# WATERPROOF

Registered



ISO 9001



an EDACOM company



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### Your Connection to Quality and Service

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#### **ENGINEERING NOTES:**

The Waterproof series of connectors are made using the following materials and processes.

The insulator housing is made of high impact flame retardant (UL 94-V0) Polyester (PBT). The water seals are moulded out of silicone rubber. The housings use latching mechanisms to hold and lock the mating halves together.

The mated connectors have been tested for various levels of resistance to water ingress. These test vary from a level of "0" which means "without protection" to "8" which is a fully submersible connector.

The contacts are made of brass or phosper bronze and are plated with nickel (to improve wear resistance and reduce galvanic corrosion), then they are plated with a tin-lead alloy for conductivity.

Crimp contacts are available for wire sizes of 28 to 22 AWG for the 566 series, and for 22 to 16 AWG for the 568 and 570 series.

#### **APPLICATION NOTES:**

The typical application of these connectors includes any place where there is the chance of water contaminating the circuit. These applications have included: bathrooms, hot water heaters, washing machines, water purifiers, outdoor motors, frozen food show cases, dishwashers and most outdoor applications.

The Waterproof connectors have been approved for use in environments which require a protection grade of "4" (Splash-Proof). The connectors have successfully passed testing to a protection grade of "7".

The following chart describes the protection grades, class descriptions, and meanings of the various moisture/water protection grades.

Protection Class Grade Description		Meaning		
0	-	No Moisture Protection		
1	Drip-Proof No harmful influence by a drip of falling perpendicularly.			
2	Drip-Proof     Type II     No harmful influence by a drip of vitalling from a range covering 15 from perpendicular.			
3	Spray-Proof No harmful influence by a rainfall water falling from a range covering from perpendicular.			
4	Splash-Proof No harmful influence by a splash water from any direction.			
5	Jet-Proof No harmful influence by a jet of wat from any direction.			
Watertight No ingress of water inside by a jew water from any direction.		No ingress of water inside by a jet of water from any direction.		
7 Immersion- Proof No ingress of water inside when immersed in water under specified conditions.		immersed in water under specified		
8	Submersible	Always useable when submerged in water of specified pressure.		

Waterproof Standard descriptions Based on JIS C 0920-1993

The waterproof connectors are available in a wire-to-wire or a wire-to-board configuration. When used in a wire-to-board application, a silastic conformal coating may be used to seal the board mounted connector.



## Plug and Receptacle



#### **FEATURES**

- Fully waterproof connector
- Plastic latch provides locking mechanism
- Plug and Receptacle in 2, 3 and 5 Contact postions
- Tools available for Contact Installation, Removal and Crimping
- Able to carry current up to 3A

#### **SPECIFICATIONS**

- Insulator Material: PBT (UL94V-0)
- Contact Material: PB / Tin plating
- Wire Housing Seal: Silicone Rubber
- Current Rating: 3 Amperies maximum
- Contact Resistance: 10 m Ω maximum
- Insulator Withstanding Voltage: 100 VAC rms at Sea Level
- Insulation Resistance: 1000 M  $\Omega$  minimum at 500 VDC
- Operating Temperature: -40 to +105 Degrees C
- Waterproof Grade 4
- Insulation diameter from .039" (1.0 mm) to .067" (1.7 mm)
   can be accommodated using different wire seals and contacts

## **565 SERIES ORDERING CODE**

Example Part Number	<u>565</u> - <u>0</u>	<u>03</u> - <u>0</u>	<u>00</u> - <u>3</u>	10
Series —				
Total Number of Contacts —		J		
Contact Code —			J	
Style —				
Wire Diameter —				_
Termination —				

Total Number of Contacts	002, 003, or 005
Contact Code	

7.77	
Style	
3	Plug (Housing Black)
4	Receptacle (Housing Black)
9	Special (Consult Factory)

Wire Diameter	
1	AWG 22 to 28 (Seal Color - Yel

Insulator Dia. 0.39" (1.0 mm) to .051" (1.30 mm)

565

No Contacts Assembled

# **Termination**0 Wire Crimp terminals required

#### **Ordring Code Notes**

Series

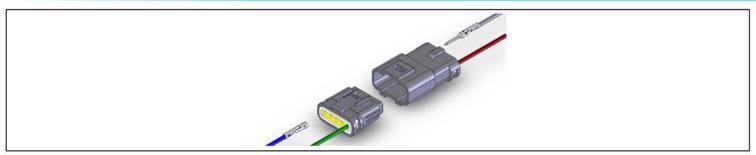
000

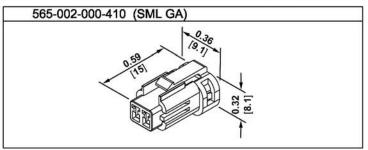
Crimp contacts are available for the 565 series connectors
 Contacts may be ordered separately for pre-wired or select position assembly.

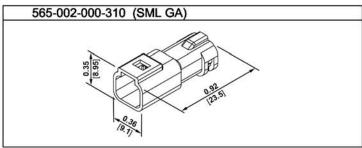
Part Number	Description
565-290-711	Male contact - AWG 22 to 28
565-290-721	Female contact - AWG 22 to 28

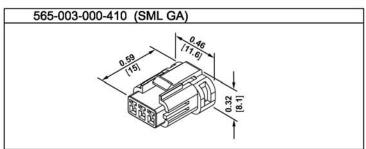
- 2) For contact installation, removal and crimping tool, consult factory.
- Insulator design prevents improper mating of individual plug and receptacle.

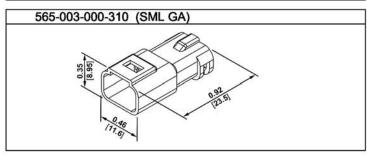
Plug and Receptacle

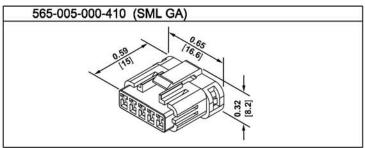


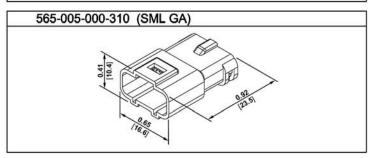


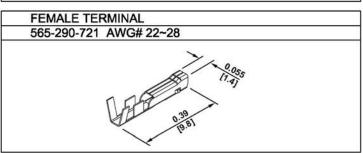






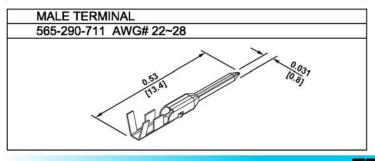


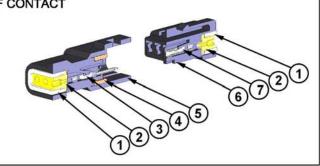






ASSEMBLY LAYOUT





Plug, Receptacle & Board Mount



#### **FEATURES**

- Fully waterproof connector
- Plastic latch provides both locking mechanism and polarity
- 5.8 mm Contact Spacing
- Plug and Receptacle in 2 or 3 Contact positions
- · Board Mount Style available in 1, 2 or 3 contact positions
- Contact Termination Options include Crimp and P.C. Tail
- Tools Available for Contact Installation, Removal and Crimping
- · Able to carry large current up to 10 A

#### **SPECIFICATIONS**

- Insulator Material: PBT (UL94V-0)
- · Contact Material: Brass / Tin plating
- Wire Housing Seal: Silicone Rubber
- Current Rating: 10 Amperes maximum
- Contact Resistance: 10m Ω Maximum
- Insulator Withstanding Voltage: 1700 V AC rms at Sea Level
- Insulation Resistance: 1000M Ω Minimum at 500 VDC
- Operating Temperature: -40 to +105 Degrees C
- · Rated Voltage: 300 V
- Waterproof Grade 4
- · For use with PC boards up to (.063") 1.6mm

#### **570 SERIES ORDERING CODE**

Example Part I	Number 570 - 003 - 000 - 1 0
Series —	
Total Number of Co	ontacts
Contact Code -	
Style	
Wire Diameter	
Termination-	

Series	570
Total Number of Contacts	001, 002 or 003
Contact Code 1,2	
000	No Contacts Assembled
420	Board Mount Contacts Installed
Style 3	
1	Plug
2	Receptacle

Wire Diamete	r t		VIII VIII
0	None installed;	both contacts	and water seals sold separately

Termination	
0	Wire crimp terminals required
1	PC Board Mount

#### **Ordering Code Notes**

Crimp contacts are available for the 570 series connectors.
 Contacts may be ordered separately for pre-wired or select position assembly.

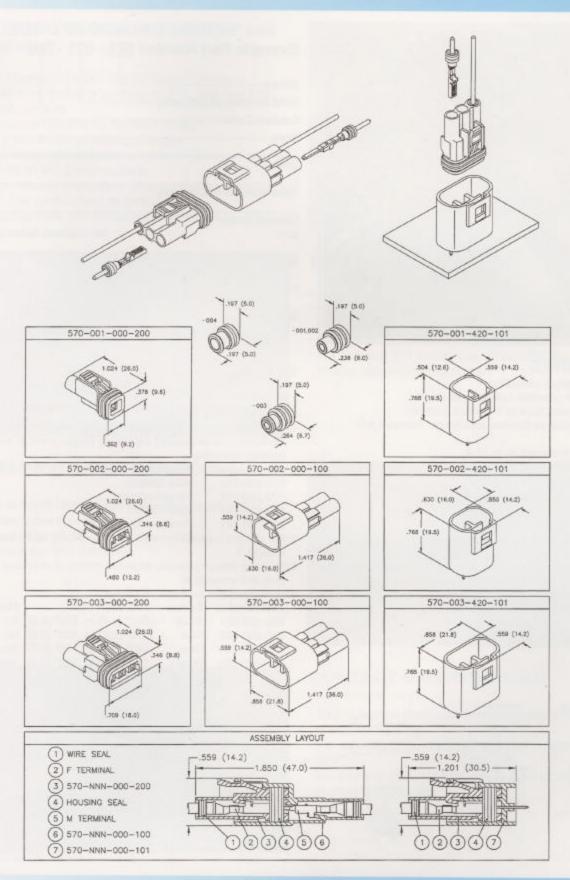
Part Number	Description
570-290-711	Male contact for smaller gauge wire
570-290-721	Female contact for smaller gauge wire
570-290-731	Male contact for larger gauge wire
570-290-741	Female contact for larger gauge wire

- For contact installation, removal and crimping tools, refer to page 7.
- Insulator design prevents improper mating of individual plug and receptacle.
- 4) Wire Seals are available as follows:

Part Number	Colour	Insulation Dia	Flange
570-260-001	Black	.067" (1.7) to .075" (1.9)	No
570-260-002	Blue	.079" (2.0) to .102" (2.6)	No
570-260-003	Blue	.083" (2.1) to .106" (2.7)	
570-260-004	Brown	.106" (2.7) to .122" (3.1)	



Plug, Receptacle & Board Mount



Plug and Receptacle



#### **FEATURES**

- Fully waterproof connector
- Plastic latch provides locking mechanism
- Plug and Receptacle in 1 Contact position
- Tools Available for Contact Installation, Removal and Crimping
- Able to carry current up to 15 A

#### SPECIFICATIONS

- Insulator Material: PBT (UL94V-0)
- · Contact Material: Brass / Tin plating
- Wire Housing Seal: Silicone Rubber
- Current Rating: 15 Amperes maximum
- Contact Resistance: 10m Ω Maximum
- Insulator Withstanding Voltage: 1700 V AC rms at Sea Level
- Insulation Resistance: 1000M Ω Minimum at 500 VDC
- Operating Temperature: -40 to +105 Degrees C
- Rated Voltage: 300 V
- Waterproof Grade 4

#### **568 SERIES ORDERING CODE**

Series

Total Number of Contacts

Contact Code

Contact Code	
Style —	
Series	568
Total Number of Contacts	001
Contact Code 1,2	
000	No Contacts Assembled
Style 3	
1	Plug

Wire Diameter \*

None installed; both contacts and water seals sold separately

Receptacle

Termination

Wire crimp terminals required

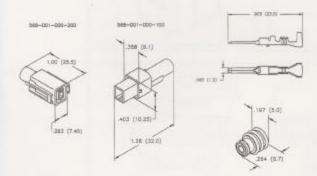
#### **Ordering Code Notes**

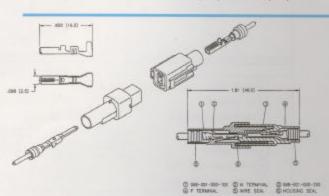
 Crimp contacts are available for the 568 series connectors.
 Contacts may be ordered separately for pre-wired or select position assembly.

Part Number	Description
570-290-711	Male contact
570-290-721	Female contact
570-290-731	Male contact
570-290-741	Female contact

- For contact installation, removal and crimping tools, refer to page 7.
- Insulator design prevents improper mating of individual plug and receptacle.
- 4) Wire Seals are available as follows:

Part Number	Colour	Insulation Dia	Flange
570-260-001	Black	.067" (1.7) to .075" (1.9)	No
570-260-002	Blue	.079" (2.0) to .102" (2.6)	No
570-260-003	Blue	.083" (2.1) to .106" (2.7)	Yes
570-260-004	Brown	.106" (2.7) to .122" (3.1)	Yes





# ools for 568, 570 Series Waterproof Connectors

Crimp Tools, Withdrawal Tool, Automated Crimping Tool

## AUTOMATIC CONTACT CRIMP MACHINE

- Part Number 516-280-700 for base machine
- Applicators available to crimp all 5568 and 570 series contacts
- · All required guards for operator safety
- Easy access for all setting changes
- · Foot switch to initiate crimp cycle
- · Mounts to any bench surface
- Quick change applicators allow for fast conversions from one contact type to another
- Requires 110V 50 / 60 Hz electrical supply



## CONTACT HAND CRIMP TOOL

- Manual hand crimp tool
- Uses contacts on carrier strip, crimps them and cuts the contacts from the carrier
- For 586 se discontinued er 588-280-200
- For 568 and 570 series, use either 570-280-200 for smaller diameter wire and part



#### RETAINER INSERTION TOOL

- Tool to insert retainer into connector housing to ensure water fight seal
- Required form 586 series connectors
- Part number 555 280-250





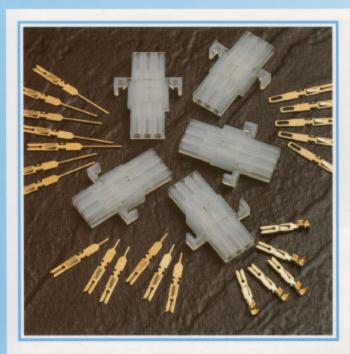
## CONTACT EJECTION TOOL

- Tool to remove previously inserted contact from connector housing
- · For used is continued in the see-
- For use with 568 and 570 series, use tool part number 570-280-300



# 556 SERIES EDACON CONNECTOR

Plug and Receptacle

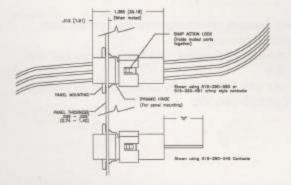


#### **FEATURES**

- UL Recognized
- .156 (3.96) Contact Spacing
- Plug and Receptacle in 3, 4, or 6 Contact Sizes
- Edacon Hermaphroditic Contact Mating Design
- Contact Termination Options include Crimp, P.C. Tail, Wire Hole, Wire Wrap and Taper Tail
- Tools Available for Contact Installation, Removal and Crimping
- These connectors are not waterproof.

#### **SPECIFICATIONS**

- Insulator Material: White Nylon
- Contact Material: Phosphor Bronze Alloy CA-510
- Contact Plating: Gold over Nickel for Entire Contact
- Current Rating: 8.5 Amperes
- Contact Resistance: 10 Milliohms Maximum
- Dielectric Withstanding Voltage: 2000 V AC rms at Sea
   Level
- Insulation Resistance: 5000 Megohms Minimum
- Operating Temperature: -65 to +125 Degrees C
- Insertion and Withdrawal Force: 2 to 16 oz (0.56 to 4.45 N) per Contact Position



#### 556 SERIES ORDERING CODE

Series

Total Number of Contacts

Contact Code

Style

Series	556
Total Number of Contacts	003, 004 or 006

Contac	t Code 1 Description & Tail Size Tail	Leng	th "G"
000	No Contacts Assembled		
500	Wire Hole .110 x .024 (2.79 x 0.61)	.245	(6.22)
501	Taper Tail	.245	(6.22)
520	P.C. Tail .025 x .024 (0.64 x 0.61)	.215	(5.46)
540	Wire Wrap .050 x .024 (1.27 x 0.61)	.600	(15.24)
541	Wire Wrap .026 x .024 (0.66 x 0.61)	.620	(15.75)
542	Wire Wrap .050 x .024 (1.27 x 0.61)	.790	(20.07)

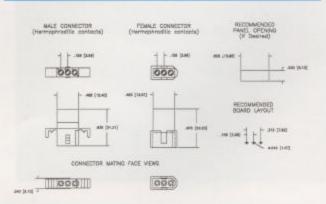
Style and Material 3	Style
101	Plug
201	Receptacle with Panel Retention

#### **Ordering Code Notes**

 Crimp contacts are available for the 556 series connectors.
 Contacts may be ordered separately for pre-wired or select position assembly.

Part Number	Description	
516-290-500	Wire Hole	
516-290-501	Taper Tail	
516-290-520	P.C. Tail	
516-290-540	Wire Wrap	
516-290-541	Wire Wrap	
516-290-542	Wire Wrap	
516-290-590	Crimp - Loose	
516-290-591	Crimp - 1800	De-I
	Contacts per reel	

- For contact installation, removal and crimping tools, refer to page 112.
- Insulator design prevents improper mating of individual plug and receptacle.





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