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MM Magna|Mate™



Your Interconnect Solutions Expert

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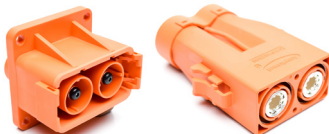
Available Part Numbers 9

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MagnaMate™ ATHP Rugged Power RADSOK® Connectors

The **MagnaMate™ ATHP Series** is a rugged thermoplastic power connector series featuring the surety and high performance contact technology of RADSOK®. Designed for various "xEV" applications, MagnaMate™ is IP67 and available in single or two-pole housings with rated current from 20A to 180A. MagnaMate™ Series includes optional integrated HVIL safety features and EMI shielding protection which can withstand temperatures ranging from -40°C to +130°C.

Technical Specifications

Series	Magna Mate™ ATHP		Magna Mate™ ATHP Mini			Magna Mate™ ATHP QL	
Image							
Positions	2		2			1	
Current Rating	180A		20A	25A	35A	130A	180A
Wire Range/mm2	50mm 2		2.5mm2	4.0mm2	6.0mm2	35mm2	50mm2
Cable OD Range	15.5-16.5mm		4.8-5.8mm & 6.5-7.5mm			10.7-11.7mm	14.2-15.2mm
Operating Voltage	1000V AC/DC						
Contact Resistance	<0.3mΩ		<2.0mΩ			<0.3 mΩ	
HVIL	Optional		Optional			N/A	
EMC Shielding	Available					N/A	
Housing	Thermoplastic UL94 VO						
IP Rating	IP67 mated						
48 HR Salt Spray Test	Passed						
Keying Options	N/A		A, B, C, D			Black, Orange	
Temperture Range	-40°C to + 130°C					-55°C to + 125°C	
Mating Cycles	100 Cycles					50 Cycles	
Seal Material	Silicone Rubber						
Contact Material	Copper Alloy/Various Plating Options Available						
Thermal Cycle	No cracking, chipping or leaking after 20 test cycles from:						
	-40°C to +130°C		-40°C to +130°C			-55°C to + 125°C	
Vibration	No unlocking or unmating. Exhibits no mechanical or physical damage after sinusoidal vibration levels of 20G's at 10 to 2000 Hz in each of the three mutually perpendicular planes. No electrical discontinuities longer than 1 microsecond.						
Fluid Resistance	Connectors show no damage when exposed to most fluids used in industrial application.						

MM MagnaMate™ ATHP

The standard **MagnaMate™ ATHP** is designed to withstand the extreme conditions of the trucking, agricultural, mining, construction, and marine industries, and features Amphenol's advanced RADSOK® contact technology.

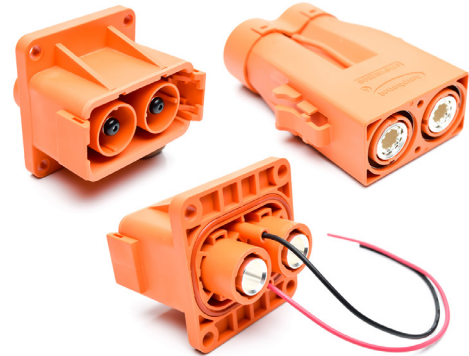
Potential Applications: Inverters, Power Electric Box, Junction Box, xEV Battery

Description

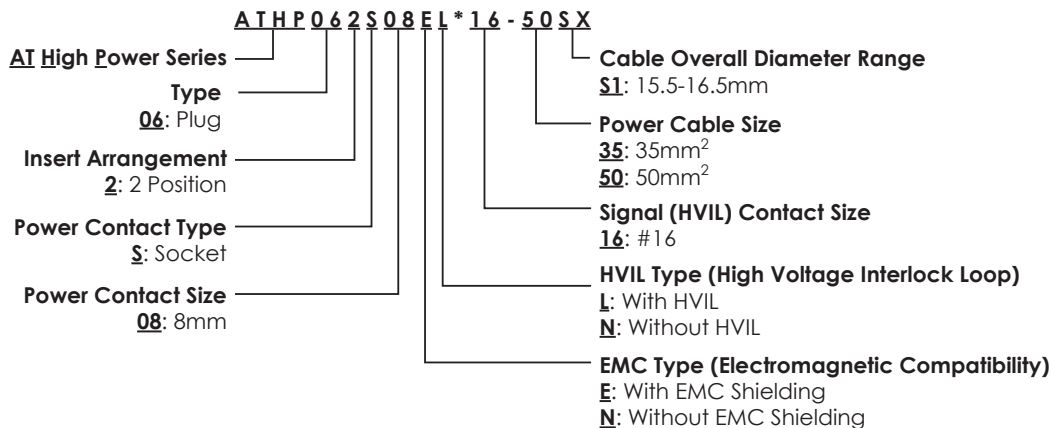
- High Voltage Interlock Loop (HVIL) safety feature optional
- ElectroMagnetic Interference shielding (EMI) for noise immunity optional
- Constructed of heavy-duty thermoplastic
- Inline or panel mount housing options
- Features Amphenol's advanced RADSOK contact technology
- Compact, quick locking and press-to-release design

Performance

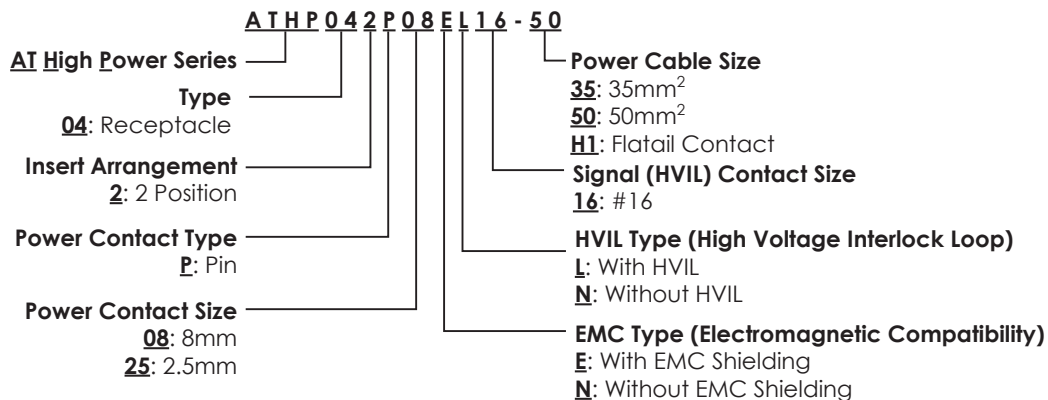
- Current Capacity up to 180A with 50mm² wire
- Voltage: 1000V AC/DC
- Temperature Range -40°C TO + 130°C
- IP67 mated



MagnaMate™ ATHP Standard Plugs - Part Number Sequence



MagnaMate™ ATHP Standard Receptacles - Part Number Sequence



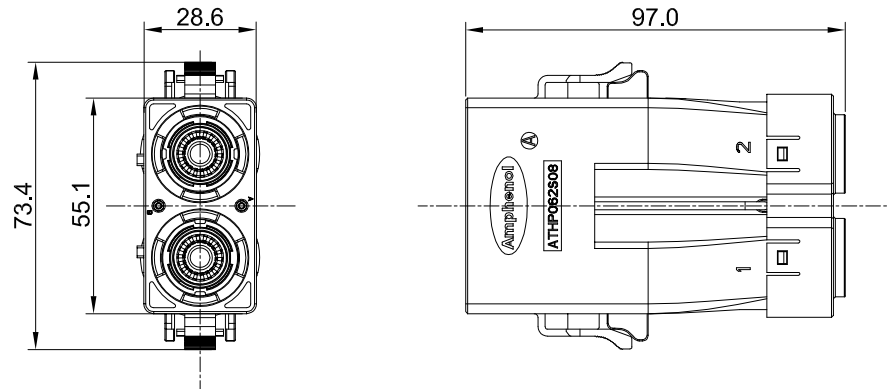
MagnaMate™ ATHP Standard Plug and Receptacle

Part Number	Type	Position	Power Contact	Signal (HVIL) Contact	Power Cable	Cable OD Range	Voltage
ATHP062S08NL16-50S1	Plug	2	Socket	16	50mm2	15.5 - 16.5 mm	1000
ATHP042P08NL16-50	Receptacle	2	Pin	16	50mm2	-	1000

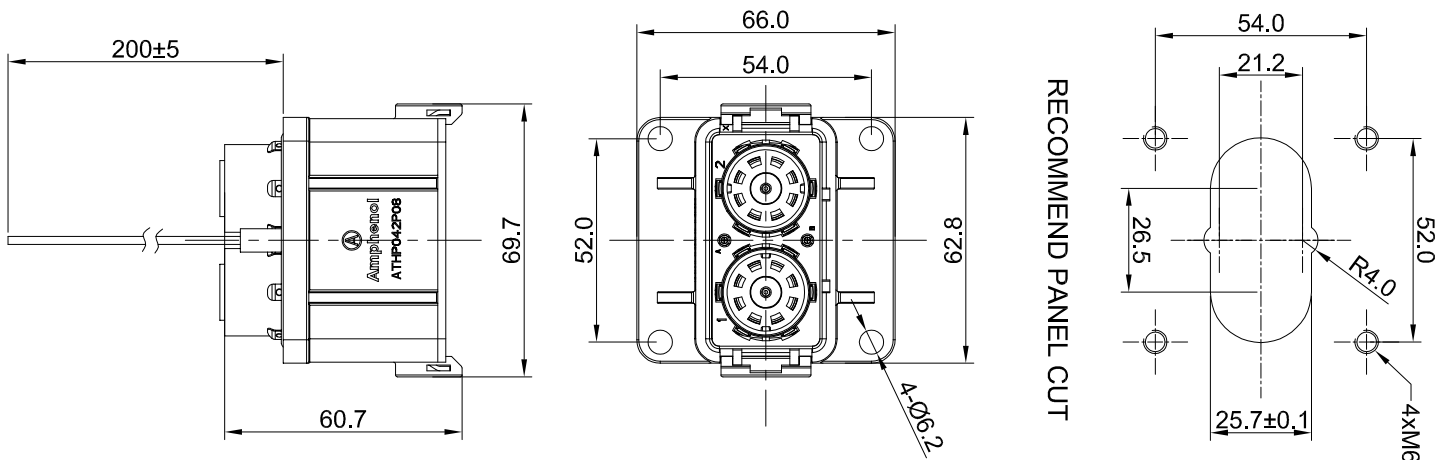
MagnaMate™ ATHP Standard Plug and Receptacle with EMC Shielding and High Voltage Interlock Loop

Part Number	Type	Position	Power Contact	Signal (HVIL) Contact	Power Cable	Cable OD Range	Voltage
ATHP062S08EL16-50S1	Plug	2	Socket	16	50mm2	15.5 - 16.5 mm	1000
ATHP042P08EL16-50	Receptacle	2	Pin	16	50mm2	-	1000
ATHP042P08EL16-H1	Receptacle	2	Pin	16	-	-	1000

MagnaMate™ ATHP Standard - Plug with 8mm RADSOK® Contacts



MagnaMate™ ATHP Standard - Receptacle with 8mm Contacts





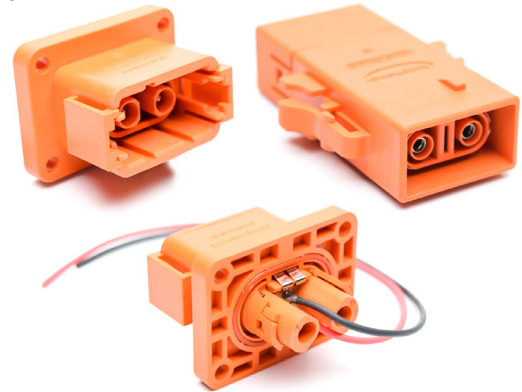
Magna|Mate™ AHP Mini

The **MagnaMate™ ATHP Mini** is a compact, low-profile two pole thermoplastic power connector which features four (4) keying options for multi polarization. Designed to withstand the extreme conditions of the trucking, agricultural, mining, construction, and marine industries.

Potential Applications: Power Converters, Hybrid Electric Vehicles, Heavy Equipment Electrification, 2 and 3-Phase Motors, Starter Generators, Process Control/Automation

Description

- High Voltage Interlock Loop (HVIL) safety feature optional
- ElectroMagnetic Interference shielding (EMI) for noise immunity optional
- Constructed of heavy-duty thermoplastic
- Four (4) keying options for multi polarization
- Compact, quick locking and press-to-release design

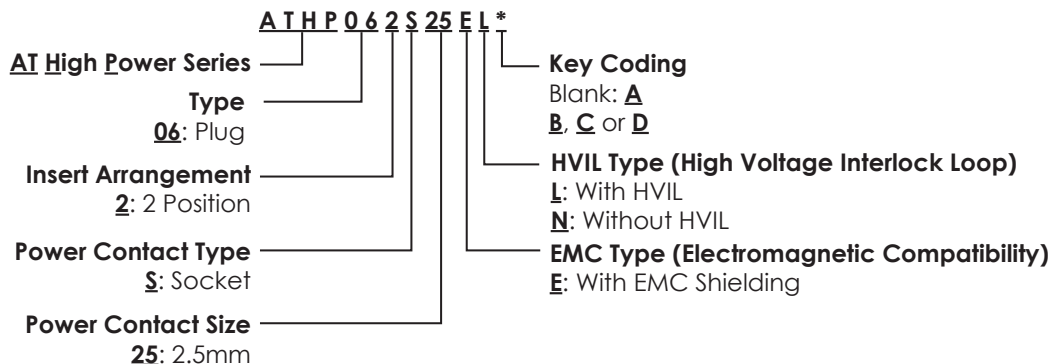


Performance

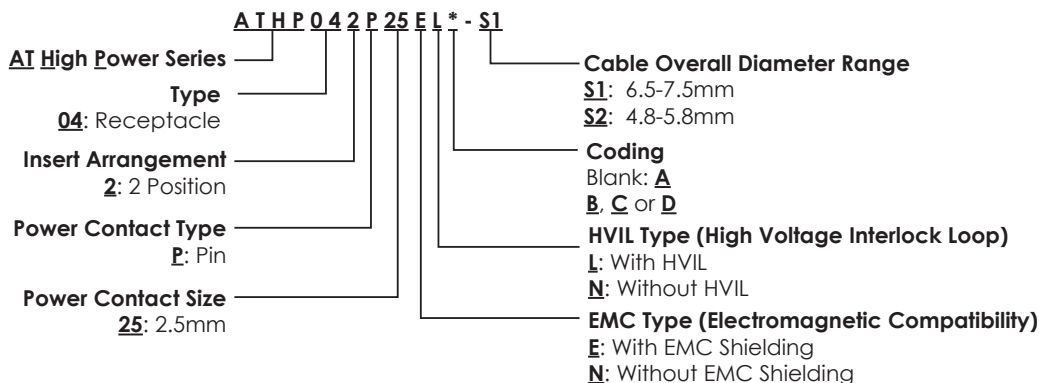
- Current Capacity up to 35A
- Voltage: 1000V AC/DC
- Temperature Range -40°C TO + 130°C
- IP67 mated



MagnaMate™ ATHP Mini Plugs - Part Number Sequence



MagnaMate™ AHP Mini Receptacles - Part Number Sequence



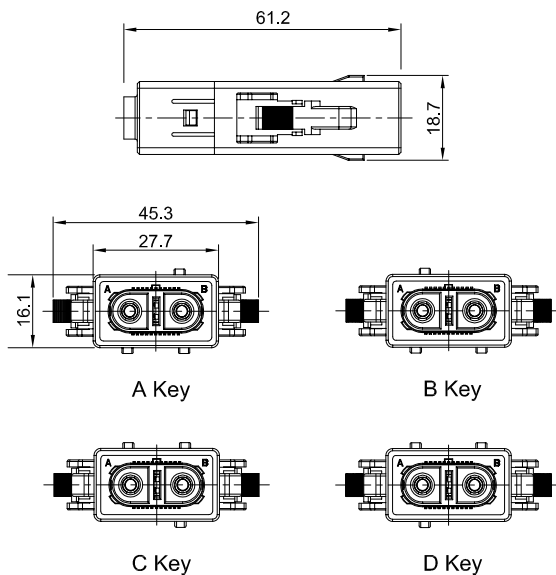
MagnaMate™ ATHP Mini Plug with EMC Shielding and High Voltage Interlock Loop

Part Number	Type	Position	Power Contact	Keying	Power Cable	Cable OD Range	Voltage
ATHP062S25EL-S1	Plug	2	Socket	A	2.5-6.0mm ²	6.5-7.5mm	1000
ATHP062S25EL-S2	Plug	2	Socket	A	2.5-6.0mm ²	4.8-5.8mm	1000
ATHP062S25ELB-S1	Plug	2	Socket	B	2.5-6.0mm ²	6.5-7.5mm	1000
ATHP062S25ELB-S2	Plug	2	Socket	B	2.5-6.0mm ²	4.8-5.8mm	1000
ATHP062S25ELC-S1	Plug	2	Socket	C	2.5-6.0mm ²	6.5-7.5mm	1000
ATHP062S25ELC-S2	Plug	2	Socket	C	2.5-6.0mm ²	4.8-5.8mm	1000
ATHP062S25ELD-S1	Plug	2	Socket	D	2.5-6.0mm ²	6.5-7.5mm	1000
ATHP062S25ELD-S2	Plug	2	Socket	D	2.5-6.0mm ²	4.8-5.8mm	1000

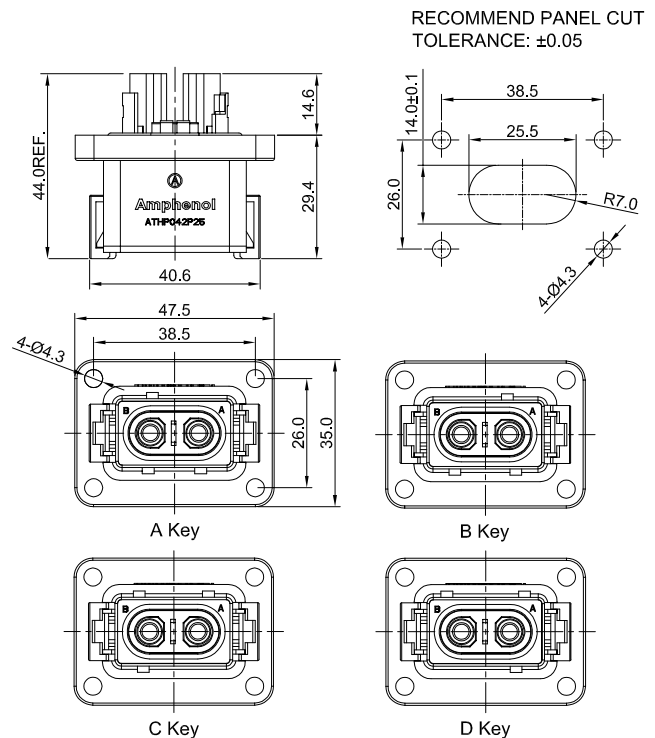
MagnaMate™ ATHP Mini Receptacle with EMC Shielding and High Voltage Interlock Loop

Part Number	Type	Position	Power Contact	Keying	Power Cable	Cable OD Range	Voltage
ATHP042P25EL	Receptacle	2	Pin	A	2.5-6.0mm ²	-	1000
ATHP042P25ELB	Receptacle	2	Pin	B	2.5-6.0mm ²	-	1000
ATHP042P25ELC	Receptacle	2	Pin	C	2.5-6.0mm ²	-	1000
ATHP042P25ELD	Receptacle	2	Pin	D	2.5-6.0mm ²	-	1000

MagnaMate™ ATHP Mini - Plugs



MagnaMate™ ATHP Mini - Receptacles



MagnaMate™ ATHP Mini Contacts

Part Number	Type	Style	Contact Size	Plating	Crimp Range	Amperage
MP10B23F	Pin	Machined	2.5mm	Gold Flash	6mm2	35A
MP10B23G10	Pin	Machined	2.5mm	Gold	6mm2	35A
MP10B23G15	Pin	Machined	2.5mm	Gold	6mm2	35A
MP10B23G30	Pin	Machined	2.5mm	Gold	6mm2	35A
MP10B23G5	Pin	Machined	2.5mm	Gold	6mm2	35A
MP10B23S	Pin	Machined	2.5mm	Silver	6mm2	35A
MP10B23T	Pin	Machined	2.5mm	Tin	6mm2	35A
MS10B23F	Socket	Machined	2.5mm	Gold Flash	6mm2	35A
MS10B23G10	Socket	Machined	2.5mm	Gold	6mm2	35A
MS10B23G15	Socket	Machined	2.5mm	Gold	6mm2	35A
MS10B23G30	Socket	Machined	2.5mm	Gold	6mm2	35A
MS10B23G5	Socket	Machined	2.5mm	Gold	6mm2	35A
MS10B23S	Socket	Machined	2.5mm	Silver	6mm2	35A
MS10B23T	Socket	Machined	2.5mm	Tin	6mm2	35A
SP12A1F	Pin	Stamped & Formed	2.5mm	Gold Flash	2.5mm2	20A
SP12A1F-10	Pin	Stamped & Formed	2.5mm	Gold Flash	4.0mm2	25A
SP12A1G10	Pin	Stamped & Formed	2.5mm	Gold	2.5mm2	20A
SP12A1G10-10	Pin	Stamped & Formed	2.5mm	Gold	4.0mm2	25A
SP12A1G15	Pin	Stamped & Formed	2.5mm	Gold	2.5mm2	20A
SP12A1G15-10	Pin	Stamped & Formed	2.5mm	Gold	4.0mm2	25A
SP12A1G30	Pin	Stamped & Formed	2.5mm	Gold	2.5mm2	20A
SP12A1G30-10	Pin	Stamped & Formed	2.5mm	Gold	4.0mm2	25A
SP12A1T	Pin	Stamped & Formed	2.5mm	Tin	2.5mm2	20A
SP12A1T-10	Pin	Stamped & Formed	2.5mm	Tin	4.0mm2	25A
SS12A1F	Socket	Stamped & Formed	2.5mm	Gold Flash	2.5mm2	20A
SS12A1F-10	Socket	Stamped & Formed	2.5mm	Gold Flash	4.0mm2	25A
SS12A1G10	Socket	Stamped & Formed	2.5mm	Gold	2.5mm2	20A
SS12A1G10-10	Socket	Stamped & Formed	2.5mm	Gold	4.0mm2	25A
SS12A1G15	Socket	Stamped & Formed	2.5mm	Gold	2.5mm2	20A
SS12A1G15-10	Socket	Stamped & Formed	2.5mm	Gold	4.0mm2	25A
SS12A1G30	Socket	Stamped & Formed	2.5mm	Gold	2.5mm2	20A
SS12A1G30-10	Socket	Stamped & Formed	2.5mm	Gold	4.0mm2	25A
SS12A1T	Socket	Stamped & Formed	2.5mm	Tin	2.5mm2	20A
SS12A1T-10	Socket	Stamped & Formed	2.5mm	Tin	4.0mm2	25A

RADSOK® Contacts

Features & Benefits

- Cost effective production using stamp & form technology
- Fully automated production for full press capability
- Low insertion and extraction forces
- High number of mating cycles
- Reduced assembly effort
- Contact coverage up to 65%
- Long lasting contact normal forces guaranteed through optimal grid technology
- Self cleaning effect during the mating process
- No torque resistance required of electrical housing - allowing for easier designs
- Absorption of vibrations



High Reliability

Unique RADSOK® design and construction technology creates an electrical contact interface that exceeds typical interconnect requirements. Applications in Aerospace, Medical, Industrial, Automotive, Mining, Offshore and other harsh environments depend on the high reliability of Amphenol RADSOK® technology.

Low Contact Engagement/Separation Forces

The hyperbolic lamella socket contact construction distributes normal forces over a high percentage of the mating surface. This creates a smooth, even engagement effort. This force distribution also contributes to excellent performance in vibration applications with resistance to typical fretting corrosion.

Low Contact Resistance

The large interface between the socket lamella and pin surface result in very low contact resistance, enabling the RADSOK® contacts high current ratings compared to traditional power contact designs.

High Mating Cycle Durability

RADSOK® contacts with typical silver plating finishes have demonstrated survival of 10,000 mating cycles. Even with continuous exposure to harsh environmental abuse (salt, sand and high humidity), RADSOK® contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.

MM MagnaMate™ ATHP QL

The MagnaMate™ QL ATHP (Quick Lok) connectors compact form factor deliver loads of 130A or 180A for cable outer diameters up to 15.2mm. The definitive front latch design allows for multiple angles of connector engagement providing ease of mating in blind mate or confined spaces achieving IP67 ingress protection. The MagnaMate™ QL ATHP high-voltage connector system is easy to assemble, cost effective and was developed for use in ancillary units such as air-conditioning, electrical heating systems, or AC/DC converters, and for battery charging applications.

Potential Applications: Electrical Air Condition, Battery Charger, Electrical Heater

Description

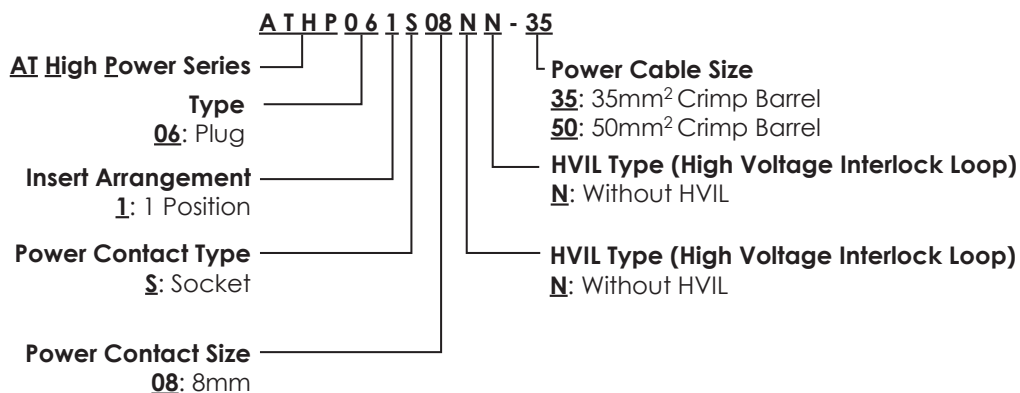
- Right Angle Plug Design
- Blind Mate Compatibility
- Compact, quick locking and press-to-release design
- Constructed of heavy-duty thermoplastic

Performance

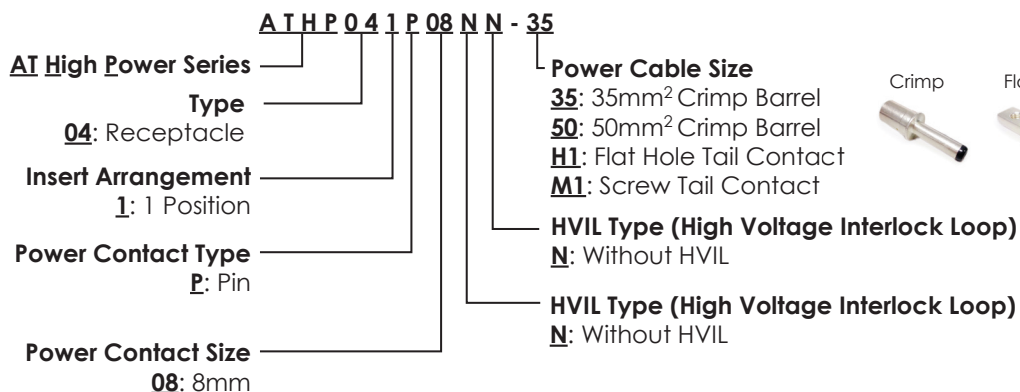
- Current Capacity up to 180A
- Voltage: 1000V AC/DC
- Temperature Range -55°C TO + 125°C
- IP67 mated



MagnaMate™ ATHP QL Plugs - Part Number Sequence



MagnaMate™ ATHP QL Receptacles - Part Number Sequence



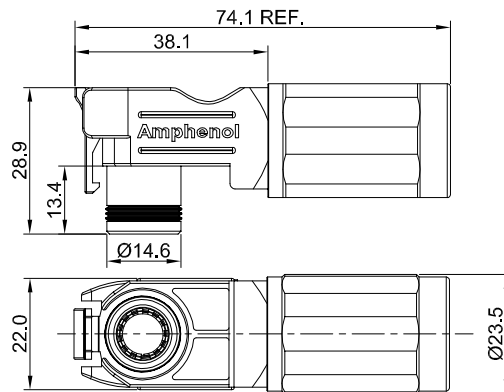
MagnaMate™ ATHP QL Plug with EMC Shielding and High Voltage Interlock Loop

Part Number	Type	Position	Power Contact	Keying	Cable O.D. Range	Voltage
ATHP061RS08NN-50	Plug	1	Socket	-	14.2-15.2mm	1000
ATHP061RS08NN-35	Plug	1	Socket	-	10.7-11.7mm	1000

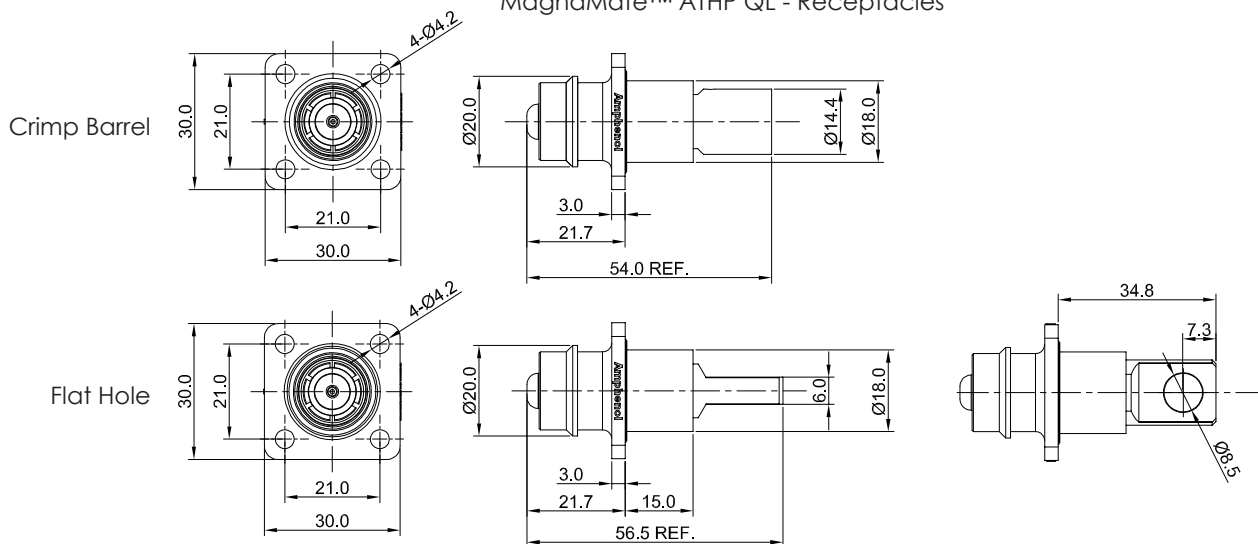
MagnaMate™ ATHP QL Receptacle with EMC Shielding and High Voltage Interlock Loop

Part Number	Type	Position	Power Contact	Keying	Wire Range	Voltage
ATHP041P08NN-H1	Receptacle	1	Pin	-	-	1000
ATHP041P08NN-50	Receptacle	1	Pin	-	50mm ²	1000
ATHP041P08NN-35	Receptacle	1	Pin	-	35mm ²	1000

MagnaMate™ ATHP QL - Plugs



MagnaMate™ ATHP QL - Receptacles





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