

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



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

Receptacle Contacts

Product Features

Contact Material:

Cu-Alloy

Contact Finish:

Tin plated, gold plated

Current Rating:

Up to 17 amps

Temperature Range:

-40 °C to +105 °C (tin plated)
-40 °C to +125 °C (gold plated)

Wire Size Range:

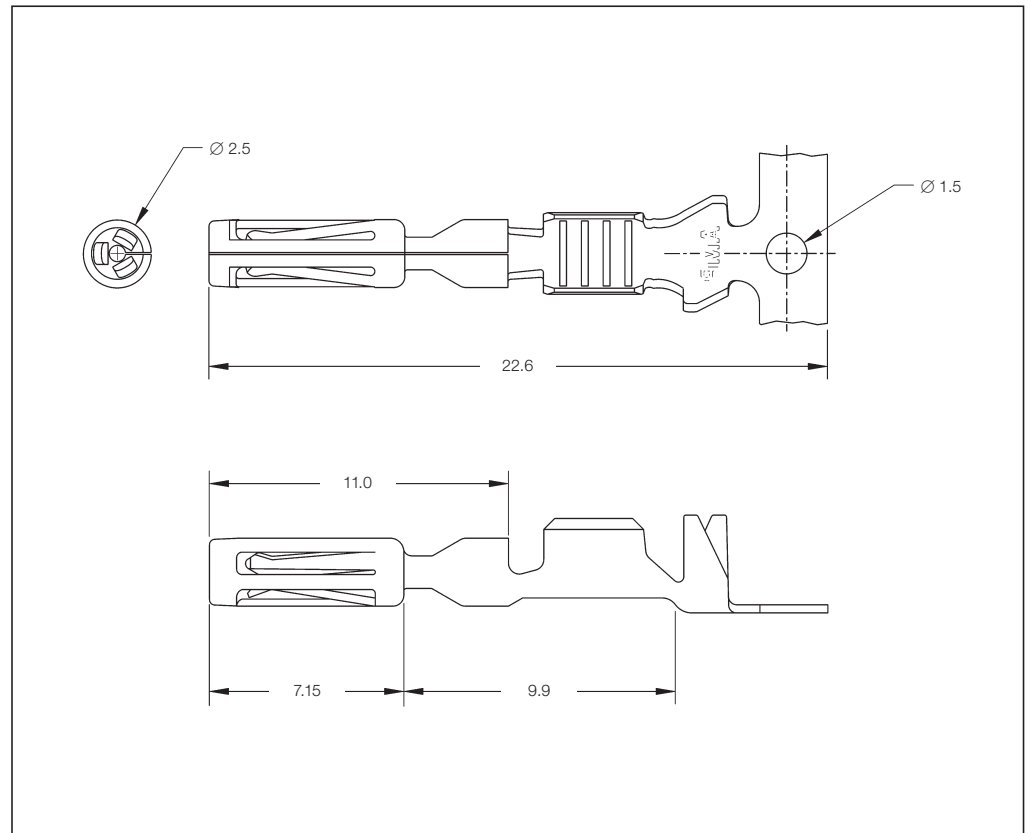
Accept 0.5–1.25 mm²
(20–16 AWG) wire with
insulation diameter of
1.7–2.7 mm

Product Specification:

108-1329

Application Specification:

114-16016



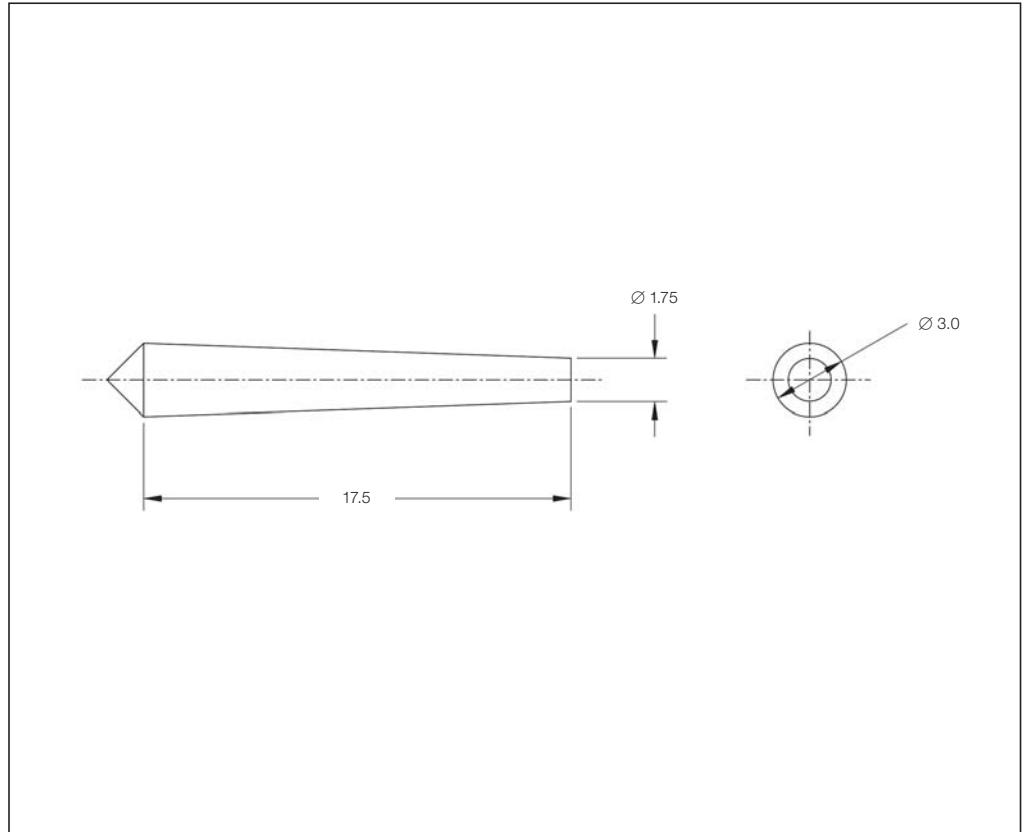
Receptacle Contacts

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

Note: All Part Numbers are RoHS and ELV compliant.

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

Note: All Part Numbers are RoHS and ELV compliant.

Engineering Notes



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 diaphragm 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

Sealed Receptacle Housings

Product Features

No. of Positions:

8 Positions

Housing Material:

Glass reinforced PBT

Wire Size Range:

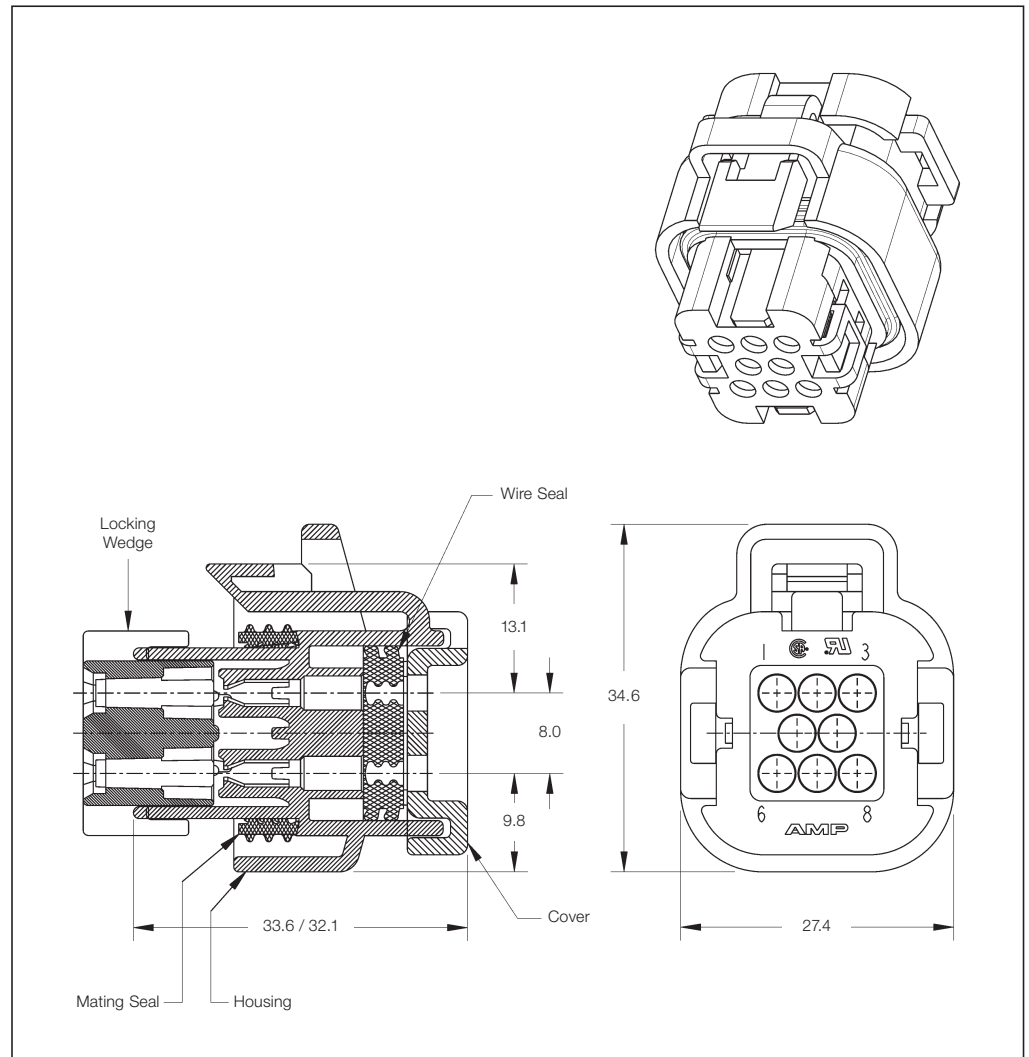
0.5–1.25 mm² (20–16 AWG)

Product Specification:

108-1329

Application Specification:

114-16016



8 Positions Receptacle Housings

No. of Positions	Keying Options	Housing Color	Contact Finish	Receptacle Housing	Part Numbers			
					Mating PCB Header			
					Right-Angle		Vertical	
					Without Seal	With Seal	Without Seal	With Seal
8	-	Black	Tin plated	776286-1	776279-1	776280-1	776275-1	776276-1
			Gold plated		1-776279-1	1-776280-1	1-776275-1	1-776276-1
		Natural	Tin plated	776286-2	776279-2	776280-2	776275-2	776276-2
			Gold plated		1-776279-2	1-776280-2	1-776275-2	1-776276-2

Note: All Part Numbers are RoHS and ELV compliant.

Sealed Receptacle Housings

Product Features

No. of Positions:

14 Positions

Housing Material:

Glass reinforced PBT

Wire Size Range:

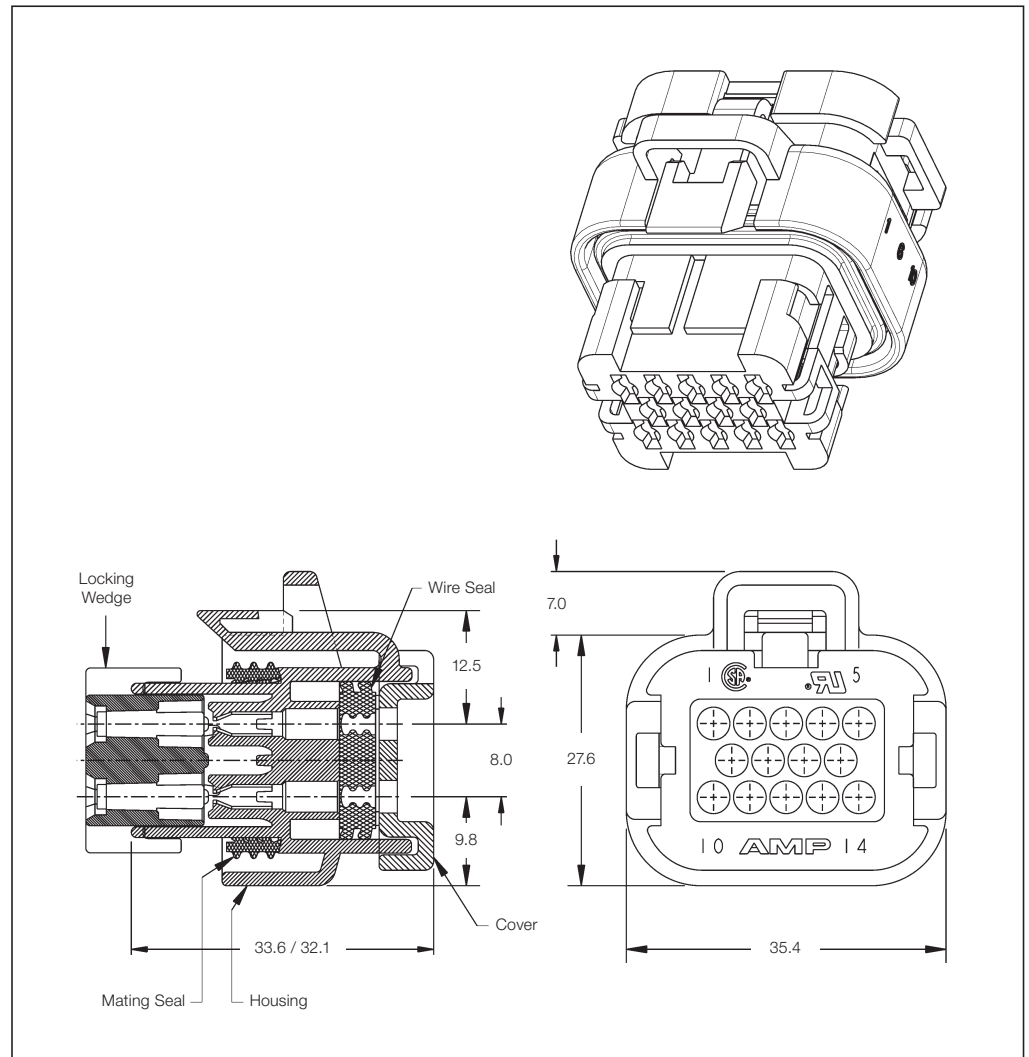
0.5–1.25 mm² (20–16 AWG)

Product Specification:

108-1329

Application Specification:

114-16016



14 Positions Receptacle Housings

No. of Positions	Keying Options	Housing Color	Contact Finish	Receptacle Housing	Part Numbers			
					Mating PCB Header			
					Right-Angle		Vertical	
					Without Seal	With Seal	Without Seal	With Seal
14	-	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
			Gold plated		1-776266-2	1-776267-2	1-776261-2	1-776262-2
		Grey	Tin plated	776273-4	776266-4	776267-4	776261-4	776262-4
			Gold plated		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
			Gold plated		1-776266-5	1-776267-5	1-776261-5	1-776262-5

Note: All Part Numbers are RoHS and ELV compliant.

Sealed Receptacle Housings

Product Features

No. of Positions:

23 Positions

Housing Material:

Glass reinforced PBT

Wire Size Range:

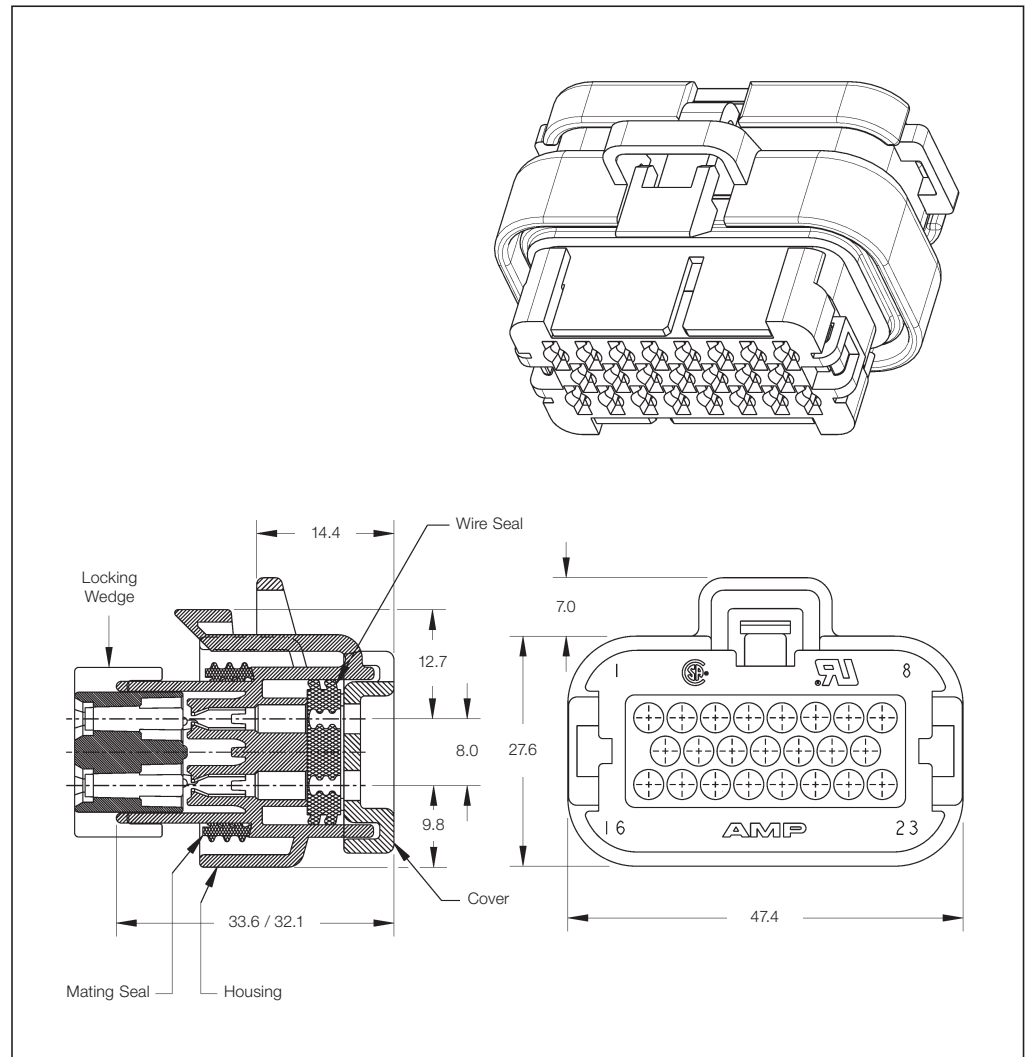
0.5–1.25 mm² (20–16 AWG)

Product Specification:

108-1329

Application Specification:

114-16016



23 Positions Receptacle Housings

No. of Positions	Keying Options	Housing Color	Contact Finish	Receptacle Housing	Part Numbers			
					Mating PCB Header			
					Right-Angle		Vertical	
					Without Seal	With Seal	Without Seal	With Seal
23	-	Black	Tin plated	770680-1	770669-1	776087-1	776200-1	776228-1
			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
			Gold plated		1-770669-2	1-776087-2	1-776200-2	1-776228-2
		Grey	Tin plated	770680-4	770669-4	776087-4	776200-4	776228-4
			Gold plated		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
			Gold plated		1-770669-5	1-776087-5	1-776200-5	1-776228-5

Note: All Part Numbers are RoHS and ELV compliant.

Sealed Receptacle Housings

Product Features

No. of Positions:

35 Positions

Housing Material:

Glass reinforced PBT

Wire Size Range:

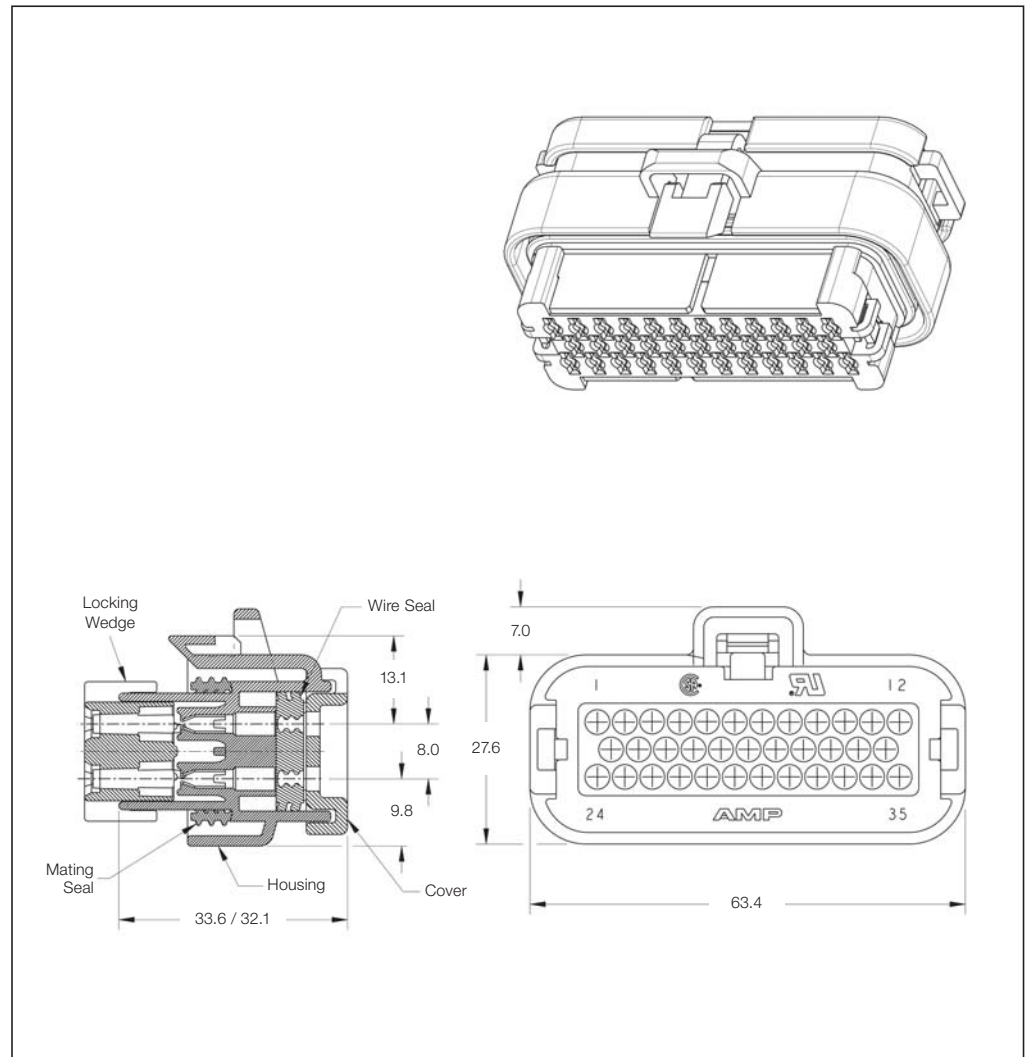
0.5–1.25 mm² (20–16 AWG)

Product Specification:

108-1329

Application Specification:

114-16016



35 Positions Receptacle Housings

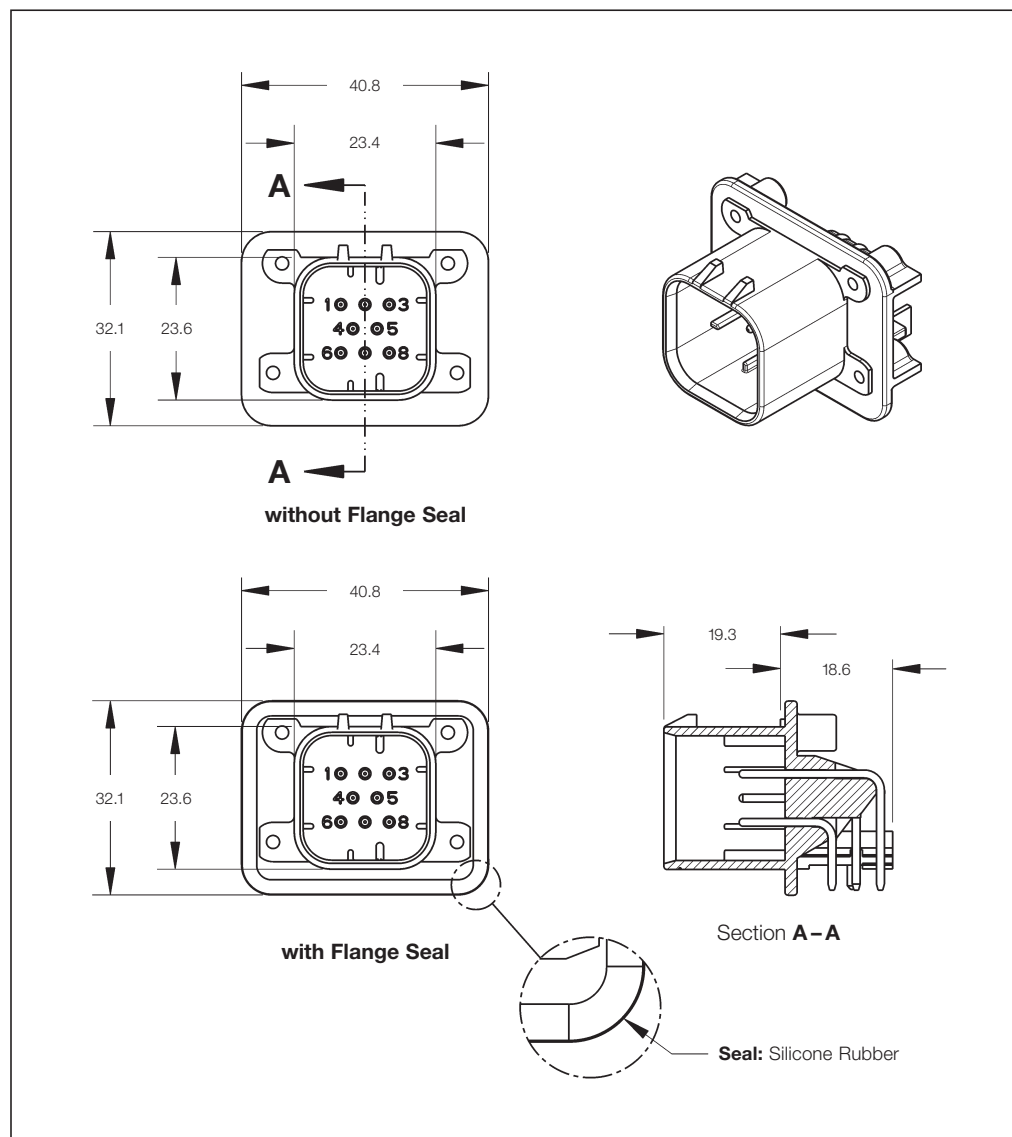
No. of Positions	Keying Options	Housing Color	Contact Finish	Receptacle Housing	Part Numbers			
					Mating PCB Header			
					Right-Angle		Vertical	
				Without Seal	With Seal	Without Seal	With Seal	
35	-	Black	Tin plated	776164-1	-	-	776230-1	776231-1
			Gold plated		1-776180-1	1-776163-1	1-776230-1	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
		Grey	Tin plated	776164-4	-	-	776230-4	776231-4
			Gold plated		1-776180-4	1-776163-4	1-776230-4	1-776231-4
		Blue	Tin plated	776164-5	-	-	776230-5	776231-5
			Gold plated		1-776180-5	1-776163-5	1-776230-5	1-776231-5
		Orange	Gold plated	776164-6	1-776180-6	1-776163-6	-	-

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

- No. of Positions:**
8 Positions 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



8 Positions Right-Angle PCB Headers

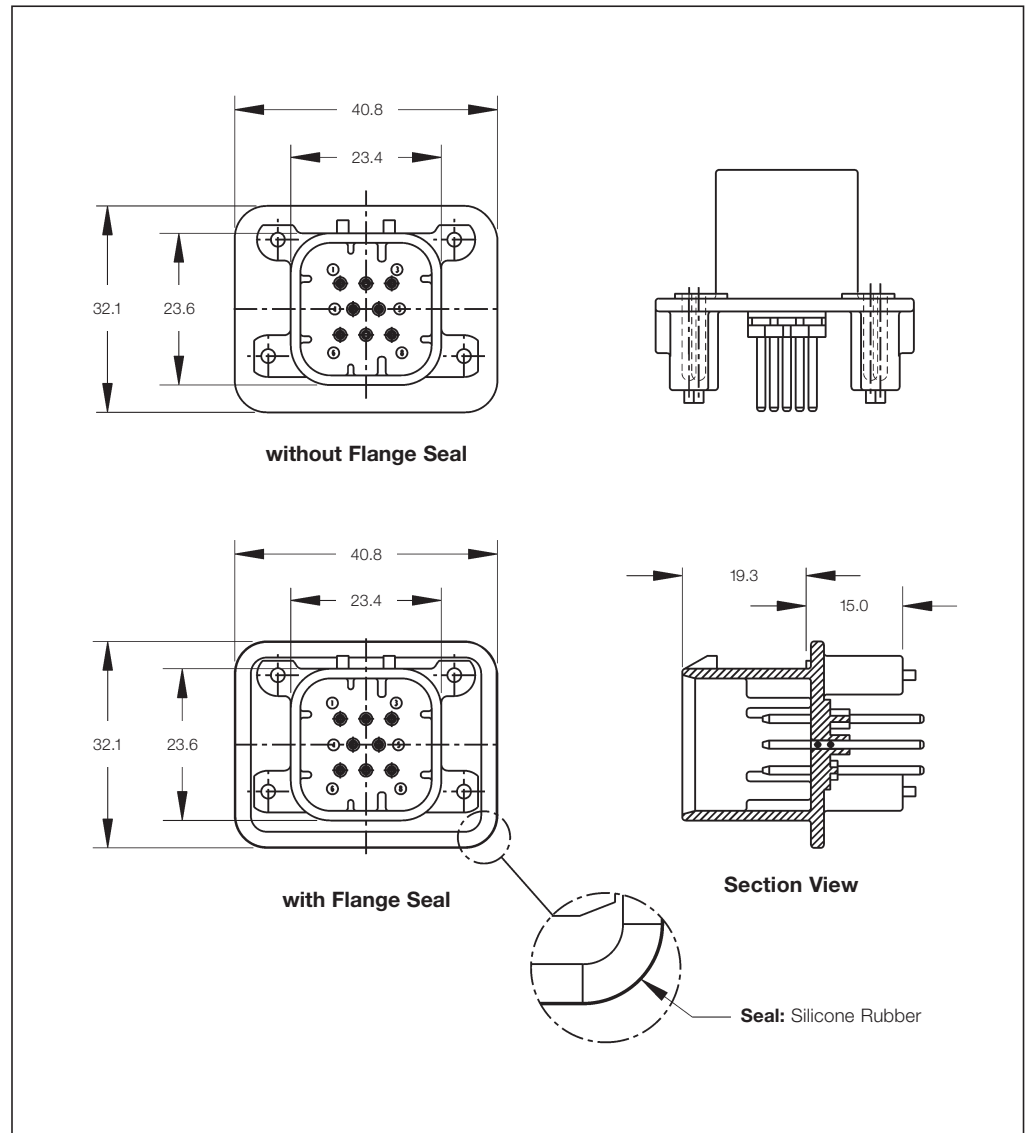
No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers		
				PCB Header		Mating Receptacle Housing
				Right-Angle without Flange Seal	Right-Angle with Flange Seal	
8	-	Black	Tin plated	776279-1	776280-1	776286-1
			Gold plated	1-776279-1	1-776280-1	
		Natural	Tin plated	776279-2	776280-2	776286-2
			Gold plated	1-776279-2	1-776280-2	

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

- No. of Positions:**
8 Positions 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



8 Positions Vertical PCB Headers

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

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

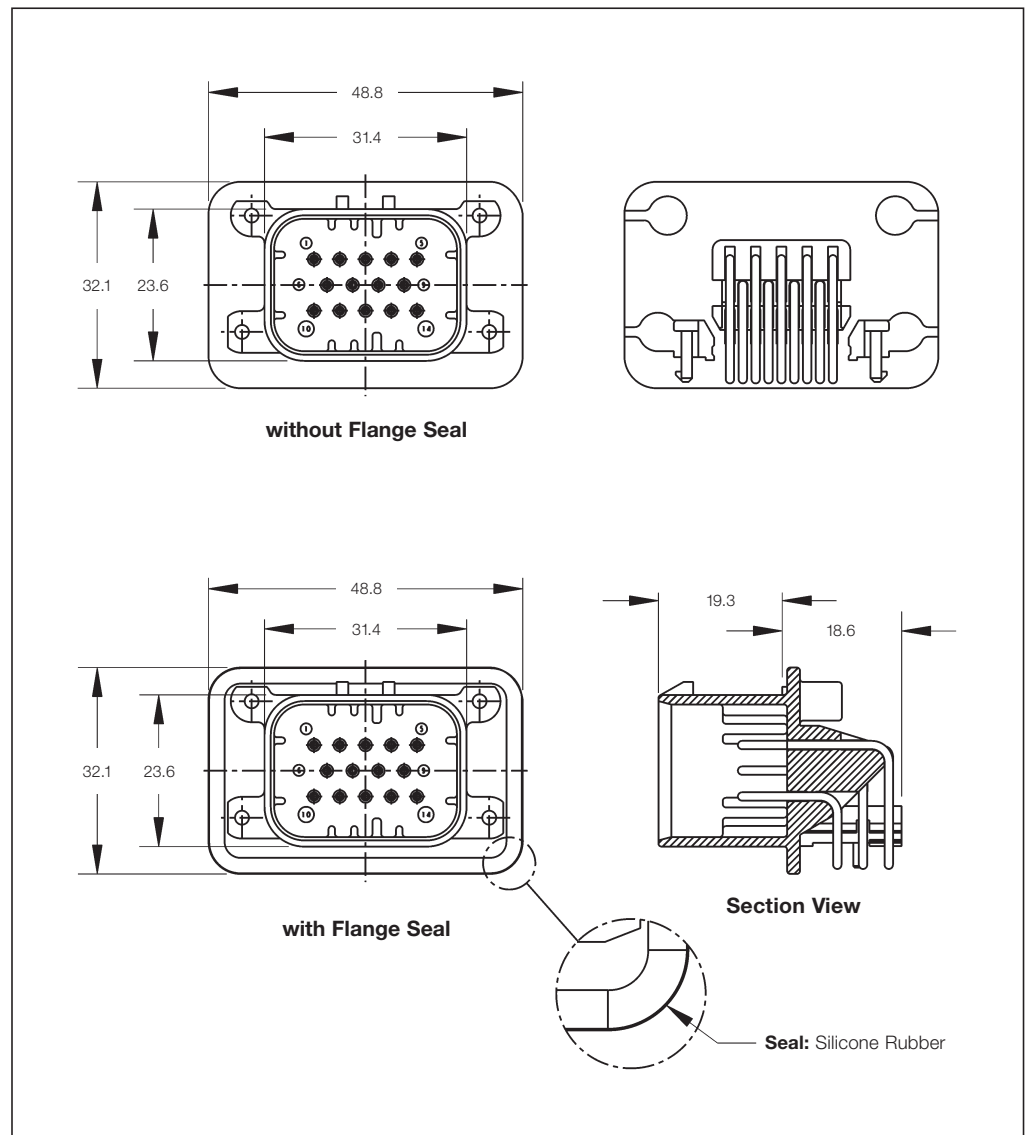
No. of Positions:
14 Positions Header Assembly

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



14 Positions Right-Angle PCB Headers

No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers		Mating Receptacle Housing
				PCB Header		
				Right-Angle without Flange Seal	Right-Angle with Flange Seal	
14	-	Black	Tin plated	776266-1	776267-1	776273-1
			Gold plated	1-776266-1	1-776267-1	
		Natural	Tin plated	776266-2	776267-2	776273-2
			Gold plated	1-776266-2	1-776267-2	
		Grey	Tin plated	776266-4	776267-4	776273-4
			Gold plated	1-776266-4	1-776267-4	
		Blue	Tin plated	776266-5	776267-5	776273-5
			Gold plated	1-776266-5	1-776267-5	

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

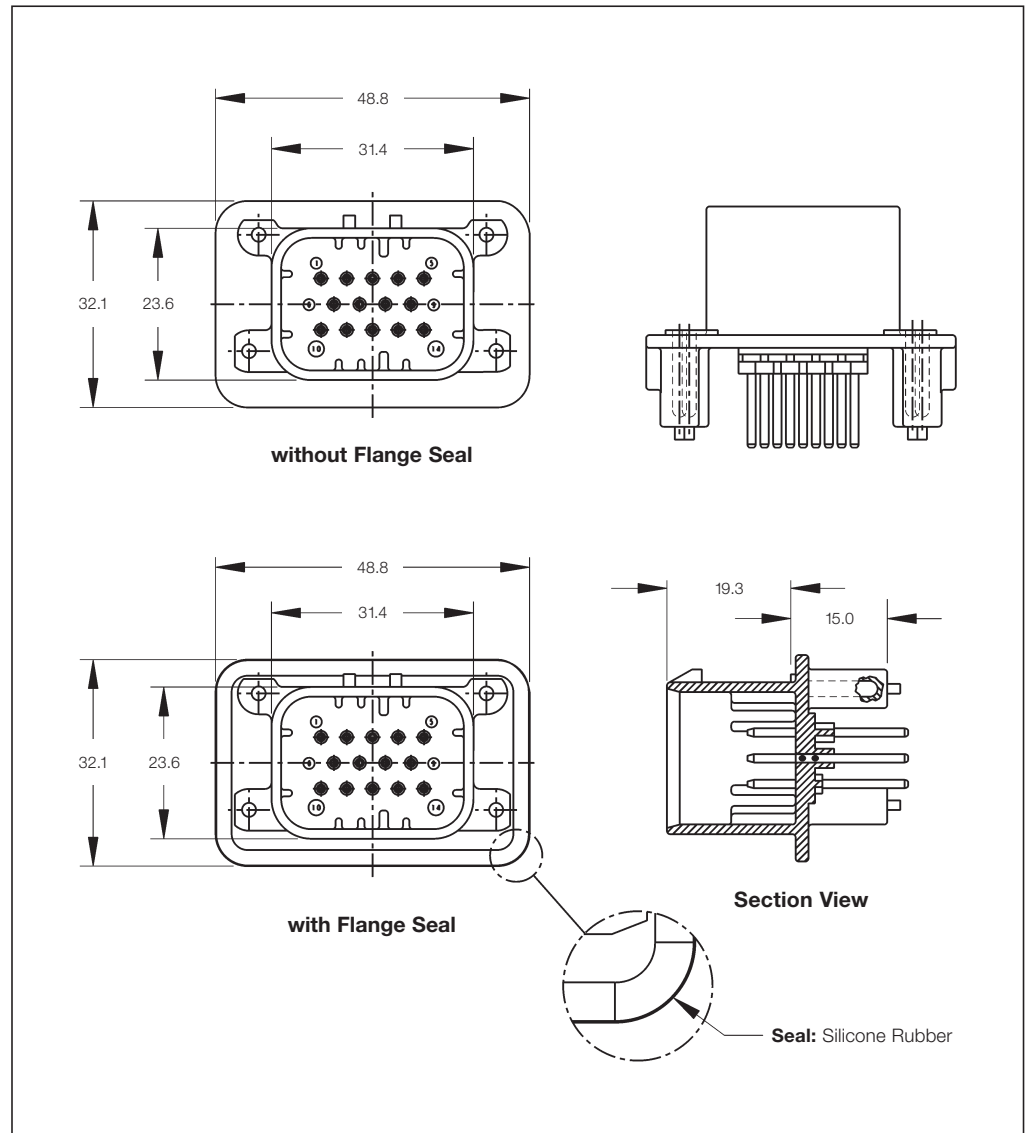
No. of Positions:
14 Positions Header Assembly

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



14 Positions Vertical PCB Headers

No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers		Mating Receptacle Housing
				PCB Header		
				Vertical without Flange Seal	Vertical with Flange Seal	
14	-	Black	Tin plated	776261-1	776262-1	776273-1
			Gold plated	1-776261-1	1-776262-1	
		Natural	Tin plated	776261-2	776262-2	776273-2
			Gold plated	1-776261-2	1-776262-2	
		Grey	Tin plated	776261-4	776262-4	776273-4
			Gold plated	1-776261-4	1-776262-4	
		Blue	Tin plated	776261-5	776262-5	776273-5
			Gold plated	1-776261-5	1-776262-5	

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

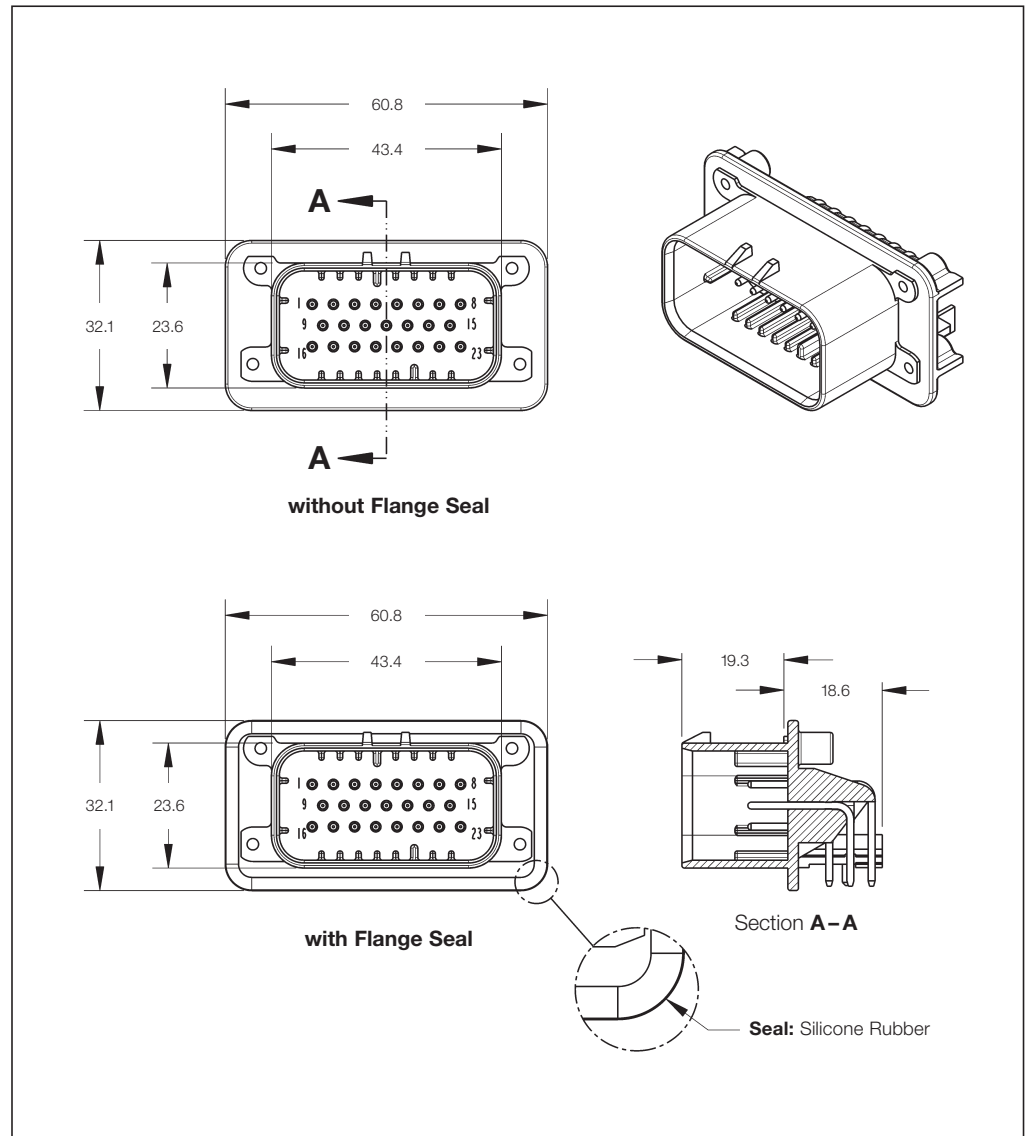
No. of Positions:
23 Positions Header Assembly

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



23 Positions Right-Angle PCB Headers

No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers		
				PCB Header		Mating Receptacle Housing
				Right-Angle without Flange Seal	Right-Angle with Flange Seal	
23	-	Black	Tin plated	770669-1	776087-1	770680-1
			Gold plated	1-770669-1	1-776087-1	
		Natural	Tin plated	770669-2	776087-2	770680-2
			Gold plated	1-770669-2	1-776087-2	
		Grey	Tin plated	770669-4	776087-4	770680-4
			Gold plated	1-770669-4	1-776087-4	
		Blue	Tin plated	770669-5	776087-5	770680-5
			Gold plated	1-770669-5	1-776087-5	

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

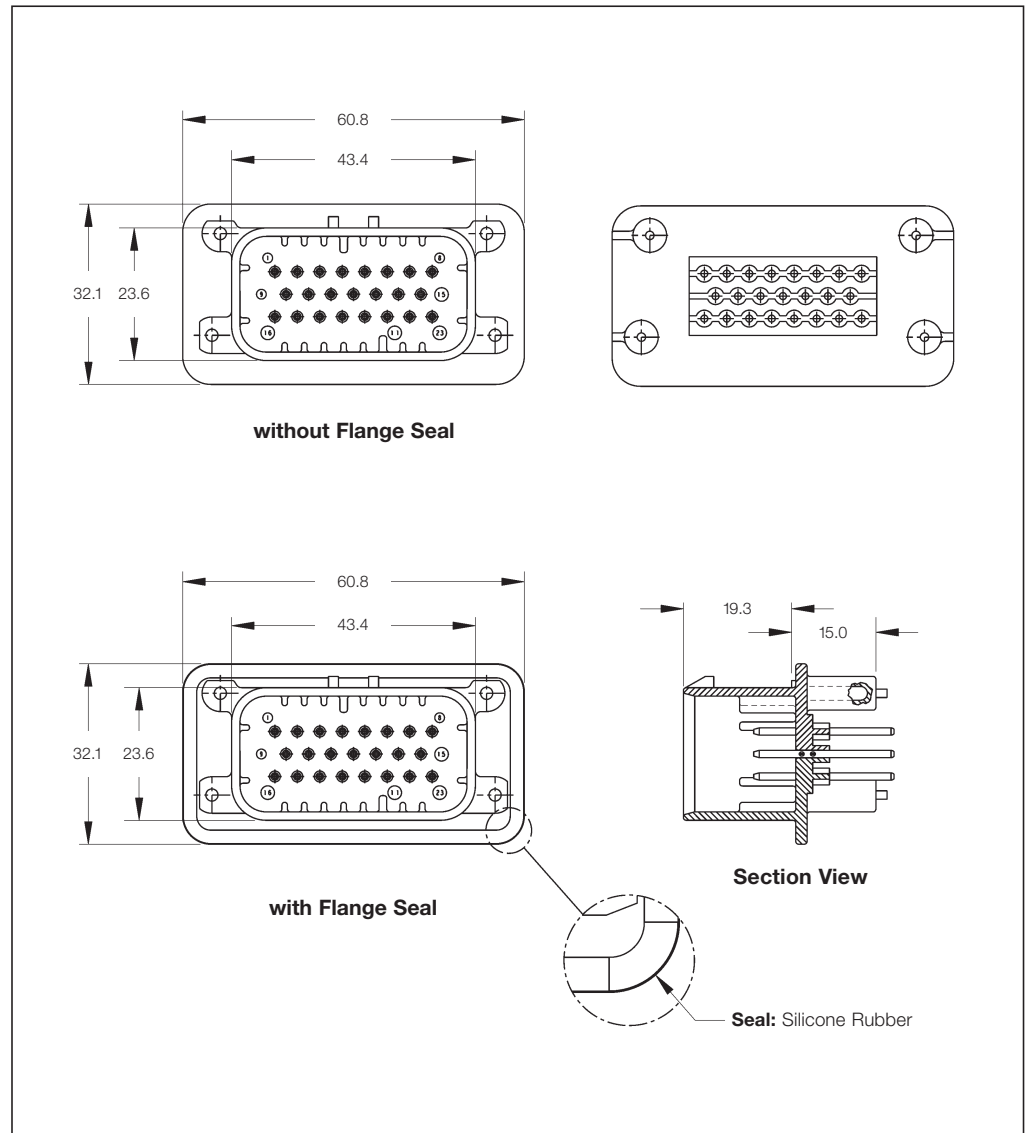
No. of Positions:
23 Positions Header Assembly

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



23 Positions Vertical PCB Headers

No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers		Mating Receptacle Housing
				PCB Header		
				Vertical without Flange Seal	Vertical with Flange Seal	
23	-	Black	Tin plated	776200-1	776228-1	770680-1
			Gold plated	1-776200-1	1-776228-1	
		Natural	Tin plated	776200-2	776228-2	770680-2
			Gold plated	1-776200-2	1-776228-2	
		Grey	Tin plated	776200-4	776228-4	770680-4
			Gold plated	1-776200-4	1-776228-4	
		Blue	Tin plated	776200-5	776228-5	770680-5
			Gold plated	1-776200-5	1-776228-5	

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

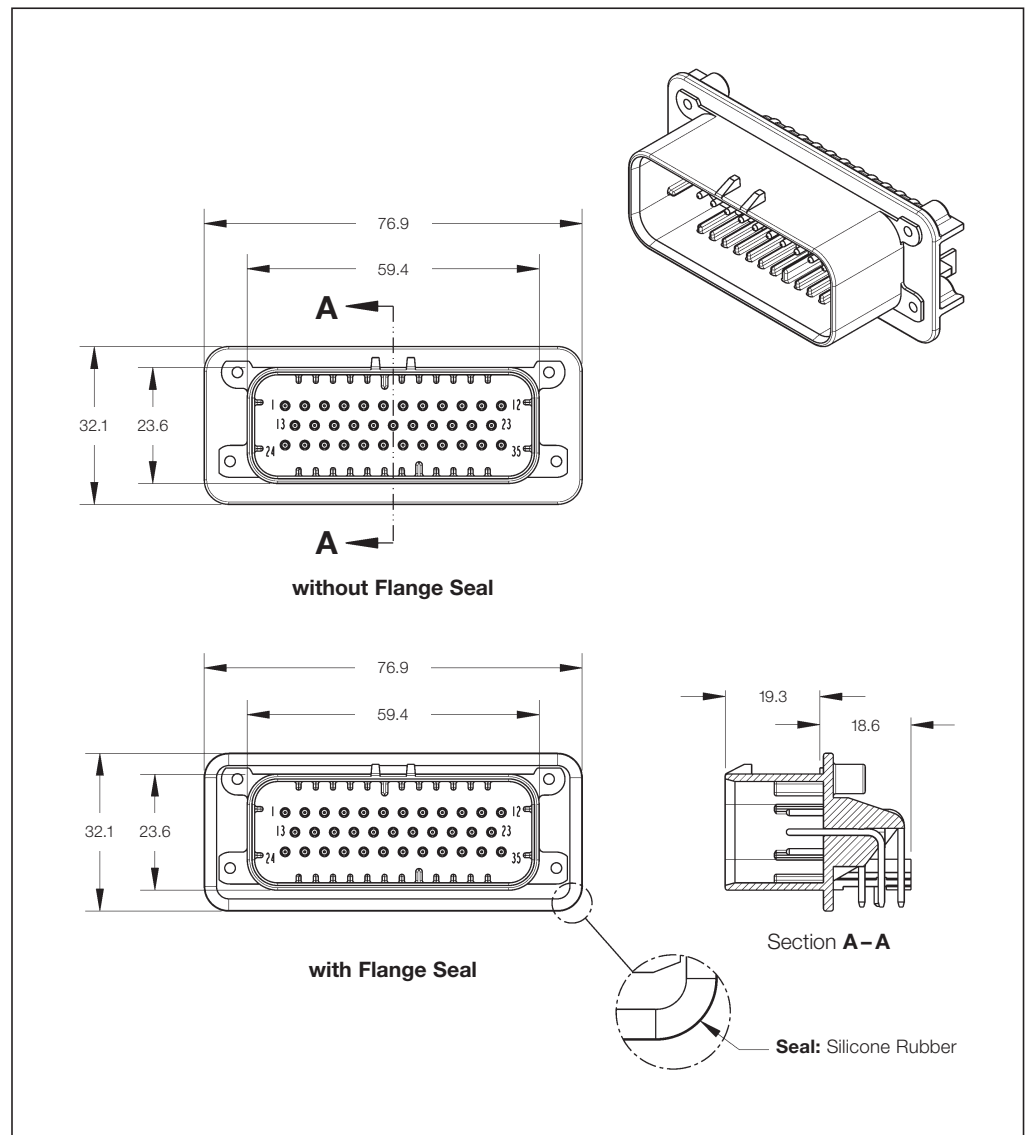
No. of Positions:
35 Positions Header Assembly

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 Positions Right-Angle PCB Headers

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

Note: All Part Numbers are RoHS and ELV compliant.

Printed Circuit Board Headers for Sealed Receptacle Housings

Product Features

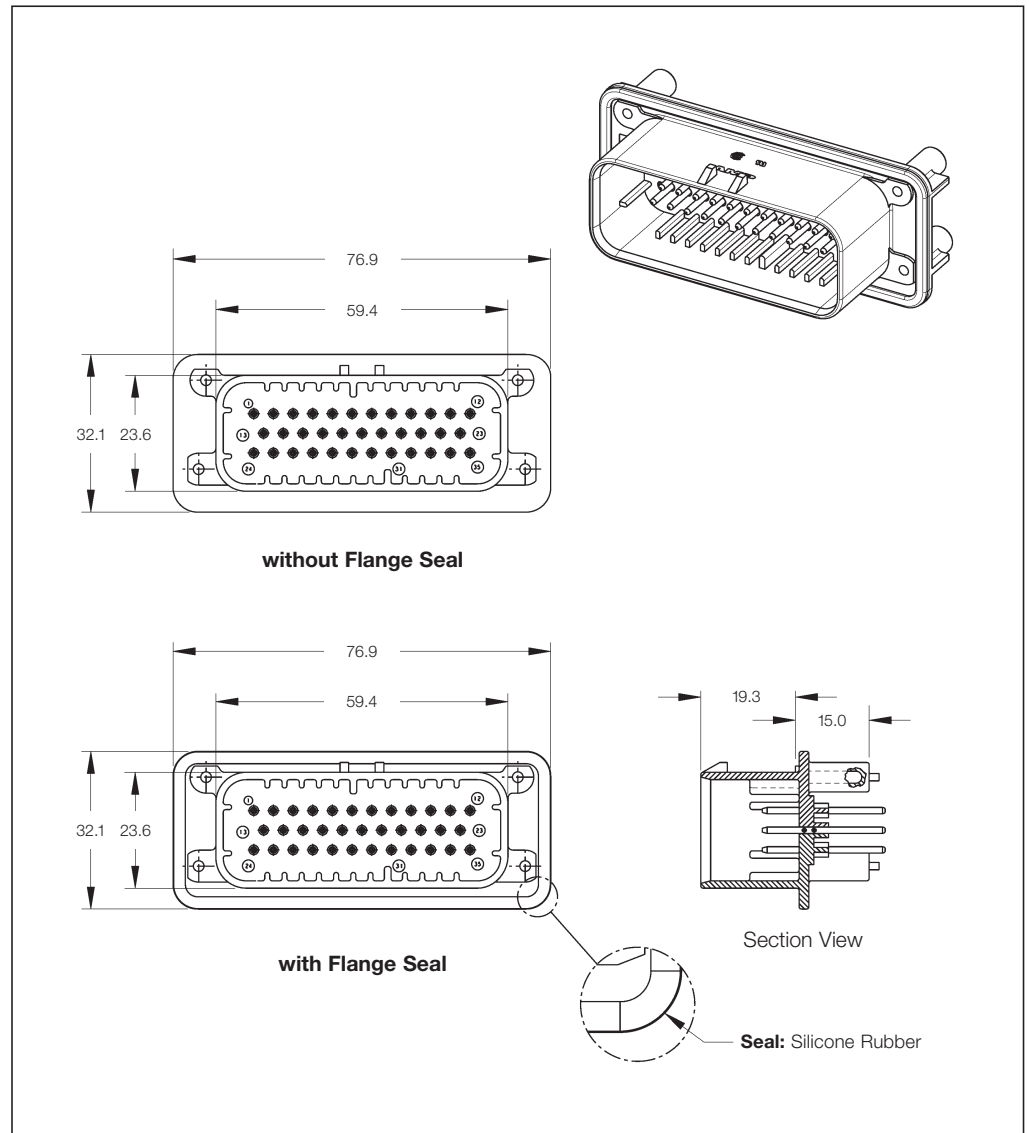
No. of Positions:
35 Positions Header Assembly

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 Positions Vertical PCB Headers

No. of Positions	Keying Options	Housing Color	Contact Finish	Part Numbers		Mating Receptacle Housing
				PCB Header		
				Vertical without Flange Seal	Vertical with Flange Seal	
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	
		Grey	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	

Note: All Part Numbers are RoHS and ELV compliant.

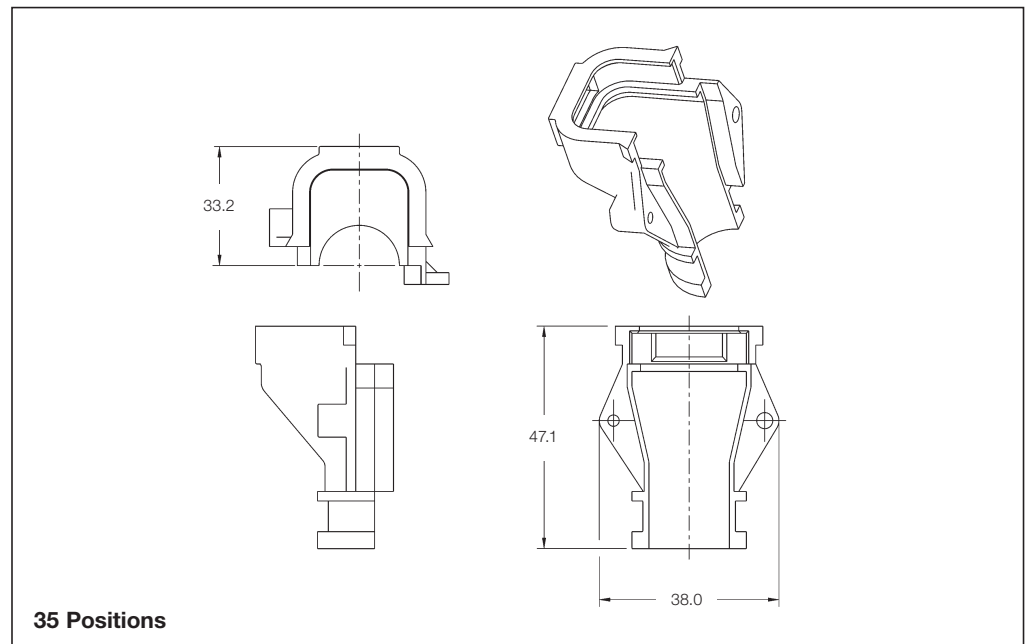
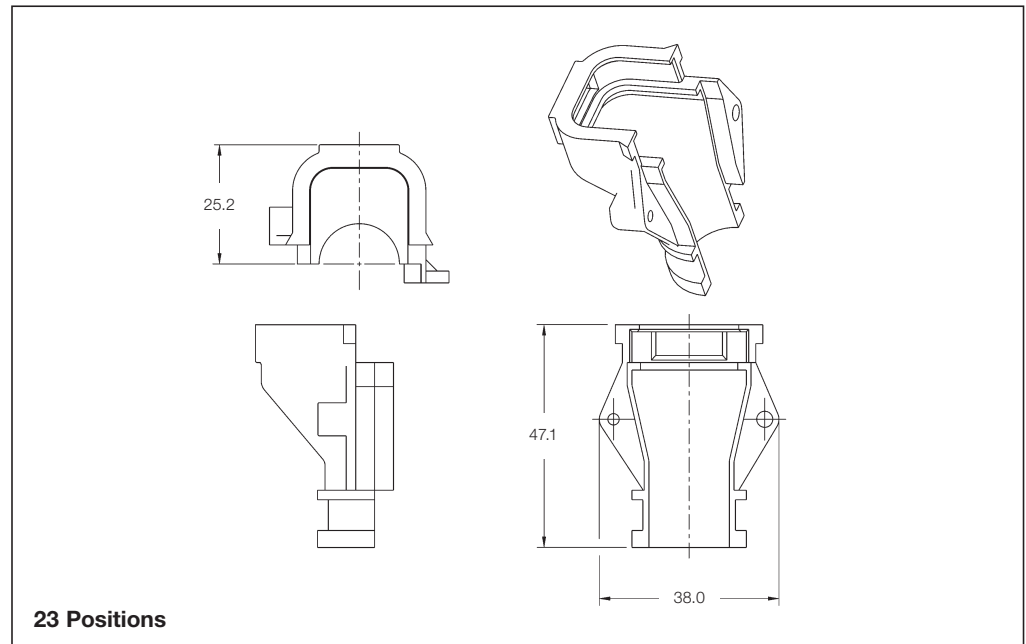
Sealed Receptacle Housing Wire Reliefs

Product Features

Wire Relief Material:
Glass reinforced PBT

Product Specification:
108-1329

Application Specification:
114-16016



Remarks:

1. 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

Note: All Part Numbers are RoHS and ELV compliant.

Numerical Index

Part Number	Page	Part Number	Page	Part Number	Page	Part Number	Page
58440-1	29-4	776164-1	29-11, 29-18, 29-19	1-776230-4	29-11, 29-19	776267-4	29-9, 29-14
567333-2	29-4			1-776230-5	29-11, 29-19	776267-5	29-9, 29-14
770520-1	29-4	776164-2	29-11, 29-18, 29-19	776231-1	29-11, 29-19	1-776267-1	29-9, 29-14
770520-3	29-4			776231-2	29-11, 29-19	1-776267-2	29-9, 29-14
770669-1	29-10, 29-16	776164-4	29-11, 29-18, 29-19	776231-4	29-11, 29-19	1-776267-4	29-9, 29-14
770669-2	29-10, 29-16			776231-5	29-11, 29-19	1-776267-5	29-9, 29-14
770669-4	29-10, 29-16	776164-5	29-11, 29-18, 29-19	1-776231-1	29-11, 29-19	776273-1	29-9, 29-14, 29-15
770669-5	29-10, 29-16			1-776231-2	29-11, 29-19		
1-770669-1	29-10, 29-16	776164-6	29-11, 29-18	1-776231-4	29-11, 29-19	776273-2	29-9, 29-14, 29-15
1-770669-2	29-10, 29-16	1-776180-1	29-11, 29-18	1-776231-5	29-11, 29-19		
1-770669-4	29-10, 29-16	1-776180-2	29-11, 29-18	776261-1	29-9, 29-15	776273-4	29-9, 29-14, 29-15
1-770669-5	29-10, 29-16	1-776180-4	29-11, 29-18	776261-2	29-9, 29-15		
770678-1	29-5	1-776180-5	29-11, 29-18	776261-4	29-9, 29-15	776273-5	29-9, 29-14, 29-15
770680-1	29-10, 29-16, 29-17	1-776180-6	29-11, 29-18	776261-5	29-9, 29-15		
		776200-1	29-10, 29-17	1-776261-1	29-9, 29-15	776275-1	29-8, 29-13
770680-2	29-10, 29-16, 29-17	776200-2	29-10, 29-17	1-776261-2	29-9, 29-15	776275-2	29-8, 29-13
		776200-4	29-10, 29-17	1-776261-4	29-9, 29-15	1-776275-1	29-8, 29-13
770680-4	29-10, 29-16, 29-17	776200-5	29-10, 29-17	1-776261-5	29-9, 29-15	1-776275-2	29-8, 29-13
		1-776200-1	29-10, 29-17	776262-1	29-9, 29-15	776276-1	29-8, 29-13
770680-5	29-10, 29-16, 29-17	1-776200-2	29-10, 29-17	776262-2	29-9, 29-15	776276-2	29-8, 29-13
		1-776200-4	29-10, 29-17	776262-4	29-9, 29-15	1-776276-1	29-8, 29-13
770854-1	29-4	1-776200-5	29-10, 29-17	776262-5	29-9, 29-15	1-776276-2	29-8, 29-13
770854-3	29-4	776228-1	29-10, 29-17	1-776262-1	29-9, 29-15	776279-1	29-8, 29-12
776087-1	29-10, 29-16	776228-2	29-10, 29-17	1-776262-2	29-9, 29-15	776279-2	29-8, 29-12
776087-2	29-10, 29-16	776228-4	29-10, 29-17	1-776262-4	29-9, 29-15	1-776279-1	29-8, 29-12
776087-4	29-10, 29-16	776228-5	29-10, 29-17	1-776262-5	29-9, 29-15	1-776279-2	29-8, 29-12
776087-5	29-10, 29-16	1-776228-1	29-10, 29-17	776266-1	29-9, 29-14	776280-1	29-8, 29-12
1-776087-1	29-10, 29-16	1-776228-2	29-10, 29-17	776266-2	29-9, 29-14	776280-2	29-8, 29-12
1-776087-2	29-10, 29-16	1-776228-4	29-10, 29-17	776266-4	29-9, 29-14	1-776280-1	29-8, 29-12
1-776087-4	29-10, 29-16	1-776228-5	29-10, 29-17	776266-5	29-9, 29-14	1-776280-2	29-8, 29-12
1-776087-5	29-10, 29-16	776230-1	29-11, 29-19	1-776266-1	29-9, 29-14	776286-1	29-8, 29-12, 29-13
1-776163-1	29-11, 29-18	776230-2	29-11, 29-19	1-776266-2	29-9, 29-14		
1776163-2	29-11, 29-18	776230-4	29-11, 29-19	1-776266-4	29-9, 29-14	776286-2	29-8, 29-12, 29-13
1-776163-4	29-11, 29-18	776230-5	29-11, 29-19	1-776266-5	29-9, 29-14		
1-776163-5	29-11, 29-18	1-776230-1	29-11, 29-19	776267-1	29-9, 29-14	776463-1	29-20
1-776163-6	29-11, 29-18	1-776230-2	29-11, 29-19	776267-2	29-9, 29-14	776464-1	29-20

Disclaimer

While Tyco Electronics and its affiliates referenced herein have made every reasonable effort to ensure the accuracy of the information contained in this catalog, Tyco Electronics cannot assure that this information is error free. For this reason, Tyco Electronics does not make any representation or offer any guarantee that such information is accurate, correct, reliable or current. Tyco Electronics reserves the right to make any adjustments to the information at any time. Tyco Electronics expressly disclaims any implied warranty regarding the information contained herein, including, but not limited to, the implied warranties of merchantability or fitness for a particular purpose. Tyco Electronics' only obligations are those stated in Tyco Electronics' Standard Terms and Conditions of Sale. Tyco Electronics will in no case be liable for any incidental, indirect or consequential damages arising from or in connection with, including, but not limited to, the sale, resale, use or misuse of its products. Users should rely on their own judgment to evaluate the suitability of a product for a certain purpose and test each product for its intended application.

In case of any potential ambiguities or questions, please don't hesitate to contact us for clarification.

www.tycoelectronics.com

www.tycoelectronics.com/automotive

AMP, AMPSEAL, TE (Logo) and Tyco Electronics are trademarks of the Tyco Electronics Group of Companies and its Licensors.

Engineering Notes

