Introduction



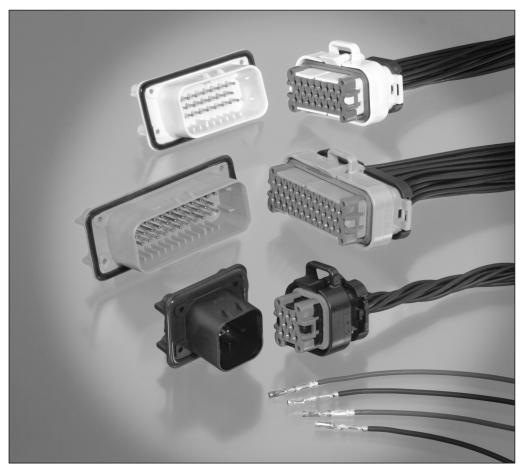








Rugged Reliability, Easy Use and Superior Environmental Sealing



AMPSEAL automotive connectors provide rugged reliability, easy use and superior environmental sealing. They are available in cable plugs and pc board-mounting headers that are designed to stand up to high-temperature underhood applications.

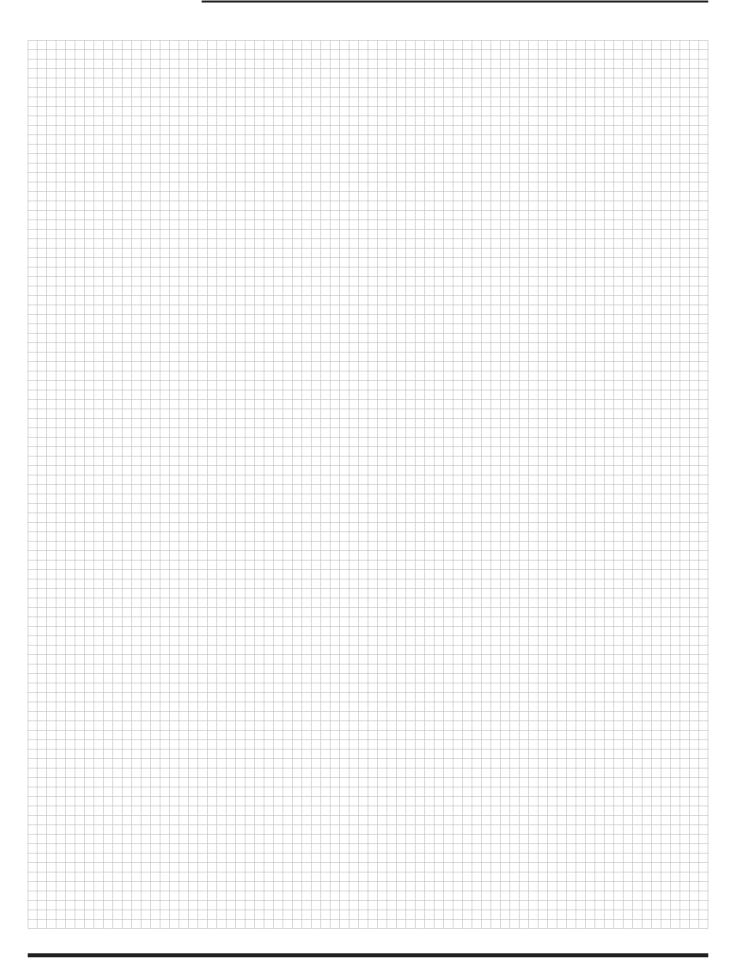
The pre-assembled receptacle connector features built-in contact sealing to eliminate individual wire-sealing grommets, while an integral interfacial seal protects mated connectors.

Product Features

- Sealing of interface, wires and panel provides for environmental integrity
- Secondary contact locking and lanceless contacts ensure positive contact seating
- High temperature materials available to withstand surface mount applications
- Lanceless receptacle contacts reduce tangling during storage and handling
- Wire with insulation diameter of 1.7–2.7 mm
- Available in tin or gold
- Housings available in 8-, 14-, 23-, and 35 positions



Engineering Notes



AMPSEAL Sealed Connector SeriesContact System

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Introduction

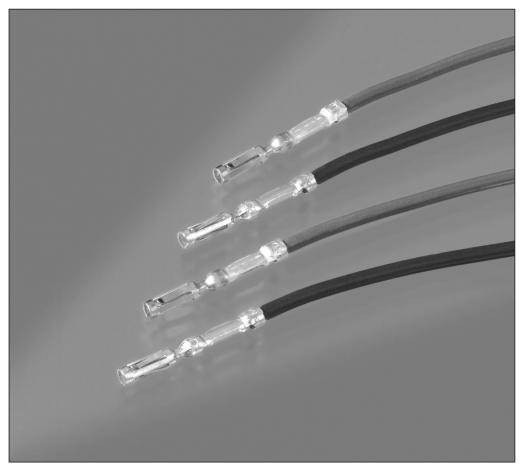












Product Features

- 1.3 mm Pin and Socket System (Lanceless)
- Socket terminals have 3 contact beams
- Wire Size Range 0.5 – 1.25 mm² (20 – 16 AWG)
- Wire Insulation 1.7-2.7 mm
- Terminal Plating Tin or Gold
- Current Rating up to 17 A (16 AWG with Gold)
- Temperature Range Gold: -40 °C to +125 °C Tin: -40 °C to +105 °C

AMPSEAL Sealed Connector Series Contact System

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Receptacle Contacts

Product Features

Contact Material:

Cu-Alloy

Contact Finish:

Tin plated, gold plated

Current Rating:

Up to 17 amps

Temperature Range:

 $-40~^{\circ}\text{C}$ to +105 $^{\circ}\text{C}$ (tin plated) $-40~^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$ (gold plated)

Wire Size Range:

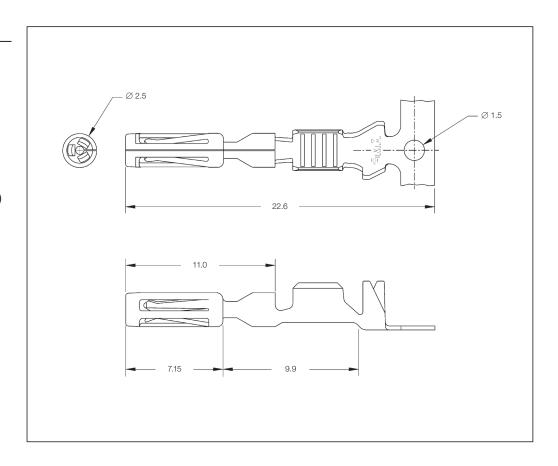
Accept 0.5-1.25 mm² (20-16 AWG) wire with insulation diameter of 1.7-2.7 mm

Product Specification:

108-1329

Application Specification:

114-16016



Receptacle Contacts

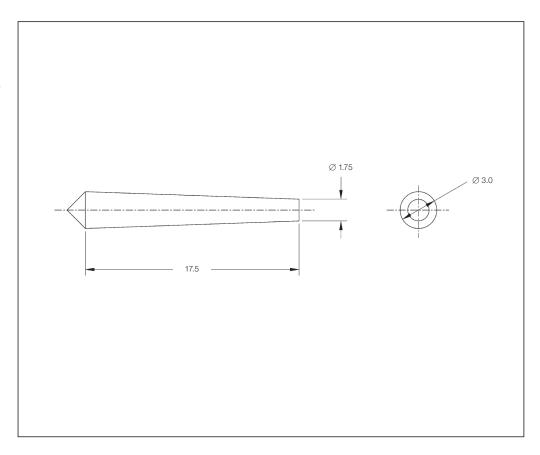
Wire		Insulation	Material	Part Numbers						
(mm²)	(AWG)	Diameter (mm)	and Finish	Strip Form	Package Quantity	Loose- Piece	Package Quantity	Applicator	Hand Tool	
0.5.105	0.5.4.05	1.7–2.7	Cu-Alloy, pre-tin plated	770520-1	5,000	770854-1	1,000	567333-2	50440 1	
0.5-1.25	0.5–1.25 20–16		Cu-Alloy, selective gold plated	770520-3	5,000	770854-3	1,000	507333-2	58440-1	

AMPSEAL Sealed Connector SeriesContact System

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AMPSEAL Seal Plug

All circuits are sealed by a diaphragm in the rubber wire seal. During plug connector assembly, the diaphragm is pierced as the contact passes through it. Unused circuit cavities, unless accidentally perforated will remain sealed.

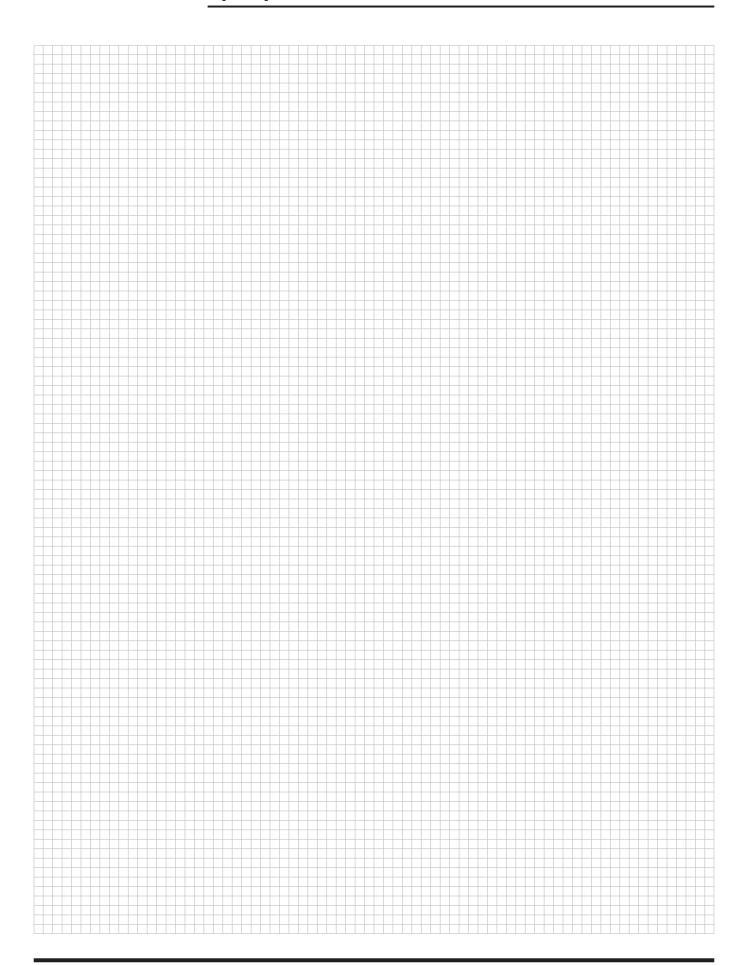


AMPSEAL Seal Plug

Material	Color	Part Number	Package Quantity
Nylon 6/6	Natural	770678-1	1,000



Engineering Notes



Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 - Issued 4-2010

Introduction

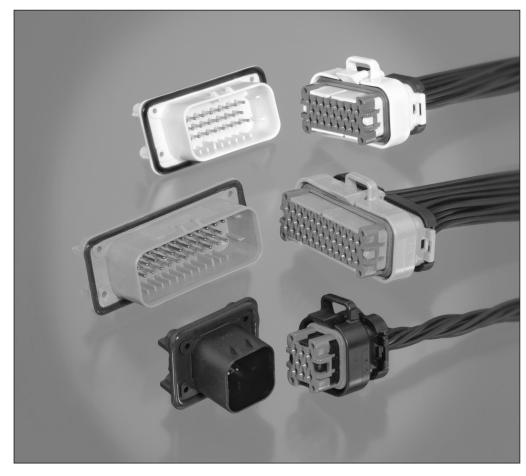












The housings use a two-piece contact-holding design that provides secondary locking which protects against contact backout.

After contacts are inserted into the housing, the locking wedge is seated to firmly position all contacts.

The connectors use three-row contact grid on 4.0 centerlines. Mat seals contain a sealing diaphram within each circuit cavity which is broken when terminals are inserted. If terminal is removed a sealing plug should be installed to reseal the circuit.

The pc board-mounting connector is designed to be flange mounted.

Available with or without a formed in place flange seal.

Product Features

- Mechanical and colored keying
- UL 94 V-0 rated materials
- Integrated terminal position assurance
- Fully sealed and submersible IP67 rating
- Available in vertical or right-angle
- Contains integrated PCB retention feature
- IEC IP67 rated

Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Sealed Receptacle Housings

Product Features

 $\hbox{No. of Positions:} \\$

8 Positions

Housing Material:

Glass reinforced PBT

Wire Size Range:

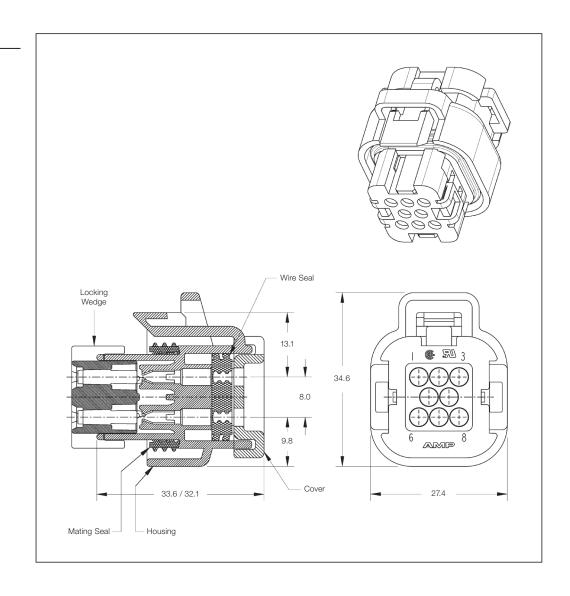
0.5-1.25 mm² (20-16 AWG)

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



8 Position Receptacle Housings

				Part Numbers					
No. of	Keying	Housing	Contact		Mating PCB Header				
Positions	Options	Color	Finish	Receptacle Housing			Vertical		
					Without Seal	With Seal	Without Seal	With Seal	
		Black	Tin plated	776286-1	776279-1	776280-1	776275-1	776276-1	
8		DIACK	Gold plated	770200-1	1-776279-1	1-776280-1	1-776275-1	1-776276-1	
0	_	– — Natural	Tin plated	776286-2	776279-2	776280-2	776275-2	776276-2	
		Ivaturai	Gold plated	110200-2	1-776279-2	1-776280-2	1-776275-2	1-776276-2	

Housings and Connectors

Sealed Receptacle Housings

Product Features

No. of Positions:

14 Positions

Housing Material:

Glass reinforced PBT

Wire Size Range:

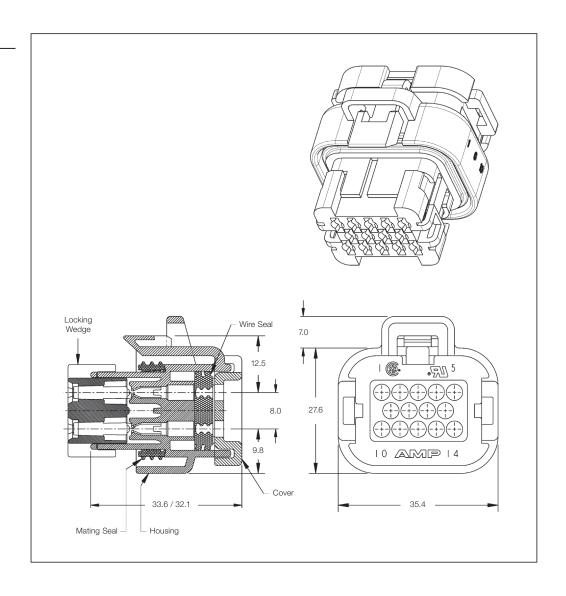
0.5-1.25 mm² (20-16 AWG)

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



14 Position Receptacle Housings

			Contact	Part Numbers					
No. of	Keying Options	Housing			Mating PCB Header				
Positions		Color	Finish	Receptacle Housing	Right-	Angle	Vert	ical	
					Without Seal	With Seal	Without Seal	With Seal	
		Black	Tin plated	776273-1	776266-1	776267-1	776261-1	776262-1	
			Gold plated		1-776266-1	1-776267-1	1-776261-1	1-776262-1	
		Natural	Tin plated	776273-2	776266-2	776267-2	776261-2	776262-2	
14		Naturai	Gold plated	110213-2	1-776266-2	1-776267-2	1-776261-2	1-776262-2	
14	_	Gray	Tin plated	776273-4	776266-4	776267-4	776261-4	776262-4	
		Gray	Gold plated	110213-4	1-776266-4	1-776267-4	1-776261-4	1-776262-4	
		Blue	Tin plated	776273-5	776266-5	776267-5	776261-5	776262-5	
		Dide	Gold plated	110213-3	1-776266-5	1-776267-5	1-776261-5	1-776262-5	

Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Sealed Receptacle Housings

Product Features

No. of Positions: 23 Positions

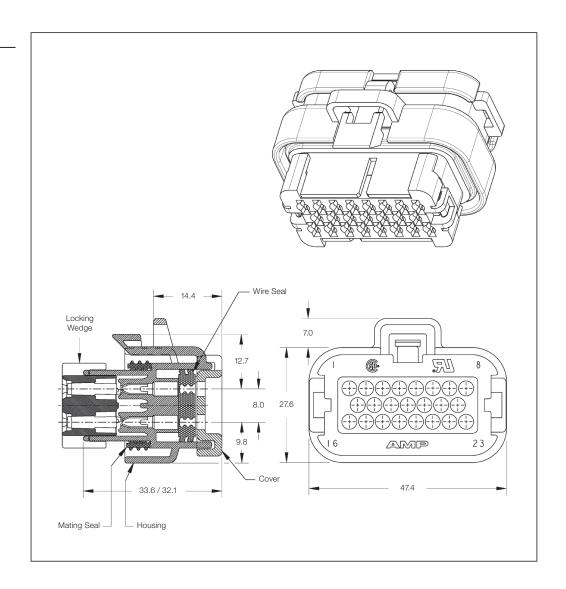
Housing Material:Glass reinforced PBT

Wire Size Range:

0.5-1.25 mm² (20-16 AWG)

Product Specification: 108-1329

Application Specification: 114-16016



23 Position Receptacle Housings

			Contact			Part Numbers		
No. of	Keying Options	Housing			Mating PCB Header			
Positions		Color	Finish	Receptacle Housing	Right-	Angle	Vert	ical
					Without Seal	With Seal	Without Seal	With Seal
		Black	Tin plated	770680-1	770669-1	776087-1	776200-1	776228-1
		Diack	Gold plated		1-770699-1	1-776087-1	1-776200-1	1-776228-1
		Natural	Tin plated	770680-2	770669-2	776087-2	776200-2	776228-2
23		Inaturai	Gold plated	770000-2	1-770669-2	1-776087-2	1-776200-2	1-776228-2
20	_	Gray	Tin plated	770680-4	770669-4	776087-4	776200-4	776228-4
		Gray	Gold plated	77000-4	1-770669-4	1-776087-4	1-776200-4	1-776228-4
		Blue	Tin plated	770680-5	770669-5	776087-5	776200-5	776228-5
		Dide	Gold plated	110000-3	1-770669-5	1-776087-5	1-776200-5	1-776228-5

Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Sealed Receptacle Housings

Product Features

No. of Positions: 35 Positions

Housing Material:Glass reinforced PBT

Wire Size Range:

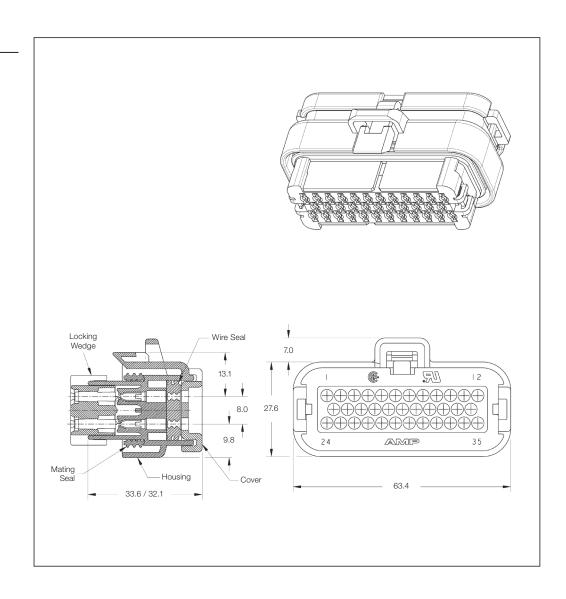
0.5-1.25 mm² (20-16 AWG)

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



35 Position Receptacle Housings

						Part Numbers		
No. of	Keying	Housing	Contact		Mating PCB Header			
Positions	Options	Color	Finish	Receptacle Housing	Right-Angle		Vert	ical
				•	Without Seal	With Seal	Without Seal	With Seal
		Black	Tin plated	776164-1	_	-	776230-1	776231-1
		Diack	Gold plated	770104-1	1-776180-1	1-776163-1	1-776230-1	1-776231-1
		Natural	Tin plated	776164-2	_	_	776230-2	776231-2
			Gold plated		1-776180-2	1-776163-2	1-776230-2	1-776231-2
35	_	Gray	Tin plated	776164-4	-	_	776230-4	776231-4
33	_	Gray	Gold plated	770104-4	1-776180-4	1-776163-4	1-776230-4	1-776231-4
		Blue	Tin plated	776164-5	-	_	776230-5	776231-5
		Dide	Gold plated	770104-3	1-776180-5	1-776163-5	1-776230-5	1-776231-5
		Orange	Gold plated	776164-6	1-776180-6	1-776163-6	-	-

Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

8 Position Header Assembly

Housing Material:

Glass reinforced PBT

Material and Finish:

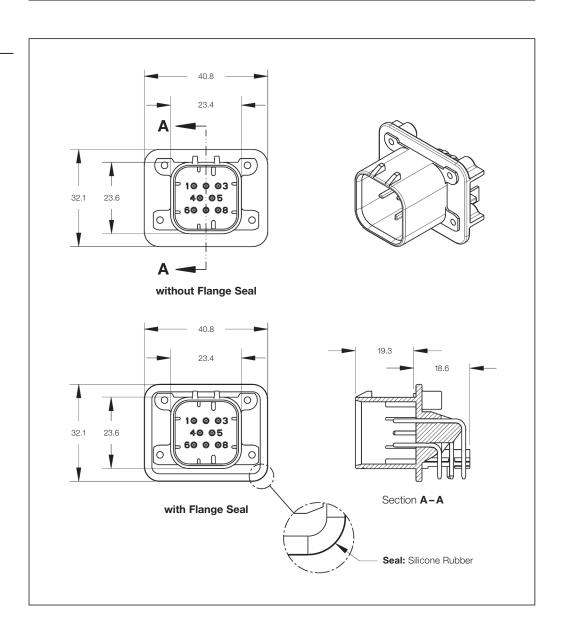
Contacts are made from either Tin or Gold Plated Brass

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



8 Position Right-Angle PCB Headers

				Part Numbers				
No. of	Keying	Housing	Contact	РСВ Н	Mating			
Positions	Positions Options Co	Color	Finish	Right-Angle without Flange Seal	Right-Angle with Flange Seal	Receptacle Housing		
		Dlook	Tin plated	776279-1	776280-1	776286-1		
8	Black	DIACK	Gold plated	1-776279-1	1-776280-1	770200-1		
0	_		Tin plated	776279-2	776280-2	776286-2		
		Natural	Gold plated	1-776279-2	1-776280-2	110200-2		

Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

8 Position Header Assembly

Housing Material:

Glass reinforced PBT

Material and Finish:

Contacts are made from either

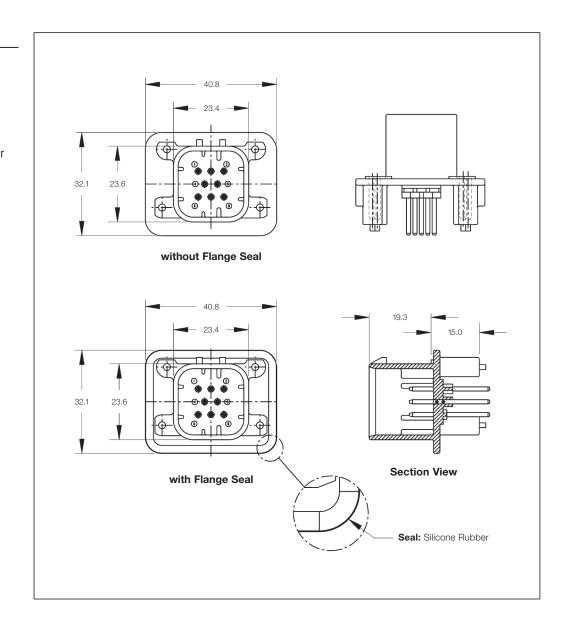
Tin or Gold Plated Brass

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



8 Position Vertical PCB Headers

				Part Numbers				
No. of	Keying	Housing	Contact	PCB H	Mating			
Positions	ns Options Color	Finish	Vertical without Flange Seal	Vertical with Flange Seal	Receptacle Housing			
		Dlask	Tin plated	776275-1	776276-1	776286-1		
8		Black	Gold plated	1-776275-1	1-776276-1	770200-1		
Ö		Natural	Tin plated	776275-2	776276-2	776286-2		
		INaturai	Gold plated	1-776275-2	1-776276-2	110200-2		

Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

14 Position Header Assembly

Housing Material:

Glass reinforced PBT

Material and Finish:

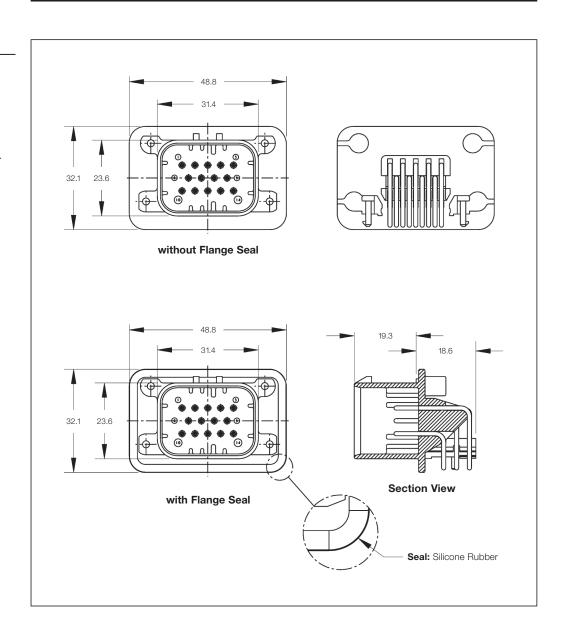
Contacts are made from either Tin or Gold Plated Brass

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



14 Position Right-Angle PCB Headers

				Part Numbers				
No. of	Keying	Housing	Contact	PCB H	Mating			
Positions	Options	Color	Finish	Right-Angle without Flange Seal	Right-Angle with Flange Seal	Receptacle Housing		
		Plant	Tin plated	776266-1	776267-1	776273-1		
		Black	Gold plated	1-776266-1	1-776267-1	110213-1		
		Nietowel	Tin plated	776266-2	776267-2	776273-2		
14		Natural	Gold plated	1-776266-2	1-776267-2	110213-2		
14	_	Gray	Tin plated	776266-4	776267-4	776273-4		
		Gray	Gold plated	1-776266-4	1-776267-4	770273-4		
	Blue		Tin plated	776266-5	776267-5	770070 5		
		Diue	Gold plated	1-776266-5	1-776267-5	776273-5		

Housings and Connectors

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

14 Position Header Assembly

Housing Material:

Glass reinforced PBT

Material and Finish:

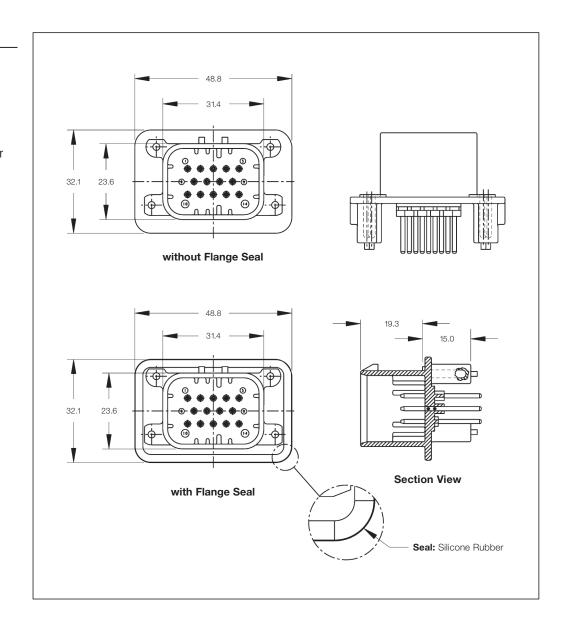
Contacts are made from either Tin or Gold Plated Brass

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



14 Position Vertical PCB Headers

				Part Numbers				
No. of	Keying	Housing	Contact	PCB H	eader	Mating		
Positions	Options	Color	Finish	Vertical without Flange Seal	Vertical with Flange Seal	Receptacle Housing		
		Black	Tin plated	776261-1	776262-1	776273-1		
		DIACK	Gold plated	1-776261-1	1-776262-1	110213-1		
		NI=tI	Tin plated	776261-2	776262-2	776273-2		
14		Natural	Gold plated	1-776261-2	1-776262-2			
14	_	Cross	Tin plated	776261-4	776262-4	776070 4		
		Gray	Gold plated	1-776261-4	1-776262-4	776273-4		
		Blue	Tin plated	776261-5	776262-5	770070 5		
		Diue	Gold plated	1-776261-5	1-776262-5	776273-5		

Housings and Connectors

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Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

23 Position Header Assembly

Housing Material:Glass reinforced PBT

Material and Finish:

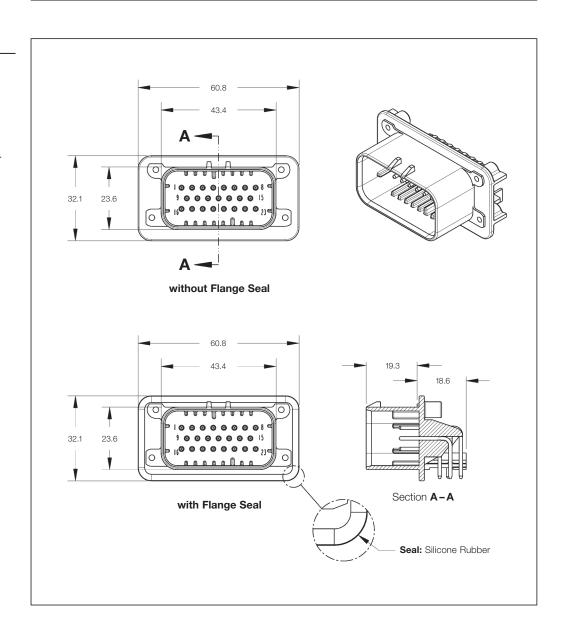
Contacts are made from either Tin or Gold Plated Brass

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



23 Position Right-Angle PCB Headers

				Part Numbers				
No. of	Keying	Housing	Contact	PCB H	eader	Mating		
Positions	Options	Color	Finish	Right-Angle without Flange Seal	Right-Angle with Flange Seal	Receptacle Housing		
		Black	Tin plated	770669-1	776087-1	770680-1		
		Black	Gold plated	1-770669-1	1-776087-1	770000-1		
		Natural	Tin plated	770669-2	776087-2	770600 0		
23		Naturai	Gold plated	1-770669-2	1-776087-2	770680-2		
23	_	Gray	Tin plated	770669-4	776087-4	770680-4		
	Gray	Gold plated	1-770669-4	1-776087-4	770000-4			
		Dhue	Tin plated	770669-5	776087-5	770000 5		
		Blue Gold plated		1-770669-5	1-776087-5	770680-5		

Housings and Connectors

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Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

23 Position Header Assembly

Housing Material:

Glass reinforced PBT

Material and Finish:

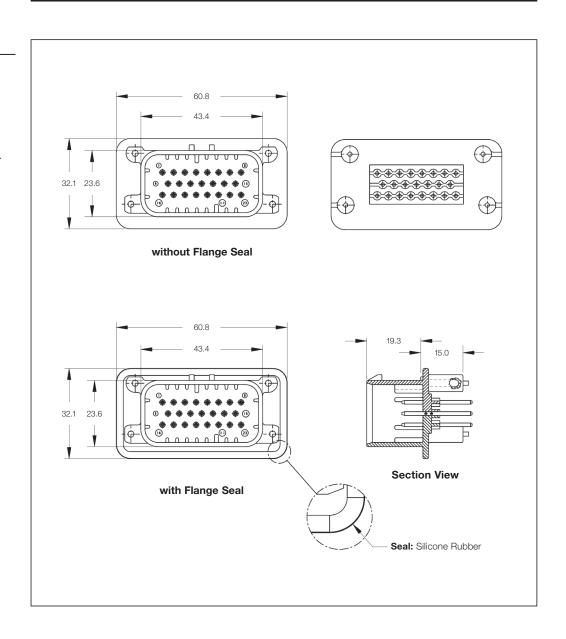
Contacts are made from either Tin or Gold Plated Brass

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



23 Position Vertical PCB Headers

				Part Numbers				
No. of	Keying	Housing	Contact	PCB H	Mating			
Positions	Options	Color	Finish	Vertical without Flange Seal	Vertical with Flange Seal	Receptacle Housing		
		Dlask	Tin plated	776200-1	776228-1	770600 1		
		Black	Gold plated	1-776200-1	1-776228-1	770680-1		
		Natural -	Tin plated	776200-2	776228-2	770680-2		
23		Naturai	Gold plated	1-776200-2	1-776228-2	770000-2		
23	_	Gray	Tin plated	776200-4	776228-4	770680-4		
		Gray	Gold plated	1-776200-4	1-776228-4	77000-4		
	Blue		Tin plated	776200-5	776228-5	770680-5		
		Diue	Gold plated	1-776200-5	1-776228-5	110000-5		

Section Catalog 1654285-2 Revised 4-2010 Main Catalog 1654400-1 Chapter 29 – Issued 4-2010

Housings and Connectors

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

35 Position Header Assembly

Housing Material:Glass reinforced PBT

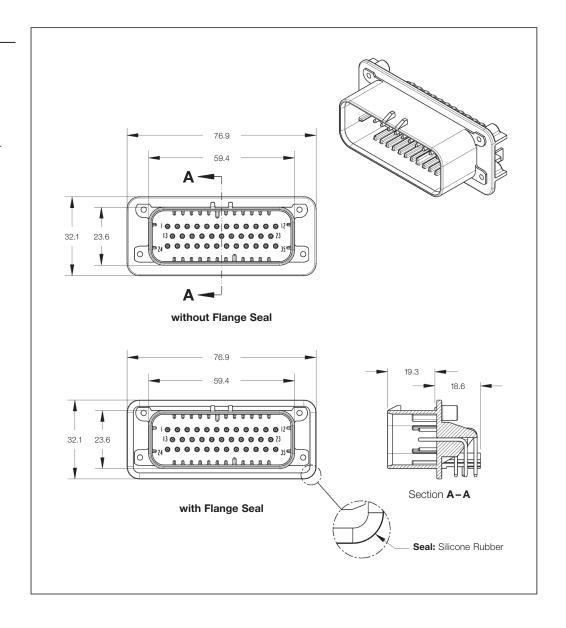
Material and Finish:

Contacts are made from either Tin or Gold Plated Brass

Product Specification:

108-1329

Application Specification: 114-16016



35 Position Right-Angle PCB Headers

No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers		
				PCB Header		Mating
				Right-Angle without Flange Seal	Right-Angle with Flange Seal	Receptacle Housing
35	-	Black	Gold plated	1-776180-1	1-776163-1	776164-1
		Natural	Gold plated	1-776180-2	1-776163-2	776164-2
		Gray	Gold plated	1-776180-4	1-776163-4	776164-4
		Blue	Gold plated	1-776180-5	1-776163-5	776164-5
		Orange	Gold plated	1-776180-6	1-776163-6	776164-6

Housings and Connectors

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

No. of Positions:

35 Position Header Assembly

Housing Material:

Glass reinforced PBT

Material and Finish:

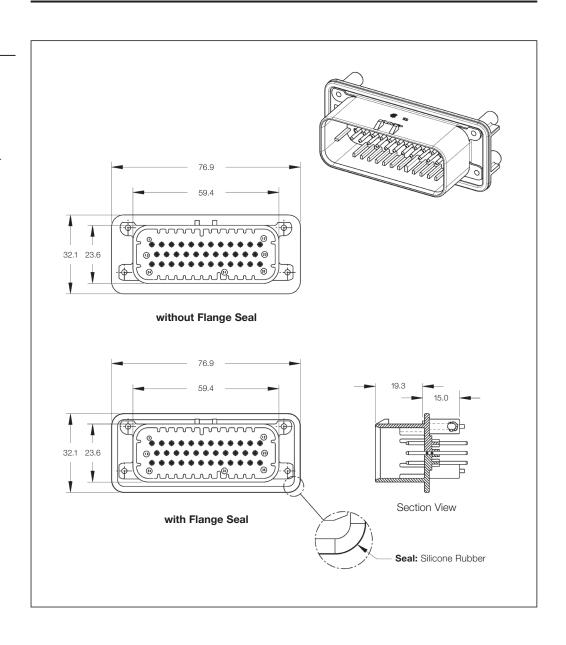
Contacts are made from either Tin or Gold Plated Brass

Product Specification:

108-1329

 ${\bf Application\ Specification:}$

114-16016



35 Position Vertical PCB Headers

No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers			
				PCB Header		Mating	
				Vertical without Flange Seal	Vertical with Flange Seal	Receptacle Housing	
35	-	Black	Tin plated	776230-1	776231-1	776164-1	
			Gold plated	1-776230-1	1-776231-1		
		Natural	Tin plated	776230-2	776231-2	776164-2	
			Gold plated	1-776230-2	1-776231-2		
		Gray	Tin plated	776230-4	776231-4	776164-4	
			Gold plated	1-776230-4	1-776231-4		
		Blue	Tin plated	776230-5	776231-5	776164-5	
			Gold plated	1-776230-5	1-776231-5		

Housings and Connectors

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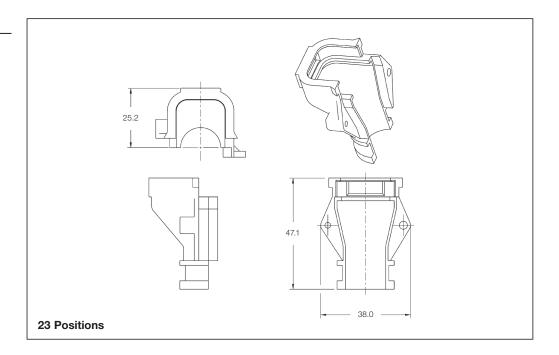
Sealed Receptacle Housing Wire Reliefs

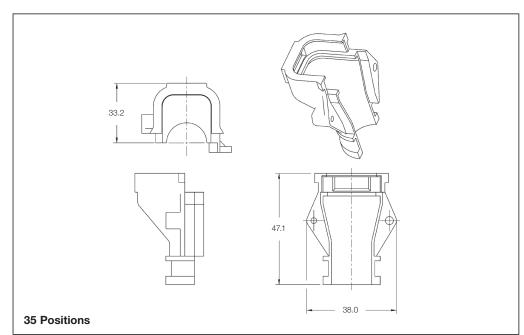
Product Features

Wire Relief Material: Glass reinforced PBT

Product Specification: 108-1329

Application Specification: 114-16016





Remarks:

- Wire relief part numbers represents one-half of a wire relief. Two wire reliefs required per receptacle housing.
- 2. Accepts #4 self trapping screw (Elco Hi-Lo Thread Cutting Style or Equivalent).

No. of Positions	Part Number	Package Quantity
23	776464-1	500
35	776463-1	500