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Amphenol



ATHP Series



AEM Series



RTS Series



RT360 Series

信号和电源解决方案
Reliable Signal and Power solution



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介绍

Introduction

RT360™ 工业圆形连接器

RT360™ Industrial circular connectors

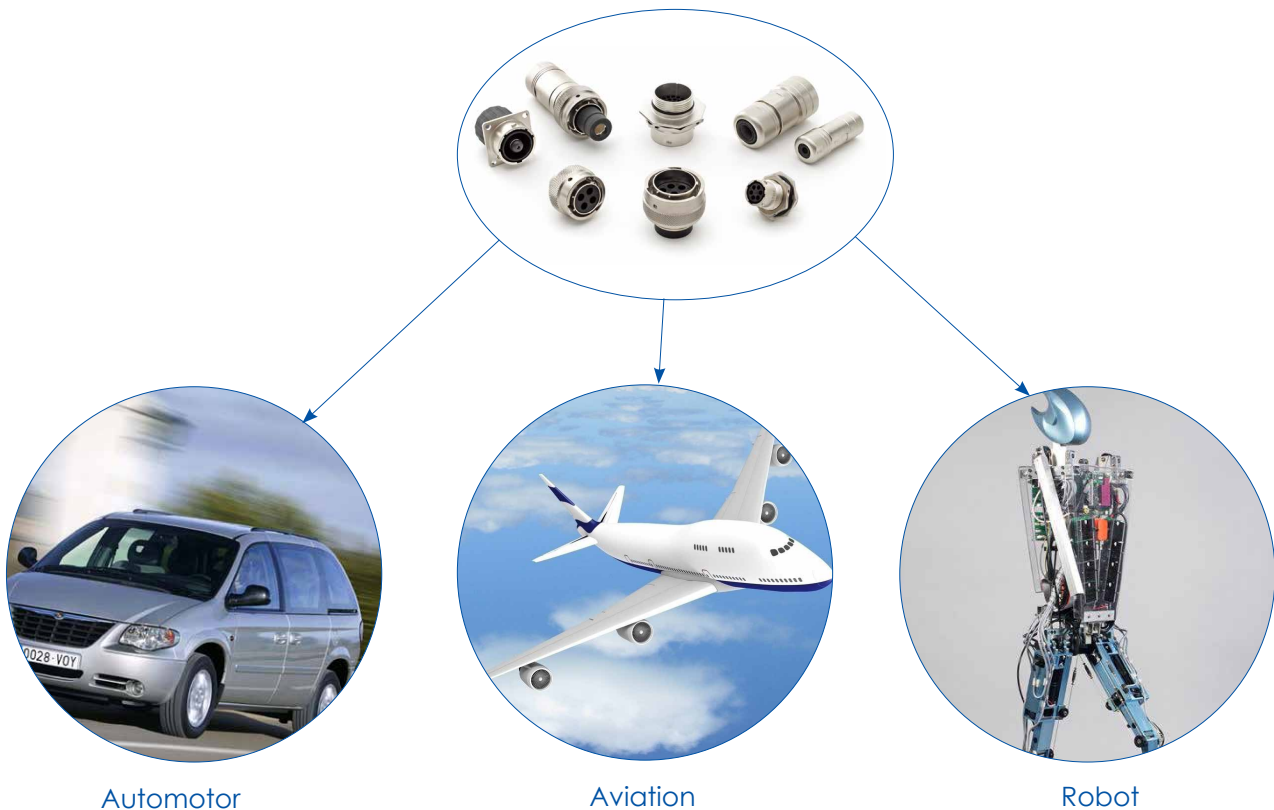
RT360™工业圆形连接器参考美军标MIL-C-26482系列设计,它完全兼容于其它公司生产的该类型产品。比如Souriau的TRIM、TRIO、UTG和UTP系列,ITT CANNON的Trident系列。

该系列连接器在工业领域内应用非常的广泛,它通常被使用在汽车、机器人、军事、焊接工业和其它要求互联的设备上。我们提供从#8~#24号壳体的孔位排布,各种线号端子可供选择,是性价比极高的解决方案。RT360™工业圆形连接器有RT、RT0W、RTHP、RTS四种类型。RT是标准系列连接器;RT0W的胶芯孔位高密度混合排布,6至32芯可以满足客户不同的要求;RTHP主要是用于混合动力汽车传输大电流,高电压的连接器;RTS是塑胶结构设计。RT系列获得UL1977标准认证,证书号E339831。

RT360™ industrial circular connectors are designed to meet the requirements of MIL-C-26482 series military specification. Connectors have been developed to be completely compatible with all other company products such as the Souriau TRIM, TRIO, UTG and UTP series, IIT Cannon Trident series industrial connector.

The RT360™ series is a widely used connector series for the automotive, robotics, military, welding industries and other demanding interconnect architectures. RT360™ are multiway connectors available in 8 shell sizes and 24 insert arrangements with a variety of wire gauge options. It is a high-performance, cost-effective solution for you. RT360™ includes four kinds of connectors, such as RT, RT0W, RTHP & RTS series. RT is standard series. RT0W offers high density arrangements from 6-32 contacts to meet different customer requirements. RTHP series connectors are used within HV & EV, which endure large current and high voltage. RTS is plastic option. RT series meets the standard of UL1977. The file number is E339831.

Application



RT360™技术参数

RT360™ Technical Data

	RT 系列 RT Series	RTOW 系列 RTOW Series	RTHP 系列 RTHP Series	RTS 系列 RTS Series
温度范围 Temperature Range	-40°C to +105°C or -40°C to +125°C		-40°C to +125°C	-40°C to +105°C or -40°C to +125°C
防护等级 Protection	IP67 mated condition			
壳体 Housing Body	锌合金,压铸件 Zinc alloy, Die-cast			热塑性材料 Thermoplastic
连接螺母 Coupling Nut	铝合金,镀镍 Aluminum, Alloy, Nickel-plated			
绝缘体 Insulation Inserts	热塑性材料 Thermoplastic, UL 94 -V0			
端子 Contacts	铜合金,镀金,镀银,镀锡 Brass alloy, Gold, Silver & Tin plated		铜合金,镀银 Brass, Silver-plated	铜合金,镀金,镀银,镀锡 Brass alloy, Gold, Silver & Tin plated
密封件 Seals	橡胶材料 Rubber			
最大工作电流(最大线径) Max. Current (Max. Wire Gauge)	Max. 45A	Max. 7.5A	Max. 300A	Max. 23A
额定工作电压 Rating Voltage	300V AC/DC	150V AC/DC	630V AC/DC	500V AC/DC
接触电阻 Contact Resistance	< 6 mΩ	< 15 mΩ	< 1 mΩ	< 6 mΩ or < 15 mΩ
测试电压 Test Voltage	2000V	1500V	5000V	2000V/1500V
机械寿命 Minimum Mating Cycles	装拆不小于500次, 没有电气或机械上的缺陷。 No electrical or mechanical defects after more than 500 cycles of engagement and disengagement.		装拆不小于100次, 没有电气或机械上的缺陷。 No electrical or mechanical defects after more than 100 cycles of engagement and disengagement.	装拆不小于500次, 没有电气或机械上的缺陷。 No electrical or mechanical defects after more than 500 cycles of engagement and disengagement.
盐雾等级 Salt Spray Resistance	48hour, 96hour			
屏蔽 Shielded	屏蔽线夹 (弹片式) Shield Cord Grip (EMI Ring Type)		屏蔽线夹 (弹片式或夹片式) Shield Cord Grip (EMI Ring Type or EMI Clamp Type)	无屏蔽 (N/A)
绝缘电阻 Insulation Resistance	在25°C时, 不小于5000兆欧。 5000 megohms minimum at 25°C.			
振动测试 Vibration Resistance	在三个相互垂直的平面内, 以10~2000Hz, 20G加速度的正弦振动后, 没有锁扣松脱, 没有机械或物理的损坏, 没有大于1微秒的断电现象。 No unlocking or unmating and exhibits no mechanical or physical damage after sinusoidal vibration levels of 20G's at 10 to 2000 Hz in each of the three mutually perpendicular planes. No electrical discontinuities longer than 1 microsecond.			
热冲击测试 Thermal Shock	从-40°C 到 +125°C试验20个循环后, 没有裂痕, 碎屑等表面缺陷。 No cracking, chipping or leaking after 20 test cycles from -40°C to +125°C.			
RoHS Compliant	Yes			

产品系列

Series offering

RT 系列

1. 有8种壳体尺寸号和18种孔位排布形式;
2. 提供从2-48针标准孔位排布的同时,也提供电源和信号孔位混合排布,可以满足不同客户的要求;
3. 工作电压为300V;
4. 额定电流为13A (信号端子), 45A (电源端子);
5. 防呆设计;
6. 塑料胶芯,热塑性材料,阻燃等级UL94, V-0;



RT系列
RT SERIES

RT Series

1. 8 shell sizes and 18 insert configurations
2. Offer standard insert arrangements from 2-48 contacts, offer mixed Power and Signal arrangements too, to meet customer requirements
3. Operating voltage of 300V
4. Current rating of 13A (signal contacts), 45A (power contacts)
5. Alternate keying positions available
6. Plastic inserts with flammability rating of UL94, V-0

RTS 系列

1. 有4种壳体尺寸号;
2. 提供从3-19针标准孔位排布的同时,也提供电源和信号孔位混合排布,可以满足不同客户的要求;
3. 工作电压为500V;
4. 额定电流为13A (信号端子), 23A (电源端子);
5. 防呆设计;
6. 塑料胶芯,热塑性材料,阻燃等级UL94, V-0;



RTS Series

1. 4 shell sizes
2. Offer standard insert arrangements from 3-19 contacts, offer mixed Power and Signal arrangements too, to meet customer requirements
3. Operating voltage of 500V
4. Current rating of 13A (signal contacts), 23A (power contacts)
5. Alternate keying positions available
6. Plastic inserts with flammability rating of UL94, V-0

RTOW 系列

1. 与MIL-C-26482系列连接器可以互插;
2. 有5种壳体尺寸号和5种孔位排布形式;
3. 提供从6-32针高密度孔位排布;
4. 工作电压为150V;
5. 额定电流为7.5A (机加工端子),额定电流为5A (冲压端子);
6. 防呆设计;
7. 塑料胶芯,热塑性材料,阻燃等级UL94, V-0;



RTOW系列
RTOW SERIES

RTOW Series

1. Mating with MIL-C-26482 series connectors
2. 5 shell sizes and 5 insert configurations
3. High density arrangements from 6~32 contacts
4. Operating voltage of 150V
5. Current rating of 7.5A with machined contacts and 5A with stamped and formed contacts
6. Alternate keying positions available
7. Plastic inserts with flammability rating of UL94, V-0

产品系列

Series offering

RTHP 系列

1. 有4种壳体尺寸号和5种孔位排布形式;
2. 单颗端子耐大电流,高电压;
3. 端子尺寸提供3.6mm-10mm选择;
4. 工作电压为630V;
5. 额定电流为: 86A-300A;
6. 塑料胶芯,热塑性材料,阻燃等级UL94, V-0;



RTHP系列
RTHP SERIES

RTHP Series

1. 4 shell sizes and 5 insert configurations
2. Single pole large current high Power arrangements
3. 3.6mm~10mm contact sizes
4. Operating voltage of 630V
5. Current rating: 86A~300A
6. Plastic inserts with flammability rating of UL94, V-0

ATHP 系列

1. 有4种壳体尺寸号 (2pin电源+2pin信号);
2. 端子耐大电流,高电压;
3. 端子尺寸提供3.6mm-8mm选择;
4. 工作电压为1000V;
5. 额定电流为: 65A-180A;
6. 塑料胶芯,热塑性材料,阻燃等级UL94, V-0;































ATHP系列
ATHP SERIES

ATHP Series

1. 4 shell sizes (2pin power + 2pin signal)
2. Pole large current high Power arrangements
3. 3.6mm~8mm contact sizes
4. Operating voltage of 1000V
5. Current rating: 65A~180A
6. Plastic inserts with flammability rating of UL94, V-0

RT360™ 系列胶芯排布

RT360™ Insert Arrangements

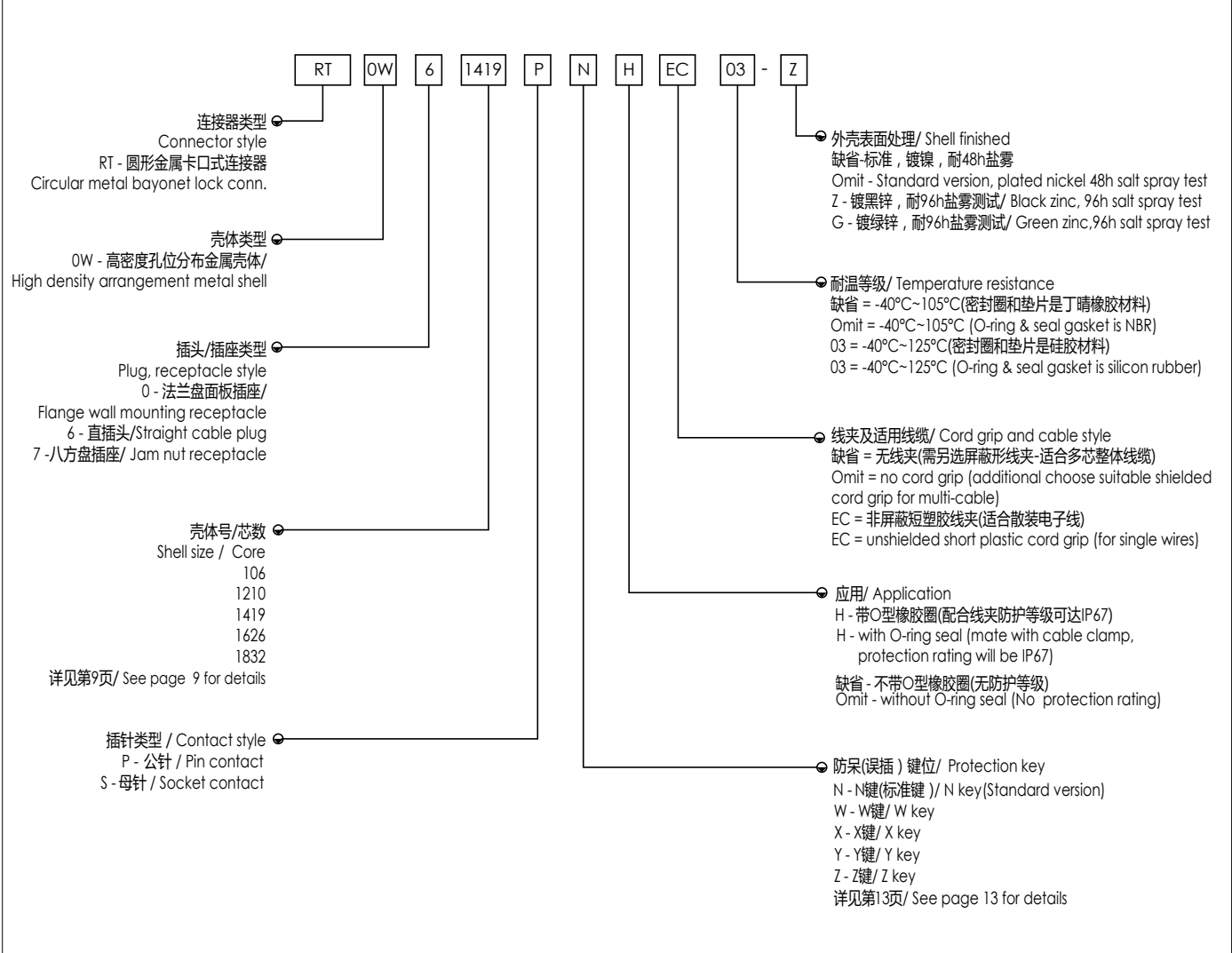
RT		RTOW	RTHP		
16# Contacts (1.6mm) 13A/300V		VDE # Versions Mixed Power & Signal	Contacts (2.5mm) 23A	20 # Contacts (1.0mm) 5A/150V (Stamped cont.) 7.5A/150V (Machined cont.)	Single Pin Power Radsok® contacts 630V AC/DC
SHELL 10	 10 - 4	 10 - 2 16# (13A) & 20# (5A) 350V AC/DC	N/A	 10 - 6	N/A
SHELL 12	  12 - 3 12 - 8	 12 - 2 2.5mm (23A) & 20# (5A) 350V AC/DC	N/A	 12 - 10	 12 - 1 3.6mm (86A)
SHELL 14	  14 - 8 14 - 12	 14 - 2 2.5mm (23A) & 16# (13A) 350V AC/DC	 14 - 4 350V AC/DC	 14 - 19	 14 - 1 6mm (120A)
SHELL 16	 16 - 19	  16 - 4 16 - 09 8# (45A) 2.5mm (23A) & 16# (13A) 500V AC/DC 350V AC/DC	N/A	 16 - 26	 16 - 1 8mm (180A)
SHELL 18	 18 - 23	N/A	 18 - 8 375V AC/DC	 18 - 32	N/A
SHELL 20	 20 - 28	N/A	N/A	N/A	  20 - 1 20 - 3 10mm (300A) 3.6mm (86A)
SHELL 22	  22 - 35 22 - 38	N/A	N/A	N/A	N/A
SHELL 24	 24 - 48	N/A	N/A	N/A	N/A

RTOW 系列插头和插座 - 料号编码

RTOW PART NUMBER SEQUENCE - RECEPTACLES & PLUGS

举例: RTOW61419PNHEC03, RTOW系列,直电缆插头, 14号壳体共19个孔位, 接公针, 标准键位类型, 防水等级IP 67, 标准密封塞带保护盖, 外壳表面镀镍, 耐48小时盐雾, 密封圈和垫片是硅橡胶材料。

Example: RTOW61419PNHEC03, RTOW Series, Straight Cable Plug, #14 Shell, 19 Pos. Pin, Insert Orientation Is "N", Protection Grade IP67, Standard Seal For 18-14AWG With End Cap, Nickel Plated, 48H Salt Spray, O-Ring & Seal Gasket Is Silicon Rubber.



注: 以上料号均不含端子, 线夹(除EC系列), 垫圈(仅插座需配套使用)等, 需另外选购。

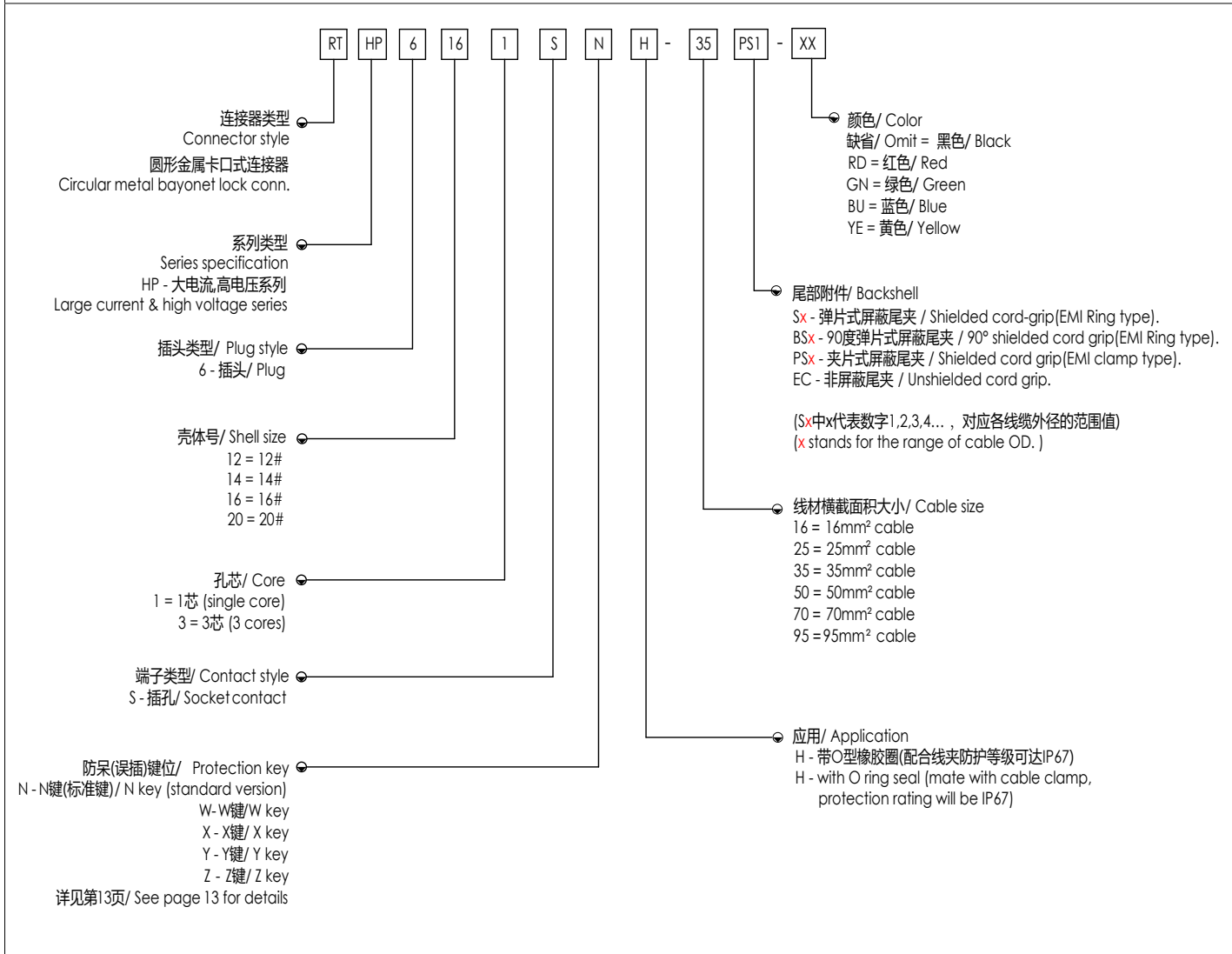
Note: Above parts don't include contact, cord grip (exclude EC series) & gasket (just for receptacle) etc. Please choose separately.

RTHP 系列插头 - 料号编码

RTHP PART NUMBER SEQUENCE - PLUGS

举例：RTHP6161SNH-35PS2，RTHP系列，直电缆插头，16号壳体，1芯母针，标准N键位，带O形橡胶圈（防水等级IP67），带大线径短屏蔽线夹，可压35mm²电缆。

Example: RTHP6161SNH-35PS2, RTHP Series, Straight Cable Plug, #16 Shell, Signal Socket Contact, Insert Orientation Is "N", Protection Grade IP67, with Short Shielded Cable Clamp, Cable Range 35mm².



注：以上料号均包含端子，线夹等。 Note: Above parts already include contact, cord grip etc.

防呆（误插）键位种类

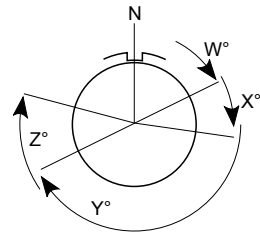
PROTECTION KEY STYLE

公针对配面视图

共有5个不同的位置, 诸如W, X, Y, Z和N, 其中N是标准位置, 外壳里面的键位通过旋转, 到不同的位置, 以防止误插拔。

Mating Face View of Pin Inserts

The five positions (W, X, Y, Z and Normal) differ in degree of rotation for various sizes and arrangements.

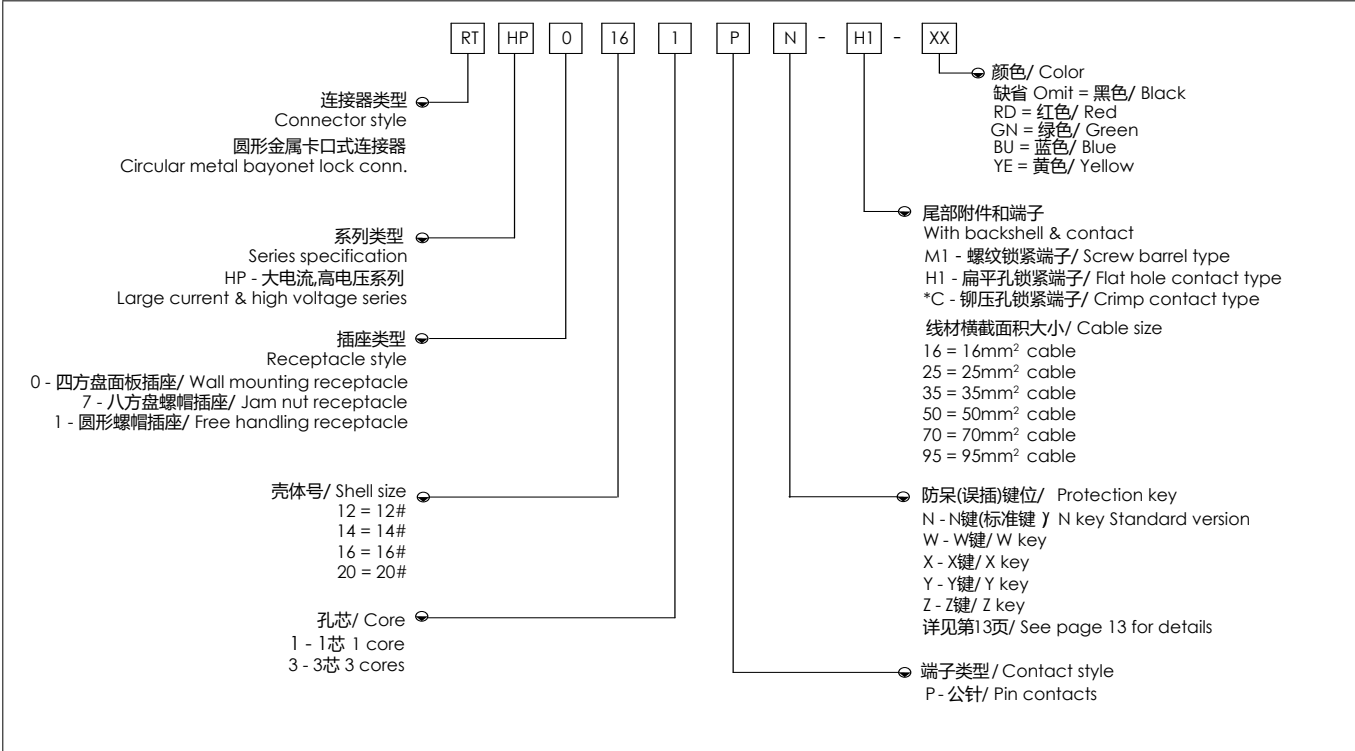


RTHP 系列插座 - 料号编码

RTHP PART NUMBER SEQUENCE - RECEPTACLES

举例: RTHP0161PN-H1, RTHP系列, 法兰盘电缆插座, 16号壳体, 带8mm的RADSOK® 公针, 标准定位类型, 防水等级IP 67, 带扁平孔锁紧端子。

Example: RTHP0161PN-H1, RTHP Series, Flange Wall Mounting Cable Receptacle, #16 Shell, 8mm Signal Pin Contact, Insert Orientation Is "N", Protection Grade IP67, with Flat Hole Contact.



注: 以上料号均包含端子, 但不包含垫圈, 需另外选购。 Note: Above parts already include contact, but no gasket, pls choose it separately.

RTHP 系列典型端子图片

RTHP SERIES TYPICAL CONTACTS PICTURES

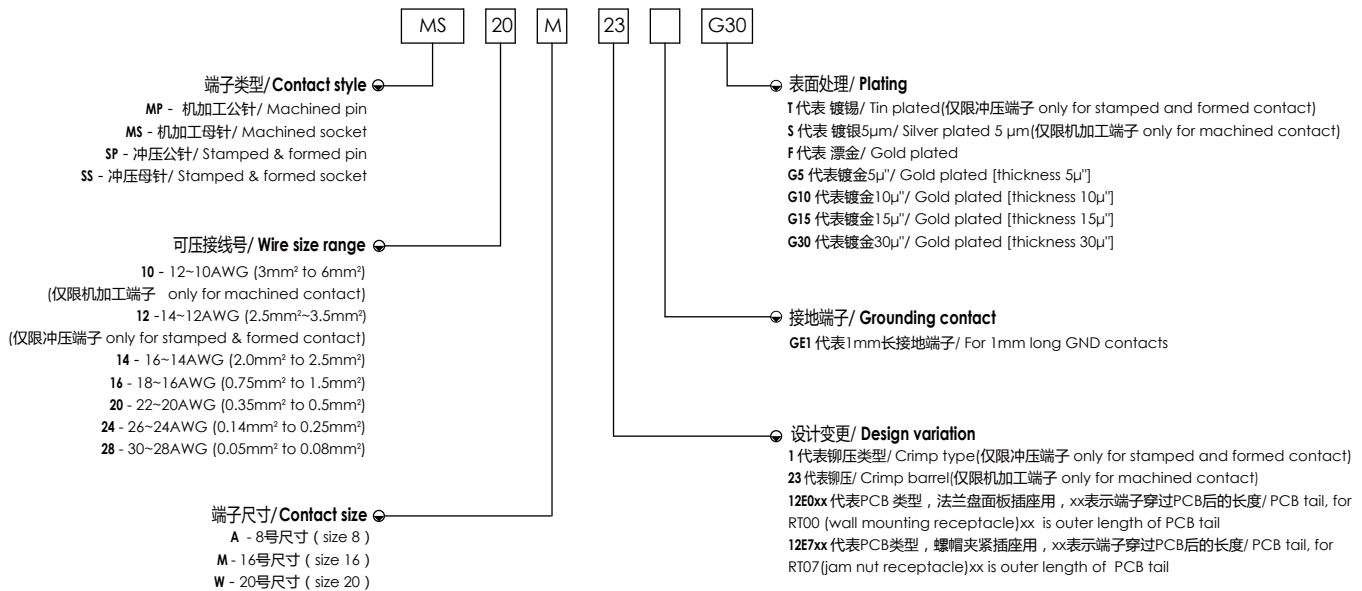
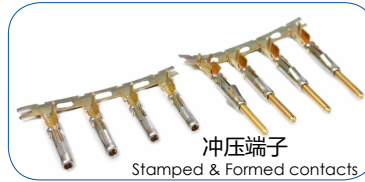


RT/RTS/RTOW/AEM/ATHP 系列的端子-料号编码

RT/RTS/RTOW/AEM/ATHP PART NUMBER SEQUENCE - CONTACT OPTIONS

机加工和冲压端子

Machined/ Stamped & Formed contacts



料号表 part number chart

端子尺寸/电流 Contact size/Current	线号 Wire Range		公针号码 Pin P/N	母针号码 Socket P/N	公针号码 Pin P/N	母针号码 Socket P/N
	AWG	mm ²				
8# (45A)	12-10	3.0-6.0	MP10A23*	MS10A23*	N/A	N/A
2.5mm (23A)	14-12	2.5-3.5	N/A	N/A	SP12A1*	SS12A1*
16# (13A)	16-14	2.0-2.5	MP14M23*	MS14M23*	SP14M1*	SS14M1*
	18-16	0.75-1.5	MP16M23*	MS16M23*	SP16M1*	SS16M1*
	22-20	0.34-0.50	MP20M23*	MS20M23*	SP20M1*	SS20M1*
	26-24	0.14-0.25	MP24M23*	MS24M23*	SP24M1*	SS24M1*
20# (machined 7.5A) (stamped 5A)	22-20	0.34-0.50	MP20W23*	MS20W23*	SP20W1*	SS20W1*
	26-24	0.13-0.25	MP24W23*	MS24W23*	SP24W1*	SS24W1*
	30-28	0.05-0.08	MP28W23*	MS28W23*	SP28W1*	SS28W1*
12# (26A) (Only For AEM)	16	1.5	SK63NA	SK62A	N/A	N/A
	14	2.5	SK65NA	SK64A	N/A	N/A

*代表可选的表面处理, 请咨询贵司销售代表。

*stands for the alternate finishes. Please consult your sales representative.

RADSOK® 技术参数(for RTHP/ATHP series)

RADSOK® TECHNICAL DATA

高可靠性/High Reliability

独特的RADSOK®设计和制造技术创造了一个电性接触表面,它超出了普通的电性接触表面要求.安费诺RADSOK®端子有很高的可靠性,通常应用在航空,医疗,工业,汽车,采矿,船舶和其它需要高可靠性,用于恶劣环境的设备上。

Unique RADSOK® design and construction technology create an electrical contact interface that exceeds typical interconnect requirements. Applications in Aerospace, Medical, Industrial, Automotive, Mining, Offshore and other harsh environments depend on high reliability of the Amphenol RADSOK® technology.

低能量损耗/Low Contact Engagement/Separation Forces

线簧孔结构端子提供更多的接触面积于互配的公端子,这创造了一个平稳的表面,能量得到极好的传输,可以减少能量的损耗。

The hyperbolic lamella socket contact construction distributes normal forces over a high percentage of the mating surface. This creates a smooth, even engagement effort. This force distribution also contributes to excellent performance in vibration applications with resistance to typical fretting corrosion.

低接触电阻/Low Contact Resistance

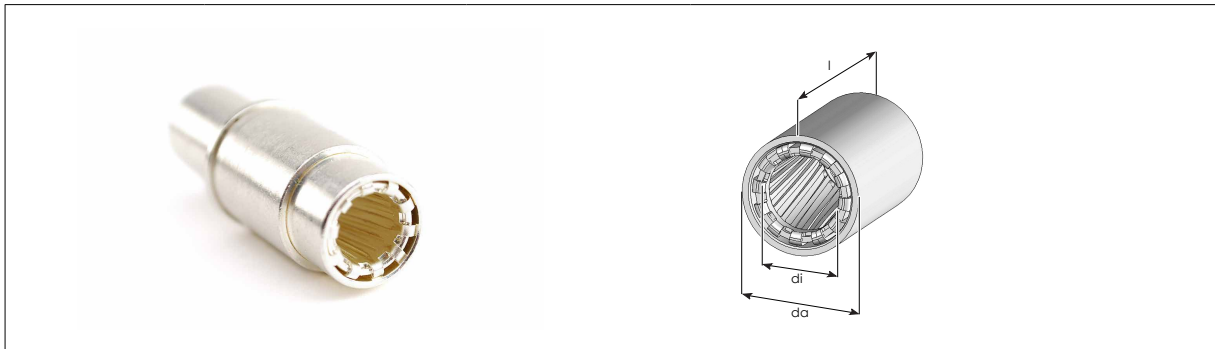
线簧孔与公端子互配时有很大的接触面积,导致很小的接触电阻,以确保RADSOK®端子比传统的电源端子设计更适合于大电流传输。

The large interface between the socket lamella and pin surface result in very low contact resistance, enabling the RADSOK® contacts' high current ratings compared to traditional power contact designs.

更长的使用寿命/High Mating Cycle Durability

典型的RADSOK®端子表面镀银,机械寿命超过10,000次,即使连续暴露在非常恶劣的环境下(盐,沙,高湿度等),RADSOK®端子也能保持很低的接触电阻,使用寿命超过10,000以上。

RADSOK® contacts with typical silver plating finishes have demonstrated survival of 10,000 mating cycles. Even with continuous exposure to harsh environmental abuse (salt, sand and high humidity), RADSOK® contacts have been tested to maintain low contact resistance beyond 10,000 mating cycles.



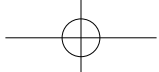
RADSOK® 端子的最大电流测试满足DIN EN 60512规格要求。

RADSOK® Contact max. current carrying capacity meet DIN EN 60512 specification.

壳体号 Shell size	适用电缆 Applicable Cable	端子表面处理 Contact Plating	电流(AC) current (AC)
			室温 Indoor temperature
12 (3.6mm)	10mm ² , 16mm ²	镀银 Silver Plated	65A (10mm ²), 86A (16mm ²)
14 (6.0mm)	25mm ²	镀银 Silver Plated	120A (25mm ²)
16 (8.0mm)	35mm ² , 50mm ²	镀银 Silver Plated	130A (35mm ²), 180A (50mm ²)
20 (10.0mm)	50mm ² , 70mm ² , 95mm ²	镀银 Silver Plated	180A (50mm ²), 250A (70mm ²), 300A (95mm ²)

备注: 上面给的是单颗端子的电性参数,如果配上连接器,孔的数量增加或者有其它的修正,电性参数相应的需要调整。

Note: The given electrical values correspond to a single contact. With the addition of a housing, an increased number of poles or other modifications, the values must be adjusted downwards accordingly.



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