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**Ø 1,5 mm Contact System**

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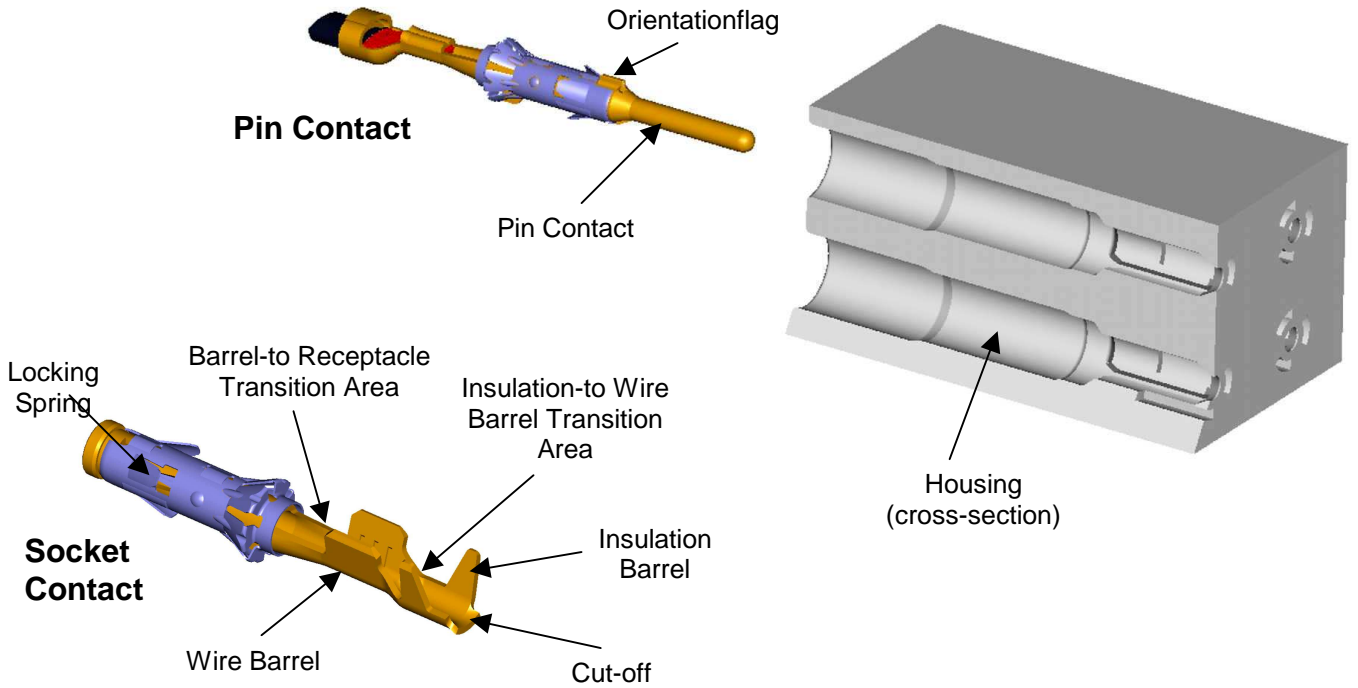
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**1. Introduction**

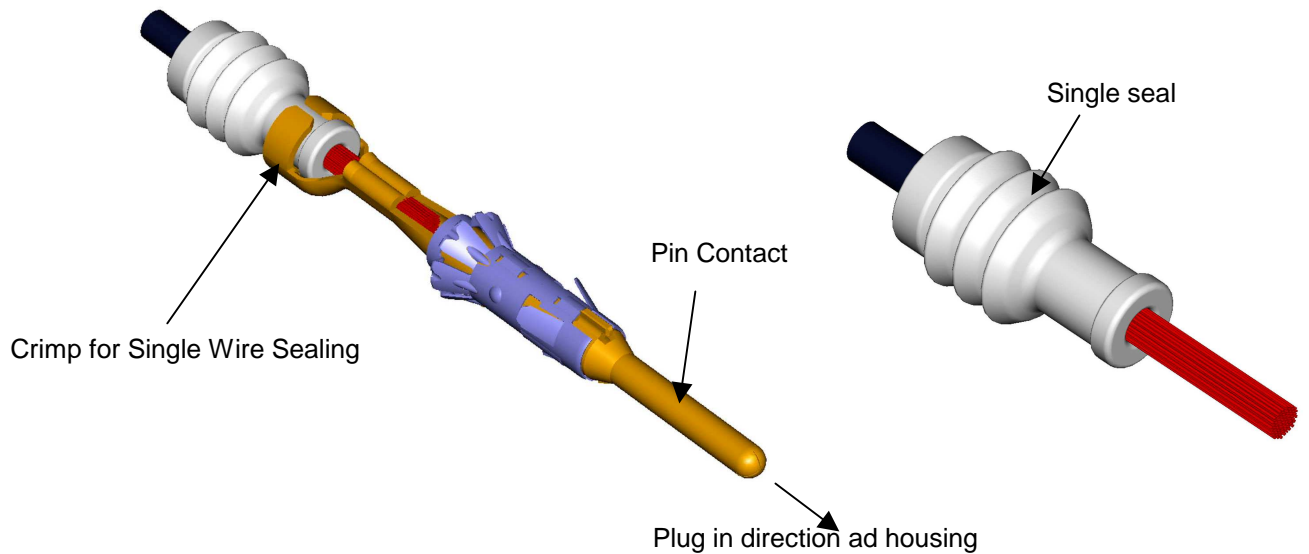
This specification covers the requirements for application of 1,5mm dia pin and socket contacts. These instructions are primarily for automatic application, but use can also be made of a handtool.

**Crimped Contact**



Picture1

**Contact with single wire seal**



Picture 2

**2. Referenced Documents**

**2.1 Product Numbers and Product Codes**

Contact	Wiretype	Wire Range / mm <sup>2</sup>	Insulation Range Ø / mm	Part Number		Existing Types	Applicator No.	Handtool No.	Single Wire Sealing	
				Strip	Loose Piece				Seal No.	Cavity Plug No.
Pin	FLR	0,2-0,4	1,15-1,6							
	FLR	0,5-1,0	1,4-2,1						-	-
	FLR	>1-2,5	1,9-3,0						-	-
Socket	FLR	0,2-0,4	1,15-1,6	929 985	962 994	-1;	2-878 480	734 285-1	-	-
	FLR	0,5-1,0	1,4- 2,1	929 986	962 995	-1; -4;	2-878 481	734 285-1	-	-
	FLR	>1-2,5	1,9-3,0	929 987	962 996	-1;	2-878 482	734 285-2	-	-
Pin for Single Wire Sealing	FLR	0,2-0,4	1,2-2,1	1703012	1703016	-1; -4;	2-878 484	734 289-1	828 904	828 922
	FLR	0,5-1,0	1,2-2,1	1703013	1703017	-1; -2; -4;	2-878 485	734 289-1	828 904	828 922
	FLR	>1-2,5	2,2-3,0	1703014	1703018	-1; -4;	2-878 486	539 679-2*	828 905	828 922
Socket for Single Wire Sealing	FLR	0,2-0,4	1,2-2,1	929 988	962 997	-1; -2;	2-878 484	734 289-1	828 904	828 922
	FLR	0,5-1,0	1,2-2,1	929 989	962 998	-1; -4; -7; 1-0;	2-878 485	734 289-1	828 904	828 922
	FLR	>1-2,5	2,2-3,0	929 990	962 999	-1; -4; 1-0	2-878 486	539 679-2*	828 905	828 922

Chart 1

\*Die for ERGOCRIMP-Basis Handtool PN 539635-1

**Notes :**

Application Specification for single wire sealing 114-18018;  
 - extraction tool socket 518 082-1; spare tube 548 551-1;  
 - extraction tool pin 3-1579007-7; spare tube 3-1579007-8  
 „single wire sealing dash-no.” : -1; cavity plug dash-no. -1; -2

Contact dash-No.:

-1 CuNiSi pre tinned; -2 CuNiSi silver plated ; -3 CuNiSi gold plated; -4 CuFe2 pre tinned;  
 -7 CuNiSi electroplated silver; -8 CuNiSi electroplated gold; 1-0 CuNi18Zn20 plain ;

Not each dash variant exists for every Basenumber. Not existing could be checked.

Minimum pitch : 5mm x 5mm (5mm x 4,4mm) for normal application and 5,7mm x 5,7mm for single-seal-system.

( ) = for displaced rows

## 2.2 Customer Drawing

An AMP Customer Drawing is available for each part number assigned to this product line (see chart.1). In the event of a variance between this specification and the customer drawing, the customer drawing will take precedence.

Crimp information shall be taken from the customer drawings.

## 2.3 Instructional Material

IS 7424 AMP Instruction Sheet describes measurement of the crimp height.

AI 8025 deals with the MQC – crimp tool.

CM 5128 includes information for the crimping machine.

## 2.4 Specifications

AMP Spec. 108-18028	-Design Objective containing the requirements and performance of these contacts.
AMP Spec. 114-18022	-General instructions for the application of contacts with open barrel.
AMP Spec. 114-18018	-Application Specification for single wire sealing.

### 3 Requirements

#### 3.1 Wire

##### A. Wire Selection

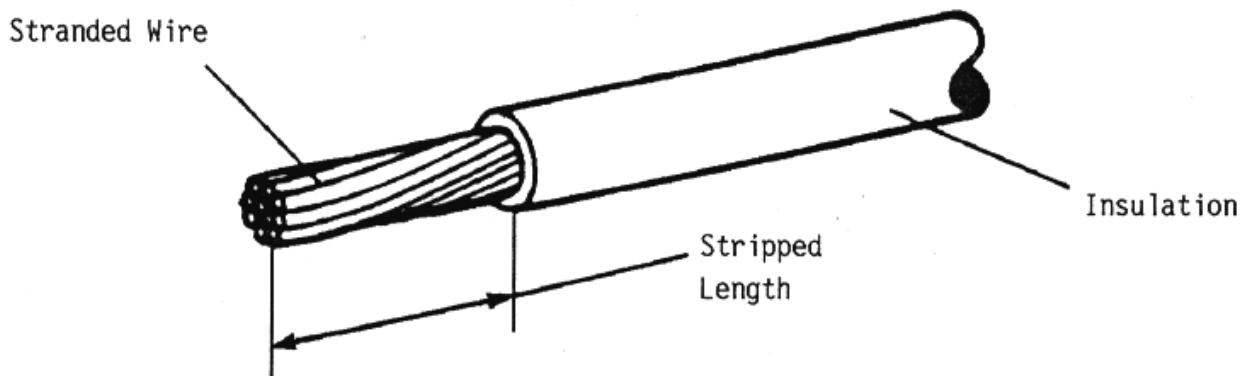
The crimping barrels of each contact are designed to receive stranded copper wire (Chart. 1). Other wires need the approval of the Engineering Department. Consult AMP for details. Only Single termination is permissible.

##### B. Wire Preparation

The wire must be stripped to the dimension shown in figure 3. Care must be exercised to prevent cutting or nicking of the wire strands. Care must also be taken, when handling wire during crimping to prevent cracking or breaking of the wire strands or the insulation.

Part-No.	Insulation Length	Part-No.	Insulation Length
		1703012	4,5 ± 0,3mm
		1703013	4,5 ± 0,3mm
		1703014	5,0 ± 0,3mm
929 985	4,3 ± 0,3mm	929 988	4,5 ± 0,3mm
929 986	4,3 ± 0,3mm	929 989	4,5 ± 0,3mm
929 987	5,3 ± 0,3mm	929 990	5,0 ± 0,3mm

Chart 2



Picture 3

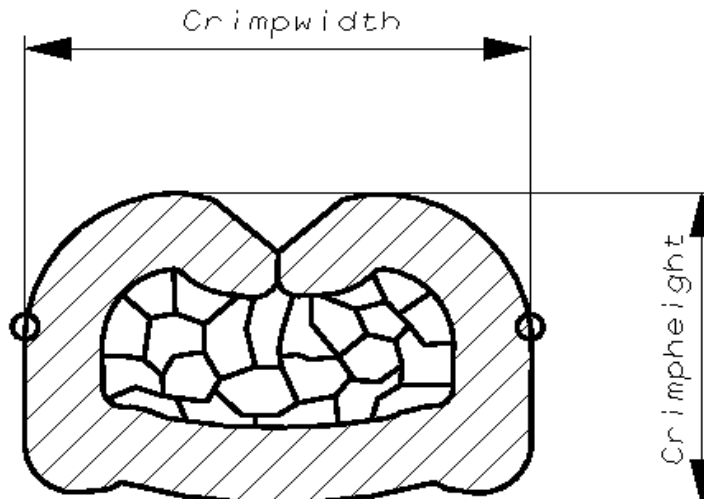
**3.2 Crimped Contact**

**A. Cut-off**

The cut-off must be visible after crimping. The maximum length is 0,5mm. Burrs resulting from shearing of the cut-offs may not exceed 0,08mm.

Order number	Applicator No.	Wirecrimp				Insulationcrimp
		Crimpwidth CB / mm	Wire cross sectional / mm <sup>2</sup>	Crimpheight CH / mm	DISC Ltr.	Crimpwidth / mm
929 985	2-878 480	1,58 "F"	0,35	1,11	A	2,30 "O"
929 986	2-878 481	2,03 "F"	0,5	1,27	C	2,54 "O"
			0,75	1,36	B	
			1	1,45	A	
929 987	2-878 482	2,54 "F"	1,25	1,6	D	3,30 "O"
			1,5	1,67	C	
			2	1,82	B	
			2,5	1,97	A	
1703012 929 988	2-878 484	1,58 "F"	0,35	1,11	A	3,93 "O"
1703013 929 989	2-878 485	2,03 "F"	0,5	1,27	C	4,06 "O"
			0,75	1,36	B	
			1	1,45	A	
1703014 929 990	2-878 486	2,54 "F"	1,5	1,67	C	4,30 "O"
			2	1,82	B	
			2,5	1,97	A	

Chart 3



Picture 4

## B. Wire Barrel

The crimp form, crimp height and crimp width as well as the wire range can be taken from the customer drawing.

The crimp extractions forces must meet the requirements of DIN IEC 352 part 2.

The rear bellmouth is  $0,4 \pm 0,2\text{mm}$  for all wire ranges. A front bellmouth is permissible.

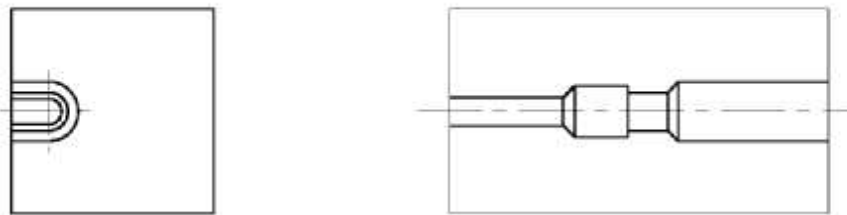
The conductor ends must extend beyond the front of the wire barrel by  $0,1\text{mm min.} / 1,0\text{mm max.}$

## C. Insulation Barrel

The requirements for the insulation grip effectiveness are laid down in DIN IEC 352 part 2.

For processing apply the following difference to AMP Spec. 114-18018 and 114-18022:

- The edgewise deviation of the longitudinal axis in the crimping area may not exceeded  $2^\circ$  in either direction.
- The deviation of the longitudinal axis in the crimping area may not exceeded  $2^\circ$  in up and down direction.
- The single seal may topped max.  $2^\circ$  in up and down direction in the crimp.



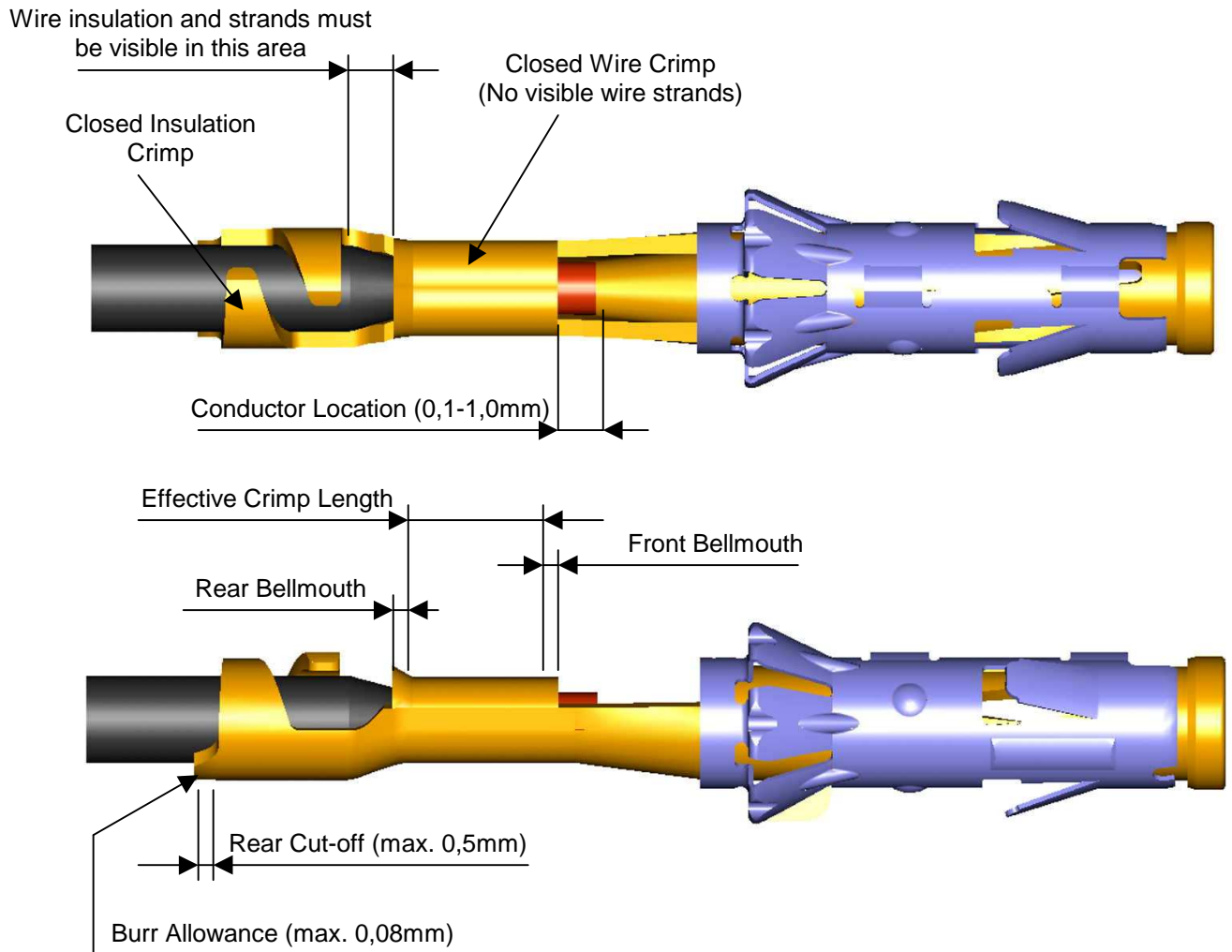
Picture 5

For compliance of these requirements, the gauge (PN 1241162) shown in picture 5 must be used.

## D. Contact Area

Cantilever spring with locking spring and the contact body may not be twisted or damaged after crimping.

**Crimped contact**



Picture 6

**3.3 Mounting of the Pin after Redesign**

Related to the new design of the contact cavity, the pin gets a orientationflag, because of its three possible positions to lock in the cavity. While inserting, the correct orientation of the contact is easy to find by slightly turning in.

**3.2 Application of the extraction tool for the pin**

The extraction tool is slitted now and has to be inserted oriented into the contact cavity.



AWG / ISO cross reference

DIA 1,5mm Socket (basic part number)	DIA 1,5mm Pin (basic part number)	Wire size ISO 6722		USA SAE J1128		Outer diameter (Insulation)	Single Wire Seal
		Cross section	Type	AWG	Cable type		
929988 Applicator 2-878484-2	1703012 Applicator 2-878484-2	0,35mm <sup>2</sup>	FLR			1,30-1,40mm	828904-1
				<b>22</b>	TXL	1,50-1,75mm	828904-1
929989 Applicator 2-878485-2	1703013 Applicator 2-878485-2	0,50mm <sup>2</sup>	FLR			1,58-1,70mm	828904-1
				<b>20</b>	TXL	1,68-1,93mm	828904-1
		0,75mm <sup>2</sup>	FLR			1,78-1,90mm	828904-1
				<b>18</b>	TXL	1,88-2,13mm	828904-1
		1,00mm <sup>2</sup>	FLR			1,98-2,10mm	828904-1
		0,50mm <sup>2</sup>	FLK			2,06-2,30mm	828905-1
				<b>20</b>	GXL	2,06-2,41mm	828905-1
		0,75mm <sup>2</sup>	FLK			2,26-2,50mm	828905-1
				<b>18</b>	GXL	2,18-2,54mm	828905-1
		1,0mm <sup>2</sup>	FLK			2,46-2,70mm	828905-1
929990 Applicator 2-878486-2	1703014 Applicator 2-878486-2			<b>16</b>	TXL	2,16-2,41mm	828905-1
		1,5mm <sup>2</sup>	FLR			2,28-2,40mm	828905-1
		2,0mm <sup>2</sup>	FLR			2,66-2,80mm	828905-1
				<b>14</b>	TXL	2,51-2,77mm	828905-1
		2,5mm <sup>2</sup>	FLR			2,86-3,00mm	828905-1
				<b>16</b>	GXL	2,57-2,92mm	828905-1
		1,5mm <sup>2</sup>	FLK			2,76-3,00mm	828905-1
				<b>14</b>	GXL	2,82-3,18mm	828905-1
		2,5mm <sup>2</sup>	FLK			3,32-3,60mm	---

Chart 4