ATD ATDSeries™

Compact, High-Density, Heavy-Duty, Thermoplastic Connectors

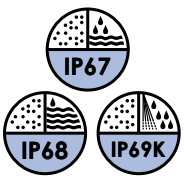
Available in 20 position

Amphenol Sine Systems **ATD Series™ Connectors** are a high-density, heavy-duty, thermoplastic solution with superior environmental seals and end caps for exceptional rear seal retention. As a hybrid system, these connectors facilitate the simultaneous transmission of power and signal within one unit. Their compact design offers increased flexibility for wire harness designers, enabling efficient space use without sacrificing functionality. These connectors have been developed to be comparable with other similar existing products industry-wide. (See website for cross reference.)

The connector design incorporates an integral latching system, with an optional **Connector Position Assurance (CPA) Lock**, that ensures a definitive electrical and mechanical connection. Both plugs and receptacles include a **Terminal Position Assurance (TPA) Wedgelock** which enables correct contact installation. 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. ATD Series™ connectors utilize our **A Series™ Contacts**, which are derived from quality copper alloy to ensure an electrically-reliable connection.

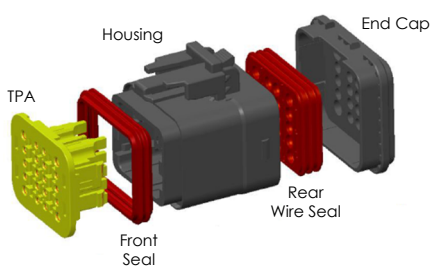
Features

- Hybrid System for Power and Signal applications
- 14-22AWG Range, Up to 13A, Size 16/20 contacts
- IP67, IP68 and IP69K rated (in mated condition)
- Thermoplastic housing with integrated latch for mating
- Terminal Position Assurance (TPA) Wedgelocks for plugs and receptacles
- Optional Connector Position Assurance (CPA) Locks
- Comparable with existing standard products industry-wide

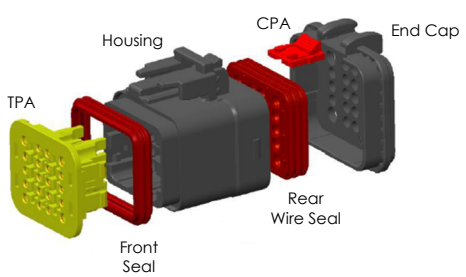


Applications: Marine, Heavy Equipment, Agricultural, Automotive, Alternative Energy, as well as other demanding interconnect applications

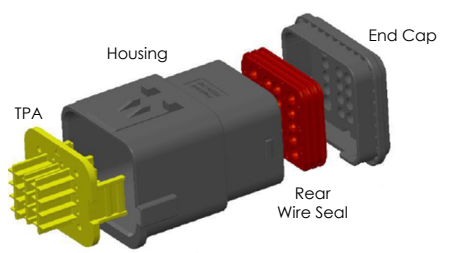
ATD Series™ plugs and receptacles include integrated Terminal Position Assurance (TPA) Wedgelocks. Plugs are available with an optional Connector Position Assurance (CPA) Lock, which simplifies assembly, installation, and repair by minimizing the need for additional components or specialized tools.



Plug w/ Terminal Position Assurance (TPA) Wedgelock
(w/out optional Connector Position Assurance (CPA) Lock)



Plug w/ Terminal Position Assurance (TPA) Wedgelock
(w/ optional Connector Position Assurance (CPA) Lock)



Receptacle w/ Terminal Position Assurance (TPA) Wedgelock

IP Ratings
IP67 rated (Dust tight; 1M of Water for 30 Minutes, in mated condition)
IP68 rated (Dust tight; 1M of Water for 24 Hours, in mated condition)
IP69K rated (Dust tight; High-Pressure Waterproof, 4 Points (0°, 30°, 60°, 90°), in mated condition)

A ASeries™ Family

Standard products. Custom solutions
Customer Service +1 800 394 7732

ATD Series™ - Specifications (See Individual datasheets)

IP Rating (in mated condition)	IP67, IP68 and IP69K (See individual datasheets)
Max. Current (Amperage)	Up to 13A
Max. Voltage Rating	250V
Operating Temperature	-55°C to +125°C
Coupling System	Integrated Latch w optional Connector Position Assurance (CPA) Locks
Housing Body	Thermoplastic
Wire Range	14-22AWG (See individual datasheets)
Sealing Material	Silicone Rubber
Contact Types	Machined and Stamped & Formed
Contact Material	Copper Alloy
Contact Termination	Crimp
Contact Resistance	16# <10mΩ; 20# <16mΩ
Insulation Resistance	>1000MΩ
Dielectric Withstand Voltage	<2.0mA under 1500VAC
Temperature Rise	16# - ≤30°C @ 13A VDC; 20# - ≤30°C @ 7.5A VDC
Terminal - Connector Insertion Force	≤30N
Mating/Unmating Forces	Does not exceed 135N
Connector Retension	No cracks, deformation or harmful damage to the connector after 120N for 30 sec.
Terminal Retension Force Connector	16# - 111N; 20# - 89N minimum pull-out force
Durability	No evidence of damage detrimental to their normal operation after 100 mating/unmating cycles

Maintenance Aging	No signs of harmful damage to contact points, contact plating, connector housing, or seals after 5 insertion/extraction cycle tests
Mismating	An axial force of 179N was applied to the mismated connectors, and their appearance and functions were found to be normal
Fluid Immersion	No visible evidence of damage after immersion in motor oil, hydraulic brake fluid, transmission oil, detergent, diesel fuel No. 2, or antifreeze solution
Pressure/Vacuum Leak	No bubbles visible exiting any test sample, and no signs of moisture ingress into the connector interior after 15 sec.
Temperature Life	No evidence was founding of cracking, chipping or other damage detrimental to the normal operation of the connectors after 1000 hrs @ 125°C
Thermal Shock	No evidence was founding of cracking, chipping or other damage detrimental to the normal operation of the connectors
Temperature Humidity Cycling	No evidence was founding of cracking, chipping or other damage detrimental to the normal operation of the connectors after 40 cycles
Submersion	No signs of moisture ingress into the connector interior
Drop Test	No disengagement of the mated connectors, and no evidence of cracking, breaking, or loosening of parts
Vibration	No disconnections greater than 1 microsecond. The inserted connector is not detached, the connecting mechanism is not detached, there is no rupture, no damage, and no loose parts.
Shock	No disconnections greater than 1 microsecond. The inserted connector is not detached, the connecting mechanism is not detached, there is no rupture, no damage, and no loose parts.
Flammability Rating	UL94 HB
RoHS Compliant	ALL materials meet the requirements of the European Directive. (See website for documentation)

ATD Series™ - Plugs
Note: Refer to individual datasheets on **www.amphenol-sine.com**for full specs, faceviews, keying location and product dimensions.

Image	Part Number	Description	Contact Size	Amperage	Voltage
	ATD06-20SA1	20 Position, Plug, Socket, ATD Series™, **Integrated Latch w Connector Position Assurance (CPA) Lock**, Silicone Rubber (Red), Keyed A, ATD Series™ Standard Rear Seal (Red), Black Body, Black End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD06-20SB1	20 Position, Plug, Socket, ATD Series™, **Integrated Latch w Connector Position Assurance (CPA) Lock**, Silicone Rubber (Red), Keyed B, ATD Series™ Standard Rear Seal (Red), Grey Body, Grey End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD06-20SC1	20 Position, Plug, Socket, ATD Series™, **Integrated Latch w Connector Position Assurance (CPA) Lock**, Silicone Rubber (Red), Keyed C, ATD Series™ Standard Rear Seal (Red), Green Body, Green End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD06-20SD1	20 Position, Plug, Socket, ATD Series™, **Integrated Latch w Connector Position Assurance (CPA) Lock**, Silicone Rubber (Red), Keyed D, ATD Series™ Standard Rear Seal (Red), Blue Body, Blue End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD06-20SA0	20 Position, Plug, Socket, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed A, ATD Series™ Standard Rear Seal (Red), Black Body, Black End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD06-20SB0	20 Position, Plug, Socket, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed B, ATD Series™ Standard Rear Seal (Red), Grey Body, Grey End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD06-20SC0	20 Position, Plug, Socket, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed C, ATD Series™ Standard Rear Seal (Red), Green Body, Green End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD06-20SD0	20 Position, Plug, Socket, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed D, ATD Series™ Standard Rear Seal (Red), Blue Body, Blue End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V

ATD Series™ - Receptacles
Note: Refer to individual datasheets on **www.amphenol-sine.com** for full specs, faceviews, keying location and product dimensions.

Image	Part Number	Description	Contact Size	Amperage	Voltage
	ATD04-20PA	20 Position, Receptacle, Pin, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed A, ATD Series™ Standard Rear Seal (Red), Black Body, Black End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD04-20PB	20 Position, Receptacle, Pin, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed B, ATD Series™ Standard Rear Seal (Red), Grey Body, Grey End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD04-20PC	20 Position, Receptacle, Pin, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed C, ATD Series™ Standard Rear Seal (Red), Green Body, Green End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V
	ATD04-20PD	20 Position, Receptacle, Pin, ATD Series™, Integrated Latch, Silicone Rubber (Red), Keyed D, ATD Series™ Standard Rear Seal (Red), Blue Body, Blue End Cap, TPA Wedgelock Included	16/20	13A/7.5A	250V

ATD Series™ **Backshells** - Refer to our **A Series™ Backshells Flyer**

ATD Series™ **Clips** - Refer to our **A Series™ Clips Flyer**

ATD Series™ **Contacts** and **Tooling** - Refer to individual part number datasheets found at **www.amphenol-sine.com** or our **A Series™ Contacts Flyer**

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