
12mm Circle Terminal for EV Charge Vehicle Inlet System

应用于电动汽车充电插座系统的 12mm 圆形端子

Contents/目录

1 GENERAL.....	2
1 综述.....	2
2 REFERENCE DOCUMENTS	2
2 参考文件.....	2
2.1 Customer Drawing.....	2
2.1 客户图纸.....	2
2.2 Product Specification.....	2
2.2 产品规范.....	2
2.3 Application Specifications	2
2.3 应用规范.....	2
2.4 Information Sheets.....	3
2.4 信息表.....	3
3 DESCRIPTION.....	3
3 描述.....	3
4 REQUIRMENTS	4
4 要求.....	4
4.1 WIRE.....	4
4.1 导线.....	4
4.2 Cut off and Burrs.....	5
4.2 裁切及毛边.....	5
4.3 Wire Crimp.....	5
4.3 导线压接.....	5
4.4 Contact Area	7
4.4 接触区域.....	7
4.5 Shape and Positional Tolerance of the Crimped Contact (see fig.2).....	7
4.5 压接端子外形及位置公差.....	7
5 CRIMP DATA FOR 12mm CIRCLE TERMINAL.....	8
5 12mm 圆形端子压接参数.....	8
6 PROCESS.....	8
6 制程.....	8
7 APPENDIX.....	9
7 附录.....	9

1 GENERAL

1 综述

This specification contains the guidelines for the application of 12mm Circle Terminal for EV Charge Vehicle Inlet System. These requirements are applicable to the fully or semi-automatic machine crimping tools.

本规范阐述了电动汽车充电插座用 12mm 圆形端子的应用要求。这些要求适用于自动压接机械。

The contacts are listed by their use, the wire size ranges and the crimping data in section 5.

端子的线径范围与压接参数在本规范的第五部分。

Note: Only the TE crimp tool specified in section 5 and 6 may be used for application of the contacts. Any exceptions to this rule are defined by customer-specific documents.

备注：本规范中第五及第六章的压接参数仅适用于 TE 压接工具。任何本规范所涉及例外情况均由客户指定。

2 REFERENCE DOCUMENTS

2 参考文件

2.1 Customer Drawing

2.1 客户图纸

This application specification is based on the latest valid customer drawings. The dimension and materials of the contacts are shown in the TE customer drawings.

本规范基于以下有效客户图纸的最新版本。端子的尺寸和选用的材料于 TE 的客户图中所定义。

C-2304314

FEMALE TERMINAL, SILVER PLATED, 12MM CIRCLE TERMINAL

C-2304314

母端子，镀银，12mm 圆形端子



NOTE

MALE TERMINAL DESIGN ACCORDING TO GB20234.3 OR IEC 62196.3. COUNTER PART CONTACT AREA DIAMETER SHOULD BE $12+0/-0.05$ mm WITH SILVER PLATED TOO.

公端端子设计参考国标 20234.3 或者 IEC 62196.3. 对配公端接触区域直径为 $12+0/-0.05$ mm 且表面镀银。

2.2 Product Specification

2.2 产品规范

Please see the Product Specification of GB charging inlet according to customer. And terminal P/N.

根据客户及使用的端子料号，请参考相应的充电插座总成的产品规范。

2.3 Application Specifications

2.3 应用规范

The crimp quality must also comply with the general guidelines laid down in the application specification **114-18022**.

压接品质也必须符合压接规范 **114-18022** 中所阐述的通用的压接指导说明。

2.4 Information Sheets

2.4 信息表

408-7424 explains how to measure the crimp height.

408-7424 说明了如何测量压接高度。

114-18022-10 explains how to make and evaluate the cross sections quality of F-Crimp

114-18022-10 说明了如何制作和评估 F 压接的截面质量。

3 DESCRIPTION

3 描述

The following terms are used in this specification.

下图中的术语被应用于本规范中。

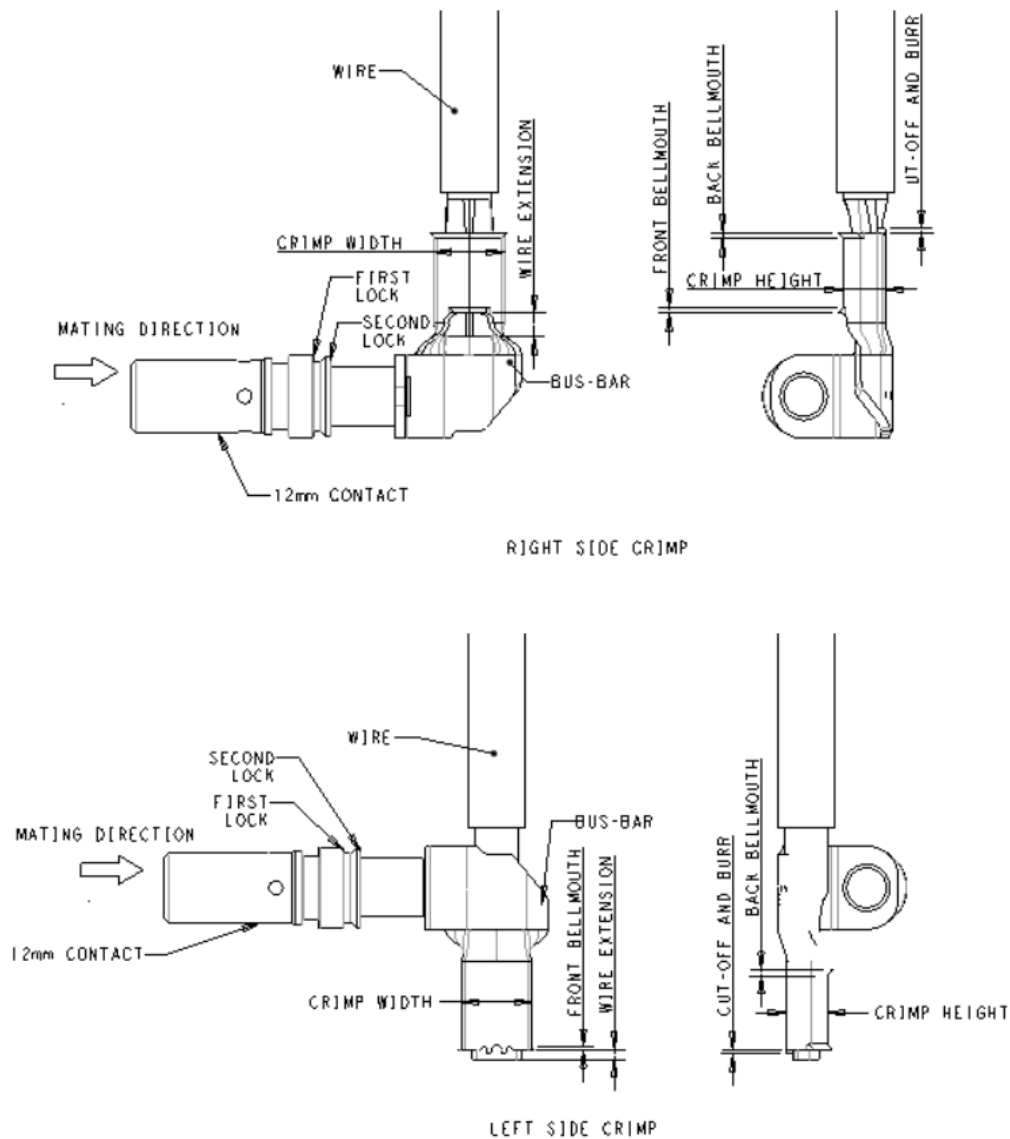


Fig.1 (图1)

4 REQUIRMENTS

4 要求

4.1 WIRE

4.1 导线

A Selection

Only wires specified in Table 1 of this specification can be used. Other wires require approval from the development department. Only single termination is permitted.

A 选择

只可使用满足本规范中表 1 所定义的条件条件的导线。其它导线的使用需要得到产品开发部门的认可。

B Preparation

The wire insulation must be stripped before crimping. A reference for the stripping length is given in table 2 . Individual strands of the wire may neither be cut nor damaged nor pulled by the stripping operation. The insulation surface must be clean and free of contamination.

B 准备

在压接之前，按表2中制定的长度去除导线的绝缘层。在剥线的过程中，导体不能被割断或损坏。外皮要保持干净，不能有脏污。

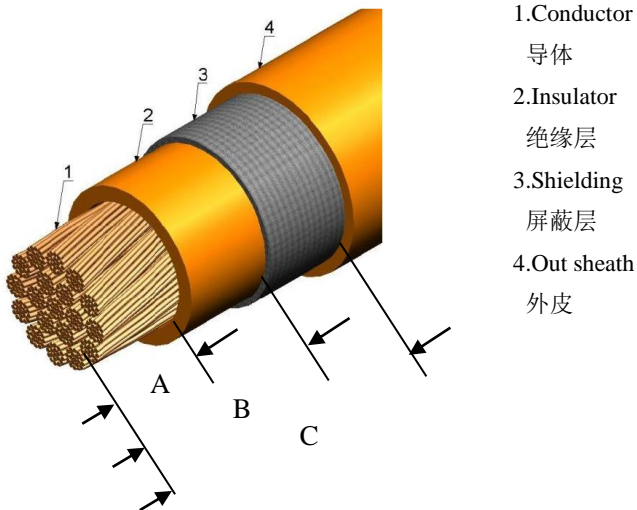


Fig.2 (图2)

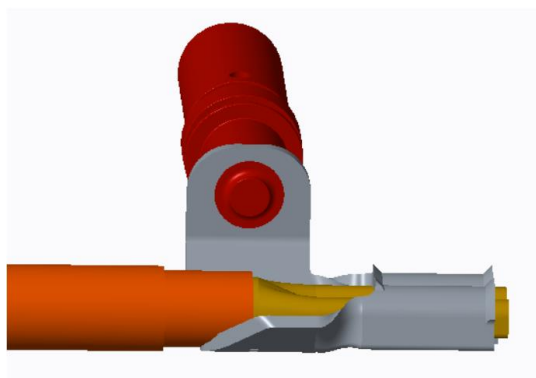
Qualified wires:

Wire Type 导线类型	Wire Size 线径	Standard 标准	Identification 导线规格说明	Wire Supplier 导线供应商
Cu ETP1	16mm ²	LV216-2	Cofflex-R T4-CHV 16 mm ² / 512x0.21 / Cu ETP1	Coficab
Cu ETP1	50mm ²	LV216-2	FHLR2GCB2G 50 mm ² / 0.21 T180 0.6/1kV	Coroplast

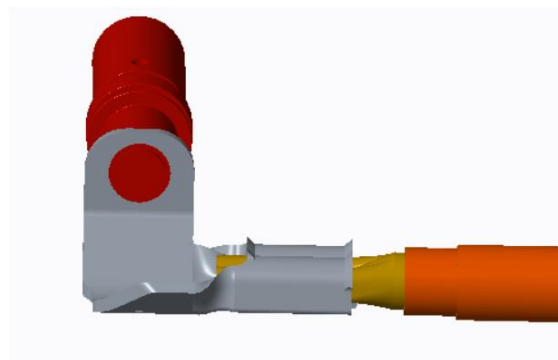
Table 1(表1)

Additionally released wires:

Wire Type 导线类型	Wire Size 线径	Standard 标准	Identification 导线规格说明	Wire Supplier 导线供应商
Cu ETP1	16mm ²	LV216-2	FHLR2GCB2G 16 mm ² / 512x0.21 / Cu ETP1	Coficab



Left side crimp
左侧铆线



Right side crimp
右侧铆线

Fig.3 (图3)

Terminal P/N 端子料号	Left side crimp 左侧铆线			Right side crimp 右侧铆线		
	DIM. A 尺寸A	DIM. B 尺寸B	DIM. C 尺寸C	DIM. A 尺寸A	DIM. B 尺寸B	DIM. C 尺寸C
2325606-1	29+/-0.5 mm	50.9+/-0.5mm	55.9+/-0.5mm	18+/-0.5mm	18+/-0.5mm	25+/-0.5mm
2304314-1	27+/-0.5 mm	48.7+/-0.5mm	53.7+/-0.5mm	18+/-0.5mm	18+/-0.5mm	25+/-0.5mm



→ Table 2(表2)

4.2 Cut off and Burrs

4.2 裁切及毛边

The cut off must be visible after crimping for strip type terminal application. Its length may not exceed 1mm. The burr at the cut off point may not exceed 0,2mm.

料带是端子在压接后切断处要清晰可见，其长度不可超过 1mm，且切断处的毛边长度不可超过 0.2mm。

4.3 Wire Crimp

4.3 导线压接

A Wire position

After crimping, the end of the wire must extend 0 to 1.5mm beyond the front edge of the wire crimp. In no case may the end of the insulation be crimped under the wire crimp.

A 导线位置

压接后，导体前端必须超过压接区域前杯口 0~1.5mm。导线绝缘层不可压接在导线压接区域。

B Crimping data

The shape, height and width of the crimp, and the wire range, are shown in Table 5.

Crimping section should be checked before production.

Note: measure the crimp height in accordance with operating instructions 408-7424 with a crimp height micrometer, TE Order No. 675836-0. The crimp width is a tool-related dimension and is defined as the distance between the two tangential points of the rolling radius and the edges of the crimp. It is not possible to measure the crimp width for production monitoring purposes. The general guidelines of application specification 114-18022 are valid for crimping. The microsection layer has to be between the two serrations – see following figure.

B 压接参数

表 5 列出了端子压接线径范围，压接后的外形，高度及宽度尺寸。在正式生产前，压接截面需要检测。

备注：依照作业指导 408-7424，使用千分尺测量压接高度，千分尺的 TE 采购料号 675836-0。导线区域压接宽度取决于压接工具，该尺寸是压接区域底部两个滚动半径与直边相切区域之间的距离。无需在生产过程中监测压接区域的宽度。**114-18022** 作为压接检验的一般指导文件。用于判定的截面需位于两齿槽的中间，请参考下面的图片。

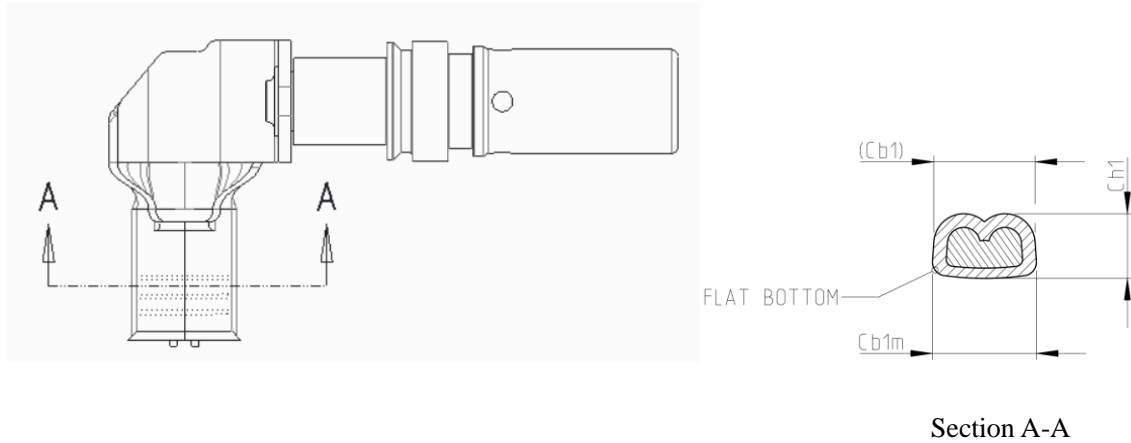


Fig.4 (图4)

C Extraction forces

The crimp extraction forces must comply with the requirements of table 3 acc. to LV215-1. Any exceptions to this rule are defined by customer-specific documents. Extraction force should be checked before production.

C 导线拔出力

导线拔出力必须满足表格3的要求遵循LV215-1。任何涉及例外情况均由客户指定。在正式生产前，导线的拉拔力需要检测。

Wire Size 线径	Wire pull-out force 导线拔出力
16mm ²	1400N Min
50mm ²	2800N Min

Table 3 (表3)

D Crimp bellmouth

the size of the rear bellmouth must comply with the requirements of table 4 acc. to 114-18022. The front bellmouth may not exceed the size of the rear bellmouth. A missing of the front bellmouth is permitted. A bellmouth may not hinder the ability of the terminal to be mounted to or snap in its housing.

D 压接杯口

导线压接区域的后杯口尺寸规格需要符合表格4的要求遵循114-18022. 前杯口的尺寸不能超过后杯口,无前端杯口是可接受的。任何杯口都不能影响端子与housing的适配。

Wire Size 线径	Bellmouth size 杯口尺寸
>6.00~25.00mm ²	1.0±0.5 mm
>25.00~50.00mm ²	1.5±0.8 mm

Table 4 (表4)

4.4 Contact Area

4.4 接触区域

The contact body may not be bent, damaged or deformed after crimping. Further processing of the crimped contact requires that the contact body is not damaged or deformed by external factors. The contact must be able to be inserted freely to the bottom of the housing or to the stop position.

压接后, 端子不能有折弯, 损坏, 变形。后续的制程端子也不能在外力的作用下有损坏变形。端子必须能够插入到 housing 中正确的位置。

4.5 Shape and Positional Tolerance of the Crimped Contact (see fig.5)

4.5 压接端子外形及位置公差(见图 5)

A measurement of the geometrical deviations is not always necessary. A simplified form and position function test can be done by plugging in a suitable cavity. The crimp may not scrape at the wall and the wire must pass through the sealing hole easily.

端子压接导线后的位置形状尺寸不是必检项目, 简单的方法是用端子与用相应的穴进行互配, 不能发生挂擦, 导线要能穿过密封孔。

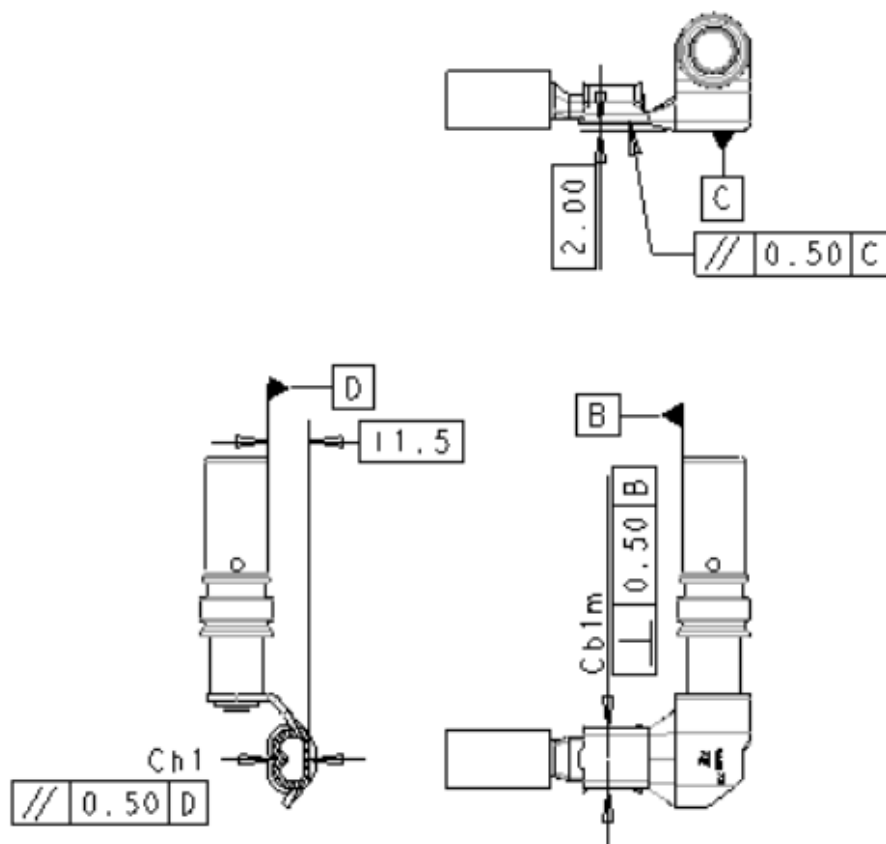


Fig.5 (图5)

5 12mm circle terminal crimping data

5 12mm 圆形端子压接参数

TERMINAL P/N	WIRE TYPE	WIRE SIZE mm ²	CONDUCTOR CRIMP				STRIP LENGTH	APPLICATOR	TERMINATOR
			WIDTH (Cb1)	WIDTH (Cb1m)	HEIGHT (Ch1)	SHAPE			
2325606-1	SEE	16	12.2	12.2 ^{+1.2}	6.5+/-0.10	F	SEE	541926-2	528008-4
2304314-1	TABLE 1	50	16.3	16.3 ^{+1.6}	8.7+/-0.15	F	TABEL 2	541919-2	528008-4

Table 5 (表5)

6 Processing

6 制程

Only TE crimp tools specified in table 5 may be used for application of the contacts. Any exceptions to this rule are defined by customer specific documents.

只有在表格 5 中的 TE 治具能被用来进行端子压接。任何涉及例外情况均由客户指定。

7 Appendix

7 附录

Terminal condition can be accepted after crimping shown in the table 6. It should be evaluated by TE if the condition beyond the pictures.

端子压接后，表 6 所示状态为可接受状态.如有超出下表的状况，请先经过 TE 评估后再使用.

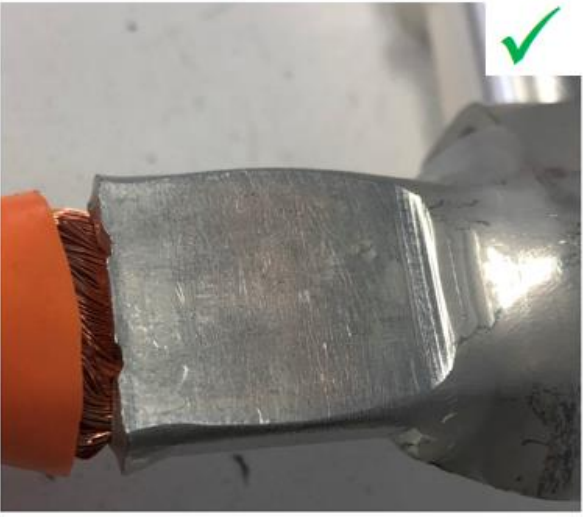
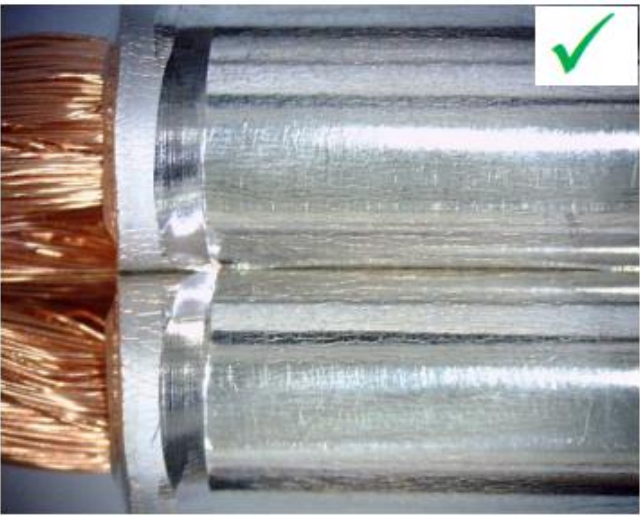
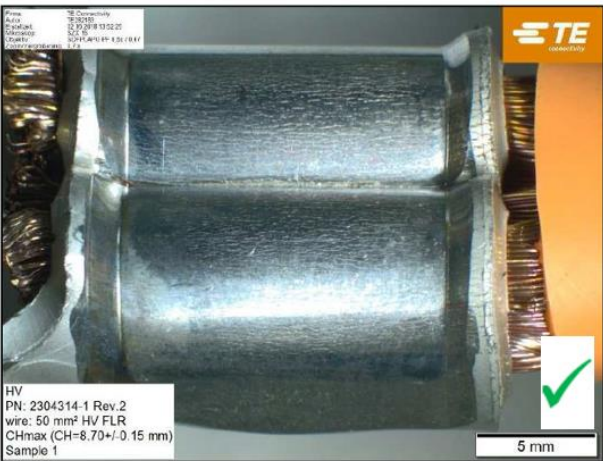
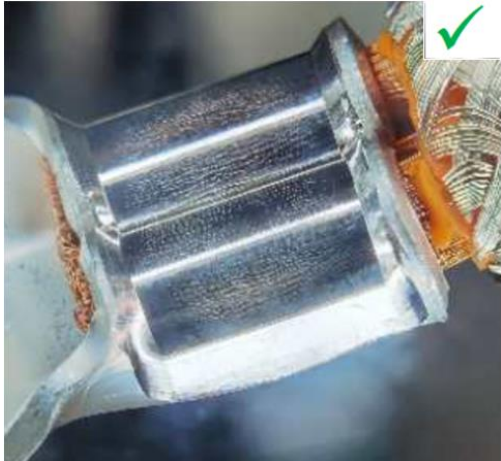
 <p>Slightly copper color shown in the bottom 底部有轻微泛黄</p>	 <p>Slightly plating chap on the surface 表面镀层有轻微镀层龟裂</p>
 <p>HV PN: 2304314-1 Rev.2 wire: 50 mm² HV FLR CHmax (CH=8.70±0.15 mm) Sample 1</p> <p>5 mm</p> <p>Slightly plating chap on the surface 表面镀层有轻微镀层龟裂</p>	 <p>Slightly plating chap on the surface 表面镀层有轻微镀层龟裂</p>

Table 6 (表6)

Record of change history

变更历史记录

LTR	REVISION RECORD 变更记录	DWN 制作	APP 核定	DATE 时间
A	INITIAL RELEASE	G.ZHANG	I.YIN	08JUN2018
A1	ADD NEW P/N (2325606-1)	G.ZHANG	E.JIANG	07JNA2019
A2	UPDATE TABLE 2	G.ZHANG	E.JIANG	28OCT2019
A3	UPDATE TABLE 2 AND TABLE 6	G.ZHANG	E.JIANG	13NOV2020

DR 制作 GERRY.ZHANG 08JUN2018		TE Connectivity Shanghai, China		
CHK 审核 WEIDONG.ZHANG 08JUN2018				
APP 核准 IVAN.YIN 08JUN2018		NO 114-101059	REV A3	LOC ES
TITLE 标题	Vehicle Charge Inlet GB DC INLET 12mm Terminal 电动汽车国标直流充电插座 12mm 端子			