

MiniSeal High-Performance Crimp Splices 迷你密封高性能压接接头

轻量化 · 节省空间 · 高精度

Lightweight · Space-Saving · Demanding industrial environments

该系列高性能压接接头专为严苛工业环境与高精度制造应用打造，确保在极端条件下维持持久的电气连接与密封性能。其核心组件包含镀层铜压接管、热熔密封环及透明热缩套管；加热后，套管紧密包裹连接点，不仅能彻底阻隔液压油、燃油及化学溶剂，更通过内部胶环的固化锁紧机制，提供极强的抗拉与抗震保护，防止线缆因机械拉扯而断裂。我们提供并联（桩式）、串联（对接）及200°C耐高温型三大系列，赋予工程师极大的选型灵活性，在不增加重量的前提下，完美解决受限空间内的布线与热管理难题。

Engineered for mission-critical and demanding industrial environments, our high-performance crimp splices deliver permanent electrical integrity and superior environmental sealing. Each assembly features a plated copper barrel, a melt-flow sealing ring, and a transparent heat-shrink sleeve. Upon heating, the sleeve encapsulates the joint, sealing out hydraulic fluids, fuels, and moisture while providing robust mechanical reinforcement (strain relief) against vibration and pull-out. Available in three dedicated series—Parallel (Stub), In-line (Butt), and a 200°C High-Temp variant—this range offers engineers maximum flexibility to meet tight space, routing, and thermal challenges without compromising on reliability.

系列概览

- **桩式(并联)接头:** 多根导线从同一侧进入; 非常适合传感器尾线、跳线以及狭窄空间内的分支连接。
- **对接(串联)接头:** 导线从相对两侧进入; 用于端对端的线缆修复, 同时保持线束原有的轮廓和平顺布线。
- **高温对接接头:** 专为发动机舱及其他极端温度区域设计, 支持在 200°C 环境下连续工作

Series Overview

- **Stub (parallel) splice:** multiple conductors enter from one side; ideal for sensor pigtails, jumper leads, and branch connections in tight spaces.
- **Butt (in-line) splice:** conductors enter from opposite sides for end-to-end repairs while maintaining harness profile and routing.
- **High-temperature butt splice:** engineered for continuous operation up to 200 °C in engine bays and other extreme-temperature zones.

颜色 COLOR



备注:

- 根据电路布局和工作温度要求, 选择接头类型(桩式、对接或高温对接)。
- 选择压接筒镀层:
 - 锡 (Tin): 适用于镀锡或镀银导线;
 - 镍 (Nickel): 适用于镀镍导线或工作温度高于 150°C 的应用。
- 计算导线总截面积 (单位: CMA 或 mm²), 并利用色标选择对应的压接筒尺寸。
- 安装校验: 确认每根导线的绝缘层均能顺利穿入密封套管的开口; 为确保密封的完整性, 严禁在套管的同一个穿孔孔内放置超过两根导线。
- 如需详细尺寸表、CMA 计算工作表及零件号对照, 请联系我们的技术支持团队。



特性与优势 Features and benefits

- **超紧凑、轻量化结构:** 最小化线束的体积与重量
- **一步式“压接+热缩”工艺:** 加快安装速度, 降低综合成本。
- **耐浸泡密封:** 有效防止液体侵入及由此引发的腐蚀。
- **透明套管设计:** 支持对压接部位进行即时的目视检查。
- **强韧抗震加固:** 内部胶环固化后形成刚性保护, 可承受特种装备上的剧烈震动与机械拉扯。
- Ultra-compact, lightweight construction minimizes harness size and mass
- One-step crimp-and-heat process speeds installation and lowers overall cost
- Immersion-resistant seal prevents liquid ingress and subsequent corrosion
- Transparent sleeve enables instant visual inspection of the crimp joint
- Vibration & Stress Resistant: Integrated mechanical reinforcement withstands high-intensity vibration and physical stress in harsh operational environments.

Notes:

- Select the splice style—stub, butt, or high-temperature butt—based on circuit layout and service temperature.
- Choose barrel plating: tin for tin or silver-plated conductors; nickel for nickel-plated conductors or applications above 150 °C.
- Calculate total wire cross-section (CMA or mm²) and use color coding to pick the correct barrel size.
- Verify that each wire's insulation fits the sealing-sleeve openings; place no more than two wires in any sleeve hole to maintain seal integrity.
- Detailed sizing tables, CMA worksheets, and part-number references are available from our technical support team.

表 A. 典型 AWG 导线 CMA 截面积对照表
Table A. CMA of Typical AWG Conductors

Strands	7	19	19	19	19	19	19	19	37
AWG	28	26	24	22	20	18	16	14	12
CMA	177	304	475	754	1216	1900	2426	3831	5874
mm ²	0.09	0.15	0.24	0.38	0.61	0.95	1.21	1.92	2.94

表 B. 压接筒色标选型指南
Table B. Crimp Barrel Color Code Selection

CMA 截面范围 CMA Range	1:1 对接 (AWG 线规) 1:1 Splice (AWG Size)	色标 Color Code
304-1510	26-20	红色 Red
1058-2580	20-16	蓝色 Blue
2375-6755	16-12	黄色 Yellow

表 C. 桩式 (并联) 接头规格表
Table C. Stub(Parallel) Splices

零件号 Part No.		压接筒适用截面范围 Crimp Barrel Size Range CMA Min.-Max.	内径尺寸 I.D. Dimensions	
			端 1 Side1 最大导线根数 Max. No. of Wires	端 2 Side2 最大导线根数 Max. No. of Wires
镀锡 Tin Plated	镀镍 Nickel Plated			
CA150-0128T Red	CA150-0119N Red	304-1510	2	2
CA150-58T Blue	CA150-75N Blue	1058-2680	2	2
CA150-59T Yellow	CA150-76N Yellow	2375-6755	2	2
CA150-60T Yellow	CA150-77N Blue	1058-2680	10 (2 per hole)	2
CA150-61T Yellow	CA150-78N Yellow	2375-6755	10 (2 per hole)	2

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表 D. 对接 (串联) 接头规格表
Table D. Butt(in-line) Splices

零件号 Part No.		压接筒适用截面范围 Crimp Barrel Size Range CMA Min.-Max.	内径尺寸 I.D. Dimensions	
			端 1 Side1	端 2 Side2
			最大导线根数 Max. No. of Wires	最大导线根数 Max. No. of Wires
镀锡 Tin Plated	镀镍 Nickel Plated			
CA150-36T* Red	CA150-82N CA200-82N Red	304-1510	2	2
CA150-37T* Blue	CA150-83N CA200-83N Blue	1058-2680	2	2
CA150-38T* Yellow	CA150-84N CA200-84N Yellow	2375-6755	2	2
CA150-0110T Red	CA150-85N Red	304-1510	6 (2 per hole)	2
CA150-52T Blue	CA150-86N Blue	1058-2680	6 (2 per hole)	2
CA150-53T Yellow	CA150-87N Yellow	2375-6755	6 (2 per hole)	2
CA150-0115T Red	CA150-88N Red	304-1510	6 (2 per hole)	6 (2 per hole)
CA150-42T Blue	CA150-89N Blue	1058-2680	6 (2 per hole)	6 (2 per hole)
CA150-43T Yellow	CA150-90N Yellow	2375-6755	6 (2 per hole)	6 (2 per hole)

表 E. 仅压接筒 (独立元件)
Table E. Crimp Barrel Only

类型 Type	颜色 Color	镀锡 Tin Plated	镀镍 Nickel Plated	压接筒适用截面范围 Crimp Barrel Size Range CMA Min.-Max.
对接 (串联) Butt (in-line)	红色 Red	CA150-06T	CA150-09T	304-1510
对接 (串联) Butt (in-line)	蓝色 Blue	CA150-07T	CA150-10T	1058-2680
对接 (串联) Butt (in-line)	黄色 Yellow	CA150-08T	CA150-11T	2350-6755
桩式 (并联) Stub (Parallel)	红色 Red	CA150-03T	CA150-12T	304-1510
桩式 (并联) Stub (Parallel)	蓝色 Blue	CA150-04T	CA150-13T	1058-2680
桩式 (并联) Stub (Parallel)	黄色 Yellow	CA150-05T	CA150-14T	2350-6755

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表 F. 仅密封套管 (独立元件)
Table.F.Sealing Sleeve Only

零件号 Part No.	色标 Color Code	L.Max	A.Min
CA150-96	红色 Red	29.2[1.15]	2.16[0.085]
CA150-97	蓝色 Blue	29.2[1.15]	2.8[0.110]
CA150-98	黄色 Yellow	29.2[1.15]	4.32[0.170]

表 G. CA150 产品特性
Table G. CA150 Product Characteristics

材料 Material	
绝缘层 Insulation	辐照交联热缩聚偏二氟乙烯(CA150) Radiation-crosslinked, heat-shrinkable polyvinylidene fluoride(CA150)
压接筒 Crimp barrel	镀锡铜 或 镀镍铜 Tin-or nickel-plated copper
热熔衬圈 Melttable inserts	可熔性热塑材料 Melttable thermoplastic (CA150)
典型性能 Typical Performance	
电压降 Voltage drop	4.5 A 时为 6.9 mV (对比同等长度导线的电压降为 8.1 mV) 6.9mV at 4.5 A vs 8.1 mV for an equal length of wire
抗张强度 Tensile strength	超过导线本身的强度 Exceeds strength of conductor
介电强度 / 耐压 Dielectric strength	2.5kV
额定温度 Temperature rating	-55°Cto +150°C [-67°F to 302°F] (CA150)
绝缘电阻 Insulation resistance	5000 MΩ

表 H. CA200 产品特性
Table H. CA200 Product Characteristics

材料 Material	
绝缘层 Insulation	热缩型、透明蓝、辐照交联改性氟聚合物 Heat-shrinkable, transparent blue, radiation cross-linked modified fluoropolymer
压接管 Crimp splicer	镀镍 Plating: Nickel 颜色: 见下表 Color: see table below
热熔密封环 Meltable rings	耐环境型改性热塑性氟橡胶 Environment resistant modified thermoplastic fluoroelastomer 颜色: 浅蓝色 Color: Light blue
典型性能 Typical Performance	
电压降 Voltage drop	4.5 A 时为 6.9 mV (对比同等长度导线的电压降为 8.1 mV) 6.9mV at 4.5 A vs 8.1 mV for an equal length of wire
抗张强度 Tensile strength	超过导线本身的强度 Exceeds strength of conductor
介电强度 / 耐压 Dielectric strength	2.5kV
额定温度 Temperature rating	-55°C to +200°C [-67°F to 392°F]
绝缘电阻 Insulation resistance	5000 MΩ

表 I. CA200 产品规格表
Table I. CA200 Product Dimensions

产品名称 Product Name	版本号 Product Rev.	I.D.* a. min b. max	压接管尺寸 Crimp Splicer					色标 Color Code
			ØA	ØB	C	D	E	
CA200-82N	A	2.16 (0.085) 0.64 (0.025)	1.27 (0.050) 1.14 (0.045)	2.03 (0.080) 1.91 (0.075)	12.95 (0.510) 12.45 (0.490)	6.22 (0.245) 5.72 (0.225)	0.38 (0.015)	红色 Red
CA200-83N	A	2.79 (0.110) 0.64 (0.025)	1.75 (0.069) 1.63 (0.064)	2.70 (0.106) 2.57 (0.101)	14.86 (0.585) 14.35 (0.565)	7.11(0.280) 6.60(0.260)	0.51 (0.020)	蓝色 Blue
CA200-84N	A	4.32 (0.170) 0.64 (0.025)	2.60 (0.120) 2.46 (0.097)	3.89 (0.153) 3.73 (0.147)	14.86 (0.585) 14.35 (0.565)	7.11(0.280) 6.60(0.260)	1.27 (0.050)	黄色 Yellow

注: *I.D. 栏中的 a 和 b 通常指: a=扩张后/收缩前内径, b=完全自由收缩后内径
*I.D.: a- As received; b- After unrestricted recovery thru meltable insert.

产品名称 Product Name	军标对应规格 Mil Spec Equivalent Size	适用线径范围 Wire Range	重量 (磅/千件) Wgt.Lbs/Mpc max.
CA200-82N	M81824/11-1	26-20	1.02
CA200-83N	M81824/11-2	20-16	1.61
CA200-84N	M81824/11-3	16-12	2.72