



# A Series Thermoplastic Connectors

Standard products. Custom solutions.











# We Are Amphenol

# Global Interconnect Solution Supplier

For over 80 years Amphenol has enjoyed success as the interconnection technology provider of choice for industry leading companies around the world. Our organization works with leading manufacturers across a wide range of applications - including Energy Generation & Distribution, Transportation, Heavy Equipment, Factory Automation, Wireless Outdoor, Information Technology and Data Communications Equipment, Mobile Devices, Mobile Networks, Broadband Communication, Military and Commercial Aerospace, Industrial, Automotive and Chip Card Readers - enabling smarter, faster and better technologies to connect products to customer solutions.

Our engineers design innovative combinations of industry standard connectors and application specific shielding components to create assembly systems that set the standards for performance, reliability, and cost effectiveness. Our engineering, materials, and manufacturing organizations meet the high standards imposed by ISO 9001:2008 as well as many customer specific quality systems. Our performance has earned us ship to stock and world class performance awards from many major OEMs.

We are one of the largest interconnect solution suppliers in the world and supply a wide range of product solutions globally. The industrial market footprint of Amphenol covers more than 30 countries.



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# Standard products. Custom solutions.

Our A Series<sup>™</sup> product lines, which include AT, ATP, ATM and AHD Series<sup>™</sup>, have key placement in all areas of Heavy Duty Equipment, Agriculture, Marine, Automotive, Military, Alternative Energy and other demanding interconnect applications. Based on our superior build quality, high-performance capabilities and having been developed to be compatible with all other existing standard products industry-wide, our A Series<sup>™</sup> products are perfect alternatives for you.

We can custom design, engineer and manufacture cable assemblies to your exact customer specifications and produce large or small quantities, all to the highest standards, delivered on-time and in-specification, all with a significant cost-savings over the competition.

By combining locally-based Program Management & Engineering, along with the associated cost advantages derived from manufacturing in our low-cost production centers in North America and Asia, our Team will work with you to design the most cost-efficient and reliable interconnect system available.



# **Features and Benefits**

# **Plastic Rectangular & Circular Connectors**

Amphenol's plastic rectangular & circular connectors encompass a wide range of products serving a variety of industries

## High Performance / Cost Effective

We can custom design, engineer and manufacture cable assemblies to your exact customer specifications and produce large or small quantities, all to the highest standards, delivered on-time and in-specification, all with a significant cost-savings over the competition.

# **Industry Standard**

Our superior built quality, high-performance connectors have been developed to be compatible with all other existing standard products industry-wide

### **Environmental**

A Series connectors span the gap between controlled environments to harsh conditions. Rated IP67+

### **Standards**

A Series connectors are testested to perform to the highest industry standards. See performance standards for more information.

# A Series<sup>™</sup> Amphenol Transportation

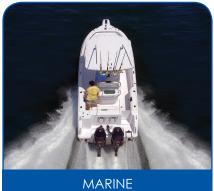
# Typical Applications







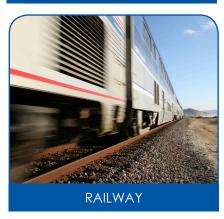














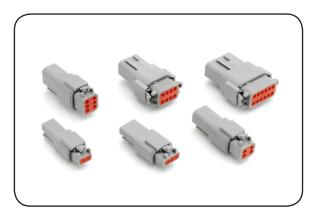




# A Series Amphenol Transportation

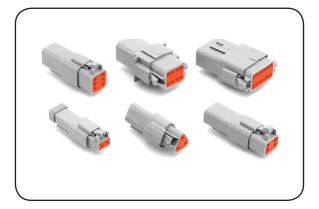
### **Product Overview**

Amphenol's A Series<sup>TM</sup> connectors encompass a wide range of products serving a variety of industries. With applications in Heavy Duty, Transportation, Marine, Diagnostic, Military, Alternative Energy and Agricultural industries, as well as spanning the gap between controlled to harsh environmental conditions, our A Series<sup>TM</sup> connectors keep you connected with confidence. While our mission is to always provide the best economic alternatives to today's existing standard connector markets, it is through our constant efforts to improve on those standard products that truly display our innovative product designs.



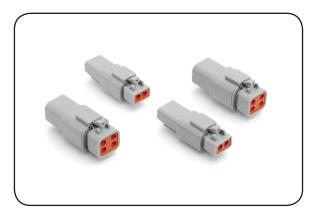
# **ATM Series<sup>TM</sup>** See page 21 2, 3, 4, 6, 8 and 12 positions available

- 16-22AWG, 7.5A, Size 20
- High-performance, cost-effective
- Superior environmental seal retention
- Compatible with existing standard products industry-wide.



# **AT Series<sup>TM</sup>** See page 41 2, 3, 4, 6, 8 and 12 positions available

- 14-20AWG, 13A, Size 16
- High-performance, cost-effective
- Superior environmental seal retention
- RockSolid™ Contact technology (optional)
- · Compatible with existing standard products industry-wide



# **ATP Series™** See page 87 2 and 4 position available

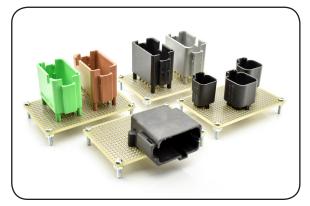
- 10-14AWG, 25A, Size 12
- High-performance, cost-effective
- Superior environmental seal retention capabilities
- Compatible with existing standard products industry-wide

# Standard Products. Custom Solutions.



**Panel | Mate<sup>™</sup>** See page 81 2, 3, 4, 6, 8 and 12 Position / Size 16, 13A 13 Position / Size 12, 25A; Size 16, 13A

- lange mounting options
- Mates with AT/ATP Series Plugs
- Harsh environment applications



**Boardlock™** See page 75 2, 3, 4, 6, 8 and 12 Position / Size 16, 13A 13 Position / Size 12, 25A; Size 16, 13A

- Environmentally sealed thermoplastic connection system
- Perfect for power or data signal applications
- Compatible with existing standard products industrywide



# **AHD Series<sup>TM</sup>** See page 105 6 and 9 positions available

- 6 position: 10-14AWG, 25A, Size 12
- 9 position: 14-20AWG, 13A, Size 16
- High-performance, cost-effective
- Ideal for controlled/uncontrolled environmental conditions
- Compatible with existing standard products industrywide



# **DuraMate™** See page 127 Available in Size 24 with 7, 19, 21, 23, 27, 29, 31 and 47 Position Insert Arrangements and Size 18 with 14 Positions

- 2.3.4.6.8.12 and 13 Positions Size 16 / 13A
- 14-20AWG, 13A, Size 16
- Polarized for proper mating of connector halves
- High density signal and mixed power insert configurations
- High Current configurations incorporating RADSOK contacts.

# Product Overview (con't)



Multi | Mate™ See page 167 Trunk (Size 12, 25A Max) and Drop (Size 16, 13A Max), or

Trunk (Size 16, 13A Max) and Drop (Size 16, 13A Max)

- Overmolded "Plug & Play" connections for power, signal and data
- Mates with AT/ATP Series Plugs
- Heavy-duty applications



### **HydroNet**<sup>TM</sup> See page 163 Two 4 Pin AT/DT Interfaces

- Multi-Hub Adapter
- Provides flexibility and reliability when connecting multiple devices to NMEA 2000 network
- Powers the NMEA network in a rugged compact and environmentally sealed package



# Magna | Mate<sup>TM</sup> See page 171

2 Positions Heavy Duty HIgh Power Connector

- Designed to withstand the extreme conditions
- Features Amphenol's RADSOK contact technology
- Constructed of heavy-duty thermoplastic
- Able to withstand extreme vibration and mechanical shock
- IP67 and IP69k rated



### **ATC Series<sup>TM</sup>** See page 121 Cylindrical, Thermoplastic, Harsh Environment, Power Connector

- Jam nut and square flange mounting styles solution
- Quick mating and unmating reverse bayonet coupling
- Environmentally sealed



# **ATHD Series<sup>TM</sup>** See page 125

1 Positions Heavy Duty High Power Connector

- Size 8 crimp contacts are rated to 70A with RADSOK technology
- Size 12 crimp contacts are rated to 35A with RADSOK technology
- Constructed of heavy-duty thermoplastic

# Custom Cable and Assemblies

Custom Cable Assemblies are available for any application, and carry with them the capabilities of being overmolded in any size or length necessary. We have many specialized configurations. For more information, please contact a Sales Representative at 1-800-394-7732.



# Insert Arrangements - Faceviews

# 2-3 Positions

	Se	ries			
No. of Positions	ATM	AT	ATP	AHD	AHDP Dura   Mate™
Contact Size(s)	20	16	12	12,16	12,16,20
	STANDARD 2 POSITIONS / 7.5A page 26	STANDARD 2 POSITIONS / 13A page 46	STANDARD 2 POSITIONS / 25A page 92		
2 POSITIONS		BOARDLOCK 2-13 POSITIONS / 13A page 77			
		Al Tee	AP 100 AP		
		MULTIMATE 2,4 POSITIONS /13A, 25A page 169	MULTIMATE 2,4 POSITIONS /13A, 25A page 169		
		PANELMATE 2-13 POSITIONS / 13A page 81	PANELMATE 2,4,13 POSITION / 16A, 25A page 99		
	0 0 0	()			
	STANDARD 3 POSITIONS / 7.5A page 27	STANDARD 3 POSITIONS / 13A page 47			
3 POSITIONS		BOARDLOCK			
		2-13 POSITIONS / 13A page 77			
		PANELMATE 2-13 POSITIONS / 13A page 81			

# Insert Arrangements - Faceviews

# 4-6 Positions

	Series				
No. of Positions	ATM	AT	ATP	AHD	AHDP Dura   Mate™
Contact Size	20	16	12	12,16	12,16,20
4 POSITIONS	STANDARD 4 POSITIONS / 7.5A page 28	STANDARD 4 POSITIONS / 13A page 48  BOARDLOCK 2-13 POSITIONS / 13A page 77  MULTIMATE 2.4 POSITIONS / 13A, 25A page 169  PANELMATE 2-13 POSITIONS / 13A page 81  HYDRONET 4 POSITIONS AT NEEMA ADAPTER on page 165	STANDARD 4 POSITIONS / 25A page 93  PANELMATE 2,4,13 POSITIONS / 13A, 25A page 99		
6 POSITIONS	STANDARD 6 POSITIONS 7.5A on page 29	PANELMATE 6 POSITIONS / 13A on page 49  PANELMATE 6 POSITIONS / 13A on page 49  BOARDLOCK 2-13 POSITIONS / 13A page 77		STANDARD 6 POSITIONS 25A on page 110	

	Se	eries			
No. of Positions	ATM	AT	ATP	AHD	AHDP Dura   Mate™
Contact Size	20	16	12	12,16	12,16,20
7 POSITIONS					DURAMATE 7 POSITIONS / 25A,80A page 133
8 POSITIONS	STANDARD 8 POSITIONS / 7.5A page 30	STANDARD 8 POSITIONS / 13A page 50  BOARDLOCK 2-13 POSITIONS / 13A page 77  PANELMATE 2-13 POSITIONS / 13A page 81			
9 POSITIONS				STANDARD 9 POSITIONS / 13A on page 111	
12 POSITIONS	STANDARD 12 POSITIONS / 7.5A page 32	STANDARD 12 POSITIONS / 13A page 52  BOARDLOCK 2-13 POSITIONS / 13A page 77  PANELMATE 2-13 POSITIONS / 13A page 81			

# Insert Arrangements - Faceviews

# 13-23 Positions

	Se	ries			
No. of Positions	ATM	AT	ATP	AHD	AHDP Dura Mate™
Contact Size	20	16	12	12,16	12,16,20
13 POSITIONS		STANDARD 13 POSITIONS / 13A page 54  BOARDLOCK 2-13 POSITION / 13A,25A page 77  PANELMATE 2-13 POSITIONS / 13A page 81	PANELMATE 2,4,13 POSITIONS / 16A, 25A, page 99		
14 POSITIONS					DURAMATE 14 POSITIONS / 13A page 135
18 POSITIONS		STANDARD 18 POSITIONS / 13A page 54			
19 POSITIONS					DURAMATE 14 POSITIONS / 13A page 135
21 POSITIONS					DURAMATE 21 POSITIONS / 25A,13A page 141
23 POSITIONS					DURAMATE 23 POSITIONS /13A page 145

	Series				
No. of Positions	ATM	AT	ATP	AHD	AHDP Dura   Mate™
Contact Size	20	16	12	12,16	12,16,20
27 POSITIONS					DURAMATE 27 POSITIONS / 25A,13A page 147
29 POSITIONS					DURAMATE 29 POSITIONS 7.5A,13A,25A page 149
31 POSITIONS					DURAMATE 31 POSITIONS / 13A page 153
47 POSITIONS					DURAMATE 47 POSITIONS / 7.5A,13A page 155

# High Power & Standard Insert Arrangements - Faceviews 1-9 POSITIONS

	Ser	ies	
No. of Positions	MAGNA MATE	ATC	ATHD
Contact Size(s)	3.6mm, 6mm, 8mm	16	8,12
1 POSITIONS High Power			ATHD 1 POSITION / 25A, 35A, 60A, 70A page 125
2 POSITIONS High Power	MAGNAMATE 2 POSITIONS / 86A, 120A, 180A page 171		
3 POSITIONS		ATC 3 POSITIONS / 13A page 121	
5 POSITIONS		ATC 5 POSITIONS / 13A page 121	
9 POSITIONS		ATC 9 POSITIONS / 13A page 121	

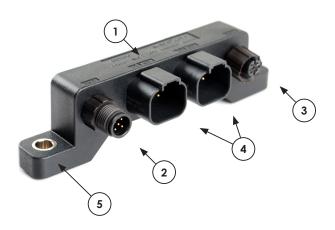
# Introducing

# $\mathbf{Hydro} \, | \mathbf{Net}^{\mathsf{TM}}$

- Provides OEM's flexibility and increased reliability when connecting multiple devices to NMEA 2000 network
- Two 4 pin AT/DT interfaces easily adapts devices to field proven, sealed, and serviceable electrical connections
- Powers the NMEA network in a rugged, compact, and environmentally sealed package
- Factory assembled for true Plug and Play capability
- Reduces the need to modify or assemble NMEA connections onto cables
- Allows for customized and built-to-length electrical harnesses eliminating costly coils of unused cable

### Feature & Benefits

- Factory assembled part for simplified mounting
- Environmentally-sealed to IP67 rating
- Rugged thermoplastic overmold (UL94-V0) (1)
- Micro NMEA Male (2) and Female (3)
- 2 Four (4) position receptacles (AT/DT) with gold pins (4)
- Stainless steel inserts for mounting (5)







See page 165 for more information

# **Connector Solutions**

# **We Are Amphenol**

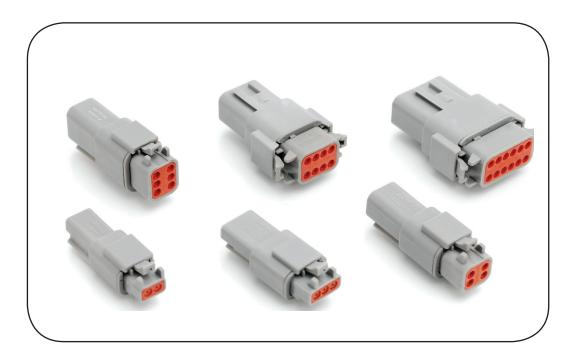
# **Series Overview**

ATM <sup>TM</sup> SERIES		
	7.5A	26
	7.5A	20
	7.5A	
01111 1111 1112121		
ATTM SERIES		
2 POSITIONS	13A	46
3 POSITIONS	13A	
4 POSITIONS	13A	
6 POSITIONS	13A	
8 POSITIONS	13A	
8 POSITIONS- B,C,D	13A	
12 POSITIONS	13A	
12 POSITIONS- B,C,D,X	13A	
13 POSITIONS	13A, 25A	
18 POSITIONS	13A	
STRAIN RELIEF	13A	
REDUCED DIA. SEALS	13A	
END CAPS	13A	
	A. SEAL 13A	
SOLID REAR SEAL	13A	
LED OPTIONS	13A/12 V	
COVERS	13A	
J-1939	13A	
ADAPTER	13A	
CUSTOM		74
AT Board   Lock™		
2-13 POSITIONS	13A	77
AT Panel   Mate™		
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-		
ATP Panel Mate™		
	A, 25A	99
AHD™ SERIES		
6 POSITIONS 25.	4	110
9 POSITIONS 13.	4	111

# **Connector Solutions (con't)**

Overview 2 POSITIONS	180A	173 174
Magna   Mate™		
2,4 POSITIONS	13A, 25A	169
Multi   Mate™		
Hydro   Net™ 4 POSITIONS	AT NMEA ADAPTER	165
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31 POSITIONS	13A	
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23 POSITIONS	13A	
21 POSITIONS	25A,13A	141
19 POSITIONS	25A,13A	137
14 POSITIONS	13A	135
Dura   Mate™ 7 POSITIONS	25A,80A	131
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RECEPTACLES	13A	121
ATC™ SERIES		

# ATM Series<sup>TM</sup>



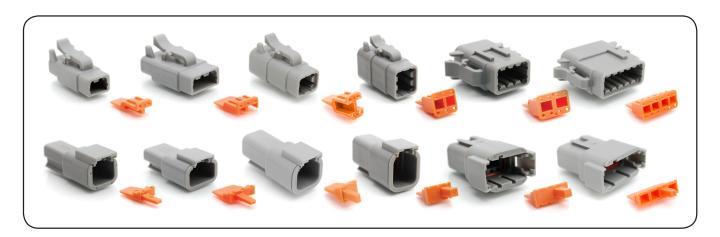
### ATM Series<sup>TM</sup>

### Overview

ATM Series<sup>™</sup> connectors are a high-performance, cost-effective solution specifically designed for smaller AWG applications, while still maintaining the strengths of the AT Series<sup>™</sup> product line.

The connector design incorporates an integral latching system that ensures a definitive electrical and mechanical connection. Connector housings are manufactured with a thermoplastic material that is not only durable, but has excellent UV resistance, dielectric/mechanical properties and environmentally RoHS compliant. The sealing system is comprised of an internal and rear silicone, multi-sealing perimeter against environmental ingress. Contacts are derived from quality copper alloy to ensure an electrically-reliable connection.

ATM Series<sup>™</sup> connectors are compatible with other existing standard products industry-wide.



### Features & Benefits

Current Capacity Size 20, 7.5A (max)

Wire Range Size 20 contacts will accept wire ranges of 16 thru 22AWG

Temperature Operating temperature range: -55°C to +125°C at rated current

Dielectric Value Meets or exceeds 1500 volts minimum

Drop Test Shall not become detached or loosened when placed at 750mm and dropped to

concrete eight times

Shock No latch disengagement or discontinuity shall be the result when subjected to 50 g's

in each of three axis (X, Y & Z)

Vibration Continued continuity without degradation to mechanical or physical attributes

following vibration. (max acceleration 20 g's at Sine sweep of 10-2000Hz)

Connector Terminal Reten-

tion

Connector Retention A mated connector subjected to a pulling force by the exiting wire bundle at 89 lbs.

times the number of contacts to a maximum of 356 lbs. applying load for 30 seconds

When subjected to a direct pull, contacts achieve a minimum pull-out force of 89 lbs.

Thermal Shock Subjected to 10 cycles at -55°C to +125°C with no cracking, chipping or other

damage detrimental to the normal operation of the connector

Insulation Resistance 1000 megohms minimum at 25°C

Mating Cycle Durability Following 100 cycles of connection engagement and disengagement, degradation

either mechanical or electrical is not evident

For custom insert configurations, please consult factory



### ATM Series<sup>TM</sup>

### Features & Benefits, cont.

Contact Millivolt Drop Size 20 (stamped & formed) contacts with 20AWG conductor - 60 mV (solid contact)

drop max; 100 mV (stamped & formed contact) drop max at 7.5A test current

Water Immersion A mated connection, properly wired, placed in an oven at +125°C for 1 hour, then

placed immediately in a depth of water of 1 meter for 4 hours without loss of

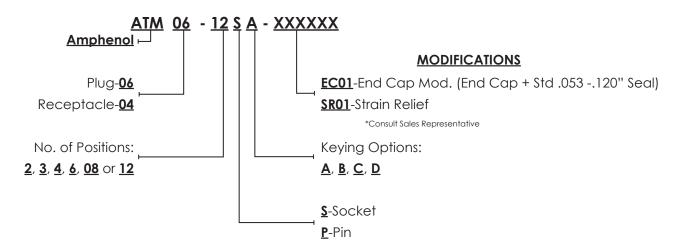
electronic performance

### Product Material

Housings Thermoplastic
Seals Silicone Elastomer
Secondary Locks Thermoplastic

Contacts Copper Alloy, Nickel Plated, Gold optional

### ATM Series™ Part Numbering Sequence



### Plug & Receptacle Body Color Modification

A wide range of standard color options are available for all A Series<sup>TM</sup> product lines. 8 and 12 position plugs and receptacles require special order. For more information, please contact a Sales Representative.

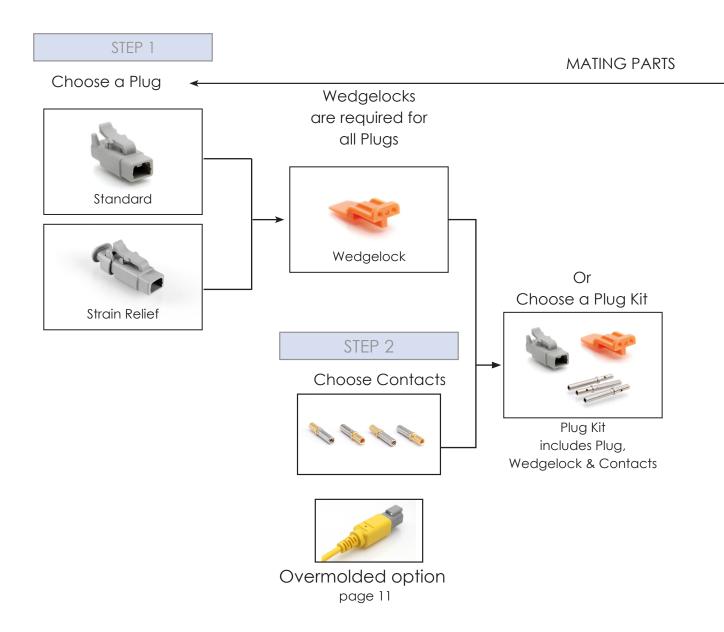
Color	Modification Number
Black	XXXX-XXXX-BLK
White	XXXX-XXXX- <b>WHT</b>
Brown	XXXX-XXXX-BRN
Grey	XXXX-XXXX-GRY

Color	Modification Number
Yellow	XXXX-XXXX- <b>YEL</b>
Green	XXXX-XXXX-GRN
Blue	XXXX-XXXX-BLU
Red	XXXX-XXXX- <b>RED</b>



**NOTE:** The above modifications (-XXXX) are only a sampling of the options available to our customers. For more information, please contact your Sales Representative.

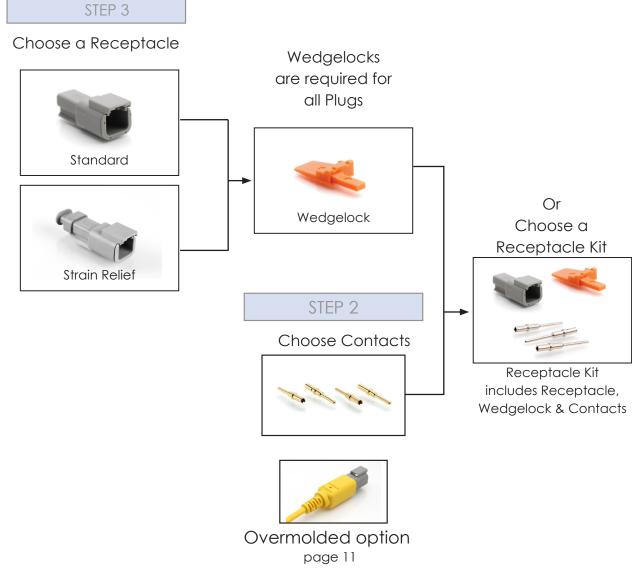
# ATM Series<sup>™</sup> Connector Configurations



### Need a complete Cable Assembly?

See page 11 or contact the factory for assistance

Toll Free: 1-800-394-7732



Or Choose a Plug & Receptacle Kit



Plug & Receptacle Kit includes Plug, Receptacle, Wedgelock & Contacts



Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

Plug	Part Number	Description		Wedgelock	Part Number	Description
	ATM06-2S	Plug, 2-Way			AWM-2S	Wedgelock Plug, 2-Way
	ATM06-2S- KIT01	2 Socket Plug, Wedge and Contacts Kit				

Receptacle	Part Number	Description		Wedgelock	Part Number	Description
	ATM04-2P	Receptacle, 2-Way			AWM-2P	Wedgelock Receptacle, 2-Way
	ATM04-2P- KIT01	2 Pin Receptacle, Wedge and Contacts Kit		cts Kit		

Plug & Receptacle Kit	Part Number	Description
	ATM2PS-CKIT	2-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

# Other Available Options:

Strain Relief Series see page 34 Additional Colors: see page 23 Contacts on page 38 Tools on page 39

**NOTE:** Wedgelocks are required for all plugs.





Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

Plug	Part Number	Description		Wedgelock	Part Number	Description
	ATM06-3S	Plug, 3-Way		The same of the sa	AWM-3S	Wedgelock Plug, 3-Way
	ATM06-3S- KIT01		3	Socket Plug, Wedge	and Contacts	s Kit

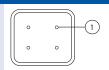
Receptacle	Part Number	Description	Wedgelock	Part Number	Description
	ATM04-3P	Receptacle, 3-Way		AWM-3P	Wedgelock Receptacle, 3-Way
	ATM04-3P- KIT01	3 Pin Receptacle, Wedge and Contacts Kit		cts Kit	

Plug & Receptacle Kit	Part Number	Description
	ATM3PS-CKIT	3-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

# Other Available Options:

Strain Relief Series: see page 34 Additional Colors: see page 23 Contacts on page 38 Tools on page 39

**NOTE:** Wedgelocks are required for all receptacles.



Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

Plug	Part Number	Description	Wedgelock	Part Number	Description
	ATM06-4S	Plug, 4-Way		AWM-4S	Wedgelock Plug, 4-Way
	ATM06-4S- KIT01		4 Socket Plug, Wedge	and Contacts	s Kit

Receptacle	Part Number	Description		Wedgelock	Part Number	Description
	ATM04-4P	Receptacle, 4-Way			AWM-4P	Wedgelock Receptacle, 4-Way
	ATM04-4P- KIT01	4 Pi	n R	Receptacle, Wedç	ge and Conta	cts Kit

Plug & Receptacle Kit	Part Number	Description
	ATM4PS-CKIT	4-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

### Other Available Options:

Strain Relief Series: page 34 Additional Colors: see page 23 Contacts on page 38 Tools on page 39

**NOTE:** Wedgelocks are required for all plugs.





Description

Wedgelock Plug, 6-Way

Kit



Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

Plug	Part Number	Description		Wedgelock	Part Number	
	ATM06-6S	Plug, 6-Way			AWM-6S	
	ATM06-6S- KIT01		6	Socket Plug, Wedge	and Contacts	

Receptacle	Part Number	Description		Wedgelock	Part Number	Description
	ATM04-6P	Receptacle, 6-Way			AWM-6P	Wedgelock Receptacle, 6-Way
	ATM04-6P- KIT01	6 Pin Receptacle, Wedge and Contacts Kit			cts Kit	

Plug & Receptacle Kit	Part Number	Description
	ATM6PS-CKIT	6-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

### Other Available Options:

Strain Relief Series: see page 34 Additional Colors: see page 23 Contacts on page 38 Tools on page 39

**NOTE:** Wedgelocks are required for all receptacles.





Description

Wedgelock

Plug, 8-Way

Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

DI	5 111 1	Б . г.	ſ	\\\	D 111 1	,
Plug	Part Number	Description	Į	Wedgelock	Part Number	
	ATM06-08SA	Plug, 8-Way, A Position*			AWM-8S	W Pl
	ATM06-08SA-KT01		8	Socket Plug, Wedge	and Contacts	s Kit

Receptacle	Part Number	Description	Wedgelock	Part Number	Description
	ATM04-08PA	Receptacle, 8-Way, A Position*		AWM-8P	Wedgelock Receptacle, 8-Way
	ATM04-08PA-KT01	8-Way	Pin Receptacle, We	edge and Con	itacts Kit

Plug & Receptacle Kit	Part Number	Description
	ATM8PS-CKIT	8-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

### Other Available Options:

Strain Relief Series see page 34 Shrink Boot Adaptor: see page 34 Additional Colors: see page 23 Contacts on page 38

Tools on page 39

\*Alternate keying postions available (B,C,D): see page 31

NOTE: Wedgelocks are required for all plugs.



# ATM SERIES ALTERNATE POSITION O O O O PLUGS, RECEPTACLES & WEDGELOCKS





Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

Plug	Part Number	Description
	ATM06-08SB	Plug, 8-Way, B Position, Black
	ATM06-08SC	Plug, 8-Way, C Position, Green
	ATM06-08SD	Plug, 8-Way, D Position, Brown

Wedgelock	Part Number	Description
	AWM-8S	Wedgelock Plug, 8-Way

Receptacle	Part Number	Description
	ATM04-08PB	Receptacle, 8-Way, B Position, Black
	ATM04-08PC	Receptacle, 8-Way, C Position, Green
	ATM04-08PD	Receptacle, 8-Way, D Position, Brown

Wedgelock	Part Number	Description
	AWM-8P	Wedgelock Receptacle, 8-Way

Other Available Options: Strain Relief Series see page 34 Additional Colors: see page 23 Contacts on page 38 Tools on page 39

NOTE: Wedgelocks are required for all plugs.

### ATM 12 POSITIONS 7.5A



Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

Plug	Part Number	Description		Wedgelock	Part Number	Description
	ATM06-12SA	Plug, 12-Way, A Position*			AWM-12S	Wedgelock Plug, 12-Way
	ATM06-12SA-KT01	12-	·Wc	ay Socket Plug, Wed	ge and Conta	acts Kit

Receptacle	Part Number	Description	Wedgelock	Part Number	Description
	ATM04-12PA	Receptacle, 12-Way, A Position*	THE STATE OF THE S	AWM-12P	Wedgelock Receptacle, 12-Way
	ATM04-12PA-KT01	12 -Way Receptacle, Wedg		dge and Cont	acts Kit

Plug & Receptacle Kit	Part Number	Description
	ATM12PS-CKIT	12-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

### Other Available Options:

Strain Relief Series see page 34 Additional Colors: see page 23 Contacts on page 38 Tools on page 39

\*Alternate keying postions available (B,C,D): see page 33

**NOTE:** Wedgelocks are required for all receptacles.



# ATM SERIES ALTERNATE POSITION PLUGS, RECEPTACLES & WEDGELOCKS



Contact Size	20
Wire Range (AWG)	20-22 AWG
Amperage	7.5

Plug	Part Number	Description
	ATM06-12SB	Plug, 12-Way, B Position, Black
	ATM06-12SC	Plug, 12-Way, C Position, Green
	ATM06-12SD	Plug, 12-Way, D Position, Brown

Wedgelock	Part Number	Description
	AWM-12S	Wedgelock Plug, 12-Way

Receptacle	Part Number	Description
	ATM04-12PB	Receptacle, 12-Way, B Position, Black
	ATM04-12PC	Receptacle, 12-Way, C Position, Green
	ATM04-12PD	Receptacle, 12-Way, D Position, Brown

Wedgelock	Part Number	Description
	AWM-12P	Wedgelock Receptacle, 12-Way

### Other Available Options:

Strain Relief Series see page 34 Additional Colors: see page 23 Contacts on page 38 Tools on page 39

**NOTE:** Wedgelocks are required for all receptacles.

# ATM SERIES STANDARD PLUG STRAIN RELIEF SERIES

The ATM Strain Relief Series' specifically designed wire cavities protect each individual wire seal, eliminating stress on the rear seal, maintaining IP67 sealing performance regardless of wire bundle direction or improper installation. It is a cost-effective and highly-reliable solution for wire routing, strain relief and sealing issues common in Heavy Duty applications. It ensures a complete environmental seal and necessary strain relief on the production line and in the field.

### ATM-SR01 has Standard Seals

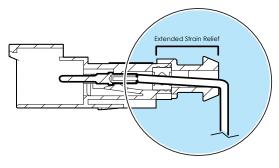
Plug	Part Number	Description	Wedgelock	Part Number	Description
Carlo Carlo	ATM06-2S-SR01GY	2-Way Plug, Female Connector with Strain Relief		AWM-2S	Wedgelock Plug, 2-Way
	ATM06-3S-SR01GY	3-Way Plug, Female Connector with Strain Relief	To the second second	AWM-3S	Wedgelock Plug, 3-Way
	ATM06-4S-SR01GY	4-Way Plug, Female Connector with Strain Relief		AWM-4S	Wedgelock Plug, 4-Way
	ATM06-6S-SR01GY	6-Way Plug, Female with Strain Relief		AWM-6S	Wedgelock Plug, 6-Way
	ATM06-08SA-SR1GY	8-Way Plug, Female Connector with A Position Key and Strain Relief			
	ATM06-08SB-SR1BK	Plug, 8-Way, B Position Black, with Strain Relief		AWM-8S	Wedgelock
	ATM06-08SC-SR1GN	Plug, 8-Way, C Position Green, with Strain Relief		AWWI-63	Plug, 8-Way
	ATM06-08SD-SR1BN	Plug, 8-Way, D Position Brown, with Strain Relief			

**NOTE:** Wedgelocks are required for all plugs.



### ATM SERIES STANDARD PLUG STRAIN RELIEF SERIES

#### ATM STRAIN RELIEF 7.5A



Plug	Part Number	Description
	ATM06-12SA-SR1GY	12-Way Plug, Female Connector, A Position Key with Strain Relief
	ATM06-12SB-SR1BK	Plug, 12-Way, B Position Black, with Strain Relief
	ATM06-12SC-SR1GN	Plug, 12-Way, C Position Green, with Strain Relief
	ATM06-12SD-SR1BN	Plug, 12-Way, D Position Brown, with Strain Relief

Wedgelock	Part Number	Description
	AWM-12S	Wedgelock Plug, 8-Way

# ATM SERIES STANDARD RECEPTACLE STRAIN RELIEF SERIES

Receptacle	Part Number	Description	Wedgelock	Part Number	Description
	ATM04-2P-SR01GY	2-Way Receptacle, Male Connector with Strain Relief		AWM-2P	Wedgelock Receptacle, 2-Way
	ATM04-3P-SR01GY	3-Way Receptacle, Male Connector with Strain Relief		AWM-3P	Wedgelock Receptacle, 3-Way
	ATM04-4P-SR01GY	4-Way Receptacle, Male with Strain Relief		AWM-4P	Wedgelock Receptacle, 4-Way
	ATM04-6P-SR01GY	6-Way Receptacle, Male with Shrink Boot Adaptor		AWM-6P	Wedgelock Receptacle, 6-Way
	ATM04-08PA-SR1GY	8-Way Receptacle, Male Connector with A Position Key, with Strain Relief			
	ATM04-08PB-SR1BK	Receptacle, 8-Way, B Position, Black, with Strain Relief		ANNA OR	Wedgelock
	ATM04-08PC-SR1GN	Receptacle, 8-Way, C Position, Green, Strain Relief		AWM-8P	Receptacle, 8-Way
	ATM04-08PD-SR1BN	Receptacle, 8-Way, D Position, Brown, with Strain Relief			

**NOTE:** Wedgelocks are required for all receptacles.

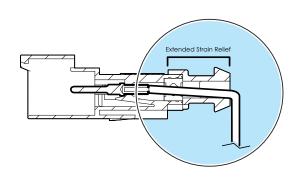


### ATM SERIES STANDARD RECEPTACLE STRAIN RELIEF SERIES

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Receptacle	Part Number	Description
	ATM04-12PA-SR1GY	12-Way Receptacle, Male Connector with A Position Key with Strain Relief
	ATM04-12PB-SR1BK	Receptacle, 12-Way, B Position, Black, with Strain Relief
	ATM04-12PC-SR1GN	Receptacle, 12-Way, C Position, Green, with Strain Relief
	ATM04-12PD-SR1BN	Receptacle, 12-Way, D Position, Brown, with Strain Relief



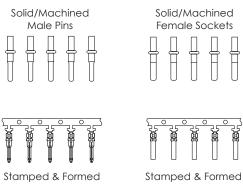




#### Contacts

Amphenol offers two types of contacts for use in our products: Solid and Stamped & Formed. Both types of contacts utilize the simple crimp-style termination, requiring no solder usage.





Female Sockets

Male Pins

Standard Contacts - Solid Sockets & Pins

Series	Size	AWG	Туре	Part Number	Description
ATM	20	20-22	Solid	AT62-201-2031	Female Contact - Socket, Gold-plated
ATM	20	20-22	Solid	AT62-201-20141	Female Contact - Socket, Nickel-plated
ATM	20	20-22	Solid	AT60-202-2031	Male Contact - Pin, Gold-plated
ATM	20	20-22	Solid	AT60-202-20141	Male Contact - Pin, Nickel-plated

#### Standard Contacts - Stamped & Formed Sockets & Pins

Series	Size	AWG	Туре	Part Number	Description
ATM	20	16-22	S & F	AT62-20-0122	Female Contact - Socket, Nickel-plated
ATM	20	16-22	S & F	AT62-20-0144	Female Contact - Socket, Gold-plated
ATM	20	16-22	S & F	AT60-20-0122	Male Contact - Pin, Nickel-plated
ATM	20	16-22	S & F	AT60-20-0144	Male Contact - Pin, Gold-plated

# **TOOLS**

#### Crimp Tools

Amphenol offers two types of contacts for use in our products: Solid and Stamped & Formed. Both types of contacts utilize the simple crimp-style termination, requiring no solder usage. Below are the tools available to assist with your crimping needs to ensure a proper connection between contact and wire.

Part	Part Number	Description
	CA-5D12	Universal Hand Crimp Tool, Size 12/16/20 *Solid contacts only
	CA-5E12	Pneumatic Crimp Tool, Size 12/16/20 *Solid contacts only
	MFX-3974	Crimp Die - Size 20 (Stamped & Formed Contacts)
CO TOTAL DE LA CONTROL DE LA C	АТТ-20-00	Size 20, 20AWG, Stamped & Formed Contact Tool

#### AT Series™ Contact Removal Tool

Part	Part Number	Description
Amphenal ATRT-100 www.sinaco.com	ATRT-100	Used for removal of contacts for AT Series™ products

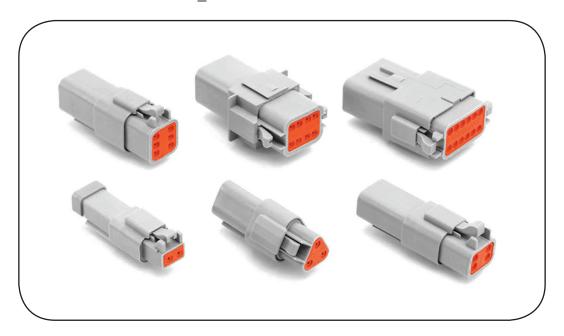
# ATM SERIES ACCESSORIES

# Seal Plugs



Series	Contact Size	AWG	Part No.	Description
ATM	20	20-22	AT13-204-2005	Seal Plugs, White
ATM	20	20-22	AT13-204-2005-SR	Seas Plugs, Black (For SR01 Series)

# AT Series<sup>TM</sup>



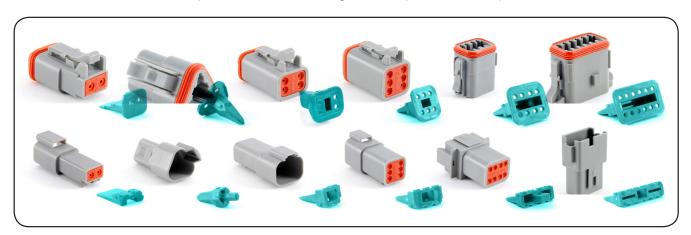
#### AT Series™

#### Overview

AT Series<sup>TM</sup> connectors are a high-performance, cost effective solution able to be used in a variety of interconnect applications: Heavy Duty, Transportation, Marine, Diagnostic, Military, Alternative Energy and Agricultural. They contain superior environmental seals and seal retention capabilities.

The connector design incorporates an integral latching system that ensures a definitive electrical and mechanical connection. Connector housings are manufactured with a thermoplastic material that is not only durable, but has excellent UV resistance, dielectric/mechanical properties and environmentally RoHS compliant. The sealing system is comprised of a front and rear silicone, multi-sealing perimeter against environmental ingress. Contacts are derived from quality copper alloy to ensure an electrically-reliable connection.

AT Series™ connectors are compatible with other existing standard products industry-wide.



#### Features & Benefits

Current Capacity Size 16, 13A (max)

Wire Range Size 16 contacts will accept wire ranges of 14 thru 20AWG

Temperature Operating temperature range: -55°C to +125°C at rated current

Dielectric Value Meets or exceeds 1500 volts minimum

Drop Test Shall not become detached or loosened when placed at 750mm and dropped to

concrete eight times

Shock No latch disengagement or discontinuity shall be the result when subjected to 50 g's

in each of three axis (X, Y & Z)

Vibration Continued continuity without degradation to mechanical or physical attributes

following vibration. (max acceleration 20 g's at Sine sweep of 10-2000Hz)

Connector Terminal When subjected to a direct pull, contacts achieve a minimum pull-out force of 25 lbs. Retention

Connector Retention

A mated connector subjected to a pulling force by the exiting wire bundle at 25 lbs. times the number of contacts to a maximum of 100 lbs. applying load for 30 seconds

Thermal Shock Subjected to 10 cycles at -55°C to +125°C with no cracking, chipping or other

damage detrimental to the normal operation of the connector

Insulation Resistance 1000 megohms minimum at 25°C

Mating Cycle Durability Following 100 cycles of connection engagement and disengagement, degradation

either mechanical or electrical is not evident



#### AT Series™

#### Features & Benefits, cont.

Contact Millivolt Drop
Water Immersion

Size 16 contacts with 16AWG conductor - 100 mV drop max at 13A test current A mated connection, properly wired, placed in an oven at +125°C for 1 hour, then placed immediately in a depth of water of 1 meter for 4 hours without loss of

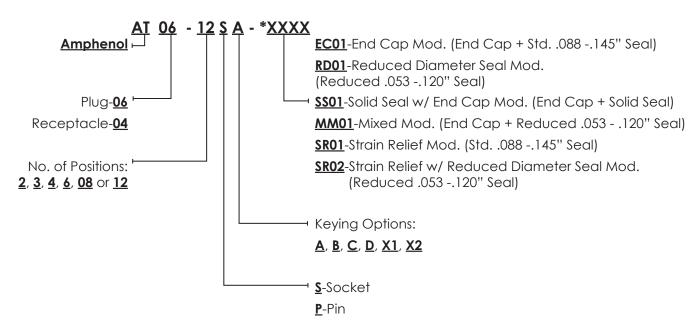
electronic performance

#### Product Material

Housings Thermoplastic
Seals Silicone Elastomer
Thermoplastic

Contacts Copper Alloy, Nickel Plated, Gold optional

#### AT Series™ Part Numbering Sequence



#### Plug & Receptacle Body Color Modification

A wide range of standard color options are available for all A Series™ product lines. 8 and 12 position plugs and receptacles require special order. For more information, please contact a Sales Representative.

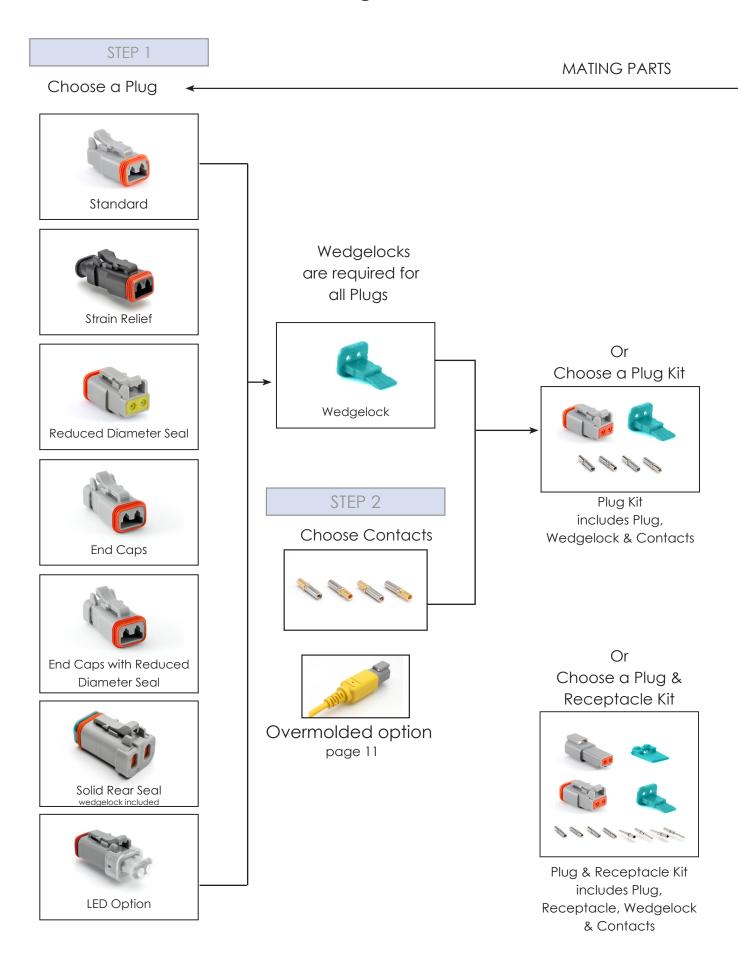
Color	Modification Number
Black	XXXX-XXXX-BLK
White	XXXX-XXXX- <b>WHT</b>
Brown	XXXX-XXXX-BRN
Grey	XXXX-XXXX-GRY

Color	Modification Number
Yellow	XXXX-XXXX- <b>YEL</b>
Green	XXXX-XXXX-GRN
Blue	XXXX-XXXX-BLU
Red	XXXX-XXXX- <b>RED</b>



**NOTE:** The above modifications (-XXXX) are only a sampling of the options available to our customers. For more information, please contact your Sales Representative.

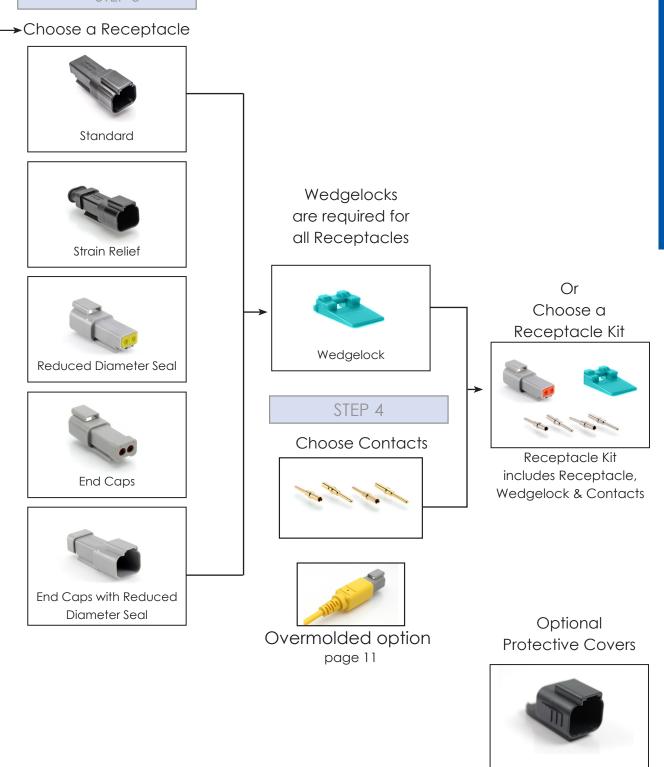
# AT Series<sup>™</sup> Connector Configurations



#### Need a complete Cable Assembly?

See page 11 or contact the factory for assistance Toll Free: 1-800-394-7732





#### AT 2 POSITIONS 13A



# AT SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS

Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

Plug	Part Number	Description	Wedgeloc
	AT06-2S	Plug, 2-Way	
	AT06-2S-KIT01		2 Socket Plug, W

	Wedgelock	Part Number	Description		
		AW2S	Wedgelock Plug, 2-Way		
2	2 Socket Plug, Wedge and Contacts Kit				

Receptacle	Part Number	Description	Wedgeloo
	AT04-2P	Receptacle, 2-Way	
Control Control	AT04-2P-KIT01	2 Pin	Receptacle,

Wedgelock	Part Number	Description			
	AW2P	Wedgelock Receptacle, 2-Way			
Receptacle, Wedge and Contacts Kit					

Plug & Receptacle Kit	Part Number	Description
	AT2PS-CKIT	2-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

NOTE: Wedgelocks are required for all plugs.

#### Other Available Options:

Strain Relief Series see page 56

Reduced Diameter Seal: see page 58

Endcaps: see page 62

Endcaps + Reduced Diameter Seal: see page 64

Protective Cover: see page 70

LED: see page 68

Terminating Resistors and Diodes: see page 73

Additional Colors: see page 43 Contacts sold separately on page 83

Tools on page 85



AT BOARD | LOCK FLANGELESS WIRE TO BOARD CONNECTORS see page 77





# AT SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS





Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

_					
	Plug	Part Number	Description		Wedgelock
		AT06-3S	Plug, 3-Way		
		AT06-3S-KIT01		3	Socket Plug, Wedg

Wedgelock	Part Number	Description
	AW3S	Wedgelock Plug, 3-Way
3 Socket Plug, Wedge	and Contacts	: Kit

Receptacle	Part Number	Description		Wedgelock	Part Number	Description
	AT04-3P	Receptacle, 3-Way		<b>W</b>	AW3P	Wedgelock Receptacle, 3-Way
The start	AT04-3P-KIT01	3 Pin Receptacle, Wedge and Contacts Kit		cts Kit		

Plug & Receptacle Kit	Part Number	Description
	AT3PS-CKIT	3-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

**NOTE:** Wedgelocks are required for all receptacles.

#### Other Available Options:

Strain Relief Series see page 56

Reduced Diameter Seal: see page 58

Endcaps: see page 62

Endcaps + Reduced Diameter Seal: see page 64

Solid Rear Seal: see page 66 Protective Covers: see page 70 Terminating Resistor: see page 73 J-1939 Modifications: see page 71 Additional Colors: see page 43

Contacts on page 83 Tools on page 85



AT BOARD | LOCK FLANGELESS WIRE TO BOARD CONNECTORS see page 77



# AT **4 POSITIONS**



### AT SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS

Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

Plug	Part Number	Description		Wedgelock	Part Number	Description
	AT06-4S	Plug, 4-Way			AW4S	Wedgelock Plug, 4-Way
	AT06-4S-KIT01		4	Socket Plug, Wedge	and Contacts	s Kit

Receptacle	Part Number	Description	Wedgelock	Part Number	Description
	AT04-4P	Receptacle, 4-Way		AW4P	Wedgelock Receptacle, 4-Way
	AT04-4P-KIT01	4 Pin	Receptacle, Wedç	ge and Conta	cts Kit

Plug & Receptacle Kit	Part Number	Description
	AT4PS-CKIT	4-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

NOTE: Wedgelocks are required for all plugs.

#### Other Available Options:

Strain Relief Series see page 56 Reduced Diameter Seal: see page 58

Endcaps: see page 62

Endcaps + Reduced Diameter Seal: see page 64

Solid Rear Seal: see page 66 Protective Cover: see page 70 Additional Colors: see page 43

Contacts sold separately on page 83

Tools on page 85



AT BOARD | LOCK FLANGELESS WIRE TO **BOARD CONNECTORS** see page 77





### AT SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS



Description

Wedgelock

Plug, 6-Way



Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

Plug	Part Number	Description	Wedgelock	Part Number	
	AT06-6S	Plug, 6-Way		AW6S	W PI
	ATO6-6S-KITO1		6 Socket Plug, Wedge	and Contacts	s Kit

Receptacle	Part Number	Description		Wedgelock	Part Number	Description
	AT04-6P	Receptacle, 6-Way			AW6P	Wedgelock Receptacle, 6-Way
The Park	AT04-6P-KIT01	6 Pin R		leceptacle, Wedç	ge and Conta	cts Kit

Plug & Receptacle Kit	Part Number	Description
	AT6PS-CKIT	6-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

**NOTE:** Wedgelocks are required for all receptacles.

#### Other Available Options:

Strain Relief Series see page 57

Reduced Diameter Seal: see page 58

Endcaps: see page 63

Endcaps + Reduced Diameter Seal: see page 65

Solid Rear Seal: see page 66 Protective Covers: see page 70 Additional Colors: see page 43 Adapter 6 Pin to RJ45: see page 72

Contacts on page 83 Tools on page 85



AT BOARD | LOCK FLANGELESS WIRE TO **BOARD CONNECTORS** see page 77





### AT SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS

Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

Plug	Part Number	Description	Wedgelock	Part Number	
	AT06-08SA	Plug, 8-Way A Position*		AW8S	
	AT06-08SA-KIT01	8 Sc	ocket Plug, Wedge an	d Contacts Kit	

Receptacle	Part Number	Description	Wedgelock	Part Number	Description
	AT04-08PA	Receptacle, 8-Way A Position*		AW8P	Wedgelock Receptacle, 8-Way
The flat	AT04-08PA-KIT01	8 Pin	Receptacle, Wedg	ge and Conta	cts Kit

Plug & Receptacle Kit	Part Number	Description
	AT8PS-CKIT	8-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

<sup>\*</sup>Alternate keying postions available (B,C,D) see page 51

#### Other Available Options:

Strain Relief Series see page 56

Reduced Diameter Seal: see page 58

Endcaps: see page 62

Endcaps + Reduced Diameter Seal: see page 64

Solid Rear Seal: see page 66 Protective Cover: see page 70 Additional Colors: see page 43 Contacts sold separately on page 83

Tools on page 85



AT BOARD | LOCK FLANGELESS WIRE TO BOARD CONNECTORS see page 77

Description

Wedgelock

Plug, 8-Way





# AT SERIES 8-WAY B,C,D POSITION KEY PLUGS, RECEPTACLES & WEDGELOCKS

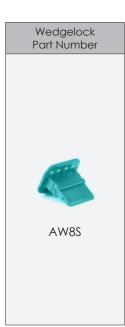




Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

#### STANDARD CONNECTORS

Plug	Part Number	Description
	AT06-08SB	Plug, 8-Way, B Position,Black
	AT06-08SC	Plug, 8-Way, C Position, Green
	AT06-08SD	Plug, 8-Way, D Position,Brown



Receptacle	Part Number	Description
	AT04-08PB	Receptacle, 8-Way,B Position, Black
	AT04-08PC	Receptacle, 8-Way, C Position, Green
	AT04-08PD	Receptacle, 8-Way, D Position, Brown



# Other Available Options: Reduced Diameter Seal page

Reduced Diameter Seal page 58 Contacts on page 83 Tools on page 85



AT BOARD | LOCK FLANGELESS WIRE TO BOARD CONNECTORS see page 77



#### AT 12 POSITIONS 13A



# AT SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS

Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

Plug	Part Number	Description	Wedgelock	Part Number	Description
	AT06-12SA	Plug, 12-Way A Position*		AW12S	Wedgelock Plug, 12-Way
	AT06-12SA- KIT01	1	2 Socket Plug, Wedge	and Contact	's Kit

Receptacle	Part Number	Description	Wedgelock	Part Number	Description
	AT04-12PA	Receptacle, 12-Way A Position*		AW12P	Wedgelock Receptacle, 12-Way
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	AT04-12PA- KIT01	12 Pi	n Receptacle, Wed	dge and Contc	acts Kit

Plug & Receptacle Kit	Part Number	Description
	AT12PS-CKIT	12-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

<sup>\*</sup>Alternate keying postions available (B,C,D) see page 53

**NOTE:** Wedgelocks are required for all receptacles.

#### Other Available Options:

Strain Relief Series see page 57

Reduced Diameter Seal: see page 58

Endcaps: see page 63

Endcaps + Reduced Diameter Seal: see page 65

Solid Rear Seal: see page 66 Protective Covers: see page 70 Additional Colors: see page 43 Adapter 12 Pin to RJ45: see page 72

Contacts on page 83 Tools on page 85



AT BOARD | LOCK FLANGELESS WIRE TO BOARD CONNECTORS see page 77





# AT SERIES 12-WAY B,C, D, X POSITION KEY PLUGS, RECEPTACLES & WEDGELOCKS





Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

#### STANDARD CONNECTORS

Plug	Part Number	Description
	AT06-12SB	12-Way Plug, Female Connector with B Position Key, Black
	AT06-12SC	12-Way Plug, Female Connector with C Position Key, Green
<b>KKKK</b>	AT06-12SD	12-Way Plug, Female Connector with D Position Key, Brown
San Control of the Co	AT06-12\$X1	12-Way Plug, Female Connector, X1 Position Key
Try Try	AT06-12SX2	12-Way Plug, Female Connector, X2 Position Key



Receptacle	Part Number	Description
	AT04-12PB	12-Way Receptacle, Male Connector with B Position Key and Extended Shroud, Black
	AT04-12PC	12-Way Receptacle, Male Connector with C Position Key and Extended Shroud, Green
	AT04-12PD	12-Way Receptacle, Male Connector with D Position Key, Extended Shroud, Brown



#### Other Available Options:

Reduced Diameter Seal: see page 58 Contacts on page 83 Tools on page 85

AT BOARD | LOCK FLANGELESS WIRE TO BOARD CONNECTORS see page 77







# AT SERIES 13-WAY STANDARD PLUGS & RECEPTACLES

Contact Size	16 &12
Wire Range (AWC	6) 14-20 AWG/ 10-14 AWG
Amperage	13, 25

#### MIXED CONNECTORS - POWER & SIGNAL

Plug	Part Number	Description
	AT1612-13SB	13-Way Plug, Female Connector with B Position Key, Black (Wedgelock not required)

Receptacle	Part Number	Description
	AT1612-13PB	13-Way Receptacle, Male Connector with B Position Key, No Gasket, Black (Wedgelock not required)
	AT1612-13PB-G	13-Way Receptacle, Pin, Panel Mount, Self-Threading, Standard Seal, Cap, Keyed B. (Wedgelock not required)
	AT1612-13PBNF13	13-Way 90° Receptacle, Pin, Keyed B, PCB Mount (Wedgelock not required, contacts included)

#### REDUCED DIAMETER SEAL (.053" - .120")

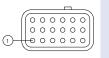
	,	
Plug	Part Number	Description
	AT1612-13SB-RD	13-Way Plug, Female Connector with B Position Key and Reduced Diameter Seal (E-Seal), Black (Wedgelock not required)

Receptacle	Part Number	Description
	AT1612-13PB-RD	13-Way Panel Mount Receptacle, Key Position B, No Gasket, Reduced Diameter Seal (E-Seal). Black. (Wedgelock not required)
	AT1612-13PB-RDG	13-Way, Flange Mount Receptacle, Gasket, Reduced Diameter Seal (E-Seal), Black. (Wedgelock not required)

Contacts on pages 83,101 Tools on page 85 Gasket on page 84



# AT SERIES 18-WAY STANDARD





Contact Size	16
Wire Range (AWG)	14-20 AWG
Amperage	13

#### STANDARD CONNECTORS

Plug	Part Number	Description
	AT16-18SB-K004	18-Way Plug with Wedgelock and End Cap Included

Contacts on page 83 Tools on page 85

#### AT SERIES PLUG STRAIN RELIEF SERIES

The AT Strain Relief Series' specifically designed wire cavities protect each individual wire seal, eliminating stress on the rear seal, maintaining IP67 sealing performance regardless of wire bundle direction or improper installation. It is a cost-effective and highly-reliable solution for wire routing, strain relief and sealing issues common in Heavy Duty applications. It ensures a complete environmental seal and necessary strain relief on the production line and in the field.

# AT-SR01 has Standard Seals (.088 - .145") AT-SR02 has Reduced Diameter Seals (.053 - .120" seals)

Plug	Face View	Part Number	Description
		AT06-2S-SR01BLK	Plug, 2-Way, Standard Seal
TO		AT06-2S-SR02BLK	Plug, 2-Way, Reduced Seal .053120"
	A (O)	ATO6-3S-SRO1BLK	Plug, 3-Way, Standard Seal
		AT06-3S-SR02BLK	Plug, 3-Way, Reduced Seal .053120"
	0 0	ATO6-4S-SR01BLK	Plug, 4-Way, Standard Seal
		AT06-4S-SR02BLK	Plug, 4-Way, Reduced Seal .053120"
	0 0	ATO6-6S-SR01BLK	Plug, 6-Way, Standard Seal
	0 0	AT06-6S-SR02BLK	Plug, 6-Way, Reduced Seal .053120"
	(0000)	AT06-08SA-SRGRY	Plug, 8-Way, Position A, Standard Seal
	1 0000	AT06-08SA-SR2GY	Plug, 8-Way, Pos. A, Reduced Seal .053120"
and the second	(00000)	AT06-12SA-SRGRY	Plug, 12-Way, Pos. A, Standard Seal
	1 00000	AT06-12\$A-\$R2GY	Plug, 12-Way, Pos. A, Reduced Seal .053120"





Color options pertain to connector body only. (see page 43 for options.)

NOTE: Wedgelocks are required for all plugs.



The AT Strain Relief Series' specifically designed wire cavities protect each individual wire seal, eliminating stress on the rear seal, maintaining IP67 sealing performance regardless of wire bundle direction or improper installation. It is a cost-effective and highly-reliable solution for wire routing, strain relief and sealing issues common in Heavy Duty applications. It ensures a complete environmental seal and necessary strain relief on the production line and in the field.

# AT-SR01 has Standard Seals (.088 - .145") AT-SR02 has Reduced Diameter Seals (.053 - .120" seals)

Receptacle	Face View	Part Number	Description
		ATO4-2P-SR01BLK	Receptacle 2-Way, Standard Seal
		AT04-2P-SR02BLK	Receptacle 2-Way, Reduced Seal .053120
	(° 9)—(A)	AT04-3P-SR01BLK	Receptacle 3-Way, Standard Seal
		ATO4-3P-SRO2BLK	Receptacle 3-Way, Reduced Seal .053120
	0 0 0	ATO4-4P-SR01BLK	Receptacle 4-Way, Standard Seal
	0 0	AT04-4P-SR02BLK	Receptacle 4-Way, Reduced Seal .053120
		ATO4-6P-SR01BLK	Receptacle 6-Way, Standard Seal
		ATO4-6P-SRO2BLK	Receptacle 6-Way, Reduced Seal .053-,120
		AT04-08PA-SRGRY	Receptacle 8-Way, Pos. A, Standard Seal
		AT04-08PA-SR2GY	Receptacle 8-Way, Pos. A, Reduced Seal .053-,120
	00000	AT04-12PA-SRGRY	Receptacle 12-Way, Pos. A, Standard Seal
		AT04-12PA-SR2GY	Receptacle 12-Way, Pos. A, Reduced Seal .053-,120





Color options pertain to connector body only. (see page 43 for options.)

NOTE: Wedgelocks are required for all receptacles.

### AT SERIES PLUG REDUCED DIAMETER SEAL PLUGS

### Reduced Diameter Seals (.053 - .120" seals)

Plug	Face View	Part Number	Description	Wedgelock Part Number
(39		AT06-2S-RD01	2-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal)	
		AT06-2S-RD01BLK	2-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal)	AW2S
	(A-(O))	AT06-3S-RD01	3-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal)	
		AT06-3S-RD01BLK	3-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal)	AW3S
	0-0	AT06-4S-RD01	4-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal)	TO !
		AT06-4S-RD01BLK	4-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal)	AW4S
	0 0	AT06-6S-RD01	6-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal)	000
		AT06-6S-RD01BLK	6-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal)	AW6S
22.19	1 0000	AT06-08\$A-RD01	8-Way Plug, Female Connector with A Position Key, Reduced Diameter Seals (E-Seal)	
	1 0000	AT06-08SB-RD01	8-Way Plug, Female Connector with B Position Key and Reduced Diameter Seal (E-Seal), Black	20.00
	0000	AT06-08SC-RD01	8-Way Plug, Female Connector with C Position Key and Reduced Diameter Seal (E-Seal), Green	AW8S
	0000	AT06-08SD-RD01	8-Way Plug, Female Connector with D Position Key and Reduced Diameter Seal (E-Seal), Brown	

**NOTE:** Wedgelocks are required for all plugs.



### AT SERIES PLUG REDUCED DIAMETER SEAL PLUGS

#### Reduced Diameter Seals (.053 - .120" seals)

Plug	Face View	Part Number	Description	
	000000	AT06-12SA-RD01	12-Way Plug, Female Connector with A Position Key and Reduced Diameter Seal (E-Seal)	
		AT06-12\$B-RD01	12-Way Plug, Female Connector with B Position Key and Reduced Diameter Seal (E-Seal), Black	
SSEC.	00000	AT06-12SC-RD01	12-Way Plug, Female Connector with C Position Key and Reduced Diameter Seal (E-Seal), Green	
	00000	AT06-12SD-RD01	12-Way Plug, Female Connector with D Position Key and Reduced Diameter Seal (E-Seal), Brown	



# AT SERIES RECEPTACLE REDUCED DIAMETER SEAL

Reduced Diameter Seals (.053 - .120" seals)

Receptacle	Face View	Part Number	Description	Wedgelock Part Number
		AT04-2P-RD01	2-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal)	
		AT04-2P-RD01BLK	2-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal)	AW2P
10		AT04-3P-RD01	3-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal)	
		AT04-3P-RD01BLK	3-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal)	AW3P
	0 0 1	AT04-4P-RD01	4-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal)	
	0 0	ATO4-4P-RD01BLK	4-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal)	AW4P
		AT04-6P-RD01	6-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal)	
		AT04-6P-RD01BLK	6-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal)	AW6P
		AT04-08PA-RD01	8-Way Receptacle, Male Connector with A Position Key, Reduced Diameter Seal (E-Seal)	
		AT04-08PB-RD01	8-Way Receptacle, Male Connector with B Position Key and Reduced Diameter Seal (E-Seal). Black	
		AT04-08PC-RD01	8-Way Receptacle, Male Connector with C Position Key and Reduced Diameter Seal (E-Seal), Green	AW8P
	0000	AT04-08PD-RD01	8-Way Receptacle, Male Connector with D Position Key and Reduced Diameter Seal (E-Seal), Brown	

NOTE: Wedgelocks are required for all receptacles



### AT SERIES RECEPTACLE REDUCED DIAMETER SEAL

### AT REDUCED DIA. SEALS 13A

Reduced Diameter Seals (.053 - .120" seals)

Receptacle	Face View	Part Number	Description
		AT04-12PA-RD01	12-Way Receptacle, Male Connector with A Position Key and Extended Shroud, Reduced Diameter Seal (E-Seal)
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AT04-12PB-RD01	12-Way Receptacle, Male Connector with B Position Key and Reduced Diameter Seal (E-Seal). Black
	0 0 0 0 0 0 0	AT04-12PC-RD01	12-Way Receptacle, Male Connector with C Position Key and Extended Shroud, Reduced Diameter Seal (E-Seal), Green
	000000	AT04-12PD-RD01	12-Way Receptacle, Male Connector with D Position Key and Reduced Diameter Seal (E-Seal), Brown



### AT SERIES PLUG END CAPS

Modifications: Endcap over standard rear seal (.088 - .145")

Plug	Faceview	Part Number	Description	Wedgelock Part Number
		AT06-2S-EC01	2-Way Plug, Female Connector with End Cap	
		AT06-2S-EC01BLK	2-Way Plug, Black Female Connector with End Cap, Black	AW2S
	A O	AT06-3S-EC01	3-Way Plug, Female Connector with End Cap	
		AT06-3S-EC01BLK	3-Way Plug, Black Female Connector with End Cap, Black	AW3S
		AT06-4S-EC01	4-Way Plug, Female Connector with End Cap	Wet.
	0 0	AT06-4S-EC01BLK	4-Way Plug, Black Female Connector with End Cap	AW4S
	0 0	AT06-6S-EC01	6-Way Plug, Female Connector with End Cap	000
		AT06-6S-EC01BLK	6-Way Plug, Black Female Connector with End Cap	AW6S
	1 0000	AT06-08SA-EC01	8-Way Plug, Female Connector with A Position Key and End Cap	AW8S
S. S	000000	AT06-12SA-EC01	12-Way Plug, Female Connector with A Position Key and End Cap	AW12S

**NOTE:** Wedgelocks are required for all plugs.

Modifications: Endcap over standard rear seal (.088 - .145")

Receptacle	Faceview	Part Number	Description	Wedgelock Part Number
		AT04-2P-EC01	2-Way Receptacle, Male Connector with End Cap	
		AT04-2P-EC01BLK	2-Way Receptacle, Black Male Connector with End Cap, Black	AW2P
	(O) (A)	AT04-3P-EC01	3-Way Receptacle, Male Connector with End Cap	
		AT04-3P-EC01BLK	3-Way Receptacle, Male Connector with End Cap, Black	AW3P
		AT04-4P-EC01	4-Way Receptacle, Male Connector with End Cap	
		AT04-4P-EC01BLK	4-Way Receptacle, Black Male Connector with End Cap, Black	AW4P
	0 0 C	AT04-6P-EC01	6-Way Receptacle, Male Connector with End Cap	
		AT04-6P-EC01BLK	6-Way Receptacle, Black Male Connector with End Cap, Black	AW6P
		AT04-08PA-EC01	8-Way Receptacle, Male Connector with A Position Key and End Cap	AW8P
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	AT04-12PA-EC01	12-Way Receptacle, Male Connector with A Position Key and Extended Shroud and End Cap	AW12P

**NOTE:** Wedgelocks are required for all receptacles.

### AT SERIES PLUG END CAP + REDUCED DIAMETER SEAL

Mixed modifications: Endcap plus reduced diameter seal (.053-.120")

Plug	Face View	Part Number	Description	Wedgelock Part Number
		AT06-2S-MM01	2-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal) and End Cap	
		AT06-2S-MM01BLK	2-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal) and Enhanced Seal Retention (P012) and End Cap	AW2S
	(A)—(G)	AT06-3S-MM01	3-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal) and End Cap	
		AT06-3S-MM01BLK	3-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal) and End Cap	AW3S
	0-0	AT06-4S-MM01	4-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal) and End Cap	TOT!
		AT06-4S-MM01BLK	4-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal) and End Cap	AW4S
	0 0 0	AT06-6S-MM01	6-Way Plug, Female Connector with Reduced Diameter Seal (E-Seal) and End Cap	000
		AT06-6S-MM01BLK	6-Way Plug, Black Female Connector with Reduced Diameter Seal (E-Seal) and End Cap	AW6S
	(0000)	AT06-08SA-MM01	8-Way Plug, Female Connector with A Position Key, Reduced Diameter Seals (E-Seal) and End Cap	20.00
	1 0000	AT06-08SA-MMBLK	8-Way Plug, Black Female Connector with A Position Key, Reduced Diameter Seals (E-Seal) and End Cap	AW8S
S S S S S S S S S S S S S S S S S S S		AT06-12\$A-MM01	12-Way Plug, Female Connector with A Position Key and Reduced Diameter Seal (E-Seal) and End Cap	
TVVVV)		AT06-12SA-MM01BLK	12-Way Plug, Black Female Connector with A Position Key and Reduced Diameter Seal (E-Seal) and Enhanced Seal Retention(P012) and End Cap	AW12S
		AT1612-13SB-RD	13 Position Plug, Reduced Diameter Seal, End Cap	not required

### AT SERIES RECEPTACLE END CAP + REDUCED DIAMETER SEAL

AT END CAPS + REDUCED DIA. SEAL 13A

Mixed modifications: Endcap plus reduced diameter seal (.053-.120")

Receptacle	Face View	Part Number	Description	Wedgelock Part Number
		AT04-2P-MM01	2-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal) and End Cap	
		AT04-2P-MM01BLK	2-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal) and End Cap	AW2P
		AT04-3P-MM01	3-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal) and End Cap	
		AT04-3P-MM01BLK	3-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal)and End Cap	AW3P
	0 0 1	AT04-4P-MM01	4-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal) and End Cap	
		AT04-4P-MM01BLK	4-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal) and End Cap	AW4P
	0 0 0 0 0 0	AT04-6P-MM01	6-Way Receptacle, Male Connector with Reduced Diameter Seal (E-Seal) and End Cap	
		AT04-6P-MM01BLK	6-Way Receptacle, Black Male Connector with Reduced Diameter Seal (E-Seal) and End Cap	AW6P
		AT04-08PA-MM01	8-Way Receptacle, Male Connector with A Position Key, Reduced Diameter Seal (E-Seal) and End Cap	
		ATO4-08PA-MMBLK	8-Way Receptacle, Black Male Connector with A Position Key, Reduced Diameter Seal (E-Seal) and End Cap	AW8P
		AT04-12PA-MM01	12-Way Receptacle, Male Connector with A Position Key and Extended Shroud, Reduced Diameter Seal (E-Seal) and End CAP	
		AT04-12PA-MMBLK	12-Way Receptacle, Black Male Connector with A Position Key and Extended Shroud, Reduced Diameter Seal (E-Seal) and End Cap	AW12P

**NOTE:** Wedgelocks are required for all receptacles



# SOLID REAR SEAL AT SERIES PLUGS SOLID REAR SEAL

Modification: Solid Rear Seal + End cap for maintaing an environmental seal with unmated connectors

Plugs	Face View	Part Number	Description	Wedgelock
	0 0	AT06-2S-SS01	2-Way Plug, Female Connector Grommet. Wedgelock in	
	0-00	AT06-3S-SS01	3-Way Plug, Female Connector Grommet. Wedgelock in	
	0 0	AT06-4S-SS01	4-Way Plug, Female Connector Grommet. Wedgelock in	
	© 0 0 0 0 0	AT06-6S-SS01	6-Way Plug, Female Connector Grommet. Wedgelock in	
	0000	AT06-08\$A-\$\$01	8-Way Plug, Female Connector wi and Solid Rear Grommet. Wedg	
	00000	AT06-12SA-SS01	12-Way Plug, Female Connector w and Solid Rear Grommet. Wedg	

#### AT SERIES RECEPTACLES SOLID REAR SEAL



Modification: Solid Rear Seal + End cap for maintaing an environmental seal with unmated connectors

Receptacles	Face View	Part Number	Description
	0 0	AT04-2P-SS01	2-Way Receptacle, Male Connector with Solid Rear Grommet
	0	AT04-3P-SS01	3-Way Receptacle, Male Connector with Solid Rear Grommet
	0 0 0	AT04-4P-SS01	4-Way Receptacle, Male Connector with Solid Rear Grommet
	0 0 0	AT04-6P-SS01	6-Way Receptacle, Male Connector with Solid Rear Grommet
	0000	AT04-08PA-SS01	8-Way Receptacle, Male Connector with A Position Key and Solid Rear Grommet
		AT04-12PA-SS01	12-Way Receptacle, Male Connector with A Position Key and Extended Shroud and Solid Rear Grommet

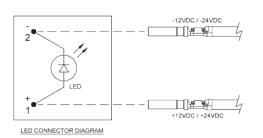
Designed for electromechanical applications where a visible LED light is integrated into a 2 position plug allowing the user to determine the device is receiving power. Environmentally sealed, field serviceable and cost effective while reducing costly trouble shooting time. 12V and 24V versions available.

12 VOLT				
Part	Part Number	Description	Wedgelock	
	AT06-2S-LED1201	2-Way, Plug, LED, 12V, Clear endcap, Grey Body, <b>CLEAR LED</b> (Requires Wedgelock P/N: AW2S-LED)		
	AT06-2S-LED1202	2-Way, Plug, LED, 12V, Clear endcap, Grey Body, Reduced Seal, SR01, <b>CLEAR LED</b> (Requires Wedgelock P/N: AW2S-LED)		
	AT06-2S-LED1220	2-Way, Plug, LED, 12V, Clear endcap, Grey Body, SR01, <b>RED LED</b> (Requires Wedgelock P/N: AW2S-LED)	AWS2S-LED	
Con	AT06-2S-LED1230	2-Way, Plug, LED, 12V, Clear endcap, Grey Body, SR01, <b>GREEN LED</b> (Requires Wedgelock P/N: AW2S-LED)		
	AT06-2S-LED12K1	2-Way LED Plug Kit, 12V, Contacts and Wedge icluded, Grey, Clear endcap, <b>CLEAR LED</b>		
	AT06-2S-LED12K2	2-Way LED Plug Kit, 12V, Contacts and Wedge icluded, Reduced Seal, Grey, Clear endcap, <b>CLEAR LED</b>		

### **Connector Body Colors:**

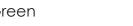
Gray 12V Black 24V

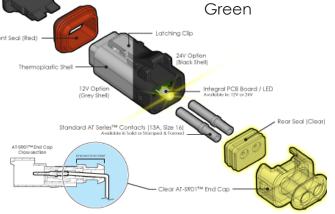




## **LED Color Options:**

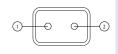
Clear Red







# AT SERIES PLUG © 24 VOLT LED OPTIONS





#### Features & Benefits

- Integral PCB Board/LED, Front and Rear Seals, and AT-SR01 End Cap Strain Reliefs come factory assembled on the Plug.
- Simply crimp the contact style of your choice...Insert...Snap the wedgelock into place.
- NO ADDITIONAL ASSEMBLY REQUIRED

24 VOLT				
Part	Part Number	Description	Wedgelock	
Coe	AT06-2S-LED2401	2-Way, Plug, LED, 24V, Clear Endcap, Black Body, <b>CLEAR LED</b> (Requires Wedgelock P/N: AW2S-LED)		
	AT06-2S-LED2402	2-Way, Plug, LED, 24V, Clear Endcap, Reduced Seal, Black Body, <b>CLEAR LED</b> (Requires Wedgelock P/N: AW2S-LED)		
	AT06-2S-LED2420	2-Way, Plug, LED, 24V, Clear endcap, Grey Body, SR01, <b>RED LED</b> (Requires Wedgelock P/N: AW2S-LED)	AWS2S-LED	
	AT06-2S-LED2430	2-Way, Plug, LED, 24V, Clear endcap, Black Body, SR01, <b>GREEN LED</b> (Requires Wedgelock P/N: AW2S-LED)		
	AT06-2S-LED24K1	2-Way LED Plug Kit, 24V, Contacts and Wedge icluded, Black, Clear endcap, <b>CLEAR LED</b>		
	AT06-2S-LED24K2	2-Way LED Plug Kit, 24V, Contacts and Wedge icluded, Reduced Seal, Black, Clear endcap, <b>CLEAR LED</b>		

#### Solenoids | Valves | Sensors | Manifolds Coils | Diagnostics | Electronic Controls

- Field Serviceable Cost-effective
- Quick diagnosis reduces troubleshooting time
- Environmentally-sealed for harsh environments
- Plug and Play assembled the same as a standard connector



<sup>\*</sup>Certain chosen devices must be diode-protected

# AT SERIES RECEPTACLE PROTECTIVE COVERS

Part	Face View	Part Number	Description
		AT06-2S-CAP	2-way Protective Cover for Plug, Black
3.7711		AT06-3S-CAP	3-way Protective Cover for Plug, Black
		AT06-4S-CAP	4-way Protective Cover for Plug, Black
Th		AT06-6S-CAP	6-way Protective Cover for Plug, Black
		AT06-08S-CAP	8-way, All Keys Protective Cover for Plug, Black
		AT06-12S-CAP	12-way, All Keys Protective Cover for Plug, Black



Mounting Hole provided on all sizes. Please go to www.amphenol-sine.com and search by part number to view datasheets.

#### AT SERIES RECEPTACLE J-1939 MODIFICATIONS

#### J-1939 Modifications - Plug, Receptacles & Wedgelocks

AT Series<sup>TM</sup> J-1939/11, 3-Pin connectors offer a high performance, reliable and cost effective solution for the SAE 3 position CAN Network requirements. This series is designed to be completely compatible with existing industry standard J1939/11 connectors and provides a complete line of connectors including Y receptacles, network terminations with 120 ohm resistors, and keyed wedgelocks to prevent mis-mating. Additionally, the AT Series offers the –SR01 Strain Relief series in both 3 way receptacles and plugs for critical J1939 in-line connections requiring increased environmental protection and strain relief.

Receptacle	Face View	Part Number	Description	Wedgelock Part Number
60		AT04-3P-RY01	"Y" Receptacle, 3-Way, Grey *Wedgelock included	
		AT04-3P- RJ120BK	Receptacle, 3-Way, J-1939,120 Ohm, Terminating Resistor, Black, *Wedgelock Included	AW3P-1939
		AT04-3P-RJ120	Recep., 3-Way, J-1939, 120 Ohm, Terminating Resistor, Grey, *Wedgelock Included	Wedgelock, 3-Way, J-1939, Blue
Plug	Face View	Part Number	Description	Wedgelock Part Number
E So		AT06-3S-SR- 01BLK	Plug, 3-Way, Strain Relief, Black	AW3S-1939 Wedgelock,Plug, 3-Way, J-1939, Blue  AW3S Wedgelock, Plug, 3-Way
(i)		AT06-3S-RJ120	Plug, 3-Way, J-1939, 120 Ohr (Blue wedgelod	
The state of the s		AT06-3S-RJL120	Plug, 3-Way, J-1939, 120 Ohm Re <b>Guard</b> (Blue wedg	

### AT SERIES PLUG ADAPTER 6/12 PIN TO RJ45

### Adapter, 6/12 Pin to RJ45

AT Series<sup>™</sup> 6 Pin to RJ45 Adapters are developed to provide a direct connection between industry standard 6 position connectors and 8 position ethernet RJ45 connections.

Part	Face View	Part Number	Description
	TAXAXXX I	D00007 VV	AT Series™ 6-Way Receptacle to RJ45 8-Way Receptacle
	TXXXXXX III	P30307-XX	AT Series™ 12-Way Receptacle to RJ45 8-Way Receptacle
	NA	ATRJ8-FSSR	RJ Plug, Sealed Strain Relief, Field Installable/ Serviceable Assembly, 13/16-28 Thread Receptacles (RJ plug not included)

#### AT SERIES ELECTRONIC PACKAGING



#### TERMINATING RESISTORS AND DIODES

AT Series™ connectors are available with custom resistor values to meet specific application requirements. Consult Sales Representative for resistor, diode and other electronic packaging solutions.

Part	Face View	Part Number	Туре	Description
9	0 0	AT04-2P-R120YEL	Resistor	2-Way, Receptacle, 120 Ohm Resistor, NI Pins, Wedgelock, Yellow
	0 0	AT04-2P-THM10K	Thermistor	2-Way, Receptacle, 10K Ohm Thermistor, NI Pins, Wedgelock, Red
	0 0	AT04-2P-DIN4GRY	Diode	2-Way, Receptacle, Diode, 1N4004, NI Pins, Wedgelock, Gray
		AT04-3P-RJ120BK	Resistor	3-Way, Receptacle, J1939-11,120 Ohm Resistor, Gold Pins, Blue Wedgelock, Black
		AT04-3P-RJ120	Resistor	3-Way, Receptacle, J1939-11, 120 Ohm Resistor, Gold Pins, Blue Wedgelock, Gray
	· • • • • • • • • • • • • • • • • • • •	AT04-4P-R1K2K	Resistor	4-Way, Receptacle, 1.2K & 2.7K Ohm Resistor, NI Pins, Wedgelock, Gray
	· • · · · · · · · · · · · · · · · · · ·	AT04-6P-R120BL	Resistor	6-Way, Receptacle, 6 Gang Buss w/ 120 Ohm Resistor, Gold Pins, Wedgelock, Blue
Part	Face View	Part Number	Туре	Description
ran	I dee view	- an nomber	Турс	Doscription
	0 0	AT06-2S-R120YEL	Resistor	2-Way, Plug, 120 Ohm Resistor, NI Sockets, Standard Wedgelock, Yellow

Part	Face View	Part Number	Туре	Description
Co.	0 0	AT06-2S-R120YEL	Resistor	2-Way, Plug, 120 Ohm Resistor, NI Sockets, Standard Wedgelock, Yellow
	0	AT06-3S-RJ120BK	Resistor	3-Way, Plug, J1939-11, 120 Ohm Resistor, Gold Sockets, Blue Wedgelock, Black
(a)	0-00	AT06-3S-RJ120	Resistor	3-Way, Plug, J-1939, 120 Ohm Resistor, End Cap, Blue Wedgelock, Grey
	0-00	AT06-3S-R680	Resistor	3-Way, Plug, 680 Ohm Resistor, End Cap, Standard Wedgelock, Grey NOTE: Resistor is between A and B position.



### Extended Body AT Plugs Designed for Overmolding

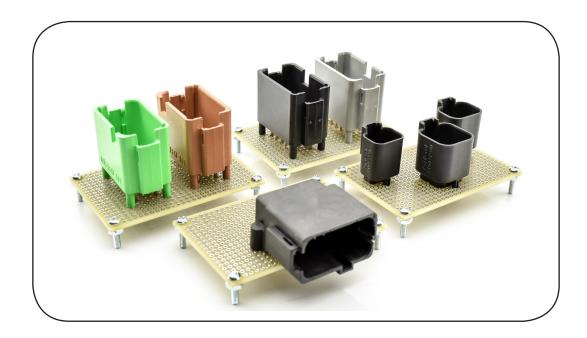
Custom Cable Assemblies are available for any application, and carry with them the capabilities of being overmolded in any size or length necessary. We have many specialized configurations. For more information, please contact a Sales Representative at 1-800-394-7732.

Part	Face View	Part Number	Description	Wedglock
0		AT06-2S-OMGRY	2-Way Custom Overmold Plug, Socket, Gray	
		AT06-2S-OMBLK	2-Way Custom Overmold Plug, Socket, Black	
		AT06-2S-OMBLU	2-Way Custom Overmold Plug, Socket, Blue	
	0 0 1	AT06-2S-OMBRN	2-Way Custom Overmold Plug, Socket, Brown	6, 6,
		AT06-2S-OMGRN	2-Way Custom Overmold Plug, Socket, Green	AW2S
		AT06-2S-OMRED	2-Way Custom Overmold Plug, Socket, Red	
		AT06-2S-OMWHT	2-Way Custom Overmold Plug, Socket, White	
		AT06-2S-OMYEL	2-Way Custom Overmold Plug, Socket, Yellow	

**NOTE:** These custom products are a sampling of the options available. For more options, please contact your Sales Representative.



# $\textbf{Board} \, \textcolor{red}{\textbf{Lock}}^{\text{\tiny{TM}}}$



# Board | Lock<sup>™</sup> Series

2, 3, 4, 6, 8, 12 and 13 Pos. / Size 16, 13A

13 Pos. (Mixed Power & Signal) / Size 12, 25A; Size 16, 13A



The Amphenol Board | Lock™ series combines flangeless wire-to-board versatility with the proven reliability of the A Series™ environmentally sealed thermoplastic connection system. Perfect for power or data signal applications, Board | Lock™ features a unique design which is compact, low-profile, lightweight and delivers proven durability in off-road and harsh environments. The snap-in board features allow for rapid placement and the enclosed latch-receiver design benefits potting and overmold applications. When combined with the economical A Series™ positive polarization & available coding options, mis-mating occurrences are dramatically reduced.

Our engineering teams can provide unique mixed-power & signal arrangements, 90° or straight PCB pins, or custom flange mount designs to reduce overall connector size and save space. We are committed to work with you to ensure a design that meets your needs.

Wire Range	Size 12 contacts will accept wire ranges of 12-14AWG; Size 16 contacts will accept 14-20AWG
Temperature	Operating temperature range: -55°C to +125°C at rated current
Housing/Latch	Thermoplastic/Integrated latch for mating
Dielectric Value	Meets or exceeds 1500 volts minimum
Shock	No latch disengagement or discontinuity shall be the result when subjected to 50 g's in each of three axis (X, Y & Z)
Vibration	Continued continuity without degradation to mechanical or physical attributes following vibration. (max acceleration 20 g's at Sine sweep of 10-2000Hz)
Connector Retention	A mated connector subjected to a pulling force by the exiting wire bundle at 25 lbs. times the number of contacts to a maximum of 100 lbs. applying load for 30 seconds
Thermal Shock	Subjected to 10 cycles at -55°C to +125°C with no cracking, chipping or other damage detrimental to the normal operation of the connector
Insulation Resistance	1000 megohms minimum at 25°C
Mating Cycle Durability	Following 100 cycles of connection engagement and disengagement, degradation either mechanical or electrical is not evident
Contact Millivolt Drop	Size 16 contacts with 16AWG conductor - 100 mV drop max at 13A test current
Water Immersion	A mated connection, properly wired, placed in an oven at +125°C for 1 hour, then placed immediately in a depth of water of 1 meter without loss of electronic performance

AT Series Board | Lock<sup>TM</sup> meets all the performance criteria and specifications of the AT Series<sup>TM</sup>, and is also available in a wide variety of custom colors. Consult factory for complete specifications.

## AT SERIES BOARD | LOCK RECEPTACLES

Contact Size:	16 (Included)
Wire Range (AWG):	14-20 AWG
Amperage:	13

Go to AT Standard Connectors for Plug options starting on page 46

	Part Number	Description
	AT04-2P-BM01	2 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Black
	AT04-2P-BM02	2 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Black
	AT04-2P-BM03	2 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Black
	AT04-2P-BM04	2 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Black
	ATF13-2P-BM01	2 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Black
	ATF13-2P-BM02	2 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Black
	AT04-3P-BM01	3 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Black
	AT04-3P-BM02	3 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Black
	AT04-3P-BM03	3 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Black
	AT04-3P-BM04	3 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Black
	ATF13-3P-BM01	3 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Black
	ATF13-3P-BM02	3 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Black
	AT04-4P-BM01	4 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Black
	AT04-4P-BM02	4 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Black
	AT04-4P-BM03	4 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Black
	AT04-4P-BM04	4 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Black
	ATF13-4P-BM01	4 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Black
	ATF13-4P-BM02	4 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Black
	AT04-6P-BM01	6 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Black
	AT04-6P-BM02	6 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Black
	AT04-6P-BM03	6 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Black
0 0	AT04-6P-BM04	6 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Black
	ATF13-6P-BM01	6 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Black
	ATF13-6P-BM02	6 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Black
	AT04-08PA-BM01	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Gray
	AT04-08PA-BM02	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Gray
	AT04-08PA-BM03	8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Gray
	AT04-08PA-BM04	8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Gray
	ATF13-08PA-BM01	8 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Gray
	ATF13-08PA-BM02	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Gray
	AT04-08PB-BM01	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Black
	AT04-08PB-BM02	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Black
· · · · · · · · · · · · · · · · · · ·	AT04-08PB-BM03	8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Black
Щ 。。。。	AT04-08PB-BM04	8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Black
	ATF13-08PB-BM01	8 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Black
	ATF13-08PB-BM02	8 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Black
	AT04-08PC-BM01	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Green
	AT04-08PC-BM02	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Green
	AT04-08PC-BM03	8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Green
	AT04-08PC-BM04	8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Green
	ATF13-08PC-BM01	8 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Green
	ATF13-08PC-BM02	8 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Green
		Continued on poyt page

Continued on next page

## AT SERIES BOARD | LOCK RECEPTACLES

Contact Size	16
Wire Range (AWG	14-20 AWG
Amperage	13

Go to AT Standard Connectors for Plug options starting on page 52

	AT04-08PD-BM01	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Brown
	AT04-08PD-BM02	8 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Brown
	AT04-08PD-BM03	8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Brown
	AT04-08PD-BM04	
		8 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Brown
	ATF13-08PD-BM01	8 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Brown
	ATF13-08PD-BM02	8 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Brown
	AT04-12PA-BM01	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Gray
	AT04-12PA-BM02	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Gray
	AT04-12PA-BM03	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Gray
	AT04-12PA-BM04	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Gray
	ATF13-12PA-BM01	12 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Gray
	ATF13-12PA-BM02	12 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Gray
	AT04-12PB-BM01	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Black
	AT04-12PB-BM02	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Black
	AT04-12PB-BM03	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Black
	AT04-12PB-BM04	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Black
	ATF13-12PB-BM01	12 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Black
40000	ATF13-12PB-BM02	12 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Black
H	AT04-12PC-BM01	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Green
	AT04-12PC-BM02	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Green
	AT04-12PC-BM03	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Green
	AT04-12PC-BM04	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Green
	ATF13-12PC-BM01	12 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Green
	ATF13-12PC-BM02	12 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Green
	AT04-12PD-BM01	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, No potting, Brown
	AT04-12PD-BM02	12 Pos. Recep., Pin, Gold contact plating, PCB, Board Mount, Potting, Brown
	AT04-12PD-BM03	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Brown
	AT04-12PD-BM04	12 Pos. Recep., Pin, Nickel contact plating, PCB, Board Mount, Potting, Brown
	ATF13-12PD-BM01	12 Pos. 90° Recep., Pin, Gold contact plating, PCB, Board Mount, Brown
	ATF13-12PD-BM02	12 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, Brown
	AT1612-13PBNF13	13 Pos. 90° Recep., Pin, Nickel contact plating, PCB, Board Mount, No potting, Black, Keyed B. Contact sizes 12, 16

# AT Panel Mate<sup>TM</sup>



# Panel | Mate<sup>™</sup> Series

2, 3, 4, 6, 8 and 12 Position / Size 16, 13A 13 Position / Size 12, 25A; Size 16, 13A















The Amphenol Panel | Mate™ series combines flange mounting options with the proven reliability of the AT/ATP Series™ environmentally-sealed thermoplastic connection system. Engineered with a one-piece sealed flange design for rapid and secure mounting, its durable high temperature silicone facial seal provides a barrier of protection from lubricating oils, hydraulic fluids and fossil fuels to withstand the challenges and complexities of harsh environment applications.

Wire Dange	Size 10 contracts will good to vice ranges of 10 14AWC Size 17 contracts will good 14 20AWC
Wire Range	Size 12 contacts will accept wire ranges of 12-14AWG; Size 16 contacts will accept 14-20AWG.
Temperature	Operating temperature range: -55°C to +125°C at rated current
Housing/Latch	Thermoplastic/Integrated latch for mating
Dielectric Value	Meets or exceeds 1500 volts minimum
Drop Test	Shall not become detached or loosened when placed at 750mm and dropped to concrete eight times
Shock	No latch disengagement or discontinuity shall be the result when subjected to 50 g's in each of three axis (X, Y & Z)
Vibration	Continued continuity without degradation to mechanical or physical attributes following vibration. (max acceleration 20 g's at Sine sweep of 10-2000Hz)
Connector Terminal Retention	When subjected to a direct pull, contacts achieve a minimum pull-out force of 25 lbs.
Connector Retention	A mated connector subjected to a pulling force by the exiting wire bundle at 25 lbs. times the number of contacts to a maximum of 100 lbs. applying load for 30 seconds
Thermal Shock	Subjected to 10 cycles at -55°C to +125°C with no cracking, chipping or other damage detrimental to the normal operation of the connector
Insulation Resistance	1000 megohms minimum at 25°C
Mating Cycle Durability	Following 100 cycles of connection engagement and disengagement, degradation either mechanical or electrical is not evident
Contact Millivolt Drop	Size 16 contacts with 16AWG conductor - 100 mV drop max at 13A test current
Water Immersion	A mated connection, properly wired, placed in an oven at +125°C for 1 hour, then placed immediately in a depth of water of 1 meter without loss of electronic performance

AT/ATP Series Panel | Mate™ meets all the performance criteria and specifications of the AT Series™, and is also available in a wide variety of custom colors. Consult factory for complete specifications.

#### AT PANEL MATE SERIES RECEPTACLES

#### AT Panel | Mate 2-13 POSITIONS 13A

Go to AT Standard Connectors for Plug options starting on page 46

	Part Number	Description	Contact Size
_	AT04-2P-PM11	2 Pos. Receptacle, Pin, Panel Mount, Self-Threading	16
	AT04-2P-PM12	2 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal	16
	AT04-2P-PM13	2 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap	16
	AT04-2P-PM14	2 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap	16
	AT04-3P-PM11	3 Pos. Receptacle, Pin, Panel Mount, Self-Threading	16
	AT04-3P-PM12	3 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal	16
	AT04-3P-PM13	3 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap	16
	AT04-3P-PM14	3 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap	16
	AT04-4P-PM11	4 Pos. Receptacle, Pin, Panel Mount, Self-Threading	16
	AT04-4P-PM12	4 Pos. Receptacle, Pin, Panel Mount, Self-Threading,, RD01 Seal	16
	AT04-4P-PM13	4 Pos. Receptacle, Pin, Panel Mount, Self-Threading,, Self-Threading, Cap	16
	AT04-4P-PM14	4 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap	16
	AT04-6P-PM05	6 Pos. Flange Mount Receptacle with Gasket, Pin, Threaded	16
	AT04-6P-PM11	6 Pos. Receptacle, Pin, Panel Mount, Self-Threading	16
	AT04-6P-PM12	6 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal	16
	AT04-6P-PM13	6 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap	16
	AT04-6P-PM14	6 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap	16
	AT04-08PA-PM05	8 Pos. Flange Mount Receptacle with Gasket, Pin, Threaded, Keyed A	16
	AT04-08PA-PM11	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed A	16
	AT04-08PA-PM12	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed A	16
	AT04-08PA-PM13	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed A	16
	AT04-08PA-PM14	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed A	16
	AT04-08PB-PM11	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed B	16
	AT04-08PB-PM12	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed B	16
	AT04-08PB-PM13	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed B	16
	AT04-08PB-PM14	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed B	16
	AT04-08PC-PM11	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed C	16
	AT04-08PC-PM12	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed C	16
	AT04-08PC-PM13	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed C	16
	AT04-08PC-PM14	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed C	16
	AT04-08PD-PM11	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed D	16
	AT04-08PD-PM12	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed D	16
	AT04-08PD-PM13	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed D	16
	AT04-08PD-PM14	8 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed D	16
00000	AT04-12PA-PM05	12 Pos. Flange Mount Receptacle with Gasket, Pin, Threaded, Keyed A	16

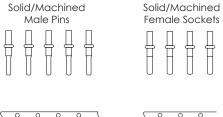
## AT PANEL MATE SERIES RECEPTACLES (con't)

Go to AT Standard Connectors for Plug options starting on page 46

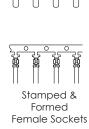
	Part Number	Description	Contact Size
	AT04-12PA-PM11	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed A	16
	AT04-12PA-PM12	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed A	16
	AT04-12PA-PM13	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed A	16
	AT04-12PA-PM14	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed A	16
	AT04-12PB-PM11	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed B	16
	AT04-12PB-PM12	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed B	16
	AT04-12PB-PM13	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed B	16
	AT04-12PB-PM14	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed B	16
	AT04-12PC-PM11	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed C	16
	AT04-12PC-PM12	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed C	16
	AT04-12PC-PM13	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed C	16
	AT04-12PC-PM14	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed C	16
	AT04-12PD-PM11	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Keyed D	16
	AT04-12PD-PM12	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Keyed D	16
	AT04-12PD-PM13	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, Cap, Keyed D	16
	AT04-12PD-PM14	12 Pos. Receptacle, Pin, Panel Mount, Self-Threading, RD01 Seal, Cap, Keyed D	16
	AT1612-13PB-RDG	13 Pos., Receptacle, Pin, Panel Mount, Self Threading, RD01 Seal, Cap, Keyed B	16-12
	AT1612-13PB-G	13 Pos., Receptacle, Pin, Panel Mount, Self Threading, Standard Seal, Cap, Keyed B	16-12
	AT04-XP-PM1X-G7	Gasket for 2, 3, 4, 6 Position Receptacles (AT Size 16 receptacles only)	-
	AT04-08PB-G7	Gasket for 8 Position Receptacle	-
	AT1612-PB-G7	Gasket for 12, 13 Position Receptacle	-

Amphenol offers two types of contacts for use in our products: Solid and Stamped & Formed. Both types of contacts utilize the simple crimp-style termination, requiring no solder usage.





Stamped & Formed Male Pins



#### Standard Contacts - Solid Sockets & Pins

Series	Size	AWG	Туре	Part Number	Description
AT	16	14	Solid	AT62-209-1631	Female Contact - Socket, Gold-plated
AT	16	14	Solid	AT62-209-16141	Female Contact - Socket, Nickel-plated
AT	16	16-20	Solid	AT62-201-1631	Female Contact - Socket, Gold-plated
AT	16	16-20	Solid	AT62-201-16141	Female Contact - Socket, Nickel-plated
AT	16	14	Solid	AT60-215-1631	Male Contact - Pin, Gold-plated
AT	16	14	Solid	AT60-215-16141	Male Contact - Pin, Nickel-plated
AT	16	16-20	Solid	AT60-202-1631	Male Contact - Pin, Gold-plated
AT	16	16-20	Solid	AT60-202-16141	Male Contact - Pin, Nickel-plated

#### Standard Contacts - Stamped & Formed Sockets & Pins

			.	Territed decided at this			
Series	Size	AWG	Туре	Part Number	Description		
AT	16	14-16	S & F	AT62-14-0122	Female Contact - Socket, Nickel-plated		
AT	16	14-16	S & F	AT62-14-0144	Female Contact - Socket, Gold-plated		
AT	16	16-18	S & F	AT62-16-0122	Female Contact - Socket, Nickel-plated		
AT	16	16-18	S & F	AT62-16-0144	Female Contact - Socket, Gold-plated		
AT	16	18-20	S & F	AT62-16-0622	Female Contact - Socket, Nickel-plated		
AT	16	18-20	S & F	AT62-16-0644	Female Contact - Socket, Gold-plated		
AT	16	14-16	S & F	AT60-14-0122	Male Contact - Pin, Nickel-plated		
AT	16	14-16	S & F	AT60-14-0144	Male Contact - Pin, Gold-plated		
AT	16	16-18	S & F	AT60-16-0122	Male Contact - Pin, Nickel-plated		
AT	16	16-18	S & F	AT60-16-0144	Male Contact - Pin, Gold-plated		
AT	16	18-20	S & F	AT60-16-0622	Male Contact - Pin, Nickel-plated		
AT	16	18-20	S & F	AT60-16-0644	Male Contact - Pin, Gold-plated		

#### AT ACCESSORIES & TOOLS

#### AT SERIES ACCESSORIES & TOOLS

#### Seal Plugs



AT	16	12-16	-	A114017	Seal Plugs, White
AT	16	16	-	A114017-SR	Seal Plugs, Black

#### Gasket



AT	16	12-16	-	AT1612-PB-G7	Gasket for 13-Way Receptacle (ONLY)
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Amphenol offers two types of contacts for use in our products: Solid and Stamped & Formed. Both types of contacts utilize the simple crimp-style termination, requiring no solder usage. Below are the tools available to assist with your crimping needs to ensure a proper connection between contact and wire.

Part	Part Number	Description
	CA-5D12	Universal Hand Crimp Tool, Size 12/16/20 *Solid contacts only
	CA-5E12	Pneumatic Crimp Tool, Size 12/16/20 *Solid contacts only
	MFX-3950	Crimp Die - Size 16, 18-20AWG (Stamped & Formed Contacts)
	MFX-3953	Crimp Die - Size 16, 16-18AWG (Stamped & Formed Contacts)
	MFX-3975	Crimp Die - Size 16, 14-16AWG (Stamped & Formed Contacts)
O POORING MATION	ATT-16-00	Size 16, 14-16AWG, Stamped & Formed Contact Tool
	ATT-16-01	Size 16, 18-20AWG, Stamped & Formed Contact Tool



### AT Series™ Contact Removal Tools

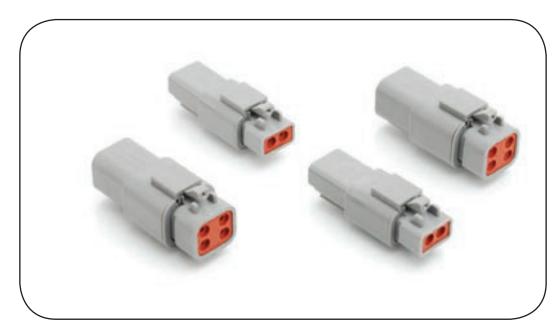
Part	Part Number	Description
Amphenol ATRT-600 www.sinuoo.com	ATRT-100	Used for removal of contacts for AT Series™ products
	AT11-310-1605	Contact Removal Tool, plastic, Size 16 (Used on AT1612 Series connectors, where wedgelock is not required. See pages 54,64,78,82,99)
	AT11-337-1205	Contact Removal Tool, plastic Size 12 (Used on AT1612 Series connectors, where wedgelock is not required. See pages 54,64,78,82,99)

#### AT SERIES FIELD REPAIR KITS

The AT Series<sup>TM</sup> Field Repair Kits are the ideal companion for anyone performing on-site or in-the-field maintenance. They contains a full range of plugs, receptacles, wedges, contacts, seals and tools, as well as a cross-reference guide, all in a heavy duty plastic carrying case, easily labeled for quick identification.

Part	Part Number	Description
	AT-RK100	Large Field Repair Kit contents:  AT04-2P: 2 Pos. Recep. (15 qtv.) AT04-3P: 3 Pos. Recep. (10 qtv.) AT04-4P: 4 Pos. Recep. (10 qtv.) AT04-6P: 6 Pos. Recep. (10 qtv.) AT04-08PA: 8 Pos. Recep. (5 qtv.) AT04-12PA: 12 Pos. Recep. (5 qtv.) AT04-3S: 3 Pos. Plug (15 qtv.) AT06-3S: 3 Pos. Plug (10 qtv.) AT06-4S: 4 Pos. Plug (10 qtv.) AT06-6S: 6 Pos. Plug (10 qtv.) AT06-6S: 6 Pos. Plug (5 qtv.) AT06-12SA: 12 Pos. Plug (5 qtv.) AW2P: 2 Pos. Recep. Wedge (15 qtv.) AW3P: 3 Pos. Recep. Wedge (10 qtv.) AW6P: 6 Pos. Recep. Wedge (10 qtv.) AW6P: 6 Pos. Recep. Wedge (5 qtv.) AW1P: 12 Pos. Recep. Wedge (5 qtv.) AW2P: 12 Pos. Recep. Wedge (5 qtv.) AW3S: 3 Pos. Plug Wedge (15 qtv.) AW3S: 3 Pos. Plug Wedge (10 qtv.) AW3S: 4 Pos. Plug Wedge (10 qtv.) AW4S: 4 Pos. Plug Wedge (10 qtv.) AW6S: 6 Pos. Plug Wedge (10 qtv.) AW6S: 6 Pos. Plug Wedge (10 qtv.) AW6S: 8 Pos. Plug Wedge (10 qtv.) AW6S: 6 Pos. Plug Wedge (10 qtv.)
	AT-RK200	Miniature Field Repair Kit contents:  AT04-2P: 2 Pos. Recep. (5 qty.)  AT04-3P: 3 Pos. Recep. (5 qty.)  AT04-4P: 4 Pos. Recep. (5 qty.)  AT04-6P: 6 Pos. Recep. (3 qty.)  AT04-08PA: 8 Pos. Recep. (1 qty.)  AT04-12PA: 12 Pos. Recep. (1 qty.)  AT04-2S: 2 Pos. Plug (5 qty.)  AT06-2S: 2 Pos. Plug (5 qty.)  AT06-3S: 3 Pos. Plug (5 qty.)  AT06-6S: 6 Pos. Plug (5 qty.)  AT06-6S: 6 Pos. Plug (3 qty.)  AT06-12SA: 12 Pos. Plug (1 qty.)  AW2P: 2 Pos. Recep. Wedge (5 qty.)  AW3P: 3 Pos. Recep. Wedge (5 qty.)  AW4P: 4 Pos. Recep. Wedge (5 qty.)  AW6P: 6 Pos. Recep. Wedge (3 qty.)  AW8P: 8 Pos. Recep. Wedge (1 qty.)  AW3P: 12 Pos. Recep. Wedge (1 qty.)  AW3P: 3 Pos. Plug Wedge (5 qty.)  AW3P: 3 Pos. Plug Wedge (5 qty.)  AW3P: 8 Pos. Plug Wedge (5 qty.)  AW3S: 3 Pos. Plug Wedge (5 qty.)  AW3S: 3 Pos. Plug Wedge (5 qty.)  AW4S: 4 Pos. Plug Wedge (5 qty.)  AW4S: 4 Pos. Plug Wedge (1 qty.)  AW5S: 12 Pos. Plug Wedge (1 qty.)  AW5S: 12 Pos. Plug Wedge (1 qty.)  AW6S: 6 Pos. Plug Wedge (1 qty.)  AW12P: 12 Pos. Recep. Wedge (1 qty.)  AW6S: 6 Pos. Plug Wedge (1 qty.)  AW6S: 6 Pos. Plug Wedge (1 qty.)  AW6S: 10 AW12P: 10 AW12P: 10 AW12P: 10 AW2P: 10 AW2

# ATP | Series

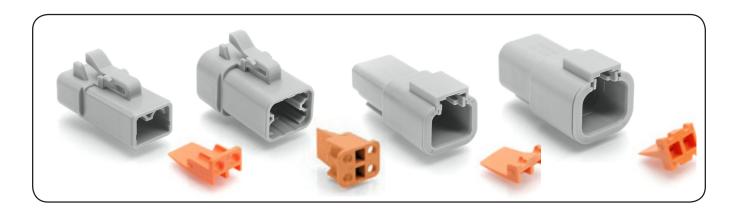


#### ATP Series<sup>TM</sup>

#### Overview

ATP Series<sup>TM</sup> connectors are designed as a high-performance, cost-effective, thermoplastic solution to be used within the Marine, Heavy Equipment, Agricultural, Automotive, Alternative Energy fields, as well as other demanding interconnect applications. Available in 2 and 4 position options, the ATP Series™ Connectors contain superior environmental seals, seal retention capabilities and are designed for use with 10-14AWG with size 12 contacts handling up to 25A.

ATP Series<sup>TM</sup> connectors are compatible with other existing standard products industry-wide.



#### Features & Benefits

**Current Capacity** 

Wire Range

Temperature

Dielectric Withstanding Voltage

Physical Shock

Vibration

Insulation Resistance Corrosion Resistance

Submersion

Fluid Resistance

Contact Retention Contacts (minimum load)

Thermal Cycle

Durability

Size 12, 25A (max)

Size 12 contacts will accept wire ranges of 12 thru 14AWG

Operative at temperatures from -55°C to +125°C. Continuous at rated current.

Current leak less than 2 milliamps at 1500 VAC

No unlocking, unmating or other unsatisfactory results during or after 50 G's in each of three usually perpendicular planes. No electrical discontinuities longer than 1 microsecond. MIL-STD 202. Method 213, Condition "C".

Maintains continuity and exhibits no mechanical or physical damage after vibration levels of 20 G's at 10-2000 Hz.

1000 megohms minimum at 25°C

Connectors show no evidence of corrosion after exposure to 48 hours of salt spray per MIL - STD 1344, method 1001.

IP67. Wired and mated connection will withstand immersion under three feet of water without loss of electronic qualities or leakage.

Connectors show no damage when exposed to most fluids used in industrial

application.

70lbs. for Size 12 contacts.

No cracking, chipping or leaking after 20 test cycles from -55°C to +125°C.

No electrical or mechanical defects after 100 cycles of engagement and disengagement.

#### ATP Series™

#### Features & Benefits, cont.

#### Contact Resistence Wire Sealing Range

Contacts   Size 12   Contacts   Size 12	Contacts	Size 12	Contacts	Size 12
---	----------	---------	----------	---------

Wire Guage 12AWG Recommended Wire Standard (S-Seal) .134-.195"

Installation O.D. Thin Wall (RD-Seal) .097-.158"

Contact Milivolt Drop Size 12 (stamped & formed) contacts with 12AWG conductor - 60 mV

(solid contact) drop max; 100 mV (stamped & formed contact) drop max

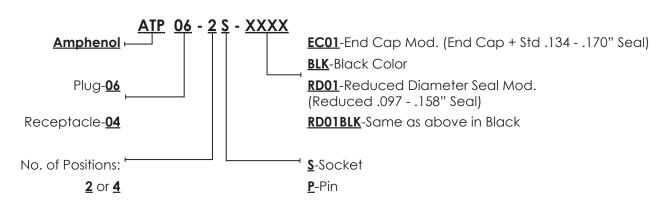
at 25A test current

#### **Product Material**

Shell Thermoplastic
Seals Silicone Elastomer
Wedge Thermoplastic

Contacts Pins: Copper alloy; Sockets: Copper alloy; Finish: Nickel-plated (optional Gold)

#### ATP Series™ Part Numbering Sequence

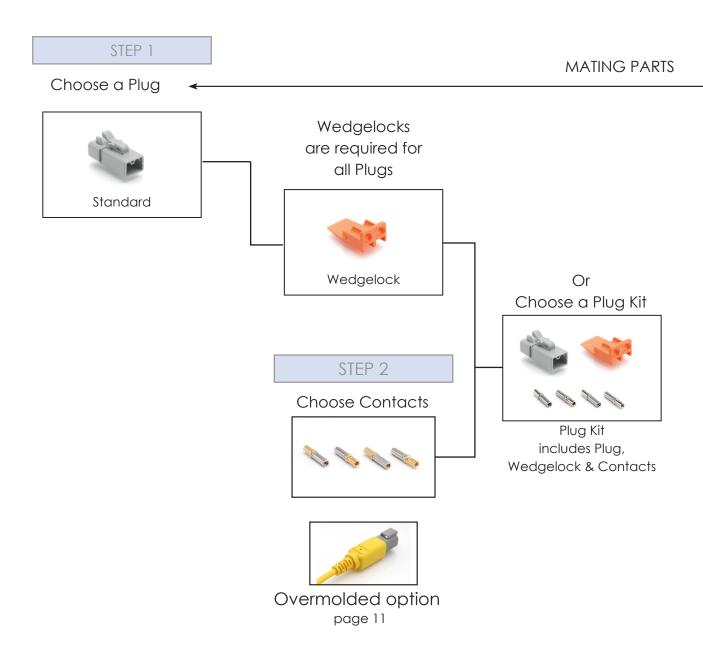


Color	Modification Number	Color	Modification Number
Black	XXXX-XXXX-BLK	Yellow	XXXX-XXXX- <b>YEL</b>
White	XXXX-XXXX-WHT	Green	XXXX-XXXX-GRN
Brown	XXXX-XXXX-BRN	Blue	XXXX-XXXX-BLU
Grey	XXXX-XXXX-GRY	Red	XXXX-XXXX- <b>RED</b>



**NOTE:** The above modifications (-XXXX) are only a sampling of the options available to our customers. For more information, please contact your Sales Representative.

# ATP Series™ Connector Configurations



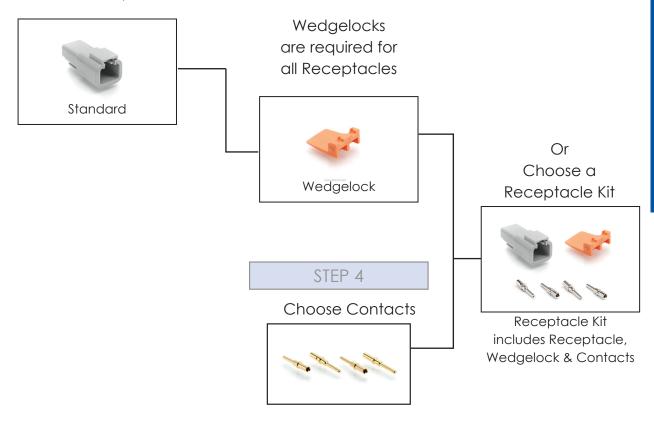
#### Need a complete Cable Assembly?

See page 11 or contact the factory for assistance

Toll Free: 1-800-394-7732



#### Choose a Receptacle



Overmolded option page 11

Or Choose a Plug & Receptacle Kit



Plug & Receptacle Kit includes Plug, Receptacle, Wedgelock & Contacts

# ATP SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS

Contact Size	12
Wire Range (AWG)	10-14 AWG
Amperage	25

Plug	Part Number	Description		W
	ATP06-2S	Plug, 2-Way		
	ATP06-2S-KIT01	23	Socke	et I
	ATP06-2S-BLK	Plug, 2-Way Black		

	Wedgelock	Part Number	Description			
	1500	AWP-2S	Wedgelock Plug, 2-Way			
0	ocket Plug, Wedge and Contacts Kit					
		AWP-2S	Wedgelock Plug, 2-Way			

Receptacle	Part Number	Description
	ATP04-2P	Receptacle, 2-Way
1010	ATP04-2P- KIT01	2 Pin
	ATP04-2P-BLK	Receptacle, 2-Way Black

	Wedgelock	Part Number	Description	
	122	AWP-2P	Wedgelock Receptacle, 2-Way	
Receptacle, Wedge and Contacts Kit				
	577	AWP-2P	Wedgelock Receptacle, 2-Way	

Plug & Receptacle Kit	Part Number	Description
10001010	ATP2PS-CKIT	2-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

**NOTE:** Wedgelocks are required for all plug and receptacles

#### Other Available Options:

End Caps see page 94 Reduced Diameter Seals see page 95 Contacts see page 101 Tools see page 102



ATP PANEL | MATE FLANGE MOUNT HARSH EN-VIRNOMENT CONNECTORS see page 99

# ATP SERIES STANDARD PLUGS, RECEPTACLES & WEDGELOCKS



Contact Size	12
Wire Range (AWG)	10-14 AWG
Amperage	25

Plug	Part Number	Description	Wedge
	ATP06-4S	Plug, 4-Way	W.O.
	ATP06-4S-KIT01	4	Socket Plug,
	ATP06-4S-BLK	Plug, 4-Way Black	W.O.

	Wedgelock	Part Number	Description	
	No.	AWP-4S	Wedgelock Plug, 4-Way	
Socket Plug, Wedge and Contacts Kit				
	To To	AWP-4S	Wedgelock Plug, 4-Way	

Receptacle	Part Number	Description		Wedgelock	Part Number	Description
	ATP04-4P	Receptacle, 4-Way			AWP-4P	Wedgelock Receptacle, 4-Way
	ATP04-4P- KIT01	4 Pin Receptacle, Wedge and Contacts Kit		cts Kit		
	ATP04-4P-BLK	Receptacle, 4-Way Black			AWP-4P	Wedgelock Receptacle, 4-Way

Plug & Receptacle Kit	Part Number	Description
© 59	ATP4PS-CKIT	4-Way Pin and Socket Plug, Receptacle, Wedge and Contacts Kit

NOTE: Wedgelocks are required for all plug and receptacles

#### Other Available Options:

End Caps see page 94 Reduced Diameter Seals see page 95 Contacts see page 101 Tools see page 102



ATP PANEL | MATE FLANGE MOUNT HARSH EN-VIRNOMENT CONNECTORS see page 99



# ATP SERIES STANDARD PLUG and RECEPTACLE END CAPS

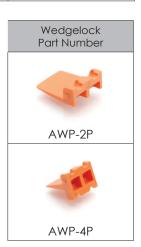
Contact Size	12
Wire Range (AWG)	10-14 AWG
Amperage	25

AT Series™ connectors offer several modifications for increased design flexibility or special application requirements.

#### **END CAPS**

Plug	Faceview	Part Number	Description	Wedgelock Part Number
The state of the s	0 0	ATP06-2S-EC01	2-Way Plug, Female Con- nector with End Cap	AWP-2S
	0 0	ATP06-4S-EC01	4-Way Plug, Female Con- nector with End Cap	AWP-4S

Receptacle	Receptacle Faceview		Description
		ATP04-2P-EC01	2-Way Receptacle, Male Connector with End Cap
	o e 1 o o	ATP04-4P-EC01	4-Way Receptacle, Male Connector with End Cap



NOTE: Wedgelocks are required for all plug and receptacles.

# ATP SERIES STANDARD PLUG and RECEPTACLE REDUCED DIAMETER SEALS



Contact Size	12
Wire Range (AWG)	10-14 AWG
Amperage	25

REDUCED DIAMETER SEALS (.053" - .120")

Plug	Faceview	Part Number	Description	Wedgelock Part Number
		ATP06-2S-RD01	2-Way Plug, Female Con- nector with Reduced Diam- eter Seal	5509
		ATP06-2S-RD01BK	2-Way Plug, Female Con- nector with Reduced Diam- eter Seal, Black	AWP-2S
		ATP06-4S-RD01	4-Way Plug, Female Con- nector with Reduced Diam- eter Seal	No.
		ATP06-4S-RD01BK	4-Way Plug, Female Con- nector with Reduced Diam- eter Seal, Black	AWP-4S

Receptacle	Faceview	Part Number	Description
		ATP04-2P-RD01	2-Way Receptacle, Male, Reduced Diameter Seal
	0 0 1	ATP04-4P-RD01	4-Way Receptacle, Male, Reduced Diameter Seal



**NOTE:** Wedgelocks are required for all plug and receptacles.

# ATP Panel Mate<sup>™</sup>



## ATP Panel | Mate™ Series

2, 4, 13 Position / Size 12, 25A 13 Position / Size 12, 25A; Size 16, 13A











The Amphenol Panel | Mate<sup>TM</sup> series combines flange mounting options with the proven reliability of the AT/ATP Series<sup>TM</sup> environmentally-sealed thermoplastic connection system. Engineered with a one-piece sealed flange design for rapid and secure mounting, its durable high temperature silicone facial seal provides a barrier of protection from lubricating oils, hydraulic fluids and fossil fuels to withstand the challenges and complexities of harsh environment applications.

**Current Capacity** 

Wire Range

**Temperature** 

Dielectric Withstanding Voltage

Physical Shock

Vibration

Insulation Resistance Corrosion Resistance

Submersion

Fluid Resistance

Contact Retention Contacts (minimum load)

Thermal Cycle
Durability

Size 12, 25A (max)

Size 12 contacts will accept wire ranges of 10 thru 14AWG

Operative at temperatures from -55°C to +125°C. Continuous at rated current.

Current leak less than 2 milliamps at 1500 VAC

No unlocking, unmating or other unsatisfactory results during or after 50 G's in each of three usually perpendicular planes. No electrical discontinuities longer than 1 microsecond. MIL-STD 202. Method 213, Condition "C".

Maintains continuity and exhibits no mechanical or physical damage after vibration levels of 20 G's at 10-2000 Hz.

1000 meachms minimum at 25°C

Connectors show no evidence of corrosion after exposure to 48 hours of salt spray per MIL - STD 1344, method 1001.

IP67. Wired and mated connection will withstand immersion under three feet of water without loss of electronic qualities or leakage.

Connectors show no damage when exposed to most fluids used in industrial application.

70lbs. for Size 12 contacts.

No cracking, chipping or leaking after 20 test cycles from -55°C to +125°C.

No electrical or mechanical defects after 100 cycles of engagement and disengagement.

AT/ATP Series Panel | Mate™ meets all the performance criteria and specifications of the AT Series™, and is also available in a wide variety of custom colors. Consult factory for complete specifications.

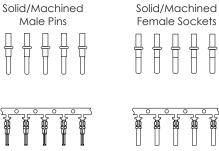


#### Go to ATP Standard Connectors for Plug options starting on page 92

	Part Number	Description	Contact Size	AMP
	ATP04-2P-PM07G	2 Pos. Recep., Pin, Panel Mount, w Gasket, Black	12	25
	ATP04-2P-PM07GEC 2 Pos. Recep., Pin, Panel Mount, w Gasket, End Cap, Black		12	25
	ATP04-2P-PM08G	2 Pos. Recep., Pin, Panel Mount, w Gasket, Grey	12	25
	ATP04-2P-PM08GEC	2 Pos. Recep., Pin, Panel Mount, w Gasket, End Cap, Grey	12	25
	ATP04-4P-PM07G	4 Pos. Recep., Pin, Panel Mount, w Gasket , Black	12	25
	ATP04-4P-PM07GEC	4 Pos. Recep., Pin, Panel Mount, w Gasket, End Cap, Black	12	25
	ATP04-4P-PM08G	4 Pos. Recep., Pin, Panel Mount, w Gasket, Grey	12	25
	ATP04-4P-PM08GEC	4 Pos. Recep., Pin, Panel Mount, w Gasket, End Cap, Grey	12	25
	AT1612-13PB-RDG	13 Pos., Recep., Pin, Panel Mount, Self Threading, RD01 Seal, Cap, Keyed B	16-12	13-25
	AT1612-13PB-G	13 Pos., Recep., Pin, Panel Mount, Self Threading, Standard Seal, Cap, Keyed B	16-12	13-25
	AT1612-PB-G7	Gasket for 12, 13 Position Receptacle	-	-

Amphenol offers two types of contacts for use in our products: Solid and Stamped & Formed. Both types of contacts utilize the simple crimp-style termination, requiring no solder usage.





Stamped & Formed Male Pins

Stamped & Formed Female Sockets

#### Standard Contacts - Solid Sockets & Pins

Series	Size	AWG	Туре	Part Number	Description
ATP	12	12-14	Solid	AT62-210-1231	Female Contact - Socket, Gold-plated
ATP	12	12-14	Solid	AT62-203-12141	Female Contact - Socket, Nickel-plated
ATP	12	12-14	Solid	AT60-220-1231	Male Contact - Pin, Gold-plated
ATP	12	12-14	Solid	AT60-204-12141	Male Contact - Pin, Nickel-plated

#### Standard Contacts - Stamped & Formed Sockets & Pins

Series	Size	AWG	Туре	Part Number	Description
ATP	12	12-14	S & F	AT62-12-0166	Female Contact - Socket, Nickel-plated
ATP	12	12-14	S & F	AT62-12-0144	Female Contact - Socket, Gold-plated
ATP	12	12-14	S & F	AT60-12-0166	Male Contact - Pin, Nickel-plated
ATP	12	12-14	S & F	AT60-12-0144	Male Contact - Pin, Gold-plated
ATP	12	10-12	S & F	AT62-12-0222	Female Contact - Pin, Nickel-plated
ATP	12	10-12	S & F	AT60-12-0222	Male Contact - Pin, Nickel-plated

#### Specialty Contacts - DiagnosticGrade™ Solid Sockets & Pins

Smaller AWG for diagnostic applications; Gold-plated; increased mating cycles; cost-effective.

Series	Size	AWG	Туре	Part Number	Description
ATP	12	20	Solid	AT62-210- 1231-1820	Female Contact - Socket, DiagnosticGrade, Gold-plated
ATP	12	20	Solid	65-54749	Male Contact - Pin, DiagnosticGrade, Gold-plated

#### ATP SERIES STANDARD TOOLS

#### Crimp Tools

Amphenol offers two types of contacts for use in our products: Solid and Stamped & Formed. Both types of contacts utilize the simple crimp-style termination, requiring no solder usage. Below are the tools available to assist with your crimping needs to ensure a proper connection between contact and wire.

Part	Part Number	Description
	CA-5D12	Universal Hand Crimp Tool, Size 12/16/20 *Solid contacts only
	CA-5E12	Pneumatic Crimp Tool, Size 12/16/20 *Solid contacts only
	MFX-3973	Crimp Die - Size 12 (Stamped & Formed Contacts)
PROTEIN A AMPLIAN	ATT-12-00	Size 12, 12AWG, Stamped & Formed Contact Tool

#### AT Series™ Contact Removal Tool

Part	Part Number	Description
Amphishal ATRT-100 WNN.sinapo.som	ATRT-100	Used for removal of contacts for AT Series™ products

## ATP SERIES ACCESSORIES







#### Backshells

Part	Part Number	Description
	ATP06-4S-NC12	Backshell for 4 Position Plug or Receptacle

# AHD Series<sup>TM</sup>



#### AHD Series™

#### Overview

AHD Series<sup>™</sup> connectors were developed in response to the overwhelming need for an economic alternative to today's existing diagnostic product options. Designed specifically as a cost-conscious, reliable alternative, intermateable to industry standard 6 and 9 pin connectors, the AHD Series<sup>™</sup> is ideal for any situation where either controlled and/or uncontrolled environmental conditions exist.

AHD Series™ Connectors offer both a smooth, non-sealing option for controlled applications, as well as an environmentally-sealed, threaded option for more demanding applications.

AHD Series™ connectors are completely compatible with all other existing standard products industry-wide.



#### Features & Benefits

Current Capacity 6 position: Size 12, 25A (max) 9 position: Size 16, 13A (max)

Wire Range Size 12 contacts will accept wire ranges of 10 thru 14AWG Size 16 contacts will accept wire ranges of 14 thru 20AWG

Temperature DiagnosticGrade™ / Military Style: Operating temperature range: -55°C TO

+125°C at rated current.

Dielectrical Strength | DiagnosticGrade™ / Military Style: 1500 volts minimum

Physical Shock Military Style: No locking, unmating or other unsatisfactory result after 50 g's in

each of three mutually perpendicular planes.

Vibration Military Style: Maintains continuity and exhibits no mechanical or physical damage

after vibration. (20 g's at 10-2000 Hz)

Insulation Resistance DiagnosticGrade™ / Military Style: 1000 megohms minimum at 25°C.

Durability DiagnosticGrade™ / Military Style: No electric or mechanical defects after 100

cycles of engagement and disengagement.

## AHD Series™

#### Features & Benefits, cont.

Integrated Alignment Keys Strong Thermoplastic Housing

Operating Temperature Range

Economically Sound Rohs Compliant UI Approval

**Contact Current Rating** 

Corrosion Resistance

Tactile verification for blind mating

Extended service life

-55°C TO +125°C - Wide range compatibility

Low overall cost

Environmentally friendly Certified and compliant

DiagnosticGrade™ / Military Style: At +125°C, continuous, less thru wire: #12 contact = 25A max. current; #16 contact = 13A max. current

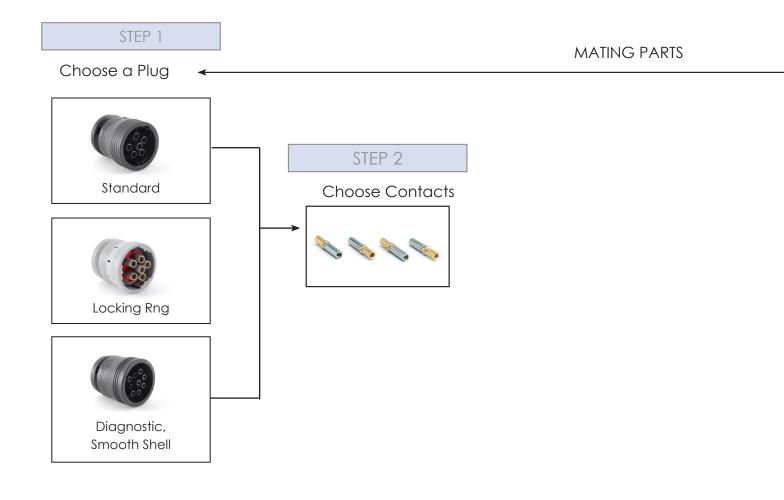
DiagnosticGrade™ / Military Style: Connectors show no evidence of corrosion after exposure to 48 hours of salt spray per MIL-STD 1344 method 1001.

#### Product Material

Housings Thermoplastic
Seals Silicone Elastomer

Contacts Copper alloy/Gold plated

## AHD Series<sup>™</sup> Connector Configurations



## Need a complete Cable Assembly?

See page 11 or contact the factory for assistance

Toll Free: 1-800-394-7732



## Choose a Receptacle



Standard



Shroud



Flange



Reduced Seal



In-Line Threaded Rear



Diagnostic



**Choose Contacts** 



Optional Receptacle Caps



Optional Panel Nut



## AHD 6 POSITIONS 25A



# AHD SERIES STANDARD PLUGS & RECEPTACLES

Contact Size:	12
Wire Range (AWG):	10-14 AWG
Amperage:	25

Plug	Part Number	Description
	AHD16-6-12S	6 Position, Plug, Smooth Shell Diagnostic Grade Size 12 socket contacts only
	AHD16-6-12\$B010	6 Position, Plug, Locking Ring Size 12 socket contacts only
	P23232	6 -Way Plug, LED. LED light is integrated into a 6 position plug for determining if device is receiving power. Environmentally sealed, field seviceable, and cost effective.
Receptacle	Part Number	Description
	AHD10-6-12P-L	6 Position, Receptacle Size 12 pin contacts only

# AHD SERIES STANDARD PLUGS & RECEPTACLES





Contact Size:	16
Wire Range (AWG):	14-20 AWG
Amperage:	13

Plug	Part Number	Description
	AHD16-9-1939S	9 Position, Plug, Locking Ring Size 16 socket contacts only
6,80	AHD16-9-1939SE	9 Position, Plug, Locking Ring, Reduced Seal Size 16 socket contacts only
	AHD17-9-1939\$	9 Position, Plug, Smooth Shell Size 16 socket contacts only
600	AHD16-9-96S	9 Position, Plug, Locking Ring (non-J1939) Size 16 socket contacts only
	AHD16-9-1939\$80	9 Position, Plug, HD Series, Locking Ring, Green, Type II Size 16 socket contacts only
	AHD16-9-1939S8R	9 Position, Plug, HD Series, Locking Ring, Green Reduced Seal, Type II Size 16 socket contacts only
Receptacle	Part Number	Description
	AHD10-9-96P	9 Position, Receptacle Size 16 pin contacts only
(Fig.	AHD10-9-1939P	9 Position, Receptacle, Flange Size 16 pin contacts only
73	AHD10-9-1939PE	9 Position, Receptacle, Flange, Reduced Seal Size 16 pin contacts only
	AHD10-9-1939P80	9 Position, Receptacle, HD Series, Flange, Green, Type II  Size 16 pin contacts only
	AHD10-9-1939P8R	9 Position, Receptacle, HD Series, Flange, Reduced Seal, Green, Type II Size 16 pin contacts only
	AHD14-9-96P	9 Position, Receptacle, In Line Threaded Rear Size 16 pin contacts only
	AHD14-9-1939P	9 Position, Receptacle, In-Line Threaded Rear J1939 Size 16 pin contacts only
	AHD17-9- 1939PES	AHD Series™, 9-Way, Jam Mount Extended Shroud, Receptacle
	AHD17-9- 1939PES80	HD Series 9 Pin Receptacle (TYPE 2) Jam Mount / Extended Shroud
	AHD17-PN01	AHD Series™ Panel Nut (for use with P/N: AHD17-9-1939PES)
	AHD17-PN01- GRN	HD Series 9 Pin PANEL NUT (for use with P/N: AHD17-9-1939PES80) GREEN

## AHD 9 POSITIONS 13A



## AHD Series™ Unsealed Diagnostic Receptacle

AHD Series™ unsealed diagnostic 9-way receptacle that is cost effective, yet rugged. Mates with industry standard diagnostic 9-way plugs.

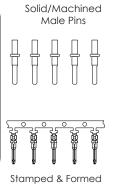
Receptacle	Mod. Number	Description
	AHD10-9-1939PNR	AHD Series™, 9-Way, Receptacle, Unsealed

## Receptacle Caps - 6 and 9 positions

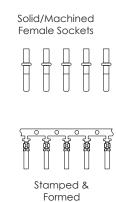
Cap	Part Number	Description
	AHDC-16-6	6 Position, Receptacle, Cap, Grey
	AHDC-16-9	9 Position, Receptacle, Cap, Grey
	AHDC-16-9-BLK	9 Position, Receptacle, Cap, Black
	AHDC-16-9-OBDGN	9 Position Receptacle Cap, Green, <b>OBD Label</b>
	AHDC-16-9-OBDBK	9 Position, Receptacle, Cap, Black, <b>OBD Label</b>
	AHDC169-T-OBDGN	9 Pin Receptacle Cap w/ Rubber Tether Green, <b>OBD Label</b>
	AHDC169-T-OBDBK	9 Position, Receptacle, Cap w/ Tether, Black, <b>OBD Label</b>
	AHDC169-TMOBDBK	9 Position, Receptacle, Cap w/ Wire Tether, Black, <b>OBD Label</b>
	AHDC169-TMOBDGN	9 Position, Receptacle, Cap w/ Wire Tether, Green, <b>OBD Label</b>
8	AHDC169-T	9 Position, Receptacle, Cap w/ Tether, Grey
	AHDC169-T-BLK	9 Position, Receptacle, Cap w/ Tether, Black
	AHDC169-TMBLK	9 Position, Receptacle, Cap w/ Wire Tether, Black
	AHDC169-TM	9 Position, Receptacle, Cap w/ Wire Tether, Grey

## AHD SERIES CONTACTS





Male Pins



Female Sockets

Standard Contacts - Solid Sockets & Pins

Series	Size	AWG	Туре	Part Number	Description
AHD-6	12	12-14	Solid	AT62-210-1231	Female Contact - Socket, Gold-plated
AHD-6	12	12-14	Solid	AT62-203-12141	Female Contact - Socket, Nickel-plated
AHD-9	16	14	Solid	AT62-209-1631	Female Contact - Socket, Gold-plated
AHD-9	16	14	Solid	AT62-209-16141	Female Contact - Socket, Nickel-plated
AHD-9	16	16-20	Solid	AT62-201-1631	Female Contact - Socket, Gold-plated
AHD-9	16	16-20	Solid	AT62-201-16141	Female Contact - Socket, Nickel-plated
AHD-6	12	12-14	Solid	AT60-220-1231	Male Contact - Pin, Gold-plated
AHD-6	12	12-14	Solid	AT60-204-12141	Male Contact - Pin, Nickel-plated
AHD-9	16	14	Solid	AT60-215-1631	Male Contact - Pin, Gold-plated
AHD-9	16	14	Solid	AT60-215-16141	Male Contact - Pin, Nickel-plated
AHD-9	16	16-20	Solid	AT60-202-1631	Male Contact - Pin, Gold-plated
AHD-9	16	16-20	Solid	AT60-202-16141	Male Contact - Pin, Nickel-plated

## Standard Contacts - Stamped & Formed Sockets & Pins

Series	Size	AWG	Туре	Part Number	Description
AHD-6	12	12-14	S & F	AT62-12-0166	Female Contact - Socket, Nickel-plated
AHD-6	12	12-14	S & F	AT62-12-0144	Female Contact - Socket, Gold-plated
AHD-9	16	14-16	S & F	AT62-14-0122	Female Contact - Socket, Nickel-plated
AHD-9	16	14-16	S & F	AT62-14-0144	Female Contact - Socket, Gold-plated
AHD-9	16	16-18	S & F	AT62-16-0122	Female Contact - Socket, Nickel-plated
AHD-9	16	16-18	S & F	AT62-16-0144	Female Contact - Socket, Gold-plated
AHD-9	16	18-20	S & F	AT62-16-0622	Female Contact - Socket, Nickel-plated
AHD-9	16	18-20	S & F	AT62-16-0644	Female Contact - Socket, Gold-plated
AHD-6	12	12-14	S & F	AT60-12-0166	Male Contact - Pin, Nickel-plated
AHD-6	12	12-14	S & F	AT60-12-0144	Male Contact - Pin, Gold-plated
AHD-9	16	14-16	S & F	AT60-14-0122	Male Contact - Pin, Nickel-plated
AHD-9	16	14-16	S & F	AT60-14-0144	Male Contact - Pin, Gold-plated
AHD-9	16	16-18	S & F	AT60-16-0122	Male Contact - Pin, Nickel-plated
AHD-9	16	16-18	S & F	AT60-16-0144	Male Contact - Pin, Gold-plated
AHD-9	16	18-20	S & F	AT60-16-0622	Male Contact - Pin, Nickel-plated
AHD-9	16	18-20	S & F	AT60-16-0644	Male Contact - Pin, Gold-plated

## Crimp Tools

Amphenol offers two types of contacts for use in our products: Solid and Stamped & Formed. Both types of contacts utilize the simple crimp-style requiring no solder usage. Below are the tools available to assist with your crimping needs to ensure a proper connection between contact and wire.

Part	Part Number	Description
	CA-5D12	Universal Hand Crimp Tool, Size 12/16/20 *Solid contacts only
	CA-5E12	Pneumatic Crimp Tool, Size 12/16/20 *Solid contacts only
	MFX-3973	Crimp Die - Size 12 (Stamped & Formed Contacts)
	MFX-3950	Crimp Die - Size 16, 18-20AWG (Stamped & Formed Contacts)
	MFX-3953	Crimp Die - Size 16, 16-18AWG (Stamped & Formed Contacts)
	MFX-3975	Crimp Die - Size 16, 14-16AWG (Stamped & Formed Contacts)
Control Marie	ATT-12-00	Size 12, 12AWG, Stamped & Formed Contact Tool
	ATT-16-00	Size 16, 14-16AWG, Stamped & Formed Contact Tool
	ATT-16-01	Size 16, 18-20AWG, Stamped & Formed Contact Tool

## AT Series™ Contact Removal Tool

Part	Part Number	Description
	AT11-337-1205	Contact Removal Tool, plastic Size 12
	AT11-310-1605	Contact Removal Tool, plastic, Size 16

## AHD ACCESSORIES

## AHD SERIES ACCESSORIES



AHD	16	12-16	-	A114017	Seal Plugs, White
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Amphenol Sine Systems offers customized solutions across all our standard product lines. Whether you are looking for a custom connector solution or a complete turn-key cable assembly solution, Amphenol Sine Systems is your one source for proven, reliable and innovative results on a global level. While our Standard products are a competitive option on a Global level, it is our Custom solutions that set us apart.

Contact Customer Service today to speak with one of our Program Managers or Engineers regarding your next custom project using our live chat, call toll free +1 800 394 7732 or email at csr@amphenol-sine.com.





# ATC Series<sup>TM</sup>



## ATC Series™

Cylindrical, Thermoplastic, Non Threaded Coupling, Harsh Environment, Power Connector

#### Overview

Amphenol Industrial Products Group introduces a series of thermoplastic receptacles featuring Amphenol's AT contact technology. This series is designed to perform in the demanding applications found on construction and farm equipment, plus truck environments. The AT Circular series is a molded thermoplastic receptacle with a positive reverse bayonet retention system and sealed by redundant grommet wire sealing. The square flange design ensures a drop in replacement to existing panel designs and the jam nut version makes for easy installation. The 9 pin black receptacles are in accordance with the interface of the J1939 diagnostic connector.

AT Contact technology is already used successfully at major OEM's and features machined contacts with both Nickel and Gold plating.



#### **Features:**

- Jam nut and square flange mounting styles solution
- Quick mating and unmating reverse bayonet coupling
- Environmentally sealed sealed against moisture and contaminants
- Contact retention system decreases installation costs and increases reliability
- RoHs compliant product
- Heavy duty industrial connector, economical connector selection

#### **Material Specifications:**

Receptacle Square Flange	Thermoplastic
Grommet Seal	Neoprene Rubber for 3 and 5 pin Silicone Rubber for 9 pin
Contact (AT Series)	Copper Alloy (Nickel and Gold plating available)

#### Electrical Specifications based on AT Machined:

Dielectric Withstanding Voltage (Test Voltage)	Current leakage less than 2 milliamps at 1500 VAC		
Current Rating at 125 degree C	13 A		
Contact Millivolt Drop	60 (AWG 16 Wire, 13 A)		
Insulation Resistance	1000 megaohms min. at 25°C		

## ATC Series™

#### **Mechanical Specifications:**

Operating Temperature Range	Current leakage less than 2 milliamps at 1500 VAC
Durability (Mating Cycle)	13 A
Corrosion Resistance	60 (AWG 16 Wire, 13 A)
Moisture Resistance	1000 megaohms min. at 25°C
Fluid Resistance	Connectors show no damage when exposed to most fluids used in industrial applications
Thermal Shock	-40°/+125°C, 100 cycles, 1 hour per cycle
Crimp Tensile Strength	25 lbs
Vibration	Maintains continuity and exhibits no mechanical or physical damage during or while subject to sinusoidal vibration, having an amplitude of .060 inches double amplitude and the frequency varied linearly between limits of 10 to 2000 to 10 Hz with a maximum force of 20g's. No electrical discontinuities longer than 1 microsecond
Physical Shock	No unlocking, unmating or other unsatisfactory result during or after 50 g's in each of three mutually perpendicular planes. No electrical discontinuities longer than 1 microsecond. MIL STD 202, Method 213, Condition "C"

#### PART NUMBERING SEQUENCE

#### 

1 designates AT Circular Connector

2 Shell Style

**09** = Small Flange Jam Nut Receptacle (includes jam nut)

**10** = Square Flange Receptacle

17 = Jam Nut Receptacle (jam nut sold separately)

11 = Round Nut Receptacle

**3** Shell Sizes and Insert Arrangements

3, 5, 9-1939

4 Contact

**P** for Pin (only available for Receptacles)

#### **ACCESSORIES**

PART NUMBER	DESCRIPTION
ATC10-RC3C	Cap with Lanyard for Size 3 Square Flange Receptacle
ATC10-RC3	Cap less Lanyard for Size 3 Receptacle
ATC10-RC5C	Cap with Lanyard for Size 5 Square Flange Receptacle
ATC10-RC5	Cap less Lanyard for Size 5 Receptacle
ATC10-RC9C	Cap with Lanyard for Size 9 Square Flange Receptacle
ATC10-RC9	Cap less Lanyard for Size 9 Receptacle
ATC10-RC9L	Cap with Lanyard for Size 9 Jam nut Receptacle
ALHN-19	Hex Nut for ATC-17-9-1939PN
ASR9-1939	Strain Relief for Small Flange J1939 Receptacle
AWS9-1939	Wave Spring for Small Flange J1939 Receptacle



# ATHD | Series<sup>TM</sup>



#### ATHD Series™

#### Overview

The heavy duty ATHD connector series for size 12 and size 8 power contacts are sealed, single pole, in-line connection systems to replace splices and/or provide power wherever needed. These thermoplastic connectors are field installable and repairable and can thus replace expensive and unrepairable splices. The power connectors are ruggedized and designed for high vibration applications in the Heavy Equipment and Mining markets. Additional styles and custom solutions to mate to the ATHD plugs are available upon request, including higher temperature resin and seals for harsh fluid applications.



#### Features:

- Size 8 crimp contacts are rated to 70 amps\*
- Size 12 crimp contacts are rated to 35 amps\*
- Both will meet 100 mating cycles
- Designed for temperatures of -55 °C to 125 °C
- Operating voltage of 500 VAC
- Dielectric withstanding voltage of 1500 VAC
- RoHS compliant
- Clip slots for a variety of mounting solutions
- IP67 rated
- \* Using Amphenol's exclusive RADSOK® technology



ATHD Size 12 with Stamped and Formed Contacts

#### **Mechanical Specifications:**

	Size 12 System	Size 8 System
Current Rating	35A with RADSOK®, 25A with standard contacts	70A with RADSOK®, and 60A with standard contacts
Contact Quantity	1	1
Contact Size	12 AWG	8 AWG
Operating Temperature	-55 °C to 125 °C with 150°C upon request	-55 °C to 125 °C with 150°C upon request
Contact Retention	133N	156N
Mating Cycles	100	100
Insulation Resistance	1000MΩ Min. (at 25 °C)	1000MΩ Min. (at 25 °C)
Dielectric Withstanding Voltage	1500 AC (RMS)	1500 AC (RMS)
Moisture Resistance	IP67 (mated)	IP67 (mated)
Operating Voltage	500 VAC	500 VAC
Allowable Wire Size	16-12 AWG	10-8 AWG

## ATHD Series™ PLUGS & RECEPTACLES

ATHD CONNECTORS 35-70A

### ATHD Series™

#### PART NUMBERS FOR TERMINALS

ATHD - 1 P - N - S - 12 XX 1 2 3 4 5 6 7

1 Series

2 One terminal

**3** Gender P = Pin

S = Socket

4 Plating

G= Gold

S= Silver (machined only)

N= Nickel T= Tin

**5** Contacts

S= Stamped & Formed

(size 12 only) M= Machined

6 Contact Size 8 or 12

**7** Special Additions:

16 = 16 Gauge Cable

(Size 12 only)

R= Radsok (Machined only)

#### PART NUMBERS FOR PLASTIC

ATHD - 1 PS - 12 XX 1 2 3 4 5

1 Series

2 One terminal

3 Housing + Terminal\*

PS = Plug with Socket RP = Receptacle with Pin

4 Contact Size 8 or 12

**5** Special Additions:

16 = 16 Gauge Cable

\*Note: Housing Plug must use the Socket terminal (PS) and Housing Receptacle must use the Pin terminal (RP)

#### **Part Numbers:**

	Size 12 System for 12 gauge cable	Size 12 System for 16 gauge cable	Size 8 System
Plug	ATHD-1PS-12	ATHD-1PS-12 (16)	ATHD-1PS-8
Receptacle	ATHD-1RP-12	ATHD-1RP-12 (16)	ATHD-1RP-8





	ATHD Plug			ATHD Plug ATHD Receptacle		
Contact Size	Contact Size Overall Length A B C			Overall Length		
			С	Α	В	С
12	1.498(38.05)	771 (19.58)	570(14.48)	2.073(52.65)	850(21.59)	710(18.08)
8	1.498(38.05)	861 (21.87)	660(16.76)	2.073(52.65)	940(23.88)	800(20.32)

Notice: Specifications are subject to change without notice. Contact your nearest Amphenol Corporation Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements of suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all connectors.

# Dura Mate<sup>TM</sup>



Circular Plastic Connectors for Heavy Duty Applications

## Dura | Mate

## Circular Plastic Connectors for Heavy Duty Applications Available in Size 24 with 7, 19, 21, 23, 27, 29, 31 and 47 Insert Arrangements Available in Size 18 with 14 Insert Arrangement

The Amphenol Dura | Mate<sup>™</sup> environmentally sealed multi-pin thermoplastic circular connector series provides an economical quick-connect bayonet locking system manufactured to withstand the challenges and complexities of harsh environment off-road applications.



While maintaining compatibility with existing shell size 24 industry standard designs, ease of use was exceeded through enhanced ergonomics using an easy grip coupling system and visual and tactile indicators ensuring reliable mating confirmation. Wire management improvements include two different back shell systems that thread onto the rear of the connectors to provide strain relief and additional wire seal protection. The low cost, tie wrap option and the fully enclosed back shell are interchangeable for specific application requirements. Its rugged high performance capability is ideal for panel mount or in-line heavy-duty applications such as commercial vehicle, agriculture, construction or marine installations.



**18-14** 14 Size 16





**24-7**6 Size 12
1 Size 8 RADSOK®





**24-19** 6 Size 12 13 Size 16





**24-21** 4 Size 12 17 Size 16





**24-23** 23 Size 16





**24-27** 4 Size 12 23 Size 16





**24-29**4 Size 12
19 Size 16
6 Size 20



**24-31** 31 Size 16





**24-47** 42 Size 20 5 Size 16



#### Features and Benefits

- Polarized for proper mating of connector halves
- High density signal and mixed power insert configurations
- Available in Size 24 with 8 insert arrangements (7, 19, 21,23, 27,29, 31)
   Available in Size 18 with 1 insert arrangement (14)
- Operating temperature range: -55C to +125C
- High current configurations incorporating revolutionary RADSOK® contacts
- High strength impact resistant & lightweight thermoplastic housings
- Contacts available in economical reel-mounted high volume machine termination or in machined loose-piece form.
- Low insertion force stamped terminals offer improved manufacturing efficiencies
- Wire entry sealing available in three separate ranges for discrete wire applications:

Recommended Wire Insulation Overall Diameter (OD)					
Contact Size Normal Seal Thin Seal Reduced Seal					
20	N/A	N/A	1.02mm (.040") - 2.41mm (.095")		
16	2.54mm (.100") - 3.40 mm (.134")	2.23mm (.088") - 3.40mm (.134")	1.35mm (.053") - 3.05mm (.120")		
12	3.43mm (.135") - 4.32mm (.170")	N/A	2.46mm (.097") - 4.01mm (.158")		
8	4.83mm (.190") - 6.10mm (.240")	N/A	N/A		

- Standard WTA(Wide Thread Adapter) provides maximum access to rear grommet and improved serviceability.
- Engineered rapid and secure mating system achieves IP67 protection from ingress of dust, water mud and other contaminants
- Redundant sealing features consisting of durable high temperature silicone provide barrier from lubricating oils, hydraulic fluids and fossil fuels.
- Rigid back shells maintain a compression-fit design to resist maximum pull-out forces and facilitate strain-relief for jacketed cable ranges.

## Performance Specifications

#### Shell Specifications

Total Trained opening another				
Current Rating per Contact		Size 8, 80A; Size 12, 25A; Size 16, 13A; Size 20, 7.5A	Coupling Nut	Thermoplastic
	Operating Temperature	-55°C to +125°C	Insulation Insert	Thermoplastic
	Dielectric Withstanding Voltage	Current Leakage - 12 milliamp at 1500 VAC	Seal	Silicone Rubber
	Degree of Protection	IP67	Color	Black
	Mating Cycle Durability	100 Cycles	Contact	Common System
	RoHS	Compliant		

## Features and Benefits (con't)

- Utilizes industry standard contact system
- Environmentally-sealed to IP67 and vibration resistant
- Wide threaded collar ring for increased serviceability and connector access (1)
- Highly visible indicators for quick alignment and 100% positive mating 2
- Enclosed 1-piece threaded backshell with low-cost strain relief
- Optional 2-piece threaded backshell with compression nut 4
- Contact removal tools (5)
- RADSOK® contacts 6
- Panel Nut (7)



## 7 POSITION PLUGS & RECEPTACLES





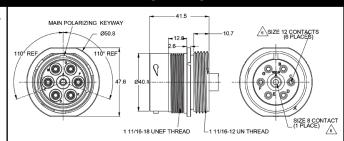
24

Contact Size	12	8
Contact Qty	6	1 RADSOK®
Seal OD Range NORMAL SEAL	3.43mm(.135") - 4.32mm (.170")	4.83mm (.190") - 6.10mm (.240")
Wire Range	10-14 AWG	7-10 AWG
Amperage	25	80





## **RECEPTACLE** MAIN POLARIZING KEYWAY MAIN POLARIZING KEYWAY SIZE 12 CONTACTS - 1 11/16-12 UN THREAD



Standard and reverse terminal genders allows for custom polarization

Part Number **AHDP06-24-07SN-WTA** 

Gender: Standard Contact: Socket

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Plug with 7 positions, Socket, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-24-07PN-WTA

See Receptacle column on this page for more details

Part Number Gender: Standard AHDP04-24-07PN-WTA Contact: Pin

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 7 positions, Pin, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-24-07SN-WTA

See Plug column on this page for more details

**Part Number** Gender: Reversed AHDP06-24-07PN-WTA Contact: Pin

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Plug with 7 positions, Pin, reverse arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-24-07SN-WTA

See Receptacle column on this page for more details

**Part Number** Gender: Reversed AHDP04-24-07SN-WTA Contact: Socket

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 7 positions, Socket, reverse arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-24-07PN-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732

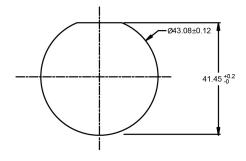


## 7 POSITION PLUGS & RECEPTACLES - CONTACTS

Shell Size 24

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
8	SC000345	Machined <b>Radsok</b> ®	Pin	7-10	80	Silver
8	SC000346	Machined <b>Radsok</b> ®	Socket	7-10	80	Silver
8	SC000345-141	Machined	Pin	8-10	60	Nickel
8	SC000379	Machined	Socket	8-10	60	Nickel
12	AT60-204-12141	Machined	Pin	12-14	25	Nickel
12	AT60-220-1231	Machined	Pin	12-14	25	Gold
12	AT62-203-12141	Machined	Socket	12-14	25	Nickel
12	AT62-210-1231	Machined	Socket	12-14	25	Gold
12	AT60-12-0166	Stamped & Formed	Pin	12-14	25	Nickel
12	AT60-12-0144	Stamped & Formed	Pin	12-14	25	Gold
12	AT62-12-0166	Stamped & Formed	Socket	12-14	25	Nickel
12	AT62-12-0144	Stamped & Formed	Socket	12-14	25	Gold
12	AT60-12-0222	Stamped & Formed	Pin	10-12	25	Nickel
12	AT60-12-0244	Stamped & Formed	Pin	10-12	25	Gold
12	AT62-12-0222	Stamped & Formed	Socket	10-12	25	Nickel
12	AT62-12-0244	Stamped & Formed	Socket	10-12	25	Gold

Recommended Panel Mounting Hole Recommended panel thickness: 1.6 to 4.7mm



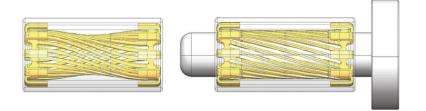




For custom insert configurations, please call 1 800 394 7732



## RADSOK® Contacts





## The RADSOK® Design

- Socket cylinder within female contact has several equally spaced longitudinal beams twisted into a hyperbolic shape
- As a male pin is inserted, axial members in the female half deflect, imparting high current flow across the connection with minimal voltage loss
- The hyperbolic, stamped grid configuration ensures a large, coaxial, face-to-face surface area engagement
- Ideal for crimp termination applications requiring repeated mating cycles and high current with a low multi-volt drop

#### RADSOK® Technical Data

#### **High Reliability**

Unique  $RADSOK^{\circledR}$  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  $RADSOK^{\circledR}$  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  $RADSOK^{(B)}$  contacts high current ratings compared to traditional power contact designs.

#### **High Mating Cycle Durability**

**RADSOK**<sup>®</sup> 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**<sup>®</sup> contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.

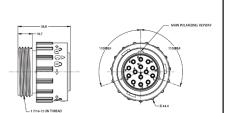
**Shell Size** 18

Contact Size	16
Contact Qty	14
Seal OD Range	
NORMAL SEAL	2.54mm (.100") - 3.40mm (.134")
REDUCED SEAL	1.35mm (.053") - 3.05mm (.120")
Wire Range	14-20 AWG
Amperage	13

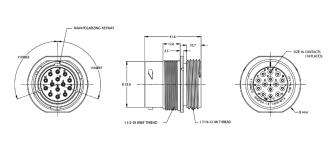




## **PLUG**



## **RECEPTACLE**



Standard and reverse terminal genders allows for custom polarization

Part Number AHDP06-18-14SN-WTA Gender: Standard Contact: Socket

#### Rear Seal Type: NORMAL, Green

Description: Size 18 Plug with 14 positions, Socket, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-18-14PN-WTA, AHDP04-18-PR-WTA

See Receptacle column on this page for more details

Part Number

AHDP04-18-14PN-WTA

Gender: Standard Contact: Pin

#### Rear Seal Type: NORMAL, Green

Description: Size 18 Receptacle with 14 positions, Pin, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-18-14SN-WTA, AHDP06-18-14SR-WTA

See Plug column on this page for more details

Part Number AHDP06-18-14SR-WTA

Gender: Standard Contact: Socket

Description: Size 18 Plug with 14 positions, Socket, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-18-14PN-WTA, AHDP04-18-14PR-WTA

See Receptacle column on this page for more details

Part Number

Gender: Standard

AHDP04-18-14PR-WTA

Contact: Pin

#### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 18 Receptacle with 14 positions, Pin, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-18-14SN-WTA, AHDP06-18-14SR-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732



#### 14 POSITION PLUGS & RECEPTACLES



Shell Size 18

PLUG

**RECEPTACLE** 

AHDP06-18-14PN-WTA

Gender: Reversed Contact: Pin

#### Rear Seal Type: NORMAL, Green

Description: Size 18 Plug with 14 positions, Pin, reversed arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-18-14SN-WTA, AHDP04-18-14SR-WTA

See Receptacle column on this page for more details

AHDP04-18-14SN-WTA Gender: Reversed Contact: Socket

#### Rear Seal Type: NORMAL, Green

Description: Size 18 Receptacle with 14 positions, Socket, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-18-14PN-WTA, AHDP06-18-14PR-WTA

See Plug column on this page for more details

Part Number
AHDP06-18-14PR-WTA

Gender: Reversed Contact: Pin

#### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 18 Plug with 14 positions, Pin, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-18-14SN-WTA, AHDP04-18-14SR-WTA

See Receptacle column on this page for more details

Part Number Gender: Reversed AHDP04-18-14\$R-WTA Contact: Socket

#### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 18 Receptacle with 14 positions, Socket, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-18-14PN-WTA, AHDP06-18-14PR-WTA

See Plug column on this page for more details

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT62-14-0144	Stamped & Formed	Socket	14-16	13	Gold
16	AT62-14-0122	Stamped & Formed	Socket	14-16	13	Nickel

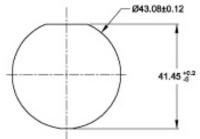


## 14 POSITION PLUGS & RECEPTACLES- CONTACTS (con't)

Shell Size 18

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold
16	AT62-16-0622	Stamped & -		10.00	13	Nickel

Recommended Panel Mounting Hole Recommended panel thickness:



Part Number AHDP18-PN01
Panel Nut, Shell Size 18



### 19 POSITION PLUGS & RECEPTACLES



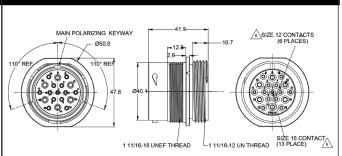
Shell Size 24

Contact Size	12	16
Contact Qty	6	13
Seal OD Range		
NORMAL SEAL	3.43mm (.135")-4.32mm (.170")	2.54mm (.100")-3.40mm (.134")
REDUCED SEAL	2.46mm (.097")-4.01mm (.158")	1.35mm (.053")-3.05mm (.120")
Wire Range	10-14 AWG	14-20 AWG
Amperage	25	13





# 



**RECEPTACLE** 

Standard and reverse terminal genders allows for custom polarization

Part Number Gender: Standard Contact: Socket

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Plug with 19 positions, Socket, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-24-19PN-WTA, AHDP04-24-19PR-WTA

See Receptacle column on this page for more details

AHDP04-24-19PN-WTA Gender: Standard Contact: Pin

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 19 positions, Pin, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-24-19SN-WTA, AHDP06-24-19SR-WTA

See Plug column on this page for more details

## Part Number AHDP06-24-19SR-WTA

Gender: Standard
Contact: Socket

#### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 19 positions, Socket, standard arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-19PN-WTA, AHDP04-24-19PR-WTA

See Receptacle column on this page for more details

Part Number Gender: Standard Contact: Pin

Poor Soal Typo: PEDLICED SEAL Blue

Description: Size 24 Receptacle with 19 positions, Pin, standard arrangement, RD01 reduced diameter, wide thread adapter

Mating Part(s): AHDP06-24-19SN-WTA, AHDP06-24-19SR-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732

**Shell Size** 24

#### **PLUG**

Gender: Reversed

AHDP06-24-19PN-WTA

Contact: Pin

Rear Seal Type: NORMAL, Green

Description: Size 24 Plug with 19 positions, Pin, reverse arrangement, normal seal, wide thread

adapter

Mating Part(s): AHDP04-24-19SN-WTA, AHDP04-24-19SR-WTA

See Receptacle column on this page for more details

Part Number

Gender: Reversed AHDP06-24-19PR-WTA Contact: Pin

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 19 positions, Pin, reverse arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-19SN-WTA, AHDP04-24-19SR-WTA

See Receptacle column on this page for more details

#### **RECEPTACLE**

AHDP04-24-19SN-WTA

Gender: Reversed Contact: Socket

Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 19 positions, Socket, reverse arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-24-19PN-WTA, AHDP06-24-19PR-WTA

See Plug column on this page for more details

**Part Number** 

AHDP04-24-19SR-WTA

Gender: Reversed Contact: Socket

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 19 positions, Socket, reverse arrangement, RD01 reduced

diameter, wide thread adapter

Mating Part(s): AHDP06-24-19PN-WTA, AHDP06-24-19PR-WTA

See Plug column on this page for more details

## 19 Position Plugs & Receptacles- Contacts

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
12	AT60-220-1231	Machined	Pin	12-14	25	Gold
12	AT60-204-12141	Machined	Pin	12-14	25	Nickel
12	AT62-210-1231	Machined	Socket	12-14	25	Gold
12	AT62-203-12141	Machined	Socket	12-14	25	Nickel
12	AT60-12-0244	Stamped & Formed	Pin	10-12	25	Gold
12	AT60-12-0222	Stamped & Formed	Pin	10-12	25	Nickel
12	AT62-12-0244	Stamped & Formed	Socket	10-12	25	Gold
12	AT62-12-0222	Stamped & Formed	Socket	10-12	25	Nickel
12	AT60-12-0144	Stamped & Formed	Pin	12-14	25	Gold
12	AT60-12-0166	Stamped & Formed	Pin	12-14	25	Nickel
12	AT62-12-0144	Stamped & Formed	Socket	12-14	25	Gold
12	AT62-12-0166	Stamped & Formed	Socket	12-14	25	Nickel

## 19 POSITION PLUGS & RECEPTACLES- CONTACTS (con't)



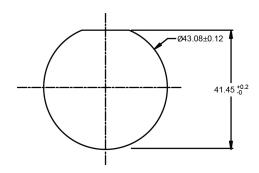
Shell Size 24

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT62-14-0144	Stamped & Formed	Socket	14-16	13	Gold
16	AT62-14-0122	Stamped & Formed	Socket	14-16	13	Nickel
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold
16	AT62-16-0622	Stamped & Formed	Socket	18-20	13	Nickel





Recommended Panel Mounting Hole Recommended panel thickness: 1.6 to 4.7mm



#### **Shell Size** 24

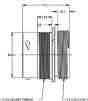
Contact Size	12	16
Contact Qty	4	17
Seal OD Range		
normal seal	3.43mm (.135")-4.32mm (.170")	2.54mm (.100")-3.40mm (.134")
REDUCED SEAL	2.46mm (.097")-4.01mm (.158")	1.35mm (.053")-3.05mm (.120")
Wire Range	10-14 AWG	14-20 AWG
Amperage	25	13





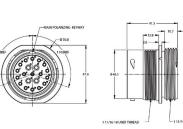
## **PLUG**







# **RECEPTACLE**





Standard and reverse terminal genders allows for custom polarization

**Part Number** AHDP06-24-21SN-WTA

Gender: Standard Contact: Socket

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Plug with 21 positions, Socket, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-24-21PN-WTA, AHDP04-24-19PR-WTA

See Receptacle column on this page for more details

Part Number

AHDP04-24-21PN-WTA

Gender: Standard Contact: Pin

#### Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 21 positions, Pin, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-24-21SN-WTA, AHDP06-24-21SR-WTA

See Plug column on this page for more details

Part Number

Gender: Standard AHDP06-24-21SR-WTA Contact: Socket

Description: Size 24 Plug with 21 positions, Socket, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-24-21PN-WTA, AHDP04-24-19PR-WTA

See Receptacle column on this page for more details

Part Number

Gender: Standard Contact: Pin

AHDP04-24-21PR-WTA

Description: Size 24 Receptacle with 21 positions, Pin, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-24-21SN-WTA, AHDP06-24-21SR-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732





**Shell Size** 24

**PLUG RECEPTACLE** 

Gender: Reversed AHDP06-24-21PN-WTA Contact: Pin

Rear Seal Type: NORMAL, Green

Description: Size 24 Plug with 21 positions, Pin, reversed arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-24-21SN-WTA, AHDP04-24-21SR-WTA

See Receptacle column on this page for more details

Gender: Reversed AHDP04-24-21SN-WTA Contact: Socket Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 21 positions, Socket, reversed arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-24-21PN-WTA, AHDP06-24-21PR-WTA

See Plug column on this page for more details

**Part Number** Gender: Reversed AHDP06-24-21PR-WTA Contact: Pin

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 21 positions, Pin, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-24-21SN-WTA, AHDP04-24-21SR-WTA

See Receptacle column on this page for more details

Part Number Gender: Reversed AHDP04-24-21SR-WTA Contact: Socket

#### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 21 positions, Socket, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-24-21PN-WTA, AHDP06-24-21PR-WTA

See Plug column on this page for more details

## 21 Position Plugs & Receptacles- Contacts

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
12	AT60-220-1231	Machined	Pin	12-14	25	Gold
12	AT60-204-12141	Machined	Pin	12-14	25	Nickel
12	AT62-210-1231	Machined	Socket	12-14	25	Gold
12	AT62-203-12141	Machined	Socket	12-14	25	Nickel
12	AT60-12-0244	Stamped & Formed	Pin	10-12	25	Gold
12	AT60-12-0222	Stamped & Formed	Pin	10-12	25	Nickel
12	AT62-12-0244	Stamped & Formed	Socket	10-12	25	Gold
12	AT62-12-0222	Stamped & Formed	Socket	10-12	25	Nickel
12	AT60-12-0144	Stamped & Formed	Pin	12-14	25	Gold
12	AT60-12-0166	Stamped & Formed	Pin	12-14	25	Nickel
12	AT62-12-0144	Stamped & Formed	Socket	12-14	25	Gold
12	AT62-12-0166	Stamped & Formed	Socket	12-14	25	Nickel

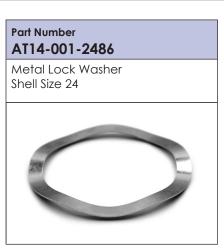


## 21 POSITION PLUGS & RECEPTACLES- CONTACTS (con't)

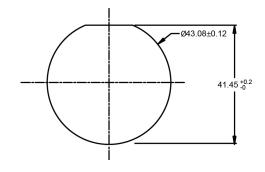
Shell Size 24

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT62-14-0144	Stamped & Formed	Socket	14-16	13	Gold
16	AT62-14-0122	Stamped & Formed	Socket	14-16	13	Nickel
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold
16	AT62-16-0622	Stamped & Formed	Socket	18-20	13	Nickel





Recommended Panel Mounting Hole Recommended panel thickness: 1.6 to 4.7mm





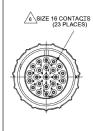
Shell Size 24

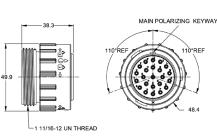
Contact Size	16
Contact Qty	23
Seal OD Range	
NORMAL SEAL	2.54mm (.100") - 3.40mm (.134")
REDUCED SEAL	1.35mm (.053") - 3.05mm (.120")
Wire Range	14-20 AWG
Amperage	13

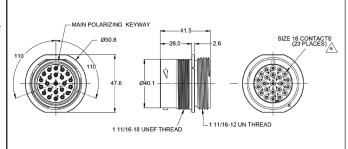




# JG RECEPTACLI







Standard and reverse terminal genders allows for custom polarization

Part Number
AHDP06-24-23SN-WTA

Gender: Standard Contact: Socket

### Rear Seal Type: NORMAL SEAL, Blue

Description: Size 24 Plug with 23 positions, Socket, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP04-24-23PN-WTA, AHDP04-24-23PR-WTA

See Receptacle column on this page for more details

Part Number Gender: Standard Contact: Pin

### Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 23 positions, Pin, standard arrangement, normal seal, wide thread adapter

Mating Part(s): AHDP06-24-23SN-WTA, AHDP06-24-23SR-WTA

See Plug column on this page for more details

Part Number AHDP06-24-23SR-WTA

Gender: Standard Contact: Socket

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 23 positions, Socket, standard arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-23PN-WTA, AHDP04-24-23PR-WTA

See Receptacle column on this page for more details

Part Number
AHDP04-24-23PR-WTA

Gender: Standard Contact: Pin

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 23 positions, Pin, standard arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP06-24-23SN-WTA, AHDP06-24-23SR-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732

### **PLUG**

Gender: Reversed Contact: Pin

AHDP06-24-23PN-WTA

Rear Seal Type: NORMAL, Green

Description: Size 24 Plug with 23 positions, Pin, reverse arrangement, normal seal, wide thread

adapter

**Part Number** 

Mating Part(s): AHDP04-24-23SN-WTA, AHDP04-24-23SR-WTA

See Receptacle column on this page for more details

Part Number
AHDP06-24-23PR-WTA

Gender: Reversed Contact: Pin

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 23 positions, Pin, reverse arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-23SN-WTA, AHDP04-24-23SR-WTA

See Receptacle column on this page for more details

### **RECEPTACLE**

Part Number

AHDP04-24-23SN-WTA

Gender: Reversed Contact: Socket

### Rear Seal Type: NORMAL, Green

Description: Size 24 Receptacle with 23 positions, Socket, reverse arrangement, normal seal, wide

thread adapter

Mating Part(s): AHDP06-24-23PN-WTA, AHDP06-24-23PR-WTA

See Plug column on this page for more details

Part Number
AHDP04-24-23SR-WTA

Gender: Reversed Contact: Socket

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 23 positions, Socket, reverse arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP06-24-23PN-WTA, AHDP06-24-23PR-WTA

See Plug column on this page for more details

# 23 Position Plugs & Receptacles - Contacts

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold
16	AT62-14-0122	Stamped & Formed	Socket	14-16	13	Nickel
16	AT62-14-0144	Stamped & Formed	Socket	14-16	13	Gold

For custom insert configurations, please consult factory



# 23 POSITION PLUGS & RECEPTACLES - CONTACTS

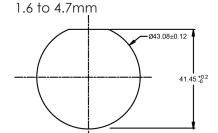




Shell Size 24

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT62-16-0622	Stamped & Formed	Socket	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold

Recommended Panel Mounting Hole Recommended panel thickness:







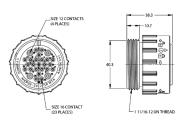


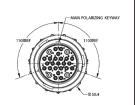
Contact Size	12	16
Contact Qty	4	23
Seal OD Range		
REDUCED SEAL	2.46mm (.097")-4.01mm (.158")	1.35mm (.053")-3.05mm (.120")
Wire Range	10-14 AWG	14-20 AWG
Amperage	25	13

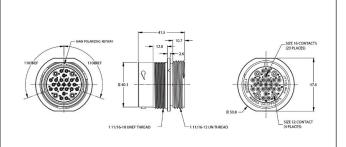




### **PLUG**







**RECEPTACLE** 

Standard and reverse terminal genders allows for custom polarization

Part Number
AHDP06-24-27SR-WTA

Gender: Standard Contact: Socket

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 27 positions, Socket, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-24-27PR-WTA

See Receptacle column on this page for more details

Part Number AHDP06-24-27PR-WTA

Gender: Reversed Contact: Pin

# Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 27 positions, Pin, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-24-27SR-WTA

See Receptacle column on this page for more details

Part Number
AHDP04-24-27PR-WTA

Gender: Standard Contact: Pin

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 27 positions, Pin, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-24-27SR-WTA

See Plug column on this page for more details

Part Number
AHDP04-24-27SR-WTA

Gender: Reversed Contact: Socket

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 27 positions, Socket, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-24-27PR-WTA

See Plug column on this page for more details

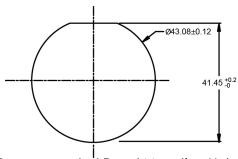
For custom insert configurations, please call 1 800 394 7732



# 27 Position Plugs & Receptacles- Contacts

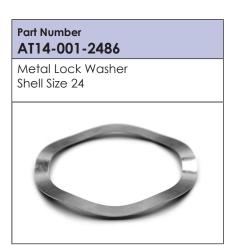
Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
12	AT60-220-1231	Machined	Pin	12-14	25	Gold
12	AT60-204-12141	Machined	Pin	12-14	25	Nickel
12	AT62-210-1231	Machined	Socket	12-14	25	Gold
12	AT62-203-12141	Machined	Socket	12-14	25	Nickel
12	AT60-12-0244	Stamped & Formed	Pin	10-12	25	Gold
12	AT60-12-0222	Stamped & Formed	Pin	10-12	25	Nickel
12	AT62-12-0244	Stamped & Formed	Socket	10-12	25	Gold
12	AT62-12-0222	Stamped & Formed	Socket	10-12	25	Nickel
12	AT60-12-0144	Stamped & Formed	Pin	12-14	25	Gold
12	AT60-12-0166	Stamped & Formed	Pin	12-14	25	Nickel
12	AT62-12-0144	Stamped & Formed	Socket	12-14	25	Gold
12	AT62-12-0166	Stamped & Formed	Socket	12-14	25	Nickel
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT62-14-0144	Stamped & Formed	Socket	14-16	13	Gold
16	AT62-14-0122	Stamped & Formed	Socket	14-16	13	Nickel
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold
16	AT62-16-0622	Stamped & Formed	Socket	18-20	13	Nickel





Recommended Panel Mounting Hole Recommended panel thickness: 1.6 to 4.7mm

Part Number AHDP24-PN01
Panel Nut, Shell Size 24





Shell Size 24

Contact Size	20	16	12
Contact Qty	6	19	4
Seal OD Range			
REDUCED SEAL	1.02mm (.040'') - 2.41mm (.095'')	1.35mm (.053") - 3.05mm (.120")	2.46mm (.097") - 4.01mm (.158")
Wire Range	16-22 AWG	14-20 AWG	10-14 AWG
Amperage	7.5	13	25





# RECEPTACLE AND POLARIZING KEYWAY MAIN POLARIZING KEY

Standard and reverse terminal genders allows for custom polarization

Part Number
AHDP06-24-29SR-WTA
Gender: Standard
Contact: Socket

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 29 positions, Socket standard arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-29PR-WTA

See Receptacle column on this page for more details

AHDP04-24-29PR-WTA Gender: Standard Contact: Pin

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 29 positions, Pin, standard arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP06-24-29SR-WTA

See Plug column on this page for more details

AHDP06-24-29PR-WTA Gender: Reversed Contact: Pin

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 29 positions, Pin reverse arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-29SR-WTA

See Receptacle column on this page for more details

Part Number
AHDP04-24-29SR-WTA

Gender: Reversed Contact: Socket

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 29 positions, Socket, reverse arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP06-24-29PR-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732



# 29 POSITION PLUGS & RECEPTACLES - CONTACTS

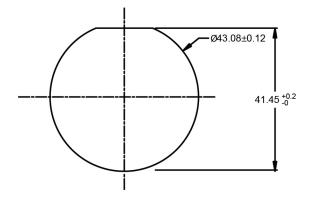
Shell Size 24

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
12	AT60-204-12141	Machined	Pin	12-14	25	Nickel
12	AT60-220-1231	Machined	Pin	12-14	25	Gold
12	AT62-203-12141	Machined	Socket	12-14	25	Nickel
12	AT62-210-1231	Machined	Socket	12-14	25	Gold
12	AT60-12-0222	Stamped & Formed	Pin	10-12	25	Nickel
12	AT60-12-0244	Stamped & Formed	Pin	10-12	25	Gold
12	AT62-12-0222	Stamped & Formed	Socket	10-12	25	Nickel
12	AT62-12-0244	Stamped & Formed	Socket	10-12	25	Gold
12	AT60-12-0166	Stamped & Formed	Pin	12-14	25	Nickel
12	AT60-12-0144	Stamped & Formed	Pin	12-14	25	Gold
12	AT62-12-0166	Stamped & Formed	Socket	12-14	25	Nickel
12	AT62-12-0144	Stamped & Formed	Socket	12-14	25	Gold
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT62-16-0622	Stamped & Formed	Socket	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold
20	AT60-202-20141	Machined	Pin	20-22	7.5	Nickel
20	AT60-202-2031	Machined	Pin	20-22	7.5	Gold
20	AT62-201-20141	Machined	Socket	20-22	7.5	Nickel
20	AT62-201-2031	Machined	Socket	20-22	7.5	Gold
20	AT60-20-0122	Stamped & Formed	Pin	16-22	7.5	Nickel
20	AT60-20-0144	Stamped & Formed	Pin	16-22	7.5	Gold
20	AT62-20-0122	Stamped & Formed	Socket	16-22	7.5	Nickel
20	AT62-20-0144	Stamped & Formed	Socket	16-22	7.5	Gold



Shell Size 24

Recommended Panel Mounting Hole Recommended panel thickness: 1.6 to 4.7mm









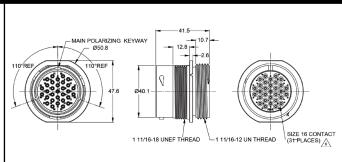
Contact Size	16
Contact Qty	31
Seal OD Range	
REDUCED SEAL	1.35mm (.053") - 3.05mm (.120")
THIN SEAL	2.23mm (.088") - 3.40mm (.134")
Wire Range (AWG)	14-20 AWG
Amperage	13





RECEPTACLE

# MAIN POLARIZING KEYWAY



Standard and reverse terminal genders allows for custom polarization

Part Number

AHDP06-24-31SR-WTA

SIZE 16 CONTACT (31 PLACES)

Gender: Standard Contact: Socket

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 31 positions, Socket, standard arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-31PR-WTA, AHDP04-24-31PT-WTA

See Receptacle column on this page for more details

Part Number

AHDP04-24-31PR-WTA

Gender: Standard Contact: Pin

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 31 positions, Pin, standard arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP06-24-31SR-WTA, AHDP06-24-31ST-WTA

See Plug column on this page for more details

Part Number AHDP06-24-31ST-WTA

Gender: Standard Contact: Socket

Rear Seal Type: THIN SEAL, Grey

Description: Size 24 Plug with 31 positions, Socket, standard arrangement, thin seal, wide thread

adapter

Mating Part(s): AHDP04-24-31PR-WTA, AHDP04-24-31PT-WTA

See Receptacle column on this page for more details

Part Number AHDP04-24-31PT-WTA Gender: Standard Contact: Pin

Rear Seal Type: THIN SEAL, Grey

Description: Size 24 Receptacle with 31 positions, Pin, standard arrangement, thin seal, wide thread adapter

Mating Part(s): AHDP06-24-31SR-WTA, AHDP06-24-31ST-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732





Shell Size 24

## PLUG RECEPTACLE

Part Number Gender: Reversed AHDP06-24-31PR-WTA Contact: Pin

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 31 positions, Pin, reverse arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP04-24-31SR-WTA, AHDP04-24-31ST-WTA

See Receptacle column on this page for more details

AHDP04-24-31SR-WTA Gender: Reversed Contact: Socket

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 31 positions, Socket, reverse arrangement, RD01 reduced diameter seal, wide thread adapter

Mating Part(s): AHDP06-24-31PR-WTA, AHDP06-24-31PT-WTA

See Plug column on this page for more details

Part Number
AHDP06-24-31PT-WTA
Gender: Reversed
Contact: Pin

Rear Seal Type: THIN SEAL, Grey

Description: Size 24 Plug with 31 positions, Pin, reverse arrangement, thin seal, wide thread adapter

Mating Part(s): AHDP04-24-31SR-WTA, AHDP04-24-31ST-WTA

See Receptacle column on this page for more details

Part Number

AHDP04-24-31ST-WTA

Gender: Reversed
Contact: Socket

Rear Seal Type: THIN SEAL, Grey

Description: Size 24 Receptacle with 31 positions, Socket, reverse arrangement, thin seal, wide thread adapter

Mating Part(s): AHDP06-24-31PR-WTA, AHDP06-24-31PT-WTA

See Plug column on this page for more details

# 31 Pin Plugs & Receptacles - Contacts

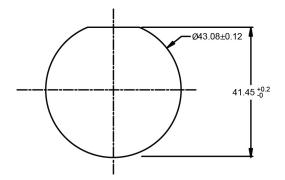
Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold



Shell Size 24

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT62-14-0122	Stamped & Formed	Socket	14-16	13	Nickel
16	AT62-14-0144	Stamped & Formed	Socket	14-16	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT62-16-0622	Stamped & Formed	Socket	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold

Recommended Panel Mounting Hole Recommended Panel thickness: 1.6 to 4.7mm







# 47 Position Plugs & Receptacles



Shell Size 24

Contact Size	20	16
Contact Qty	42	5
Seal OD Range		
REDUCED SEAL	1.02mm (.040") - 2.41mm (.095")	1.35mm (.053") - 3.05mm (.120")
Wire Range	16-22 AWG	14-20 AWG
Amperage	7.5	13





# PLUG RECEPTACLE SZE 16 CONTACTS GPLACES SZE 16 CONTACTS GPLACES 110866 110867 110867 110868 110868 110868 110868 110868 110868 110868 110868

Standard and reverse terminal genders allows for custom polarization

AHDP06-24-47SR-WTA Gender: Standard Contact: Socket

Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 47 positions, Socket, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-24-47PR-WTA

See Receptacle column on this page for more details

AHDP04-24-47PR-WTA
Gender: Standard
Contact: Pin

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 47 positions, Pin, standard arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-24-47SR-WTA

See Plug column on this page for more details

AHDP06-24-47PR-WTA Gender: Reversed Contact: Pin

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Plug with 47 positions, Pin, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP04-24-47SR-WTA

See Receptacle column on this page for more details

Part Number Gender: Reversed AHDP04-24-47\$R-WTA Contact: Socket

### Rear Seal Type: REDUCED SEAL, Blue

Description: Size 24 Receptacle with 47 positions, Socket, reversed arrangement, reduced seal, wide thread adapter

Mating Part(s): AHDP06-24-47PR-WTA

See Plug column on this page for more details

For custom insert configurations, please call 1 800 394 7732





# 47 POSITION PLUGS & RECEPTACLES - CONTACTS

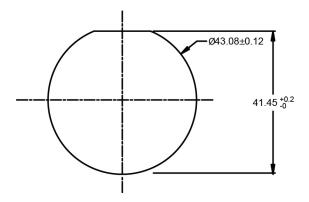
Shell Size 24

Contact Size	Part No.	Туре	(Pin/Socket)	Wire Range (AWG)	AMP	Plating
16	AT60-215-16141	Machined	Pin	14	13	Nickel
16	AT60-215-1631	Machined	Pin	14	13	Gold
16	AT62-209-16141	Machined	Socket	14	13	Nickel
16	AT62-209-1631	Machined	Socket	14	13	Gold
16	AT60-202-16141	Machined	Pin	16-20	13	Nickel
16	AT60-202-1631	Machined	Pin	16-20	13	Gold
16	AT62-201-16141	Machined	Socket	16-20	13	Nickel
16	AT62-201-1631	Machined	Socket	16-20	13	Gold
16	AT60-14-0122	Stamped & Formed	Pin	14-16	13	Nickel
16	AT60-14-0144	Stamped & Formed	Pin	14-16	13	Gold
16	AT62-14-0122	Stamped & Formed	Socket	14-16	13	Nickel
16	AT62-14-0144	Stamped & Formed	Socket	14-16	13	Gold
16	AT60-16-0122	Stamped & Formed	Pin	16-18	13	Nickel
16	AT60-16-0144	Stamped & Formed	Pin	16-18	13	Gold
16	AT62-16-0122	Stamped & Formed	Socket	16-18	13	Nickel
16	AT62-16-0144	Stamped & Formed	Socket	16-18	13	Gold
16	AT60-16-0622	Stamped & Formed	Pin	18-20	13	Nickel
16	AT60-16-0644	Stamped & Formed	Pin	18-20	13	Gold
16	AT62-16-0622	Stamped & Formed	Socket	18-20	13	Nickel
16	AT62-16-0644	Stamped & Formed	Socket	18-20	13	Gold
20	AT60-202-20141	Machined	Pin	20-22	7.5	Nickel
20	AT60-202-2031	Machined	Pin	20-22	7.5	Gold
20	AT62-201-20141	Machined	Socket	20-22	7.5	Nickel
20	AT62-201-2031	Machined	Socket	20-22	7.5	Gold
20	AT60-20-0122	Stamped & Formed	Pin	16-22	7.5	Nickel
20	AT60-20-0144	Stamped & Formed	Pin	16-22	7.5	Gold
20	AT62-20-0122	Stamped & Formed	Socket	16-22	7.5	Nickel
20	AT62-20-0144	Stamped & Formed	Socket	16-22	7.5	Gold



Shell Size 24

Recommended Panel Mounting Hole Recommended panel thickness: 1.6 to 4.7mm







# DURA | MATE TOOLS

# Part Number WA23-DS

Heavy Duty Pneumatic Crimp Tool



# Part Number WA23-2

Die Assembly for CA-5E12 Heavy Duty Pneumatic Crimp Tool, Size 8



# Part Number WA23-10

Contact Locater, Size 8



# Part Number MFX-3973

Size 12 Crimp Die for Stamped and Formed Contacts



# Part Number MFX-3950

Size 16 Crimp Die for Stamped and Formed Contacts 18-20 AWG



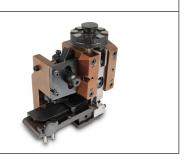
# Part Number MFX-3953

Size 16 Crimp Die for Stamped and Formed Contacts 16-18 AWG



# Part Number MFX-3974

Size 20 Crimp Die for Stamped and Formed Contacts



# Part Number CA-5D12

Universal Hand Crimp Tool, Size 12/16/20 Solid Contacts Only



# Part Number CA-5E12

Pneumatic Crimp Tool, Size 12/16/20 Solid Contacts Only



# Part Number ATT-20-00

Size 20 Stamped and Formed Contact Tool 20 AWG



# Part Number AT11-240-2005

Contact Removal Tool, plastic, Size 20



# Part Number AT11-310-1605

Contact Removal Tool, plastic Size 16



# Part Number ATT-16-00

Size 16 Stamped and Formed Contact Tool 14-16 AWG



# Part Number **AT11-337-1205**

Contact Removal Tool, plastic Size 12



# Part Number AT11-001-3.6M

Contact Removal Tool, plastic Size 8 (3.6 mm)



# Part Number ATT-16-01

Size 16 Stamped and Formed Contact Tool 18-20 AWG



### **Part Number**

### ATT-12-00

Size 12 Stamped and Formed Contact Tool 12 AWG



# **DURAMATE ACCESSORIES**

Part Number AHDPBS-0406-001

Size 24 Backshell WTA



Part Number AHDPBS-0406-002

Size 24 Backshell WTA with compression nut Cable diameter range: .57-.71"



Part Number AHDPBS-0406-003

Size 24 Backshell WTA with compression nut

Cable diameter range: ..76-.95"



Part Number AHDPBS-18-001

Size 18 Backshell WTA



Part Number AHDC18-18

Size 18 Protective Cap



Part Number AHDC24-24

Size 24 Protective Cap



Part Number AHDP-16-04978

Size 18 Rubber Flange Seal



Part Number AHDP-16-04477

Size 24 Rubber Flange Seal



Comp	etitor's Compatible Part	Number	Amphenol PN	Page
Exclusive to Amphenol Sine Systems			AHDP06-24-07SN-WTA	133
Exclusive to Amphenol Sine Systems			AHDP04-24-07PN-WTA	133
Exclu	sive to Amphenol Sine S	AHDP06-24-07PN-WTA	133	
Exclu	sive to Amphenol Sine S	ystems	AHDP04-24-07SN-WTA	133
HDP26-18-14\$N	HDP26-18-14SN-L015	HDP26-18-14SN-L024	AHDP06-18-14SN-WTA	134
HDP26-18-14SE	HDP26-18-14SE-L015	HDP26-18-14SE-L024	AHDP06-18-14SR-WTA	134
HDP24-18-14PN	HDP24-18-14PN-L015	HDP24-18-14PN-L024	AHDP04-18-14PN-WTA	134
HPD24-18-14PE	HPD24-18-14PE-L015	HPD24-18-14PE-L024	AHDP04-18-14PR-WTA	134
HDP26-18-14PN	HDP26-18-14PN-L015	HDP26-18-14PN-L024	AHDP06-18-14PN-WTA	135
HDP26-18-14PE	HDP26-18-14PE-L015	HDP26-18-14PE-L024	AHDP06-18-14PR-WTA	135
HDP24-18-14SN	HDP24-18-14\$N-L015	HDP24-18-14SN-L024	AHDP04-18-14SN-WTA	135
HDP24-18-14SE	HDP24-18-14SE-L015	HDP24-18-14SE-L024	AHDP04-18-14SR-WTA	135
HDP26-24-19SN	HDP26-24-19SN-L015	HDP26-24-19SN-L024	AHDP06-24-19SN-WTA	137
HDP26-24-19SE	HDP26-24-19SE-L015	HDP26-24-19SE-L024	AHDP06-24-19SR-WTA	137
HDP24-24-19PN	HDP24-24-19PN-L015	HDP24-24-19PN-L024	AHDP04-24-19PN-WTA	137
HDP24-24-19PE	HDP24-24-19PE-L015	HDP24-24-19PE-L024	AHDP04-24-19PR-WTA	137
HDP26-24-19PN	HDP26-24-19PN-L015	HDP26-24-19PN-L024	AHDP06-24-19PN-WTA	138
HDP26-24-19PE	HDP26-24-19PE-L015	HDP26-24-19PE-L024	AHDP06-24-19PR-WTA	138
HDP24-24-19SN	HDP24-24-19SN-L015	HDP24-24-19SN-L024	AHDP04-24-19SN-WTA	138
HDP24-24-19SE	HDP24-24-19SE-L015	HDP24-24-19SE-L024	AHDP04-24-19\$R-WTA	138
HDP26-24-21SN	HDP26-24-21SN-L015	HDP26-24-21SN L024	AHDP06-24-21SN-WTA	140
HDP26-24-21SE	HDP26-24-21SE-L015	HDP26-24-21SE L024	AHDP06-24-21\$R-WTA	140
HDP24-24-21PN	HDP24-24-21PN-L015	HDP24-24-21PN L024	AHDP04-24-21PN-WTA	140
HPD24-24-21PE	HPD24-24-21PE-L015	HPD24-24-21PE L024	AHDP04-24-21PR-WTA	140
HDP26-24-21PN	HDP26-24-21PN-L015	HDP26-24-21PN L024	AHDP06-24-21PN-WTA	141
HDP24-24-21SN	HDP24-24-21SN-L015	HDP24-24-21SN L024	AHDP06-24-21PR-WTA	141
HDP24-24-21SN	HDP24-24-21SN-L015	HDP24-24-21SN L024	AHDP04-24-21SN-WTA	141
HDP24-24-21SE	HDP24-24-21SE-L015	HDP24-24-21SE L024	AHDP04-24-21SR-WTA	141
HDP26-24-23SN	HDP26-24-23SN-L015	HDP26-24-23SN-L024	AHDP06-24-23SN-WTA	145
HDP26-24-23SE	HDP26-24-23SE-L015	HDP26-24-23SE-L024	AHDP06-24-23SR-WTA	145
HDP24-24-23PN	HDP24-24-23PN-L015	HDP24-24-23PN-L024	AHDP04-24-23PN-WTA	145
HDP24-24-23PE	HDP24-24-23PE-L015	HDP24-24-23PE-L024	AHDP04-24-23PR-WTA	145
HDP26-24-23PN	HDP26-24-23PN-L015	HDP26-24-23PN-L024	AHDP06-24-23PN-WTA	145
HDP26-24-23PE	HDP26-24-23PE-L015	HDP26-24-23PE-L024	AHDP06-24-23PR-WTA	145
HDP24-24-23SN	HDP24-24-23SN-L015	HDP24-24-23SN-L024	AHDP04-24-23SN-WTA	145
HDP24-24-23SE	HDP24-24-23SE-L015	HDP24-24-23SE-L024	AHDP04-24-23SR-WTA	145

# Part Number Cross Reference (con't)

# DURA | MATE CROSS REFERENCE

Comp	etitor's Compatible Part	Number	Amphenol PN	Page
Exclusive to Amphenol Sine Systems		AHDP06-24-27SR-WTA	146	
Exclu	sive to Amphenol Sine S	ystems	AHDP04-24-27PR-WTA	146
Exclu	sive to Amphenol Sine S	ystems	AHDP06-24-27PR-WTA	147
Exclu	sive to Amphenol Sine S	ystems	AHDP04-24-27SR-WTA	147
HDP24-24-29PE	HDP24-24-29PE-L015	HDP24-24-29PE-L024	AHDP04-24-29PR-WTA	149
HDP26-24-29PE	HDP26-24-29PE-L015	HDP26-24-29PE-L024	AHDP06-24-29PR-WTA	149
HDP24-24-29SE	HDP24-24-29SE-L015	HDP24-24-29SE-L024	AHDP04-24-29SR-WTA	149
HDP24-24-29SE	HDP24-24-29SE-L015	HDP24-24-29SE-L024	AHDP06-24-29SR-WTA	149
HDP26-24-31SE	HDP26-24-31SE-L015	HDP26-24-31SE-L024	AHDP06-24-31SR-WTA	153
HDP26-24-31ST	HDP26-24-31ST-L015	HDP26-24-31ST-L024	AHDP06-24-31ST-WTA	153
HDP24-24-31PE	HDP24-24-31PE-L015	HDP24-24-31PE-L024	AHDP04-24-31PR-WTA	153
HDP24-24-31PT	HDP24-24-31PT-L015	HDP24-24-31PT-L024	AHDP04-24-31PT-WTA	153
HDP26-24-31PE	HDP26-24-31PE-L015	HDP26-24-31PE-L024	AHDP06-24-31PR-WTA	153
HDP26-24-31PT	HDP26-24-31PT-L015	HDP26-24-31PT-L024	AHDP06-24-31PT-WTA	153
HDP24-24-31SE	HDP24-24-31SE-L015	HDP24-24-31SE-L024	AHDP04-24-31SR-WTA	153
HDP24-24-31ST	HDP24-24-31ST-L015	HDP24-24-31ST-L024	AHDP04-24-31ST-WTA	153
HDP26-24-47SE	HDP26-24-47SE-L015	HDP26-24-47SE-L024	AHDP06-24-47SR-WTA	155
HDP26-24-47PE	HDP26-24-47PE-L015	HDP26-24-47PE-L024	AHDP06-24-47PR-WTA	155
HPD24-24-47PE	HPD24-24-47PE-L015	HPD24-24-47PE-L024	AHDP04-24-47PR-WTA	155
HDP24-24-47SE	HDP24-24-47SE-L015	HDP24-24-47SE-L024	AHDP04-24-47SR-WTA	155

# $\mathbf{Hydro} \, | \mathbf{Net}^{\mathsf{TM}}$

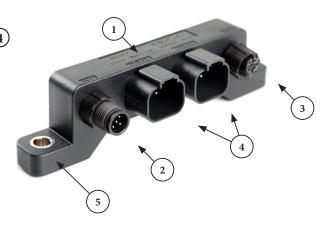


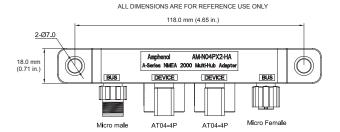
# Hydro | Net™ Series

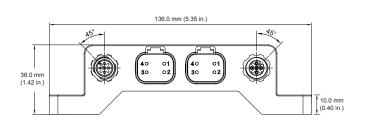
# Feature & Benefits

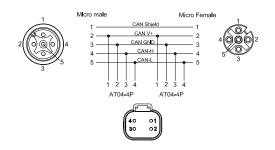
- Provides OEM's flexibility and increased reliability when connecting multiple devices to NMEA 2000 network
- Two 4 pin AT/DT interfaces easily adapts devices to field proven, sealed, and serviceable electrical connections
- Powers the NMEA network in a rugged, compact, and environmentally sealed package
- Factory assembled for true Plug and Play capability
- Reduces the need to modify or assemble NMEA connections onto cables
- Allows for customized and built-to-length electrical harnesses eliminating costly coils of unused cable
- Factory assembled part for simplified mounting
- Environmentally-sealed to IP67 rating
- Rugged thermoplastic overmold (UL94-V0) (1)
- Micro NMEA Male (2) and Female (3)
- 2 Four (4) position receptacles (AT/DT) with gold pins (4)
- Stainless steel inserts for mounting (5)











### Performance and Material Specifications

Terrormance and Material Specifications	
Current Rating	4A
Voltage Rating	60V AC/DC
Operating Temperature	-20°C to +130°C
Dielectric Withstanding Voltage	Less than 2 milliamps current leakage @ 1000 Volts AC
Degree of Protection	IP67 (Mated condition)
Degree of Pollution	3 per UL840
Overvoltage Category	III per UL840
Mating Cycle Durability	>100 cycles

RoHS	Compliant
Coupling Nut	PA66 UL94V-0
Insulation Insert	PA66, UL94 V0
Seal	Silicon Rubber
Overmold Material	Thermoplastic
Color	Black
Contact	Gold Flash-plating over Copper Alloy



### Performance and Material Specifications

Current Rating	4A
Voltage Rating	60V AC/DC
Operating Temperature	-20°C to +130°C
Dielectric Withstanding Voltage	Less than 2 milliamps current leakage @ 1000 Volts AC
Degree of Protection	IP67 (Mated condition)
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Compliant
PA66 UL94V-0
PA66, UL94 V0
Silicon Rubber
Thermoplastic
Black
Gold Flash-plating over Copper Alloy















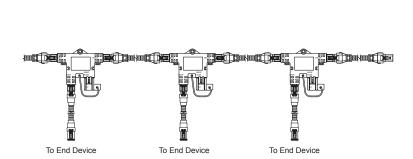
Part Number	Description
AM-N04PX2-HA	Multi-Hub, Hydro   Net Adapter, AT/ NMEA 2000
AM-N05-TEE	Multi-Hub, Tee, NMEA 2000
AM-N05P-TERM	Multi-Hub, Terminator Plug, NMEA 2000, Male Pin w/ LED
AM-N05S-TERM	Multi-Hub, Terminator Plug, NMEA 2000, Female Socket w/ LED
AM-N05PS-M0.3	Double-ended, NMEA 2000, M/F Plug, 0.3 Meter
AM-N05PS-M1	Double-ended, NMEA 2000, M/F Plug, 1 Meter
AM-N05PS-M3	Double-ended, NMEA 2000, M/F Plug, 3 Meter
AM-N05PS-M5	Double-ended, NMEA 2000, M/F Plug, 5 Meter
AM-N05PS-M9	Double-ended, NMEA 2000, M/F Plug, 9 Meter
AM-N05PS-M20	Double-ended, NMEA 2000, M/F Plug, 20 Meter
AM-N05P-M0.3	Single-ended, NMEA 2000, Plug, Male Pin, 0.3 Meter
AM-N05P-M1	Single-ended, NMEA 2000, Plug, Male Pin, 1 Meter
AM-N05P-M3	Single-ended, NMEA 2000, Plug, Male Pin, 3 Meter
AM-N05P-M5	Single-ended, NMEA 2000, Plug, Male Pin, 5 Meter
AM-N05P-M9	Single-ended, NMEA 2000, Plug, Male Pin, 9 Meter
AM-N05P-M20	Single-ended, NMEA 2000, Plug, Male Pin, 20 Meter
AM-N05S-M0.3	Single-ended, NMEA 2000, Plug, Female Socket, 0.3 Meter
AM-N05S-M1	Single-ended, NMEA 2000, Plug, Female Socket, 1 Meter
AM-N05S-M3	Single-ended, NMEA 2000, Plug, Female Socket, 3 Meter
AM-N05S-M5	Single-ended, NMEA 2000, Plug, Female Socket, 5 Meter
AM-N05S-M9	Single-ended, NMEA 2000, Plug, Female Socket, 9 Meter
AM-N05S-M20	Single-ended, NMEA 2000, Plug, Female Socket, 20 Meter
AT04-4P-KIT01	AT, 4P, Kit Wedge & Contacts
AT4PS-CKIT	AT, Complete Pin & Socket Wedge Kit

# Multi | Mate<sup>TM</sup>



# Multi | Mate™ Series

Trunk (Size 12, 25A Max) and Drop (Size 16, 13A Max), or Trunk (Size 16, 13A Max) and Drop (Size 16, 13A Max)





The Amphenol Multi | Mate™ expands upon the proven reliability of the A Series™ environmentally sealed thermoplastic connection system with rugged over-molded "Plug & Play" connection types for power, signal and data for your diverse electrical requirements. Today's ever evolving wiring protocols have dictated the rapid acceleration of "Quick-Connect" topologies increasing designers options with streamlined and proven connectivity systems. The objective is to provide cost reductions within all phases of design, installation and service of pre-existing electrical architectures by simplifying your wiring requirements.

Built upon the versatility and economy of the A Series<sup>TM</sup> product line, a full complement of options including high impact resistant connectors, contacts and accessory options are readily available to meet your changing demands. Cable requirements can be ordered as complete assemblies direct from Amphenol or assembled at time of installation, this system is ideal for heavy-duty applications such as commercial vehicle, agriculture, construction or marine installations.

### Features and Benefits

- Rapid install due to scalable modular design at startup
- Faster commissioning with reliable "Plug & Play" capability dramatically reduces cost
- Fuse protection provides protection for "Drop" device.
- Lower fused values possible at device versus main "Trunk"
- Accepts any standard automotive "ATO" fuse
- Quick disconnects minimize downtime from removal or replacement of failed equipment
- High strength impact resistant & lightweight thermoplastic housings
- Contacts available in economical reel-mounted high volume machine termination or machined loose-piece form
- Low insertion force stamped terminals offer improved manufacturing efficiencies
- Engineered rapid and secure mating system achieves IP67 protection from ingress of dust, water mud and other contaminants
- Redundant sealing features consisting of durable high temperature silicone provide barrier from lubricating oils, hydraulic fluids and fossil fuels.
- Rigid back shells provide strain-relief for convoluted tubing.

The Multi|Mate™ system meets all the performance criteria and specifications of the AT and ATP Series™ of connectors. For more information, refer to the AT and ATP Series™ documentation found online, or contact Customer Service.

# MULTI | MATE SERIES PLUGS, RECEPTACLES & HARNESSES









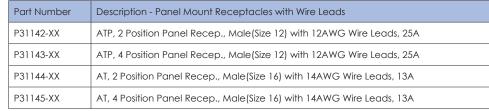












ATP 2 Pos Plug





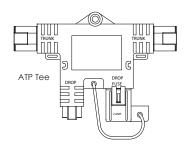


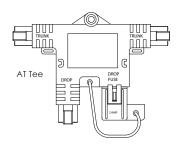












ATP Double-ended Harness "Trunk"



AT Double-ended Harness "Trunk"



AT Double-ended Harness "Drop"



Part Number	Description - Tee's
P31134	ATP, Tee, 2 Position Recep., Male, 25A (Trunk), Recep. Male, 13A (Drop) w/ fuse holder
P31135	ATP, Tee, 2 Position Recep., Male 25A (Trunk), Recep. Male, 13A (Drop)
P31136	ATP, Tee, 4 Position Recep., Male, 25A (Trunk), Recep. Male, 13A (Drop) w/ fuse holder
P31137	ATP, Tee, 4 Position Recep., Male, 25A (Trunk), Recep. Male, 13A (Drop)
P31138	AT, Tee, 2 Position, Recep. Male, 13A (Trunk), Recep. Male, 13A (Drop) w/ fuse holder
P31139	AT, Tee, 2 Position, Recep. Male, 13A (Trunk), Recep. Male, 13A (Drop)
P31140	AT, Tee, 4 Position, Recep. Male, 13A (Trunk), Recep. Male, 13A (Drop) w/ fuse holder
P31141	AT, Tee, 4 Position, Recep. Male, 13A (Trunk), Recep. Male, 13A (Drop)

Part Number	Description - Double-ended Harness "Trunk"
P31146-XX	ATP, 2 Position Plug(Size 12) Double-ended Harness Female, w/ 12AWG Wire Leads & Tubing, 25A
P31147-XX	ATP, 4 Position Plug(Size 12) Double-ended Harness Female, w/ 12AWG Wire Leads & Tubing, 25A
P31148-XX	ATP, 4 Position Double-ended Harness Plug Female, w/ 2 Pos.(Size 12) 12AWG(25A) & 2 Pos., "Can Lo/Can Hi" 18AWG, with Tubing
P31149-XX	AT, 2 Position(Size 16) Double-ended Harness Plug Female, w/ 16AWG Wire Leads & Tubing, 13A
P31150-XX	AT, 4 Position(Size 16) Double-ended Harness Plug Female, w/ 16AWG Wire Leads & Tubing, 13A
P31151-XX	AT, 4 Position Double-ended Harness Plug Female, w/ 2 Pos.(Size 16) 16AWG(13A) & 2 Pos., "Can Lo/Can Hi" 18AWG, with Tubing

Part Number	Description - Double-ended Harness "Drop"
P31170-XX	AT, 2 Position, (Size 16) Double-ended Harness Plug Female w/ 16AWG Wire Leads & Tubing, 13A
P31171-XX	AT, 4 Position, (Size 16) Double-ended Harness Plug Female w/ 16AWG Wire Leads & Tubing, 13A

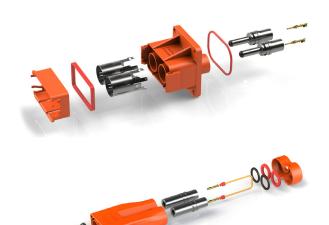
Part Number	Description - Plug "Terminators"
P31172	AT, 2 Position, Plug Terminator Female, (Size 16)
P31173	AT, 4 Position, Plug Terminator Female, (Size 16)
P31174	AT, 4 Position, Plug Terminator Female, (Size 16) w/ 120 ohm resistor
P31175	ATP, 2 Position, Plug Terminator Female, (Size 12)
P31176	ATP, 4 Position, Plug Terminator Female, (Size 12)
P31177	ATP, 4 Position, Plug Terminator Female, (Size 12) w/ 120 ohm resistor

# Magna Mate<sup>TM</sup>



# Magna | Mate<sup>TM</sup> Series <sup>2 Positions</sup>

- Designed to withstand the extreme conditions of the trucking, agricultural, mining, construction, and marine industries.
- Features Amphenol's RADSOK contact technology
- Current rating of 86 amps for the 10mm² wire, 120 amps for the 25mm² wire, 180 amps for the 35-50mm² wire
- Constructed of heavy-duty thermoplastic
- Able to withstand extreme vibration and mechanical shock
- IP67 rated in mated condition
- Operationg temperature range of -40°C to 130°C
- Inline or panel mount
- OPTIONAL Last Mate / First Break HVIL Circuit

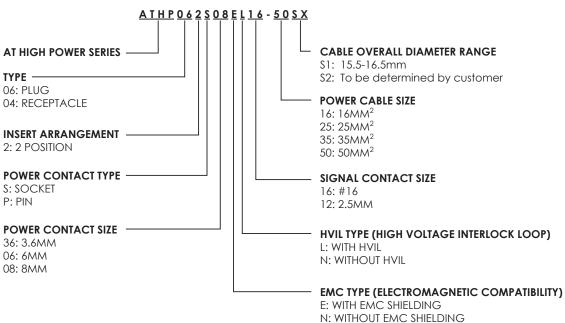


Plug/Receptacle	RADSOK <sup>®</sup> Contacts
Material Specifications	
Shell: Thermoplastic UL94-V0	Pin: Copper Alloy
Grommet: Silicone Rubber	Socket: Copper Alloy
	Finish: Silver-plated (Power contact) Gold-plated(Signal contact)
General Specifications	
Current Ratings	
	Power contact: 8mm 180 amps Signal contact: 16# 13 amps; 2,5mm 23 amps
General Specifications	
Dielectric Withstanding Voltage:	
Current leak less than 2 milliamps at 6000 VAC	Insulation Resistance: 5000 megohms minimum 25°C
Rated voltage: 1000V AC/DC	
EMC Shielding: Available	HVIL (High Voltage Interlock Loop): Available
Protection: Mated condition IP67	Temperature Operation: temperatures from -40°C to +130°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.
Thermal Cycle No cracking, chipping or leaking after 20 test cycles from -40°C to +130°C	Durability: No electrical or mechanical defects after 500 cycles of engagement and disengagement.

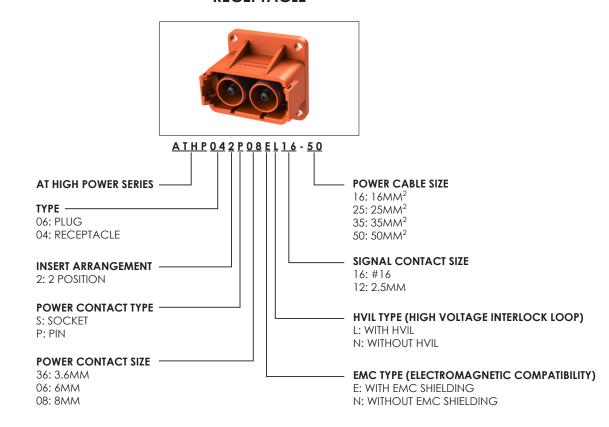
# **PART NUMBER SEQUENCE**

### **PLUG**





### **RECEPTACLE**



# Magna | Mate SERIES PLUGS & RECEPTACLES STANDARD

# Uses 8mm Contact





# **PLUGS**

Part Number	Power Contact Type	Signal Contact Size	Power Cable Size	Cable OD Range (Plug)
ATHP062S08NN12-35S1	Socket	2.5mm	35mm²	15.5 - 16.5 mm
ATHP062S08NN12-35S2	Socket	2.5mm	35mm²	customer requirements
ATHP062S08NN16-35S1	Socket	16	35mm²	15.5 - 16.5 mm
ATHP062S08NN16-35S2	Socket	16	35mm²	customer requirements
ATHP062S08NN12-50S1	Socket	2.5mm	50mm²	15.5 - 16.5 mm
ATHP062S08NN12-50S2	Socket	2.5mm	50mm²	customer requirements
ATHP062S08NN16-50S1	Socket	16	50mm²	15.5 - 16.5 mm
ATHP062S08NN16-50S2	Socket	16	50mm²	customer requirements

# **RECEPTACLES**

Part Number	Power Contact Type	Signal Contact Size	Power Cable Size
ATHP042P08NN12-35	Pin	2.5mm	35mm²
ATHP042P08NN16-35	Pin	16	35mm²
ATHP042P08NN12-50	Pin	2.5mm	50mm²
ATHP042P08NN16-50	Pin	16	50mm²

# Magna | Mate SERIES PLUGS & RECEPTACLES STANDARD

# Uses 8mm Contact





# **PLUGS**

STANDARD Plug with High Voltage Interlock Loop				
Part Number	Power Contact Type	Signal Contact Size	Power Cable Size	Cable OD Range (Plug)
ATHP062S08NL12-35S1	Socket	2.5mm	35mm²	15.5 - 16.5 mm
ATHP062S08NL12-35S2	Socket	2.5mm	35mm²	customer requirements
ATHP062S08NL16-35S1	Socket	16	35mm²	15.5 - 16.5 mm
ATHP062S08NL16-35S2	Socket	16	35mm²	customer requirements
ATHP062S08NL12-50S1	Socket	2.5mm	50mm²	15.5 - 16.5 mm
ATHP062S08NL12-50S2	Socket	2.5mm	50mm²	customer requirements
ATHP062S08NL16-50S1	Socket	16	50mm²	15.5 - 16.5 mm
ATHP062S08NL16-50S2	Socket	16	50mm²	customer requirements

# **RECEPTACLES**

STANDARD Plug with High Voltage Interlock Loop				
Part Number Power Contact Type Signal Contact Size Power Cable Size				
ATHP042P08NL12-35	Pin	2.5mm	35mm²	
ATHP042P08NL16-35	Pin	16	35mm²	
ATHP042P08NL12-50	Pin	2.5mm	50mm²	
ATHP042P08NL16-50	Pin	16	50mm²	

# Magna | Mate SERIES PLUGS EMC SHIELDING

Uses 8mm Contact



# **PLUGS**

EMC Plugs with High Voltage Interlock Loop				
Part Number	Power Contact Type	Signal Contact Size	Power Cable Size	Cable OD Range (Plug)
ATHP062S08EL12-35S1	Socket	2.5mm	35mm²	15.5 - 16.5 mm
ATHP062S08EL12-35S2	Socket	2.5mm	35mm²	customer requirements
ATHP062S08EL16-35S1	Socket	16	35mm²	15.5 - 16.5 mm
ATHP062S08EL16-35S2	Socket	16	35mm²	customer requirements
ATHP062S08EL12-50S1	Socket	2.5mm	50mm²	15.5 - 16.5 mm
ATHP062S08EL12-50S2	Socket	2.5mm	50mm²	customer requirements
ATHP062S08EL16-50S1	Socket	16	50mm²	15.5 - 16.5 mm
ATHP062S08EL16-50S2	Socket	16	50mm²	customer requirements

EMC Plugs without High Voltage Interlock Loop				
Part Number	Power Contact Type	Signal Contact Size	Power Cable Size	Cable OD Range (Plug)
ATHP062S08EN12-35S1	Socket	2.5mm	35mm²	15.5 - 16.5 mm
ATHP062S08EN12-35S2	Socket	2.5mm	35mm²	customer requirements
ATHP062S08EN16-35S1	Socket	16	35mm²	15.5 - 16.5 mm
ATHP062S08EN16-35S2	Socket	16	35mm²	customer requirements
ATHP062S08EN12-50S1	Socket	2.5mm	50mm²	15.5 - 16.5 mm
ATHP062S08EN12-50S2	Socket	2.5mm	50mm²	customer requirements
ATHP062S08EN16-50S1	Socket	16	50mm²	15.5 - 16.5 mm
ATHP062S08EN16-50S2	Socket	16	50mm²	customer requirements

# Magna | Mate SERIES RECEPTACLES EMC SHIELDING

Uses 8mm Contact



# **RECEPTACLES**

EMC Receptacles with High Voltage Interlock Loop				
Part Number	Power Contact Type	Signal Contact Size	Power Cable Size	
ATHP042P08EL12-35	Pin	2.5mm	35mm²	
ATHP042P08EL16-35	Pin	16	35mm²	
ATHP042P08EL12-50	Pin	2.5mm	50mm²	
ATHP042P08EL16-50	Pin	16	50mm²	

EMC Receptacles without High Voltage Interlock Loop				
Part Number Power Contact Type Signal Contact Size Power Cable Size				
ATHP042P08EN12-35	Pin	2.5mm	35mm²	
ATHP042P08EN16-35	Pin	16	35mm²	
ATHP042P08EN12-50	Pin	2.5mm	50mm²	
ATHP042P08EN16-50	Pin	16	50mm²	

# RADSOK® Contacts

## RADSOK® Benefits at a Glance

- 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

# RADSOK® Technical Data

# **High Reliability**

Unique RADSOK $^{\circledR}$  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 $^{\circledR}$  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

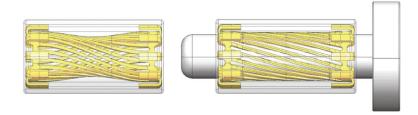
The large interface between the socket lamella and pin surface result in very low contact resistance, enabling the  $RADSOK^{\circledR}$  contacts high current ratings compared to traditional power contact designs.

### **High Mating Cycle Durability**

RADSOK $^{\circledR}$  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 $^{\circledR}$  contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.



### RADSOK® Product Overview



RADSOK® technology is based upon a stamped and formed flat grid, uniquely twisted into a hyperbolic geometry to provide robust, high density contact to the mating pin contact. Most pin and socket technologies rely on spring (beam element) properties of the contact elements, which tend to weaken over time. Unlike most other pin and socket solutions, the RADSOK® contact also utilizes the tensile strength properties of the flat, high conductivity alloy grid. This provides the high normal forces required for conductivity while also providing a large conductive surface area. Correspondingly low voltage drop and low temperature rise are also achieved while maintaining low insertion forces.

### The RADSOK® Design



- Socket cylinder within female contact has several equally spaced longitudinal beams twisted into a hyperbolic shape
- As a male pin is inserted, axial members in the female half deflect, imparting high current flow across the connection with minimal voltage loss
- The hyperbolic, stamped grid configuration ensures a large, coaxial, face-to-face surface area engagement
- Ideal for crimp termination applications requiring repeated mating cycles and high current with a low multi-volt drop

RADSOK Contact (Max. current carrying capacity meet DIN EN 60512 specification.)

Shell size	Applicable Cable	Contact Plating	current (AC)		
0.10.0020			temperature		
12 (3.6mm)	10mm², 16mm²	Silver Plated	65A (10mm²), 86A (16mm²)		
14 (6.0mm)	25mm²	Silver Plated	120A (25mm²)		
16 (8.0mm)	35mm², 50mm²	Silver Plated	130A (35mm²), 180A (50mm²)		
20 (10.0mm)	50mm², 70mm², 95mm²	Silver Plated	180A (50mm²), 250A (70mm²), 300A (95mm²)		

Note: The given electrical values correspond to a single contact. With the addition of a housing, an increased number of poles or other modifications, the values must be adjusted downwards accordingly.

### RADSOK® Advantages and Custom Developed Solutions

### RADSOK® Technology Advantages

- **High Reliability** Unique design and construction technology create an electrical contact interface that exceeds typical interconnect requirements.
- Low Contact Engagement/Separation Forces The hyperbolic lamella socket contact construction distributes normal forces over a high percentage of the mating pin 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 area 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<sup>®</sup> contacts with typical silver plating finishes have demonstrated survival of 20,000 mating cycles. Specialized plating and contact lubricants can extend cycle life to 200,000 matings or higher. Even with continuous exposure to harsh environmental abuse, RADSOK<sup>®</sup> contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.

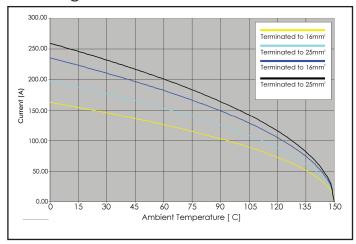
#### **Standard and Custom-Developed Solutions**

- In addition to the various standard sizes of RADSOK® components, custom-developed solutions are also available. Amphenol has the global design, engineering and manufacturing resources to provide RADSOK® sockets pressed into busbars, crimped to cables, assembled into connectors, assembled into customer or Amphenol designed specialized electrical devices, or as stand-alone components. Amphenol also manufactures a full compliment of mating pin contacts for any application.
- Steady-state current capacities for RADSOK® products range from 50 amps to over 1000 amps.
- Amphenol connectors with RADSOK® contacts are offered with a variety of positive locking features (HiLok® and SurLok®) that insure and maintain fully mated connections.
- Sealing (Sealtac<sup>™</sup>) and high voltage hot break options are available within the RADSOK<sup>®</sup>
  itself or within a very wide range of IP rated connector housings to provide environmental
  protection to the contact area.

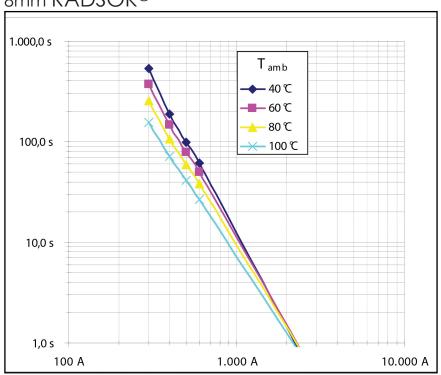
### RADSOK® Series Rated Current and Working Voltage

### **Contact Current Carrying Capacity**

### Derating 8mm



## $8mm\;RADSOK^{\circledR}$



# Contacts (included)

Contact Size /	Wire Range		Pin P/N	Socket P/N	Pin P/N	Socket D/N	Diatina
Current	AWG	mm <sup>2</sup>	FILLE/IN	SOCKEL F/IN	FIN F/IN	Socket P/N	Plating
#8 (45A)	12-10	3.0-6.0	MP10A23S	MS10A23S	N/A	N/A	Silver
2.5mm (23A)	14-12	2.5-3.5	N/A	N/A	SP12A1T	SS12A1T	Tin
#16 (13A)	16-14	2.0-2.5	MP14M23F	MS14M23F	SP14M1F	SS14M1F	Gold Flash

## Tools

Crimping Tool	Part Number	Description
	96-978-22	Suitable crimping range: 10-185 mm2 Opening and closing type head, rotatable 180°, easy to operate. Automatic relief pressure after the crimping, Crimping Dies (mm²) 10/16,25/35,50/70,95/120,150,185

### Glossary of Terms

#### American Wire Gauge (AWG)

System of numerical designations for wire sizes, based on specified ranges of cross-sectional areas. Starts with 4/0 (000) at the largest size, going to 3/0, 2/0, 1/0, 1, 2, and up to 40 and beyond for the smallest size. A step of one AWG number corresponds to a reduction of cross-sectional area of appr. 20 %.

#### Attenuation

A reduction of power. Occurs naturally when waves travel through lines, wave guides, or media such as air or water. Is produced additionally by imperfections in electrical or optical connections (attenuation in fibre optics), e. g. contact resistance, mismatch, etc.

#### Bulkhead connector

Connector designed to be inserted into a panel cutout from the rear of the panel, thus forming part of the barrier between two spaces. Back-mounted.

#### Clearance

The shortest distance in air between two conductive parts, see IEC 60664.

#### Climatic stability

General term describing the behavior of components under various climatic conditions, e. g. high and low temperatures, tropical climate, high humidity, moist heat, fungus, atmospheric conditions (industial atmosphere), reduced air pressure, etc. Climatic conditions for test purposes are explained in IEC 60068, DIN 46 040.

#### Connector

A component which terminates conductors for the purpose of providing connection and disconnection to a suitable mating component which shall not be engaged or disengaged when live. Depending on the fastening to a cabinet, panel, rack etc. or a cable, they are classified as fixed or free connectors. A connector comprises one or more contacts and a housing which may have a separate connector insert and a separate outer housing or shell.

#### Connector housing

The part of a connector into which the insert and the contacts are assembled. It may function as part of the locking mechanism.

#### Connector insert

An insulating element designed to support and position contacts in a connector housing.

In connectors electromagnetic interference is prevented by shielding. Shielded connectors normally provide means to connect the screens of attached cables.

#### Connector life

The number of mating cycles prior to abrasion of the conductive contact surface and which does not result in a significant rise of the contact resistance. Tests according to test 9a of ICE 60512-5 / DIN EN 60512 Part 5.

#### Contact

The conductive element in a connector which mates with a corresponding element to provide an electrical path.

#### Contact resistance

The electrical resistance of a mated set of contacts under specified conditions. Tested according to tests 2a, 2b, 2c, of IEC 60 512 -2/ DIN EN 60 512-2.

#### Contact size

The designation used to differentiate one contact from another. It may be denoted by one of the following numbering systems:

#### Creepage distance

The shortest distance along the surface of the insulating material between two conductive parts. The longer the distance, the less the risk of arc damage or tracking. Minimum creepage distances are specified according to the rated voltage and the applicable pollution degree and Comperative Tracking Index.

#### Crimped connection

A solderless connection made by crimping. IEC 60352-2 / DIN IEC 60352 Part 2.

#### Derating curve

The method for determining derating is specified in IEC 60 512-3. Here the combination of ambient temperature (Tu) and the current (J) leading to the same maximum allowable temperature (Tb) at the hottest point of the connector are plotted.

#### DIN

Deutsches Institut für Normung. A German standards organization.

#### Electromagnetic interference (EMI)

General term describing the undesirable effects of the immission or emission of radio frequency fields.

#### Funnel entry (restricted entry C146 D series)

Flared or widened entrance to a conductor barrel permitting easier insertion of the conductor.

#### Insertion or withdrawal force

The force required to fully insert or withdraw a set of mated connectors without the effect of coupling, locking or similar devices. The insertion force is usually greater than the withdrawal force.

### Connector Glossary

#### Insulation grip

The area of a crimp contact that has been reshaped around the insulation of the conductor by compression during the crimping operation.

#### Insulation resistance

The resistance of the insulation between two conductive elements, in particular, the resistance between two contacts or between a contact and a metallic housing or shield. Tested according to test 3a of IEC 60512-2 / DIN IEC 60512 Part 2.

#### Intermateable

Two connectors are intermateable when they are capable of being connected electrically and mechanically but without regard to their performance and intermountability.

#### Locator

In a crimping tool the device used for positioning a crimp contact or terminal end.

#### Mating cycle

One mating cycle comprises one insertion and one withdrawal operation. Term used in the definition of connector life.

#### Material group

Classification of insulation materials according to their CTI values (CTI = Comperative Tracking Index)

#### Overvoltage category

A numeral defining a transient overvoltage condition. Overvoltage categories I, II, III and IV are used.

#### Connector with braking capacity (CBC

A component which may be engaged or disengaged in normal use, when live or under load. Note: In the sense of this document the term - live- is used if contacts are under voltage not necessarily with a current flowing across the contacts. The term - load - is used if a current is flowing across the contacts.

#### Rated current

A current value assigned by the manufacturer which the connector or PSD can carry continuously (without interruption) and simultaneously through all its contacts wired with the largest conductor preferrably at an ambient temperature of 40 °C without the upper temperature being exceeded.

#### Shield, shielding

Shielding of internal or external electric fields by means of a plane with a uniform electric potential, formed by metal shells or metallic layers on the inside or outside of plastic shells. The shield is normally connected to the shielding braid of the cable and/or chassis ground.

#### Wire range

The range of wire cross sections which is compatible with the dimensions the terminals of the contact (wire barrel). The wire range is expressed in mm2 or in AWG numbers.

65-54749101		AHDP06-24-19PN-WTA		
96-978-22	137,161	138,161		
A114017116	AHDP04-24-19SN-WTA	AHDP06-24-19PR-WTA	AM-N05P-M1	
AHD10-6-12P-L110	138,161	138,161	AM-N05P-M3	
AHD10-9-96P111	AHDP04-24-19SR-WTA	AHDP06-24-19SN-WTA	AM-N05P-M5	
AHD10-9-1939P111	138,161	137,161		
AHD10-9-1939P8R111		AHDP06-24-19SR-WTA	AM-N05P-M20	
AHD10-9-1939P80111	140,161	137,161		
AHD10-9-1939PE111	AHDP04-24-21PR-WTA	AHDP06-24-21PN-WTA	AM-N05PS-M1	
AHD10-9-1939PNR112	140,161	141,161		
AHD14-9-96P111	AHDP04-24-21SN-WTA	AHDP06-24-21PR-WTA	AM-N05PS-M5	
AHD14-9-1939P111	141,161	141,161	AM-N05PS-M9	165
AHD16-6-12S110		AHDP06-24-21SN-WTA	AM-N05PS-M20	
AHD16-6-12SB010110	141,161	140,161		
AHD16-9-96S111	AHDP04-24-23PN-WTA	AHDP06-24-21SR-WTA	AM-N05S-M0.3	
AHD16-9-1939S111	143,161	140,161		
AHD16-9-1939\$8R111		AHDP06-24-23PN-WTA		165
AHD16-9-1939\$80111	143,161	144,161		
AHD16-9-1939SE111		AHDP06-24-23PR-WTA	AM-N05S-M9	
AHD17-9-1939PES111	144,161	144,161		
AHD17-9-1939PES80111	AHDP04-24-23SR-WTA	AHDP06-24-23SN-WTA	AM-N05S-TERM	
AHD17-9-1939S111	144,161	143,161		
AHD17-PN01 111	AHDP04-24-27PR-WTA	AHDP06-24-23SR-WTA	AT2PS-CKIT	
AHD17-PN01-GRN111	146,162	143,161		
AHDC-16-6113	AHDP04-24-27SR-WTA	AHDP06-24-27PR-WTA	AT04-2P	
AHDC-16-9113	146,162	146, 162		
AHDC-16-9-BLK113	AHDP04-24-29PR-WTA	AHDP06-24-27SR-WTA		
AHDC-16-9-OBDBK113		146,162		
	AHDP04-24-29SR-WTA	AHDP06-24-29PR-WTA		
AHDC18-18	149,162			
AHDC24-24	AHDP04-24-31PR-W1A	AHDP06-24-29SR-WTA		
AHDC169-T	152,162	149,162		
AHDC169-T-BLK113		AHDP06-24-31PR-WTA	AT04-2P-KIT01	
AHDC169-IM113	152,162	153,162		
AHDC169-TMBLK 113	AHDPU4-24-315R-WIA	AHDP06-24-31PT-WTA	AT04-2P-MM01BLK	65
AHDC169-TMOBDBK113		153,162	AT04-2P-PM11	81
AHDC169-TMOBDGN113		AHDP06-24-31SR-WTA	AT04-2P-PM12	81
AHDC169-T-OBDBK113 AHDC169-T-OBDGN113				
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AHDP04-18-14PN-WTA	100,162		A TO 4 OD DDO1	/3
		AHDP06-24-47PR-WTA	AT04-2P-RD01	60
AHDP04-18-14PR-WTA	155,162		ATO A OD SDOJBLK	60
134,161	AHDP06-18-14PN-WIA		ATO4-2P-SRO1BLK	
AHDP04-18-14\$N-WTA	135,161 AHDP06-18-14PR-WTA	155,162	A TO 4 OD SSO1	5/
135,161		AHDP-16-04477160	A104-2P-5501	6/
AHDP04-18-14\$R-WTA	135,161	AHDP-16-04978160		
135,161	AHDP06-18-14\$N-WTA	AHDP18-PN01 136		
AHDP04-24-07PN-WTA	134,161	AHDP24-PN01132,139,		
131,161	AHDP06-18-14\$R-WTA		ATO4-3P-BM02	
AHDP04-24-07\$N-WTA			ATO4-3P-BM03	
	AHDP06-24-07PN-WTA	AHDPBS-0406-001160		
AHDP04-24-19PN-WTA		AHDPBS-0406-002160		
137,161	AHDP06-24-07\$N-WTA	AHDPBS-0406-003160		
	131,161	AHDPBS-0406-018160	104-3F-NIIUI	<del>.4</del> /

ATO 4 OD 141401	, _	A TO 4 ( D C DOOD) ( )	ATO 4 10D A D1404	70	ATO / OC   EDO 41/0	/0
		ATO4 (P.SSO)	ATO4-12PA-BM04			
ATO4-3P-MM01BLK		AT04-6P-SS01	ATO4-12PA-EC01		AT06-2S-LED1201	
ATO4-3P-PM11 8		AT04-08PA-BM01	ATO4-12PA-KIT01			
ATO4-3P-PM12			ATO4-12PA-MM01		AT06-2S-LED1220 AT06-2S-LED1230	
ATO4-3P-PM13		AT04-08PA-BM02	ATO4-12PA-MMBLK		AT06-2S-LED1230AT06-2S-LED2401	
ATO4-3P-PM14		AT04-08PA-BM04	ATO4-12PA-PM05	۱۰۰ <u>۰</u> ۰۰۱	AT06-2S-LED2401	
ATO4-3P-RD01		AT04-08PA-EC01	AT04-12PA-PM11AT04-12PA-PM12		AT06-2S-LED2420	
AT04-3P-RD01BLK		AT04-08PA-KIT01 50	AT04-12PA-PM12		AT06-2S-LED2430	
AT04-3P-RJ120BK 7		AT04-08PA-MM01 65	AT04-12PA-PM14.		AT06-2S-MM01	
ATO4-3P-RJ120BK 7		AT04-08PA-MMBLK65			AT06-2S-MM01BLK	
• • • • • • • • • • • • • • • • • • • •		AT04-08PA-PM05 81	ATO4-12PA-RD01			
ATO4-3P-RY01		AT04-08PA-PM11 81	ATO4-12PA-SR2GY		ATO4-2S-R120YEL	
ATO4-3P-SRO1BLK 5		AT04-08PA-PM12 81	ATO4-12PA-SRGRY		ATO(-2S-RD01	
		AT04-08PA-PM13 81	AT04-12PA-SS01		ATOC 2S SPOIRIK	
		AT04-08PA-PM14 81			ATO4-2S-SRO1BLK	
			ATO4-12PB-BM01		ATO 6-2S-SRO2BLK	
		ATO4-08PA-RD01	ATO4-12PB-BM02		ATO6-2S-SS01	
ATO4-4P-BM02		ATO4-08PA-SR2GY	ATO4-12PB-BM03	/8	ATO(-35, CAP	
ATO4-4P-BM03		ATO4-08PA-SRGRY	ATO4-12PB-BM04		ATO 6-3S-CAP	
		ATO4-08PA-SS01			AT06-3S-EC01	
AT04-4P-EC01		ATO4-08PB			ATO 6-3S-EC01BLK	
ATO4-4P-EC01BLK 6		AT04-08PB-BM01	AT04-12PB-PM13			
ATO4-4P-KIT01		AT04-08PB-BM02	ATO4-12PB-PM14		AT06-3S-MM01	
ATO4-4P-KIT0116	55	AT04-08PB-BM03	AT04-12PB-RD01		ATO6-3S-MM01BLK	
AT04-4P-MM01		AT04-08PB-BM04	AT04-12PC		AT06-3S-R680	
AT04-4P-MM01BLK		AT04-08PB-G782	AT04-12PC-BM01		AT06-3S-RD01	
AT04-4P-PM11		AT04-08PB-PM11	AT04-12PC-BM02		AT06-3S-RD01BLK	• • • •
AT04-4P-PM128		AT04-08PB-PM1281	AT04-12PC-BM03		AT06-3S-RJ120	
AT04-4P-PM13		AT04-08PB-PM1381	AT04-12PC-BM04		AT06-3S-RJ120	
AT04-4P-PM14		AT04-08PB-PM1481	AT04-12PC-PM11	82	AT06-3S-RJ120BK	
ATO4-4P-R1K2K		AT04-08PB-RD0160	AT04-12PC-PM12		AT06-3S-RJL120	
AT04-4P-RD01		AT04-08PC 51	AT04-12PC-PM13		AT06-3S-SR01BLK	·
ATO4-4P-RD01BLK 6		AT04-08PC-BM01 77	AT04-12PC-PM14		ATO6-3S-SRO2BLK	
		AT04-08PC-BM02	AT04-12PC-RD01		AT06-3S-SS01	
		AT04-08PC-BM03	AT04-12PD		AT06-4S	
AT04-4P-SS01	5/	AT04-08PC-BM04	AT04-12PD-BM01		ATO6-4S-CAP	
AT04-6P		AT04-08PC-PM1181	AT04-12PD-BM02		AT06-4S-EC01	
		AT04-08PC-PM12 81	AT04-12PD-BM03		ATO6-4S-EC01BLK	
		AT04-08PC-PM13 81	AT04-12PD-BM04		AT06-4S-KIT01	
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		AT04-08PC-RD01 60				
		AT04-08PD 51				
		AT04-08PD-BM01				
		AT04-08PD-BM02				
		AT04-08PD-BM03				
		AT04-08PD-BM04				
		AT04-08PD-PM11 81				
		AT04-08PD-PM1281				
		AT04-08PD-PM13 81				
		AT04-08PD-PM1481				
		AT04-08PD-RD01				
		AT04-12PA 52				
		AT04-12PA-BM01				
		AT04-12PA-BM02				
A104-6P-SR01BLK5	)/	AT04-12PA-BM03	A106-2S-LED24K1	69	A106-6S-RD01BLK	58

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AT06-6S-SR02BLK56	AT60-12-0222101,114,132,	AT62-14-012283,114,135,	ATF13
AT06-6S-SS0166	138,141,147,150	139,142,144,	ATF13
AT06-08SA50	AT60-12-0244132,138,	147,154,156	ATF13
AT06-08SA-EC0162	141,147,150	AT62-14-014483,114,135,	ATF13
AT06-08SA-KIT0150	AT60-14-012283,114,	139,142,144,	ATF13
AT06-08SA-MM0164	135,139,142,144,	147,154,156	ATF13
AT06-08SA-MMBLK64	147,150,153,156	AT62-16-012283,114,135,	ATF13
AT06-08SA-RD0158	AT60-14-014483,114,	139,142,144,	ATF13
AT06-08SA-SR2GY56	135,139,142,144,	147,154,156	ATF13
AT06-08SA-SRGRY56	147,150,153,156	AT62-16-014483,114,135,	ATF13
AT06-08SA-SS0166	AT60-16-012283,114,	139,142,144,	ATF13
AT06-08SB51	135,139,142,144,	147,154,156	ATF13
AT06-08SB-RD0158	147,150,153,156	AT62-16-062283,114,135,	ATF13
	AT60-16-014483,114,	139,142,144,	ATF13
AT06-08S-CAP	135,139,142,144,	147,154,156	ATF13
AT06-08SC-RD0158	147,150,153,156	AT62-16-064483,114,135,	ATF13
	AT60-16-0622 83,114,	139,142,144,	ATF13
AT06-08SD-RD01	135,139,142,144,	147,154,156	ATF13
AT06-12SA	147,150,153,156	AT62-20-012238,150,156	ATHP
AT06-12SA-EC01	AT60-16-064483,114,	AT62-20-014438,150,156	ATHP
AT06-12SA-KIT01	135,139,142,144,	AT62-201-163183,114,135,	ATHP
ATO6-12SA-MM0164	147,150,153,156	139,142,144,	ATHP
ATO6-12SA-MM01BLK64	AT60-20-012238,150,156	147,154,156	ATHP
AT06-12SA-RD0159	AT60-20-014438,150,156	AT62-201-203138,150,156	ATHP
ATO6-12SA-SR2GY	AT60-202-163183,114,	AT62-201-1614183,114,135,	ATHP
ATO(-12SA-SRGRY	135,139,142,144, 147,150,153,156	139,142,144,	ATHP
ATO6-12SA-SS01	147,150,153,156 AT60-202-203138,150,156	147,154,156 AT62-201-2014138,150,156	ATHP
ATO6-12SB	AT60-202-16141 83,114,	AT62-203-12141101,114,	ATHP ATHP
AT06-12SB-RD01	135,139,142,144,	132,138,141,	ATHP
AT06-12S-CAP70	147,150,153,156	132,136,141,	ATHP
AT06-12SC-RD01 59	AT60-202-2014138,150,156	AT62-209-163183,114,135,	ATHP
AT06-12SD	AT60-204-12141101,114,	139,142,144,	ATHP
AT06-12SD-RD0159		147,154,156	ATHP
AT06-12SX1	132,138,141, 147,150	AT62-209-16141, 83,114,135,	ATHP
AT06-12SX2	AT60-215-163183,114,	139,142,144,	ATHP
AT6PS-CKIT 49		147,154,156	ATHP
AT8PS-CKIT 50	135,139,142,144, 147,150,153,156	AT62-210-1231101,114,	ATHP
AT11-001-3.6M 159	AT60-215-1614183,114,	132,138,141, 147,150	ATHP
AT11-240-2005 159	135,139,142,144,	147,150	ATHP
AT11-310-160585,115,159	147,150,153,156	AT62-210-1231-1820101	ATHP
AT11-337-120585,115,159	AT60-220-1231101,114,	AT1612-13PB54	ATHP
AT12PS-CKIT	132,138,141,	AT1612-13PB-G54,82,99	ATHP
AT13-204-2005 40	147,150	AT1612-13PBNF13 54,78	ATHP
AT13-204-2005-SR 40	AT62-12-0144101,114,	AT1612-13PB-RD54	ATHP
AT14-001-2486132,139,	132,138,141,	AT1612-13PB-RDG54,82,99	ATHP
142,145,148,	147,150	AT1612-13SB54	ATHP
151,154,157	AT62-12-0166101,114,	AT1612-13SB-RD54,64	ATHP
AT14-002-1886136	132,138,141,	AT1612-PB-G782,99	ATHP
AT16-18SB-K00455	147,150	ATF13-2P-BM0177	ATHP
AT60-12-0144101,114,132,	AT62-12-0222101,114,	ATF13-2P-BM0277	ATHP
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AT60-12-0166101,114,132,	147,150	ATF13-3P-BM0277	ATHP
138,141,147,150	AT62-12-0244	ATF13-4P-BM01	ATHP

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AT62-14-012283,114,135,	ATF13-6P-BM01	77
139,142,144,	ATF13-6P-BM02	
147,154,156	ATF13-08PA-BM01	77
AT62-14-014483,114,135,	ATF13-08PA-BM02	77
139,142,144,	ATF13-08PB-BM01	77
147,154,156	ATF13-08PB-BM02	77
AT62-16-012283,114,135,	ATF13-08PC-BM01	77
139,142,144,	ATF13-08PC-BM02	
147,154,156	ATF13-08PD-BM01	
AT62-16-014483,114,135,	ATF13-08PD-BM02	
139,142,144,	ATF13-12PA-BM01	
147,154,156	ATF13-12PA-BM02	
AT62-16-062283,114,135,	ATF13-12PB-BM01	
139,142,144,	ATF13-12PB-BM02	
147,154,156	ATF13-12PC-BM01	
AT62-16-064483,114,135,	ATF13-12PC-BM02	
139,142,144,	ATF13-12PD-BM01	
147,154,156	ATF13-12PD-BM02	
AT62-20-012238,150,156	ATHP042P08EL12-35	
AT62-20-014438,150,156	ATHP042P08EL12-50	
AT62-201-163183,114,135,	ATHP042P08EL16-35	
139,142,144,	ATHP042P08EL16-50	
147,154,156	ATHP042P08EN12-35	-
AT62-201-203138,150,156	ATHP042P08EN12-50	-
AT62-201-16141_83,114,135,	ATHP042P08EN16-35	
139,142,144,	ATHP042P08EN16-50	
147,154,156	ATHP042P08NL12-35	
AT62-201-2014138,150,156	ATHP042P08NL12-50	
AT62-203-12141101,114,	ATHP042P08NL16-35	
132,138,141,		-
	ATHP042P08NL16-50 ATHP042P08NN12-35	
147,150		
AT62-209-163183,114,135,	ATHP042P08NN12-50	
139,142,144,	ATHP042P08NN16-35	
147,154,156	ATHP042P08NN16-50	
AT62-209-16141_83,114,135,	ATHP062S08EL12-35S1	•
139,142,144,	ATHP062S08EL12-35S2	
147,154,156	ATHP062S08EL12-50S1	
AT62-210-1231101,114,	ATHP062S08EL12-50S2	
132,138,141,	ATHP062S08EL16-35S1	
147,150 AT62-210-1231-1820101	ATHP062S08EL16-35S2	17/
	ATHP062S08EL16-50S1	
AT1612-13PB	ATHP062S08EL16-50S2	-
	ATHP062S08EN12-35S1	
AT1612-13PBNF1354,78	ATHP062S08EN12-35S2	
AT1612-13PB-RD	ATHP062S08EN12-50S1	
AT1612-13PB-RDG54,82,99	ATHP062S08EN12-50S2	
AT1612-13SB 54	ATHP062S08EN16-35S1	-
AT1612-13SB-RD54,64	ATHP062S08EN16-35S2	
AT1612-PB-G782,99	ATHP062S08EN16-50S1	
ATF13-2P-BM01	ATHP062S08EN16-50S2	
ATF13-2P-BM02	ATHP062S08NL12-35S1	
ATF13-3P-BM01	ATHP062S08NL12-35S2	
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