



The Tradesman's Connection

Amphenol **AT|Series**[™] Connectors

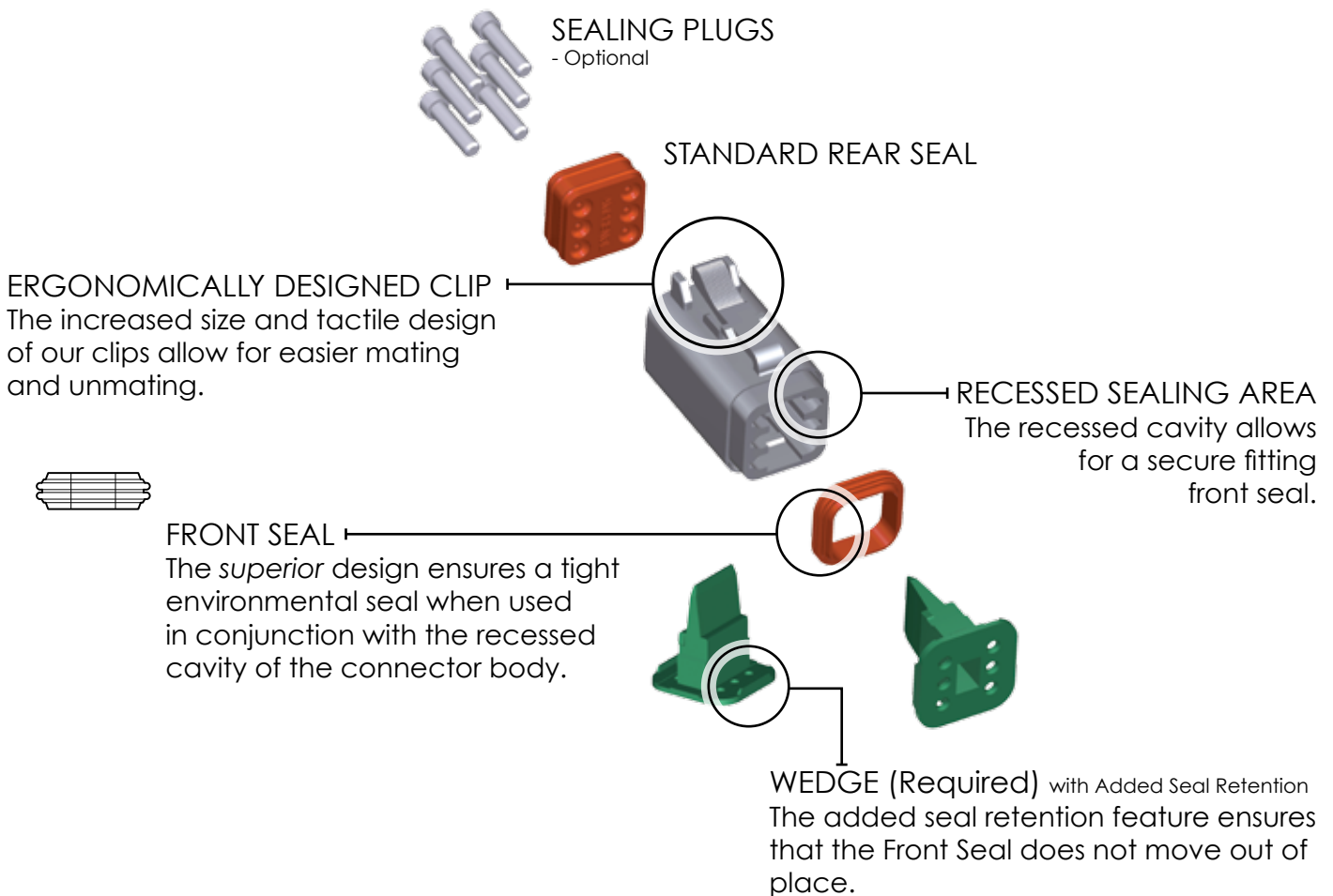
SINESYSTEMS



The New Quikcrimp Amphenol AT Series Connectors Are Compatible Alternatives For The Deutsch DT Series

What Are AT Series™ Connectors?

Amphenol AT Series™ connectors are designed as a high-performance, cost-effective solution to be used within the Heavy Equipment, Agricultural, Automotive, Military, Alternative Energy and other demanding interconnect architectures. The AT Series™ connectors contain superior environmental seals, seal and retention capabilities. In addition, all of our AT Series™ connectors have been developed to be completely compatible with all other existing standard products industry-wide.



AT Series™ Specifications

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. These are suited for applications demanding higher levels of performance.

Performance Criteria

CURRENT CAPACITY	No. 16, 13 amps (max)
WIRE RANGE	No 16 contacts will accept wire ranges of 0.5mm ² to 2.0mm ²
TEMPERATURE	Operating temperature range: -55°C to +125°C at rated current
DIELECTRIC VALUE	Meets or exceeds 1500 volts minimum
FLAME RESISTANCE	All dielectric materials have a flammability rating of UL94 HB or better
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, 0.5mm ² to 2.0mm ² achieves minimum pull-out force of 110 newtons
CONNECTOR RETENTION	A mated connector subjected to a pulling force by the exiting wire bundle at 111 newtons times the number of contacts to a maximum of 444 newtons 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	No. 16 contacts with 16 awg conductor - *100 millivolt drop max at 13 amps test current
ULTRAVIOLET EFFECTS	Test the mated connectors for 1000 hours per ASTM G 154 or ASTM G 153 with 20 hours UV and 4 hours of condensation for each cycle
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 (IP67 RATED)


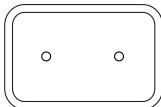


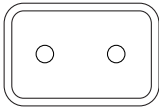


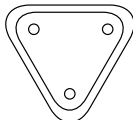





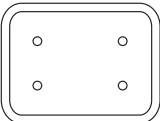


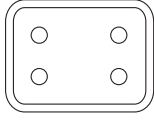


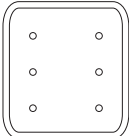
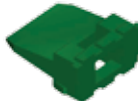

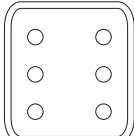


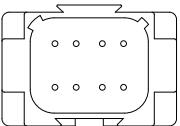
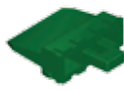

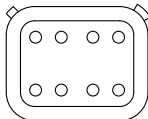


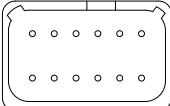
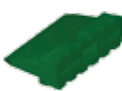

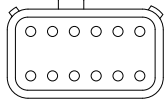

Product Material

HOUSINGS	Thermoplastic
SEALS	Silicone Elastomer
SECONDARY LOCKS	Thermoplastic
CONTACTS	Nickel Plated, Gold optional

































AT Series™ Receptacles, Plugs And Wedges - 2, 3, 4, 6, 8, and 12 Pins

Note: the views shown below are mating face views

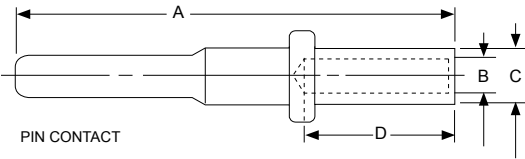
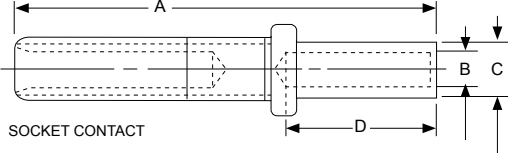
2 PIN	Receptacles	Wedges	Plugs	Wedges
	Part No: 88010270-000	88010271-000	Part No: 88010272-000	88010273-000
	Pack Qty: 20	20	Pack Qty: 20	20
	 		 	
3 PIN	Part No: 88010274-000	88010275-000	Part No: 88010276-000	88010277-000
	Pack Qty: 20	20	Pack Qty: 20	20
	 		 	
4 PIN	Part No: 88010278-000	88010279-000	Part No: 88010280-000	88010281-000
	Pack Qty: 20	20	Pack Qty: 20	20
	 		 	
6 PIN	Part No: 88010282-000	88010283-000	Part No: 88010284-000	88010285-000
	Pack Qty: 10	10	Pack Qty: 10	10
	 		 	
8 PIN	Part No: 88010286-000	88010287-000	Part No: 88010288-000	88010289-000
	Pack Qty: 10	10	Pack Qty: 10	10
	 		 	
12 PIN	Part No: 88010290-000	88010291-000	Part No: 88010292-000	88010293-000
	Pack Qty: 10	10	Pack Qty: 10	10
	 		 	

AT Series™ Receptacles, Plugs And Wedges - 2, 3, 4, 6, 8, and 12 Pin Sets

SETS		
2 PIN	Part No: AT02-KIT	    
	1 x 2 Pin Receptacle	
	1 x 2 Pin Receptacle Wedge	
	1 x 2 Pin Plug	
	1 x 2 Pin Plug Wedge	
	2 x Solid Crimp Pin Contacts (Nickel)	
	2 x Solid Crimp Socket Contacts (Nickel)	
3 PIN	Part No: AT03-KIT	    
	1 x 3 Pin Receptacle	
	1 x 3 Pin Receptacle Wedge	
	1 x 3 Pin Plug	
	1 x 3 Pin Plug Wedge	
	3 x Solid Crimp Pin Contacts (Nickel)	
	3 x Solid Crimp Socket Contacts (Nickel)	
4 PIN	Part No: AT04-KIT	    
	1 x 4 Pin Receptacle	
	1 x 4 Pin Receptacle Wedge	
	1 x 4 Pin Plug	
	1 x 4 Pin Plug Wedge	
	4 x Solid Crimp Pin Contacts (Nickel)	
	4 x Solid Crimp Socket Contacts (Nickel)	
6 PIN	Part No: AT06-KIT	    
	1 x 6 Pin Receptacle	
	1 x 6 Pin Receptacle Wedge	
	1 x 6 Pin Plug	
	1 x 6 Pin Plug Wedge	
	6 x Solid Crimp Pin Contacts (Nickel)	
	6 x Solid Crimp Socket Contacts (Nickel)	
8 PIN	Part No: AT08-KIT	    
	1 x 8 Pin Receptacle	
	1 x 8 Pin Receptacle Wedge	
	1 x 8 Pin Plug	
	1 x 8 Pin Plug Wedge	
	8 x Solid Crimp Pin Contacts (Nickel)	
	8 x Solid Crimp Socket Contacts (Nickel)	
12 PIN	Part No: AT12-KIT	    
	1 x 12 Pin Receptacle	
	1 x 12 Pin Receptacle Wedge	
	1 x 12 Pin Plug	
	1 x 12 Pin Plug Wedge	
	12 x Solid Crimp Pin Contacts (Nickel)	
	12 x Solid Crimp Socket Contacts (Nickel)	

Pin Contacts, Socket Contacts and Tooling

All dimensions are in Inches.

Military-Style Solid Crimp								
 <p>PIN CONTACT</p>			 <p>SOCKET CONTACT</p>					
Part No.	Pack Qty: 100	Size/ Type	A Max	B Min	C Max	D Min	Wire Gauge Range	Recomm'd Strip Length
88010294-000 (Gold) 88010295-000 (Nickel)		16 Pin	.821	.066	.103	.25	16 & 18	.250-.312
88010296-000 (Gold) 88010297-000 (Nickel)		16 Socket	.759	.066	.103	.25	16 & 18	.250-.312

Contact and Wedge Removal Tool	Hand Crimp Tool	Sealing Plug (size 16)
Part No: QKATRT	Part No: RC1100	Part No: 88010298-000
Pack Qty: 1	Pack Qty: 1	Pack Qty: 100
		

Plug Assembly - Contact and Wedge Insertion



1. Grasp crimped contact approx. one inch behind the contact barrel.



2. Hold connector with rear grommet facing you.



3. Push contact straight into connector until a 'click' is felt. A slight tug will confirm placement.



4. Insert wedge into connector.



5. A 'click' will be felt when the wedge is fully installed.

Plug Assembly - Contact and Wedge Removal



1. Remove wedge by inserting a wedge removal tool underneath the lip of the wedge.



2. Twist the tool until wedge 'pops' out of connector.

Receptacle Assembly - Contact and Wedge Insertion



1. Grasp crimped contact approx. one inch behind the contact barrel.



2. Hold connector with rear grommet facing you.



3. Push contact straight into receptacle until a 'click' is felt. A slight tug will confirm placement.



4. Insert wedge into receptacle.



5. A 'click' will be felt when the wedge is fully installed.

Receptacle Assembly - Contact and Wedge Removal



1. Remove wedge by inserting a tool into an opening of the wedge.



2. Pull until wedge 'pops' out of receptacle.

AT Series™ - Specifications

MATERIAL SPECIFICATIONS

Plug/Receptacle	Contacts
Shell: Thermoplastic	Pin: Copper Alloy
Wedge: Thermoplastic	Socket: Copper Alloy
Grommet: Silicone Rubber	Finish: Nickel-plated (optional Gold)
Sealing Plugs	
Thermoplastic: All Sizes	

GENERAL SPECIFICATIONS

Dielectric Withstanding Voltage	Insulation Resistance
Current leak less than 2 milliamps at 1500 VAC	1000 megohms minimum 25°C
Current Ratings (Contact current rating at 125°C continuous)	
1.5mm²: 13 amps	
Submersion	Fluid Resistance
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.
Vibration	Temperature
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.	Operative at temperatures from -55°C to +125°C. Continuous at rated current.
Contact Retention Contacts withstand a minimum load of:	
25lbs. (89N) for 1.5mm²	
Thermal Cycle	Durability
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.

CONTACT RESISTENCE

CONTACT SIZE	WIRE GAUGE AWG(mm²)	TEST CURRENT (AMPS)	RESISTANCE SOLIDS	RESISTANCE STAMPED & FORMED
16	20 (0.50mm²)	7.5	60	100
	18 (0.80mm²)	10	60	100
	16 (1.0mm²)	13	60	100
	14 (2.0mm²)	13	60	100

WIRE SEALING RANGE

CONTACT SIZE	RECOMMENDED WIRE INSULATION O.D.	
	S-SEAL	RD-SEAL
#16	.088 - .145 (2.24 - 3.68)	.053 - .120 (1.35 - 3.05)

Note: Please refer to www.quikcrimp.com.au/amphenol for full technical specifications.

Available From

