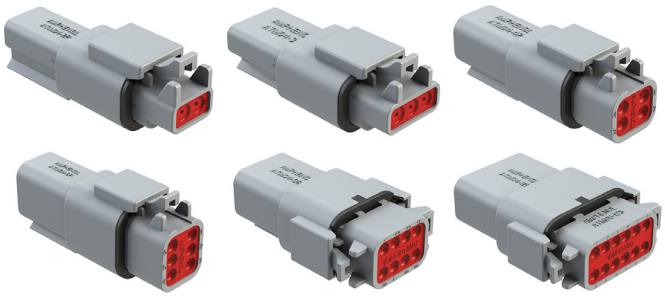


# ATM ATMSeries™



## 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

Additional ATM Series™ options:

**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.

**ATM Series™ SF01 (Snap-Fit Caps)** options which features an integrated Snap-Fit Cap enhancement that ensures rear seal stability under uncontrolled, harsh environmental conditions, along with an IP68/69K rating.

**BoardLock™ ATM** options, featuring flanged, 90° right angle or 180° straight, wire-to-board functionality, along with an IP67 rating (in mated condition).

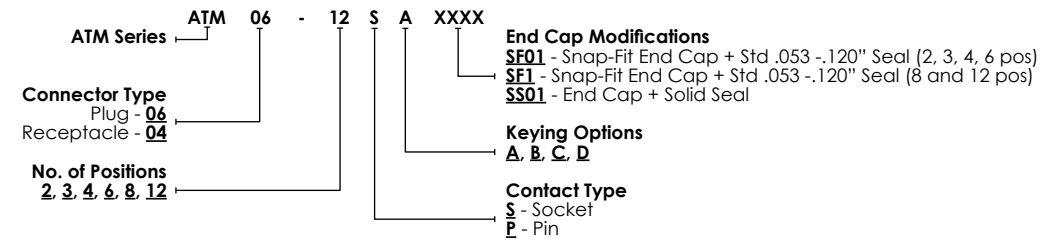
ATMH ATMHSeries™ ATM ATMSeries™ SF01 BL BoardLock™ ATM

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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

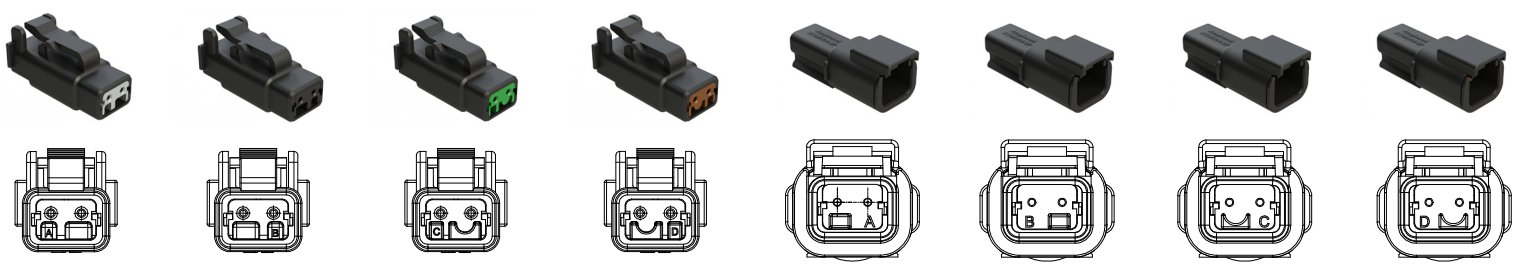
**Available in 2 position**

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

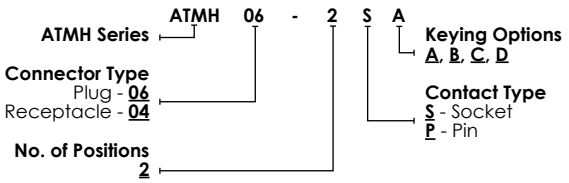
**Important:** ATMH Series™ plugs and receptacles are capable of mating with ATM Series™ plugs and receptacles, but will only retain the lower ATM Series™ operating temperature range of -55°C to +125°C when mixed.

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## ATMH Series™ - Part Numbering Sequence



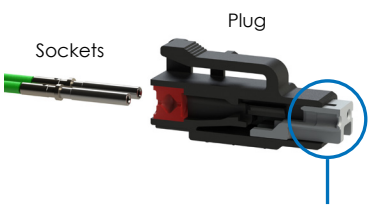

## ATMH Series™ - Features & Benefits

| | |
|---|---|
| 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 |

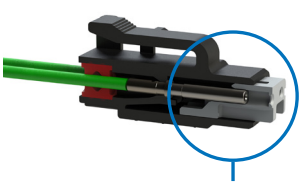
## ATMH Series™ - Product Material

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

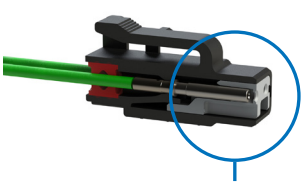
## ATMH Series™ - How to Install Contacts with Terminal Position Assurance (TPA) Locks



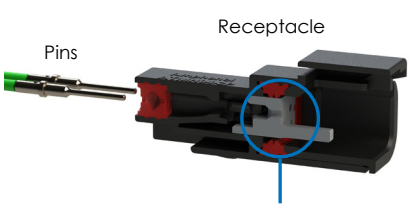

"Unseated" TPA Lock



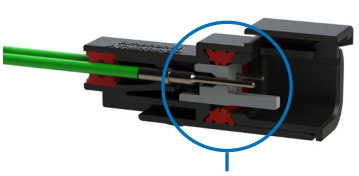
Insert Socket Contacts Into Position



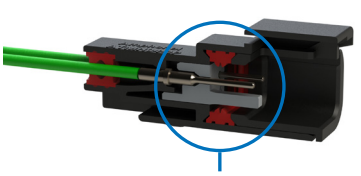
Push TPA Into "Seated" Position To Lock Sockets in Place




"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

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