	10153592	10153466	10153465
	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			

PCIe Aux			
Right Angle Header	Vertical Header	Receptacle Housing	Receptacle Terminal
10147579	10147580	10147577	10147578

Minitek Pwr[®] 4.2 Product Technical Information

Performance Characteristics

- Durability: 30 cycles
- Mating Force: 14.7N per contact max.
- Un-mating Force 1N per contact min.
- Current Rating: Up to 9A per contact (up to 13A for HCC version)
- Voltage Rating: 600Vrms
- Contact Resistance : 10mΩ max
- Insulation Resistance: 1000MΩ min.

Materials

- Housing: PA66 and LCP, Natural, UL94V-0
- Board connector: Cu Alloy with optional Sn and Au plating
- Crimping terminal: Cu Alloy with optional Sn and Au plating

Tooling Information

- Hand crimping tool PN: Part numbers to be selected from Datasheet

Environmental

- Operating Temperature: -40°C to 105°C

Technical Documents

- Product Spec : GS-12-1181 & GS-12-1333
- Application Spec : GS-20-0401
- Package Spec : GS-14-2362

Approvals and Certifications

- UL Approved

Minitek Pwr[®] 5.7 Product Range



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

Minitek Pwr[®] 5.7 Product Technical Information

Performance Characteristics

	Sn-plated	Au-plated
▪ Durability (cycles)	25	200
▪ Mating Force (N per contact max.)	6.8	6.0
▪ Un-mating Force (N per contact max.)	6.5	5.6

Materials

- Housing: PA66 and LCP, Natural & Black, UL94V-0
- Board connector: Cu Alloy with optional Sn and Au plating
- Crimping terminal: Cu Alloy with optional Sn and Au plating

Performance Characteristics

- Current Rating: Up to 23A per contact
- Voltage Rating: 600Vrms/DC
- Contact Resistance (mΩ) (max.): 10 (Sn) / 5 (Au)
- Insulation Resistance : 1000MΩ min.

Environmental

- Operating Temperature: -40°C to 120°C

Technical Documents

- Product Spec.: GS-12-1405
- Package Spec.: GS-14-2595
- Application Spec : GS-20-0687

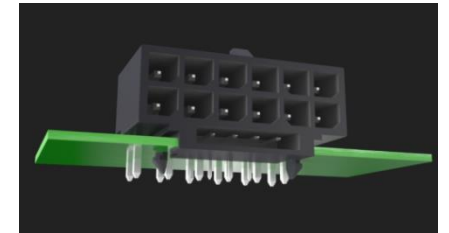
Approvals and Certifications

- UL approval: E66906
- TUV approval: B171234414032

Minitek® Pwr CEM-5 PCIe Connector System

SI	PCIe Series	Description	Picture
1	10160920	MTK PCIe CEM5 12VHPWR R/A HEADER-Standard Version with plastic snap peg	
2	10163894	MTK PCIe CEM5 12VHPWR Header with Round Peg	
3	10166200	MTK PCIe CEM5 12VHPWR Vertical Header, covered	
4	10161122	MTK PCIe CEM5 12VHPWR Vertical Header	
5	10164279	MTK PCIe CEM5 12VHPWR with Metal harpoon,W/O key	
6	10164297	MTK PCIe CEM5 12VHPWR with Metal harpoon,key at 3 & 4	
7	10164298	MTK PCIe CEM5 12VHPWR with Metal harpoon,key at 3 & 4	
8	10161719	MTK PCIe CEM5 12VHPWR Receptacle Housing type1 (12 Power + 4 Signal)	
9	10168565	MTK PCIe CEM5 12VHPWR Receptacle Housing Type 2 (12 Power + 4 Signal)	
10	10132447	MTK PCIe CEM5 12VHPWR System Receptacle Pwr Terminal, AWG (#16-20)	
11	10161952	MTK PCIe CEM5 12VHPWR System Receptacle Signal Terminal, AWG (#28)	

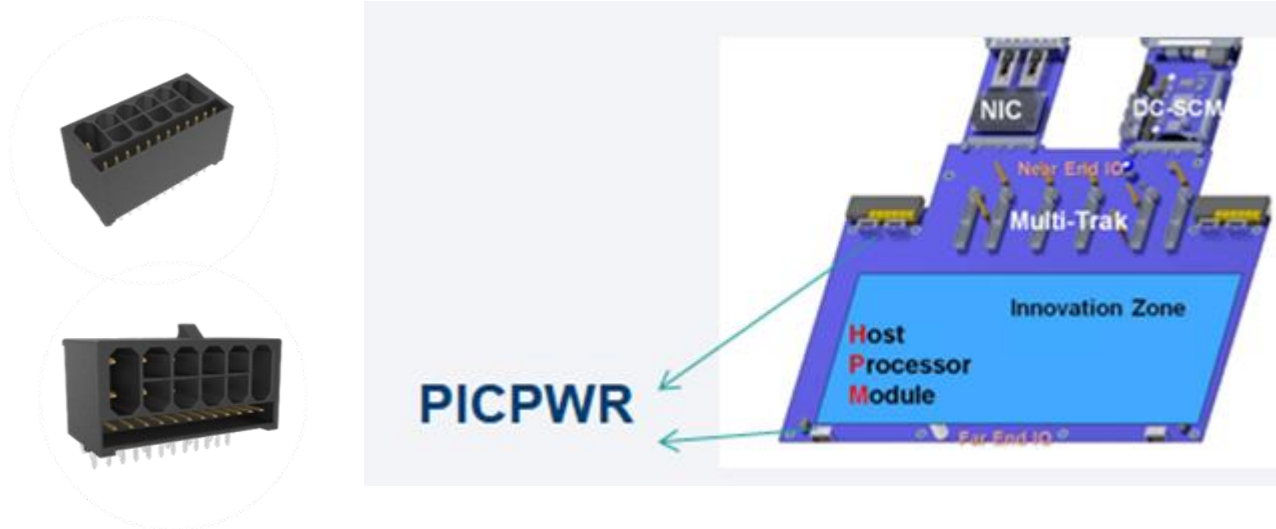
- This connector was introduced to support 600W for high speed PCIe.
- PCIe 5.0 represents a doubling over PCIe 4.0 with a raw speed of 32GT/s vs. 16GT/s translating to aggregate bandwidth for a x16 link of ~128GB/s vs. ~64GB/s.
- Hybrid version is also opted to provide sideband signals. **Sideband** signals include interrupts, power-management requests, and reset commands. Either one of the connector is used based on the sideband requirement.
- Expected application for such high speed PCIe will be in high computing requirements, like Machine learning, AI, Servers, Cloud computing & Crypto currency mining, Storages, Etc.



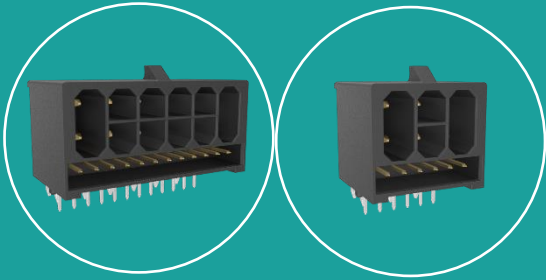
Minitek® Pwr PICPWR Connectors for OCP Applications

MPN	Description
10167519-1212XXXLF	OCP PICPWR R/A12+12 Header
10167519-0606XXXLF	OCP PICPWR R/A 6+6 Header
10167520-1212XXXLF	OCP PICPWR Vertical 12+12 Header
10167520-0606XXXLF	OCP PICPWR Vertical 6+6 Header
10167523-1212LF	OCP PICPWR Rec 12+12
10167523-0606LF	OCP PICPWR Rec 6+6
10167521-XLF	OCP PICPWR Receptacle Signal Terminal
10167522-1XLF	OCP PICPWR Receptacle PwrTerminal

- 12V PICPWR Connector variant support Power Distribution and Management architecture requirements for a 12V HPM and peripheral subsystems attached to the HPM.
- 12V PICPWR connector comes in Right angle and Vertical variant with 12 Pwr/12 Signal & 6 Pwr/6 Signal, both the variants follow same foot print.
- These Pwr connectors supports, HPM and Power Distribution boards to provide a homogeneous power + sideband interface for powering remote peripherals (like backplanes, risers, PCIe CEM AUX connections, etc.).
- Connector power rating: 864W (12A per power pin) .
- Second Licensee to BW
- Manufacturing Location Cochin 2022 Nov

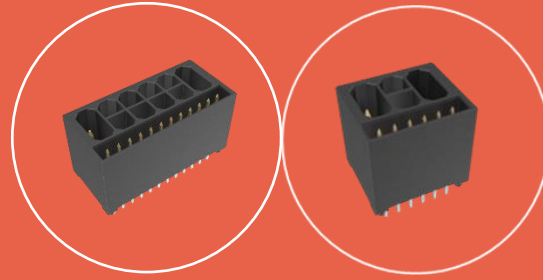


Minitek® Pwr PICPWR Connectors for OCP Applications



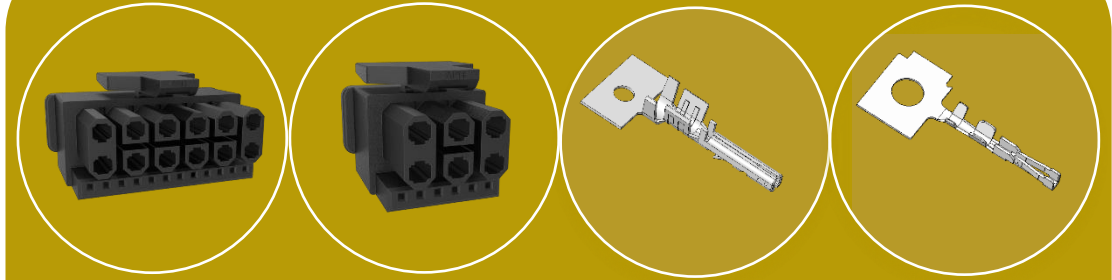
OCP R/A HEADER

- Housing : 12P+12S or 6P+6s
- Tail Length – 2 to 3.18
- Plating – 15 or 30μ" Gold
- Packing – Tape & Reel
- PCB Top-Mount with locating Peg for PIP



OCP VERTICAL HEADER

- Housing : 12P+12S or 6P+6s
- Tail Length – 2 to 3.18
- Plating – 15 or 30μ" Gold
- Packing – Tape & Reel
- PCB Top-Mount with locating Peg for PIP



OCP Cable Housing +Terminal (Power & Signal)

- Housing – 12P+12S & 6P+6S
- Terminal Plating – 15 or 30μ" Gold

Operating power and voltage for 12P connector is 864W@12VDC

Minitek® Pwr Hand Tools and Application

Series	Terminal Series	Terminal part number	AWG range	Hand Crimp Tool part number	Series	Terminal part number	AWG range	Semi-Auto crimping machine	Fully-Auto Pneumatic Crimping Applicator	Fully-Auto Mechanical Crimping Applicator
MTK PWR 3.0	10127719 10127718	10127719-00XXLF 10127718-00XXLF	20AWG 22AWG 24AWG	10159387-001	MTK PWR 4.2	10127818-XX2XLF	24AWG 26AWG 28AWG	10157894-001	10158621-001	10158622-001
	10132447 10132448	10132447-00XXLF 10132448-00XXLF	16AWG 18AWG 20AWG	10159387-002		10134170-XX30LF	22AWG 24AWG 26AWG 28AWG	10157894-002	10158621-002	10158622-002
	10134160	10134160-XX10LF	16AWG 18AWG 20AWG	10159387-003		10127817-XX2XLF	24AWG 26AWG 28AWG	10157894-003	10158621-003	10158622-003
	10134160	10134160-XX20LF	20AWG 22AWG 24AWG	10159387-004		10134170-XX20LF	18AWG 20AWG 22AWG 24AWG	10157894-004	10158621-004	10158622-004
	10134160	10134160-XX30LF	26AWG 28AWG 30AWG	10159387-005		10127817-XX1XLF 10130517-1X1XLF 10136289-1X1XLF	18AWG 20AWG 22AWG	10157894-005	10158621-005	10158622-005
MTK PWR 4.2	10134170	10134170-XX10LF	16AWG	10159388-001	MTK PWR 4.2	10134170-XX10LF	16AWG	10157894-006	10158621-006	10158622-006
	10127817 10130517 10136289 10127818 10136290	10127817-XX1XLF 10130517-1X1XLF 10136289-1X1XLF 10127818-XX1XLF 10136290-1X1XLF	18AWG 20AWG 22AWG	10159388-002		10127818-XX1XLF 10136290-1X1XLF	18AWG 20AWG 22AWG	10157894-007	10158621-007	10158622-007
	10127817 10127818	10127817-XX2XLF 10127818-XX2XLF	24AWG 26AWG 28AWG	10159388-003	MTK PWR 3.0	10127719-00XXLF 10127718-00XXLF	20AWG 22AWG 24AWG	10159974-001	10159975-001	10159976-001
	10134170	10134170-XX30LF	22AWG 24AWG 26AWG 28AWG	10159388-004		10132447-00XXLF 10132448-00XXLF	16AWG 18AWG 20AWG	10159974-002	10159975-002	10159976-002
	10134170	10134170-XX20LF	18AWG 20AWG 22AWG 24AWG	10159388-005		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



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

Resources

Sales Tools

- Cross list
- Pricing / MOQ / Lead time
- Sample Support: Samples.Global@amphenol-icc.eu
- Technical datasheet
- Step, 2D, 3D
- Technical support request: Tech.Support@amphenol-icc.com
- Stocking package proposal

Availability



Find Out More



Thank You

For more information, visit <https://www.amphenol-cs.com/>

