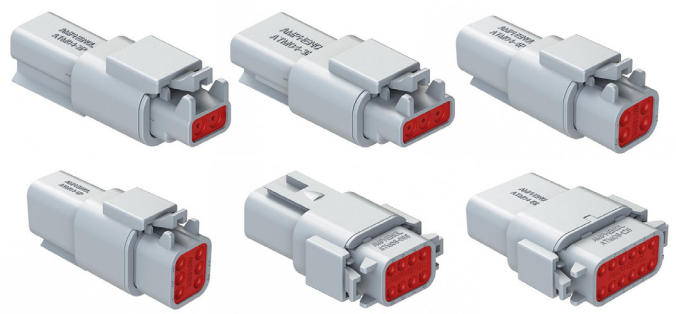
ATM ATMSeries™



Heavy-Duty, Multi-Pin, 7.5A, Thermoplastic Connectors

IP67

Available in 2, 3, 4, 6, 8 and 12 positions

Amphenol Sine Systems' **ATM Series™** connectors are an IP67-rated (mated condition), high-performance, cost-effective solution specifically designed for smaller AWG applications, while still maintaining the strengths of the AT Series™ product line. All of our ATM Series™ connectors have been developed to be compatible with other existing standard products industry-wide.

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.

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

Available in an **ATMH Series™ - High Temperature** option which **features an increased operating temperature range of -55°C to 150°C**, ideal for "under the hood" applications, along with an IP68 (1M of water for a period of 24 hours, mated condition) & IP69K (in mated condition) rating. Also available in **BoardLock™ ATM** options, featuring flanged, 90° right angle or 180° straight, wire-to-board functionality, along with an IP67 rating (in mated condition).

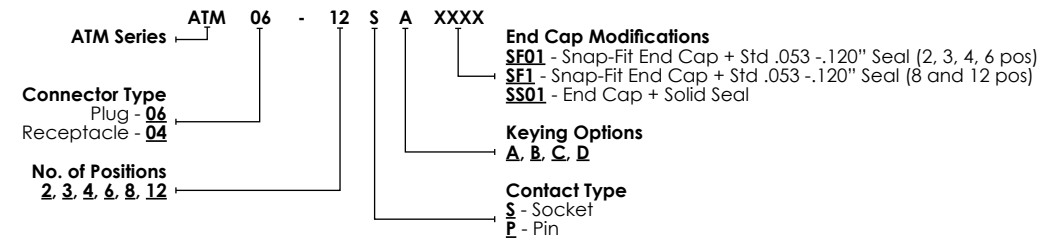
ATMH ATMHSeries™

BL BoardLock™ ATM

A ASeries™ Family

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

ATM Series™ - Part Numbering Sequence



ATM Series™ - Features & Benefits

Current Capacity	Size 20, 7.5A
Wire Range	Size 20 contacts will accept wire ranges of 16 thru 22AWG
Operating Temperature	**-55°C to +125°C at rated current**
IP Rating	IP67 (in mated condition)
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 89 lbs.
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
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	Insulation resistance at 25°C shall be greater than 20 megohms when 1000 VDC are applied
Mating Cycle Durability	Following 100 cycles of connection engagement and disengagement, degradation either mechanical or electrical is not evident
Contact Millivolt Drop	Size 20 contacts with 20AWG conductor - 60mV (solid contact) drop max; 100mV (stamped & formed contact) drop max at 7.5A test current

ATM Series™ - Product Material

Housings	Thermoplastic
Seals	Silicone Elastomer
Secondary Locks	Thermoplastic
Contacts	Copper Alloy, Nickel Plated, Gold optional

ATM Series™ - Contacts (For a complete contact list, see individual ATM Plug and Receptacle datasheets.)

Part Number	Description	Size	AWG	Type
AT62-201-2031	Female Contact - Socket, Gold-plated	20-22	20	Solid
AT60-202-2031	Male Contact - Pin, Gold-plated	20-22	20	Solid
AT62-201-20141	Female Contact - Socket, Nickel-plated	20-22	20	Solid
AT60-202-20141	Male Contact - Pin, Nickel-plated	20-22	20	Solid
AT62-20-0144	Female Contact - Socket, Gold-plated	16-22	20	Stamped & Formed
AT60-20-0144	Male Contact - Pin, Gold-plated	16-22	20	Stamped & Formed
AT62-20-0122	Female Contact - Socket, Nickel-plated	16-22	20	Stamped & Formed
AT60-20-0122	Male Contact - Pin, Nickel-plated	16-22	20	Stamped & Formed

ATMH Series™

Heavy-Duty, Multi-Pin, 7.5A, **High Temperature** Thermoplastic Connectors

IP68 IP69K

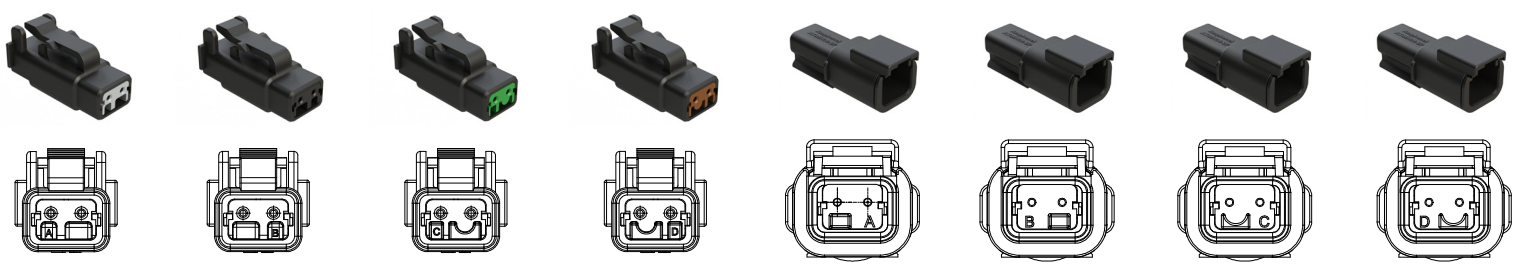
Available in 2 position

Amphenol Sine Systems' **ATMH Series™** connectors, an extension of our ATM Series™, are an IP68/69K rated (mated condition), high-performance, cost-effective solution designed for smaller AWG applications, and ideally suited for "under the hood" applications where higher temperatures are required. While our ATM Series™ connectors have an Operating Temperature Range of -55°C to 125°C, **our ATMH Series™ has an increased operating temperature range of -55°C to 150°C.** All of our ATMH Series™ connectors have been developed to be compatible with other existing standard products industry-wide.

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

ATMH Series™ plugs and receptacles both arrive with an integrated, "unseated", **Terminal Position Assurance (TPA) Lock**. Once the contacts have been installed by the user, the TPA's can then be fully "seated" for proper use. The TPA's are color-coded for their respective keying position: **Keyed A**-Grey, **Keyed B**-Black, **Keyed C**-Green, and **Keyed D**-Brown.

ATMH Series™ Keying Options (Plug TPAs are shown "seated". Receptacle TPAs are hidden from view.)



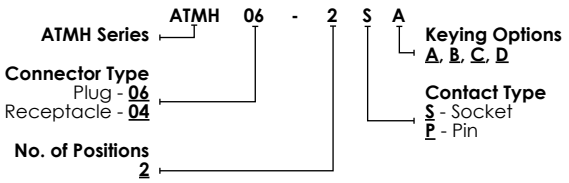
Keyed A Plug ATMH06-2SA **TPA Color: Grey**	Keyed B Plug ATMH06-2SB **TPA Color: Black**	Keyed C Plug ATMH06-2SC **TPA Color: Green**	Keyed D Plug ATMH06-2SD **TPA Color: Brown**	Keyed A Recep ATMH04-2PA **TPA Color: Grey**	Keyed B Recep ATMH04-2PB **TPA Color: Black**	Keyed C Recep ATMH04-2PC **TPA Color: Green**	Keyed D Recep ATMH04-2PD **TPA Color: Brown**

Important: ATMH Series™ plugs and receptacles are capable of mating with ATM Series™ plugs and receptacles, but will only retain the lower ATM Series™ operating temperature range of -55°C to +125°C when mixed.

A ASeries™ Family

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

ATMH Series™ - Part Numbering Sequence



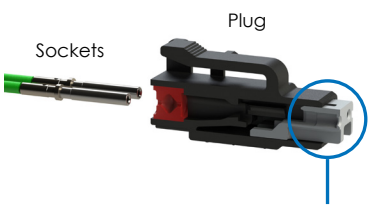
ATMH Series™ - Features & Benefits

Current Capacity	Size 20, 7.5A
Wire Range	Size 20 contacts will accept wire ranges of 16-22AWG
Operating Temperature	**-55°C to +150°C at rated current**
IP Rating	IP68 (1M of water for a period of 24 hours, mated condition) & IP69k (in mated condition)
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 89 lbs.
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
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	Insulation resistance at 25°C shall be greater than 20 megohms when 1000 VDC are applied
Mating Cycle Durability	Following 100 cycles of connection engagement and disengagement, degradation either mechanical or electrical is not evident
Contact Millivolt Drop	Size 20 contacts with 20AWG conductor - 60mV (solid contact) drop max; 100mV (stamped & formed contact) drop max at 7.5A test current

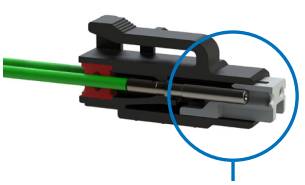
ATMH Series™ - Product Material

Housings	Thermoplastic
Seals	Silicone Elastomer
Terminal Position Assurance Lock	Thermoplastic
Contacts	Copper Alloy, Nickel Plated, Gold optional

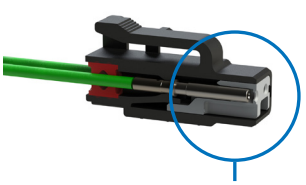
ATMH Series™ - How to Install Contacts with Terminal Position Assurance (TPA) Locks



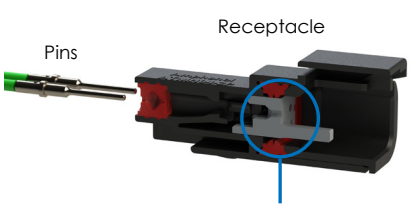
"Unseated" TPA Lock



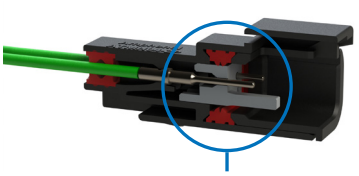
Insert Socket Contacts Into Position



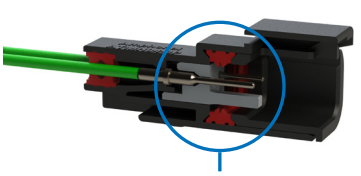
Push TPA Into "Seated" Position To Lock Sockets in Place



"Unseated" TPA Lock



Insert Pin Contacts Into Position



Push TPA Into "Seated" Position To Lock Pins in Place

2 Position - ATMH™ Series Plugs

Image	Part Number	Description	Size	Amp
	ATMH06-2SA	2 Position, Plug, Socket, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Grey), Keyed A, Standard Diameter Rear Seal (Red), Black Body	20	7.5A
	ATMH06-2SB	2 Position, Plug, Socket, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Black), Keyed B, Standard Diameter Rear Seal (Red), Black Body	20	7.5A
	ATMH06-2SC	2 Position, Plug, Socket, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Green), Keyed C, Standard Diameter Rear Seal (Red), Black Body	20	7.5A
	ATMH06-2SD	2 Position, Plug, Socket, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Brown), Keyed D, Standard Diameter Rear Seal (Red), Black Body	20	7.5A

2 Position - ATMH Series™ Receptacles

	ATMH04-2PA	2 Position, Receptacle, Pin, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Grey), Keyed A, Standard Diameter Rear Seal (Red), Black Body	20	7.5A
	ATMH04-2PB	2 Position, Receptacle, Pin, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Black), Keyed B, Standard Diameter Rear Seal (Red), Black Body	20	7.5A
	ATMH04-2PC	2 Position, Receptacle, Pin, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Green), Keyed C, Standard Diameter Rear Seal (Red), Black Body	20	7.5A
	ATMH04-2PD	2 Position, Receptacle, Pin, ATMH Series™, High Temperature (+150°C), (TPA) Terminal Position Assurance Lock (Brown), Keyed D, Standard Diameter Rear Seal (Red), Black Body	20	7.5A

ATMH Series™ - Contacts (For a complete contact list, see individual ATMH Series™ Plug and Receptacle datasheets.)

Part Number	Description	Size	AWG	Type
AT62-201-2031	Female Contact - Socket, Gold-plated	20-22	20	Solid
AT60-202-2031	Male Contact - Pin, Gold-plated	20-22	20	Solid
AT62-201-20141	Female Contact - Socket, Nickel-plated	20-22	20	Solid
AT60-202-20141	Male Contact - Pin, Nickel-plated	20-22	20	Solid
AT62-20-0144	Female Contact - Socket, Gold-plated	16-22	20	Stamped & Formed
AT60-20-0144	Male Contact - Pin, Gold-plated	16-22	20	Stamped & Formed
AT62-20-0122	Female Contact - Socket, Nickel-plated	16-22	20	Stamped & Formed
AT60-20-0122	Male Contact - Pin, Nickel-plated	16-22	20	Stamped & Formed

For more information, contact: Customer Service, +1 800 394 7732, csr@amphenol-sine.com