February 2008

Value-added distributor of connectors and power supplies

RoHS
CALL FOR DETAILS

VEAM CIR
Order Reference

PEI-Genesis

UK +44 (0)8707 202560
USA & Canada +1 215 673 0400
Europe +49 (0)7181 4878 0
www.peigenesis.com

ITT

Interconnect Solutions
Tel +44(0)1256 311705
Email veaminfo@itt.com
www.ittcannon.com

Value-Added Services & Support

PEI-Genesis adds value by providing high quality connector assemblies and customised services designed to meet your specific application.

Custom Product Design and Engineering

- The right connector
- The right accessory
- The right tooling
- The right training

From concept, to product design, to completion... tell us what you need. We'll find a cost-effective solution to meet your specifications.

Connector Assembly in 2 days or less

PEI-Genesis is the world's fastest robotic assembler of ITT Cannon, Amphenol, Cinch, and Pyle-National Connectors.

Value-Added Services

- Special kitting/packaging
- Just-in-time delivery
- Sure Seal® cable assemblies
- Component testing and certification
- Switch and indicator light assembly
- Drop-shipping
- Consolidated shipments
- EDI
- Kanban Management

ISO 9001:2000 CERTIFICATION

Our production capabilities exceed the highest military and industrial standards. Our worldwide facilities are certified to ISO 9001:2000.

Quality Suppliers for Your Electronic Component Needs

- 3M
- Alpha Wire
- Amphenol Aerospace
- Amphenol Air LB
  - Amphenol Alden
  - Amphenol Canada
- Amphenol Industrial
- Amphenol Matrix
- Amphenol PCD
- Amphenol Phoenix
- Amphenol Pyle-National
- Amphenol RF
- Amphenol Sine
- Amphenol Socapex
- Amphenol-Tuchel
- Amphenol UK Ltd.
- Anderson Power
- APX
- Bussmann
- C&K (Now ITT Cannon Switch)
- CGE
- Cinch
- Conta-Clip
- Daniels Tools
- Dialight
- DSG-Canusa
- Eaton
- Elpac
- Flexa
- Friwo
- FTZ
- Glenair
- Harting
- Hellermann
- ITT Cannon
- ITT Cannon RF
- ITT Cannon Switch Products
- Joslyn Sunbank
- Littelfuse
- Matrix
- Neutrik
- Power Dynamics (PDI)
- PMA
- Pyle-National
- RAFI
- Standard-K®
- Sure Seal® Connections
- Switchcraft
- TechFlex
- UNIMAX
- Veam TEC
- Veam
- WPI
- Zippertubing

RoHS CALL FOR DETAILS

PEI-Genesis is a franchised assembler and distributor specialising in connectors for military, aerospace, industrial and commercial applications.

Founded in Philadelphia in 1946, the company established a presence in Europe in 1998 and, since 2004, has been offering a 48-hour connector assembly service from its European headquarters in Basingstoke.

Working in partnership with leading manufacturers such as Amphenol, Cinch, ITT Cannon & VEAM and Glenair, the company achieves its high service levels by carrying a $40 million inventory of piece-parts and using in-house developed machines to automate the connector assembly process. This enables the company to build over 5.7 million connectors a year, all with no minimum order quantities.

Working with ITT, PEI-Genesis have added ITT's versatile **VEAM CIR** series of multipin connectors to their portfolio. Designed specifically for the hostile environment of mass-transit applications, the **VEAM CIR** connectors can function as electrical, optical or pneumatic connectors, and are also available in high-voltage, twin- or tri-axial, hermetic and EMC versions.

A specialist engineering team is always on hand to provide advice on the correct product to use for a particular application, and this technical expertise is complemented by a website on which part numbers and stock to build can be checked, **www.peigenesis.com**, and that also offers a wealth of useful resources for engineers and buyers alike.

Order reference connector part number

Prefix	Connector series	Alternate material/Ground continuity	Shell style	Type endbell	Shell size	Contact size and arrangement	Contact gender	Alternate insert rotations	Contact type	Plating/Shell/Contacts/Combinations	Various modifications
FR	CIR	V	030	R	18	1	S	W	F80	TXXX	XXX

Prefix

FR (optional)
Fire retardant elastomers
Temperature range: –50˚C to +165˚C
Fire resistant halogen free rubber, fire retardant, low smoke emission, low toxteity (LSLT)

Connector series

CIR
Bayonet coupling (receptacle with metal retention pin)

Alternate material/ground continuity (optional)

No suffix
(Neoprene elastomers standard)
Temperature range: –55˚C to +125˚C
Chloroprene rubber (for military, civil and industrial, not heavy applications

V Fluoroelastomers – Viton
Temperature range: -25˚C to +205˚C
Fluorocarbon rubber (perfect resistance to high temperatures, ozone, atmospheric agents, ageing hydraulic fluids and oils)

S Silicon
Temperature range: –55˚C to +200˚C
Silicon rubber (perfect resistance to low and high temperatures, nuclear radiation, ozone, atmospheric agents, ageing

G Ground
Ground continuity = RFI shield spring (use SB endbell)

Shell style

00
Receptacle, front panel mount, with thread for adaptor

01
Inline receptacle with thread for adaptor

02
Receptacle, front panel mount, no thread for adaptor without endbell

020
Receptacle, front panel mount, with thread and tooth intertocking

03
Receptacle, rear panel mount, no thread for adapter

030
Receptacle rear mount with thread for adapter and tooth interlocking

038
Receptacle, rear panel mount with 90˚ cable outlet

26
Plug with square flange and coupling nut

05
Dummy receptacle

07
Jam nut receptacle, with O-ring, no thread for adaptor without endbell

070
Jam nut receptacle, with O-ring, thread for adaptor and tooth interlocking

078
Jam nut receptacle, with O-ring and 90˚ cable outlet

06
Straight plug with coupling nut and thread for adaptor

08
90˚ plug with coupling nut and thread for adaptor

TB
Thru-bulkhead receptacle

TF
Dust cap for flanges (receptacles)

TV
Dust cap for plugs

Type endbell

More information look at Endbell Table

Shell size

More information look at Layout

Contact size and arrangement

More information look at Layouts

Contact gender

S
Socket-contact (female)

P
Pin-contact (male)

YM
PCB contacts

PS
Thru bulkhead contact

Alternate insert rotations W,X,Y,Z =

Alternate positions of insert, according to insert arrangement

Contact type

No suffix
Solder contacts

CR
Crimp contact for metric wire (used in metric insert) contacts 16/16S only

CR1
Crimp contact for AWG wire (used in metric Insert) contact 16/16S only

F80 (Standard)
Crimp for AWG wire (used in F80 insert)
Example: CIROOR18-1PF80

Shell platings

No suffix = T3

T3
Standard surface (not listed in the catalogue). Olive drab finish – conductive; **non RoHS**

T29 RoHS
Electroless nickel – conductive; RoHS

T39 RoHS
Black painting over untreated aluminium alloy, 500 h salt corrosion min; non conductive; RoHS

T100
Green zinc/cobalt, olive drab finish – 200h salt corrosion; conductive; non RoHS

Contact plating

T9
Silver 5.1 – 8.5 µm Ag; standard surface not listed in the catalogue, but need to be added for single contact orders

T12
Gold, 0, 4–0.5 µm Au

T112
Heavy gold, 0.77–1.01 µm Au

Combinations

T53 RoHS
Housing: electroless nickel (T29) – conductive; contacts gold (T12)

T54 RoHS
Housing: black painting over aluminium alloy(T39); non conductive; contacts gold (T12) – 500h salt corrosion min.

T98
Housing: zinc/cobalt, olive drab finish (T100) - conductive; contacts gold (T12) – 200h salt corrosion; **non RoHS**

T104 RoHS
Zinc/cobalt black trivalent passivation – conductive; contacts (T9)

T108 RoHS
Zinc/cobalt, black trivalent passivation – conductive; contacts gold (T12)

Various modifications

V0
Without contacts

XXX
Customized (old modification)*

DXXX
Customized (new modification)*

98
Stainless steel

*Please consult our Customer Service Department

Shell style

Style	Connector class/endbell
00	A, CF, CFZ, F, AF, G, AG, G2, LCF, LCFZ, LF, R, RL, RV, SB
01	A, CF, CFZ, F, AF, G, AG, G2, LCF, LCFZ, LF, R, RL, RV, SB
02	R, YM without endbell
020	A, CF, CFZ, F, AF, G, AG, G2, LCF, LCFZ, LF, R, RL, RV, SB
03	R,YM without endbell
030	A, CF ,CFZ, F, AF, G, AG, G2, LCF, LCFZ, R, RV, SB, YM
038	F, R, A
026	without backshell only
07	without endbell

Style	Connector class/endbell
070	A, CF, CFZ, F, AF, G, AG, G2, LCF, LCFZ, R, RV, SB, YM
078	R, F, A
06	XXX, A, AGG, AL, CF, CFZ, CFZGG, AF, FGG, AFGG, G, AG, G2, G2GG, LCFZ, LCFGG, LCFZGG, LF, LFGG, P, R, RGG, RL, RV, RVGG, SB, SB1, WNN1
08	A, AGG, CF, CFZ, CFGG, CFZGG, F, AF, FGG, AFGG, R, RGG, SB, SB5
05	Dummy receptacle
TB	Through bulkhead receptacle
TF	Dust cap for receptacles
TV	Dust cap for straight plugs

Connector class/endbell description

A
Short backshell without grommet

AF
Short backshell with (MS 3057...A) cable clamp + bushing without grommet

AFGG
Short backshell with (MS 3057...A) cable clamp, with rubber protected coupling nut = improved handling and inreased sealing protection

AG
Short backshell without grommet (adaptor for heat shrink tube)

AGG
Short backshell without grommet, with rubber protected coupling nut = improved handling and inreased sealing protection

AL
Long backshell without grommet

AR
Short backshell without grommet, outside thread (adaptor for cable protected tube)

CF
Short backshell with (MS 3057...C) cable clamp and bushing

CFGG
Short backshell with (MS 3057...C) cable clamp without grommet, with rubber protected coupling nut = improved handling and inreased sealing protection

CFZ
Short backshell with (MS 3057...C) cable clamp and individual wire sealing grommet

CFZGG
Short backshell with (MS 3057...C) cable clamp and individual wire sealing grommet, with rubber protected coupling nut = improved handling and inreased sealing protection

F
Short backshell with (MS 3057...A) cable clamp, grommet and bushing

FGG
Short backshell with (MS 3057...A) cable clamp, with rubber protected coupling nut = improved handling and inreased sealing protection

G
Short backshell with individual wire sealing grommet (adaptor for heat shrink tube)

GG
with rubber protected coupling nut = improved handling and inreased sealing protection

G2
two-part backshell with individual wire sealing grommet

G2GG
Two-part backshell with individual wire sealing grommet , with rubber protected coupling nut = improved handling and inreased sealing protection

LCF
Long backshell with (MS 3057...C) cable clamp and individual wire sealing grommet

LCFGG
Long backshell with (MS 3057C) cable clamp and bushing with rubber protected coupling nut = improved handling and inreased sealing protection

LCFZ
Long backshell with (MS 3057...C) cable clamp, bushing and individual wire sealing grommet

LCFZGG
Long backshell with (MS 3057...C) cable clamp, socket and individual wire sealing grommet
with rubber protected coupling nut = improved handling and inreased sealing protection

LF
Long backshell with (MS 3057...A) cable clamp and bushing

LFGG
Long backshell with (MS 3057...A) cable clamp and bushing with rubber protected coupling nut = improved handling and inreased sealing protection

P
Plastic adaptor (potting boot)

R
Short backshell with individual wire sealing grommet, outside thread (adapter for cable protected tube)

RGG
Short backshell with individual wire sealing grommet, outside thread, with rubber protected coupling nut = improved handling and inreased sealing protection

RL
Long backshell with individual wire sealing grommet, outside thread (adapter for cable protected tube)

RV
Short backshell with collet and individual wire sealing grommet

RVGG
Short backshell with collet and individual wire sealing grommet, with rubber protected coupling nut = improved handling and inreased sealing protection

SB
Shield braid backshell (recommended for CIRG) with individual wire sealing grommet heat shrinkable tube

SB1
Long shield braid backshell with (MS 3057...C) cable clamp and individual wire sealing grommet for shielded jacketed cables (recommended for CIRG)

SB5
Only for 08 type backshell Long shield braid backshell with (MS 3057...C) cable clamp and individual wire sealing grommet (recom. for CIRG)

WNN1* *
straight special endbell with strain relief and grommet for system cable – exact cable outside diameter required (-* *)

YM
PCB contacts

Z
Grommet

FS
90° Countersunk mounting hole
Example: CIR00AFS24-5...

FF
Thread. Example: CIR00AFF24-5...

FP
Standard, not listed in the catalog. Through mounting hole.
Example: CIR00AFP24-5...

Shell styles

BACKSHELL AND ACCESSORIES

ADAPTORS AND CABLE CLAMPS

Contact layout by shell size

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
1	10SL-1					1	E	1750V	1250V	4500V	3500V
3	10SL-3					3	A	700V	500V	2800V	2000V
2	10SL-4					2	A	700V	500V	2800V	2000V
3	10SL-55 (TC)					3	I	250V	200V	1400V	1000V
3	14S-1					3	A	700V	500V	2800V	2000V
4	14S-2					4	I	250V	200V	1400V	1000V
5	14S-5					5	I	250V	200V	1400V	1000V
6	14S-6					6	I	250V	200V	1400V	1000V
3	14S-7					3	A/I	700V	500V	2800V	2000V
8	14S-8	8 x size 20S					A	700 V	500V	2800V	2000V
2	14S-9					2	A	700V	500V	2800V	2000V
4	14S-10					4	I	250V	200V	1400V	1000V
3	14S-12 (14S-1x100°)					3	A	700V	500V	2800V	2000V
7	14SA-7*					7	I	250V	200V	1400V	1000V
7	16S-1					7	A	700V	500V	2800V	2000V
2	16S-4					2	D	1250 V	900V	3600V	2800V
3	16S-5					3	A	700V	500V	2800V	2000V
5	16S-8					5	A	700V	500V	2800V	2000V
1	16-2				1		E	1750V	1250V	4500V	3500V
3	16-7			1		2	A	700V	500V	2800V	2000V
4	16-9				2	2	A	700V	500V	2800V	2000V
3	16-10				3		A	700V	500V	2800V	2000V
2	16-11				2		A	700V	500V	2800V	2000V
1	16-12		1				A	700V	500V	2800V	2000V
2	16-13				2		A	700V	500V	2800V	2000V
10	16A-10	10 x size 18					A	700V	500V	2800V	2000V
11	16A-11	10 x size 18					A	700V	500V	2800V	2000V
10	18-1					10	*	*			
2	18-3				2		D	1250V	900V	3600V	2800V
4	18-4					4	D	1250V	900V	3600V	2800V
3	18-5				2	1	D	1250V	900V	3600V	2800V
1	18-6		1				D	1250V	900V	3600V	2800V
6	18-06*				4	2	A	700V	500V	2800V	2000V
1	18-7*			1			E	1750V	1250V	4500V	3500V
8	18-8				1	7	A	700V	500V	2800V	2000V
7	18-9				2	5	I	250V	200V	1400V	1000V
4	18-10				4		A	700V	500V	2800V	2000V
5	18-11				5		A	700V	500V	2800V	2000V
6	18-12					6	A	700V	500V	2800V	2000V
4	18-13			1	3		A	700V	500V	2800V	2000V
2	18-14		1			1	A	700V	500V	2800V	2000V
4	18-15*				4		A	700V	500V	2800V	2000V
1	18-16*				1		C	4200V	3000V	8500V	7000V
7	18-17 (18-9x100°)				2	5	I	250V	200V	1400V	1000V
10	18-19					10	A	700V	500V	2800V	2000V
5	18-20					5	A	700V	500V	2800V	2000V
3	18-22					3	D	1250V	900V	3600V	2800V
10	18-24 (18-1x250°)					10	*	*			
5	18-30 (18-20x110°)					5	A	700V	500V	2800V	2000V
5	18-31 (18-20x260°)					5	A	700V	500V	2800V	2000V
1	18-61*	1 x Co-ax size 4					D	1250V	900V	3600V	2800V
5	18A-5*		1			4	A	700V	500V	2800V	2000V
1	20-2	1					D	1250V	900V	3600V	2800V
3	20-3				3		D	1250V	900V	3600V	2800V
4	20-4				4		D	1250V	900V	3600V	2800V
2	20-5*					2	E	1750V	1250V	4500V	3500V
8	20-7 8						*	*			
6	20-8			2		4	I	250V	200V	1400V	1000V
13	20-11					13	I	250V	200V	1400V	1000V
2	20-12*		1			1	A	700V	500V	2800V	2000V
7	20-15				7		A	700V	500V	2800V	2000V
9	20-16				2	7	A	700V	500V	2800V	2000V
6	20-17				5	1	A	700V	500V	2800V	2000V
9	20-18				3	6	A	700V	500V	2800V	2000V
3	20-19			3			A	700V	500V	2800V	2000V
9	20-21				1	8	A	700V	500V	2800V	2000V
6	20-22			3		3	A	700V	500V	2800V	2000V
2	20-23			2			A	700V	500V	2800V	2000V
4	20-24			2		2	A	700V	500V	2800V	2000V
13	20-25 (20-11x100°)					13	I	250V	200V	1400V	1000V
14	20-27					14	A	700V	500V	2800V	2000V
17	20-29					17	A	700V	500V	2800V	2000V
13	20-30 (20-11x250°)					13	I	250V	200V	1400V	1000V

* Please consult our customer service TC = Thermo contacts – please consult our customer service

Contact layout by shell size

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
11	20-33					11	A	700V	500V	2800V	2000V
1	20-A1*		1				E	1750V	1250V	4500V	3500V
7	20A-7						D	1250V	900V	3600V	2800V
8	20A-8			2		6	I	250V	200V	1400V	1000V
9	20A-9				9		*	*			
11	20A-11*	5 x Gr20		1		5	A	700V	500V	2800V	2000V
24	20A-24*	22 x size 18				2	I	250V	200V	1400V	1000V
29	20A-29*	22 x size 18			4		A	700V	500V	2800V	2000V
19	20A-48					19	I	250V	200V	1400V	1000V
2	22-1			2			D	1250V	900V	3600V	2800V
3	22-2			3			D	1250V	900V	3600V	2800V
4	22-4			2	2		A	700V	500V	2800V	2000V
6	22-5				2	4	D	1250V	900V	3600V	2800V
3	22-6			2		1	D	1250V	900V	3600V	2800V
1	22-7	1					E	1750V	1250V	4500V	3500V
2	22-8				2		E	1750V	1250V	4500V	3500V
3	22-9				3		E	1750V	1250V	4500V	3500V
2	22-11					2	B	2450V	1750V	5700V	4500V
5	22-12			2		3	D	1250V	900V	3600V	2800V
5	22-13*				4	1	D	1250V	900V	3600V	2800V
19	22-14					19	A	700V	500V	2800V	2000V
6	22-15				5	1	*	*			
9	22-17				1	8	*	*			
8	22-18					8	*	*			
14	22-19					14	A	700V	500V	2800V	2000V
3	22-21	1				2	A	700V	500V	2800V	2000V
4	22-22			4			A	700V	500V	2800V	2000V
8	22-23				8		*	*			
9	22-27 (CR)			1		8	*	*			
7	22-28				7		A	700V	500V	2800V	2000V
5	22-34				3	2	D	1250V	900V	3600V	2800V
8	22-36*				8		*	*			
9	22A-9					9	A	700V	500V	2800V	2000V
10	22A-10					10	A	700V	500V	2800V	2000V
16	22A-16*					16	I	250V	200V	1400V	1000V
37	22A-37	37 x size 18					A	700V	500V	2800V	2000V
10	22B-10*			2		8	A	700V	500V	2800V	2000V
8	22M23	7 x size 12 +					A	700V	500V	2800V	2000V
7	24-2				7		D	1250V	900V	3600V	2800V
16	24-5					16	A	700V	500V	2800V	2000V
8	24-6				8		*	*			
6	24-06			4		2	D	1250V	900V	3600V	2800V
16	24-7				2	14	A	700V	500V	2800V	2000V
2	24-9		2				A	700V	500V	2800V	2000V
7	24-10			7			A	700V	500V	2800V	2000V
9	24-11			3	6		A	700V	500V	2800V	2000V
5	24-12		2		3		A	700V	500V	2800V	2000V
13	24-013*				6	7	A	700V	500V	2800V	2000V
12	24-19					12	A	700V	500V	2800V	2000V
11	24-20				2	9	D	1250V	900V	3600V	2800V
10	24-21			1		9	D	1250V	900V	3600V	2800V
4	24-22			4			D	1250V	900V	3600V	2800V
7	24-27					7	E	1750V	1250V	4500V	3500V
24	24-28					24	I	250V	200V	1400V	1000V
19	24-67				19		A	700V	500V	2800V	2000V
1	24A-1	1					B	2450V	1750V	5700V	4500V
6	24A-6			2	4		D	1250V	900V	3600V	2800V
7	24A-7				7		D	1250V	900V	3600V	2800V
11	24A-11			2		9	A	700V	500V	2800V	2000V
16	24A-16*			1		15	E	1750V	1250V	4500V	3500V
19	24A-19*	13 x size 18 + 2 x size 12 3 x size 8					A	700V	500V	2800V	2000V
12	24A-24*				12		A	700V	500V	2800V	2000V
25	24A-25					25	I	250V	200V	1400V	1000V
28	24A-28					28	I	250V	200V	1400V	1000V
55	24A-55	55 x size 20					I	250V	200V	1400V	1000V
9	28-1			3	6		*	*			
14	28-2				2	12	D	1250V	900V	3600V	2800V
3	28-3			3			E	1750V	1250V	4500V	3500V
9	28-4*				2	7	*	*			
5	28-5		2		1	2	D	1250V	900V	3600V	2800V
3	28-6		3				D	1250V	900V	3600V	2800V

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Contact layout by shell size

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test Voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
12	28-9				6	6	D	1250V	900V	3600V	2800V
7	28-10		2	2	3		*	*			
22	28-11				4	18	A	700V	500V	2800V	2000V
26	28-12					26	A	700V	500V	2800V	2000V
26	28-13					26	A	700V	500V	2800V	2000V
35	28-15					35	A	700V	500V	2800V	2000V
20	28-16					20	A	700V	500V	2800V	2000V
15	28-17					15	*	*			
12	28-18					12	*	*			
10	28-19				4	6	*	*			
14	28-20				10	4	A	700V	500V	2800V	2000V
37	28-21					37	A	700V	500V	2800V	2000V
6	28-22		3			3	D	1250V	900V	3600V	2800V
31	28-31*	25 x 20		6			I	250V	200V	1400V	1000V
12	28-51				12		D	1250V	900V	3600V	2800V
17	28-59				7	10	A	700V	500V	2800V	2000V
72	28-72	72 x size 20					I	250V	200V	1400V	1000V
1	28A-1*		1				C	4200V	3000V	8500 V	7000V
5	28A-5			5			A	700V	500 V	2800 V	2000V
6	28A-6		1	4		1	A	700V	500V	2800V	2000V
7	28A-7		3			4	A	700V	500V	2800V	2000V
9	28A-9		4			5	A	700V	500V	2800V	2000V
10	28A-10*				10		D	1250V	900V	3600V	2800V
14	28A-14				14		D	1250V	900V	3600V	2800V
16	28A-16*			4		12	A	700V	500V	2800V	2000V
29	28A-29*			2		27	A	700V	500V	2800V	2000V
31	28A-31*	25 x 20		6			I	250V	200V	1400V	1000V
35	28A-35					35	A	700V	500V	2800V	2000V
28	28A-63 (CR)				9	19	I	250V	200V	1400V	1000V
7	28B-7*			7			A	700V	500V	2800V	2000V
35	28B-35					35	A	700V	500V	2800V	2000V
3	28P-3*			3			C	4200V	3000V	8500V	7000V
3	28S-3	3 x 8 special					B	2450V	1750V	5700V	4500V
5	32-1	2			3		*	*			
5	32-2		3			2	E	1750V	1250V	4500V	3500V
9	32-3*	1	2		2	4	D	1250V	900V	3600V	2800V
2	32-5	2					D	1250V	900V	3600V	2800V
23	32-6		2	3	2	16	A	700V	500V	2800V	2000V
35	32-7				7	28	*	*			
30	32-8				6	24	A	700V	500V	2800V	2000V
14	32-9		2			12	D	1250V	900V	3600V	2800V
23	32-13				5	18	D	1250V	900V	3600V	2800V
8	32-15	2			6		D	1250V	900V	3600V	2800V
23	32-16		2	3	2	16	A	700V	500V	2800V	2000V
4	32-17		4				D	1250V	900V	3600V	2800V
54	32-22					54	A	700V	500V	2800V	2000V
31	32-31					31	A	700V	500V	2800V	2000V
42	32-59			2		40	A	700V	500V	2800V	2000V
16	32-68		4			12	A	700V	500V	2800V	2000V
19	32-76				19		A	700V	500V	2800V	2000V
101	32-101	101 x size 20					I	250V	200V	1400V	1000V
1	32A-1	1 AWG 4/0					A	700V	500V	2800V	2000V
2	32A-2*	1 AWG 4/0				1	D	1250V	900V	3600V	2800V
3	32A-3		3				B	2450V	1750V	5700V	4500V
5	32A-5		5				A	700V	500V	2800V	2000V
7	32A-7		3		4		D	1250V	900V	3600V	2800V
8	32A-8			8			A	700V	500V	2800V	2000V
10	32A-10*		2	8			A	700V	500V	2800V	2000V
13	32A-13				13		D	1250V	900V	3600V	2800V
14	32A-14*	14 x special					E	1750V	1250V	4500V	3500V
22	32A-22	2				20	A	700V	500V	2800V	2000V
25	32A-25				25		A	700V	500V	2800V	2000V
27	32A-27				10	17	A	700V	500V	2800V	2000V
30	32A-30				10	20	A	700V	500V	2800V	2000V
31	32A-31*				18	13	A	700V	500V	2800V	2000V
40	32A-40					40	A	700V	500V	2800V	2000V
48	32A-48					48	I	250V	200V	1400V	1000V
55	32A-55					55	A	700V	500V	2800V	2000V
61	32A-69 (CR)	41 x size 20				20	A	700V	500V	2800V	2000V
5	32B-5		5				A	700V	500V	2800V	2000V
22	32B-22*		2			20	A	700V	500V	2800V	2000V
40	32B-40*	10 x size 18			10	20	A	700V	500V	2800V	2000V
3	32B-90	1 x special				2	B	2450V	1750V	5700V	4500V

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Contact layout by shell size

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
2	32D-2*	1 x AWG 4/0			1		A	700V	500V	2800V	2000V
3	32S-3		3				B	2450V	1750V	5700V	4500V
6	36-3	3			3		D	1250V	900V	3600V	2800V
4	36-5	4					A	700V	500V	2800V	2000V
6	36-6	2	4				A	700V	500V	2800V	2000V
47	36-7				7	40	A	700V	500V	2800V	2000V
47	36-8				1	46	A	700V	500V	2800V	2000V
31	36-9		1	2	14	14	A	700V	500V	2800V	2000V
48	36-10					48	A	700V	500V	2800V	2000V
48	36-11 (36-10x100°)					48	A	700V	500V	2800V	2000V
48	36-12 (36-10x100°)					48	A	700V	500V	2800V	2000V
35	36-15					35	*	*			
47	36-16 (36-7x100°)				7	40	A	700V	500V	2800V	2000V
47	36-17 (36-7x100°)				7	40	A	700V	500V	2800V	2000V
31	36-18 (36-9x100°)		1	2	14	14	A	700V	500V	2800V	2000V
52	36-52*					52	A	700V	500V	2800V	2000V
39	36-54			8		31	A	700V	500V	2800V	2000V
56	36-66				4	52	A	700V	500V	2800V	2000V
44	36-74*			1		43	A	700V	500V	2800V	2000V
7	36-77		7				D	1250V	900V	3600V	2800V
14	36-78			12		2	D	1250V	900V	3600V	2800V
1	36A-1	1 x AWG 4/0					C	4200V	3000V	8500V	7000V
2	36A-2*	2					A	700V	500V	2800V	2000V
4	36A-4*		4				B	2450V	1750V	5700V	4500V
6	36A-6*	2	4				A	700V	500V	2800V	2000V
10	36A-10*		2	8			A	700V	500V	2800V	2000V
12	36A-12		2	10			A	700V	500V	2800V	2000V
22	36A-22				22		A	700V	500V	2800V	2000V
48	36A-48					48	I	250V	200V	1400V	1000V
6	36A-51	3	2			1	D	1250V	900V	3600V	2800V
6	36A-61*		2		4		E	1750V	1250V	4500V	3500V
72	36A-72	52 x size 18			4	16	I	250V	200V	1400V	1000V
6	36B-6			3	1	2	B	2450V	1750V	5700V	4500V
10	36B-10*		2	8			A	700V	500V	2800V	2000V
12	36B-12		3	3	3	3	D	1250V	900V	3600V	2800V
6	36B-61		2		4		E	1750V	1250V	4500V	3500V
14	36B-78			12		2	D	1250V	900V	3600V	2800V
1	36B-90	1 x special					D	1250V	900V	3600V	2800V
14	36D-78			10		4	D	1250V	900V	3600V	2800V
47	40-9			1	22	24	A	700V	500V	2800V	2000V
29	40-10		4	9		16	A	700V	500V	2800V	2000V
19	40-19		2		17		A	700V	500V	2800V	2000V
55	40-55*			1	19	35	I	250V	200V	1400V	1000V
85	40-56					85	A	700V	500V	2800V	2000V
57	40-57			1	17	39	I	250V	200V	1400V	1000V
58	40-58*			1	19	38	I	250V	200V	1400V	1000V
61	40-63*					61	A	700V	500V	2800V	2000V
1	40A-1*	1 x AWG 4/0					E	1750V	1250V	4500V	3500V
2	40A-2*	1 x 8.1 AWG 4/0					D	1250V	900V	3600V	2800V
5	40A-3*	3			2		E	1750V	1250V	4500V	3500V
6	40A-4	4			2		A	700V	500V	2800V	2000V
5	40A-5	5					A	700V	500V	2800V	2000V
7	40A-7*	5			2		A	700V	500V	2800V	2000V
8	40A-8	4				4	E	1750V	1250V	4500V	3500V
8	40A-10		4			4	D	1250V	900V	3600V	2800V
14	40A-14		8		6		A	700V	500V	2800V	2000V
19	40A-19		2	17			A	700V	500V	2800V	2000V
20	40A-20			2	18		D	1250V	900V	3600V	2800V
21	40A-21		1		20		*	*			
24	40A-24			8	16		D	1250V	900V	3600V	2800V
25	40A-25		1		24		A	700V	500V	2800V	2000V
27	40A-27		2		25		A	700V	500V	2800V	2000V
29	40A-29*			6	18	5	A	700V	500V	2800V	2000V
30	40A-30		1		29		A	700V	500V	2800V	2000V
31	40A-31				31		D	1250V	900V	3600V	2800V
34	40A-34*			1	33		I	250V	200V	1400V	1000V
35	40A-35				35		D	1250V	900V	3600V	2800V
37	40A-37*				37		A	700V	500V	2800V	2000V
38	40A-38				38		A	700V	500V	2800V	2000V
47	40A-47			1	22	24	A	700V	500V	2800V	2000V
85	40A-56					85	A	700V	500V	2800V	2000V
60	40A-60					60	A	700V	500V	2800V	2000V
62	40A-62			2		60	A	700V	500V	2800V	2000V

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Contact layout by shell size

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
100	40A-100	100 x size 18					A	700V	500V	2800V	2000V
130	40A-130	114 x 18			4	12	I	250V	200V	1400V	1000V
150	40A-150*	150 x size 18					I	250V	200V	1400V	1000V
4	40B-4	4					E	1750V	1250V	4500V	3500V
5	40B-5*	3	1		1		A	700V	500V	2800V	2000V
8	40B-8	2 coax special 2twx special				4	I	250V	200V	1400V	1000V
19	40B-19			19			A	700V	500V	2800V	2000V
37	40B-37				37		A	700V	500V	2800V	2000V
3	40B-90	1 x special				2	D	1250V	900V	3600V	2800V
4	40D-4			4			C	4200V	3000V	8500V	7000V
37	40D-37*				37		A	700V	500V	2800V	2000V
159	40T-159*	159 x size 20					I	250V	200V	1400V	1000V

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Number of contacts

Contact quantity							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
1	10SL-1					1	E	1750V	1250V	4500V	3500V
1	16-2				1		E	1750V	1250V	4500V	3500V
1	16-12		1				A	700V	500V	2800V	2000V
1	18-6		1				D	1250V	900V	3600V	2800V
1	18-7*			1			E	1750V	1250V	4500V	3500V
1	18-16*				1		C	4200V	3000V	8500V	7000V
1	18-61*	1 x Coax size 4					D	1250V	900V	3600V	2800V
1	20-2	1					D	1250V	900V	3600V	2800V
1	20-A1*		1				E	1750V	1250V	4500V	3500V
1	22-7	1					E	1750V	1250V	4500V	3500V
1	24A-1	1					B	2450V	1250V	5700V	4500V
1	28A-1*		1				C	4200V	3000V	8500V	7000V
1	32A-1	1 AWG 4/0					A	700V	500V	2800V	2000V
1	36A-1	1 AWG 4/0					C	4200V	3000V	8500V	7000V
1	36B-90	1 x special					D	1250V	900V	3600V	2800V
1	40A-1*	1 AWG 4/0					E	1750V	1250V	4500V	3500V
2	10SL-4					2	A	700V	500V	2800V	2000V
2	14S-9					2	A	700V	500V	2800V	2000V
2	16-11				2		A	700V	500V	2800V	2000V
2	16-13 (TC)				2		A	700V	500V	2800V	2000V
2	16S-4					2	D	1250V	900V	3600V	2800V
2	18-3				2		D	1250V	900V	3600V	2800V
2	18-14		1			1	A	700V	500V	2800V	2000V
2	20-5*					2	E	1750V	1250V	4500V	3500V
2	20-12*		1			1	A	700V	500V	2800V	2000V
2	20-23			2			A	700V	500V	2800V	2000V
2	22-1	2					D	1250V	900V	3600V	2800V
2	22-8				2		E	1750V	1250V	4500V	3500V
2	22-11					2	B	2450V	1250V	5700V	4500V
2	24-9		2				A	700V	500V	2800V	2000V
2	32-5	2					D	1250V	900V	3600V	2800V
2	32A-2*	1 AWG 4/0				1	D	1250V	900V	3600V	2800V
2	32D-2*	1 AWG 4/0			1		A	700V	500V	2800V	2000V
2	36A-2*	2					A	700V	500V	2800V	2000V
2	40A-2*	1 AWG 4/0					D	1250V	900V	3600V	2800V
3	10SL-3					3	A	700V	500V	2800V	2000V
3	10SL-55					3	I	250V	200V	1400V	1000V
3	14S-1					3	A	700V	500V	2800V	2000V
3	14S-7					3	A	700V	500V	2800V	2000V
3	14S-12 (14S-1x100°)					3	A	700V	500V	2800V	2000V
3	16-7			1		2	A	700V	500V	2800V	2000V
3	16-10				3		A	700V	500V	2800V	2000V
3	16S-5					3	A	700V	500V	2800V	2000V
3	18-5				2	1	D	1250V	900V	3600V	2800V
3	18-22					3	D	1250V	900V	3600V	2800V
3	20-3				3		D	1250V	900V	3600V	2800V
3	20-19			3			A	700V	500V	2800V	2000V
3	22-2			3			D	1250V	900V	3600V	2800V
3	22-6			2		1	D	1250V	900V	3600V	2800V
3	22-9				3		E	1750V	1250V	4500V	3500V
3	22-21	1				2	A	700V	500V	2800V	2000V
3	28-3	3					E	1750V	1250V	4500V	3500V
3	28-6		3				D	1250V	900V	3600V	2800V
3	28P-3*			3			C	4200V	3000V	8500V	7000V
3	28S-3	3 x 8 special					B	2450V	1250V	5700V	4500V
3	32A-3		3				B	2450V	1250V	5700V	4500V
3	32B-90	1 x special				2	B	2450V	1250V	5700V	4500V
3	32S-3		3				B	2450V	1250V	5700V	4500V
3	40B-90	1 x special			2		D	1250V	900V	3600V	2800V
4	14S-2					4	I	250V	200V	1400V	1000V
4	14S-10					4	I	250V	200V	1400V	1000V
4	16-9				2	2	A	700V	500V	2800V	2000V
4	18-4					4	D	1250V	900V	3600V	2800V
4	18-10				4		A	700V	500V	2800V	2000V
4	18-13			1	3		A	700V	500V	2800V	2000V
4	18-15*				4		A	700V	500V	2800V	2000V
4	20-4				4		D	1250V	900V	3600V	2800V
4	20-24			2		2	A	700V	500V	2800V	2000V
4	22-4			2	2		A	700V	500V	2800V	2000V
4	22-22			4			A	700V	500V	2800V	2000V
4	24-22			4			D	1250V	900V	3600V	2800V
4	32-17		4				D	1250V	900V	3600V	2800V
4	36-5	4					A	700V	500V	2800V	2000V

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Number of contacts

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
4	36A-4*		4				B	2450V	1250V	5700V	4500V
4	40B-4	4					E	1750V	1250V	4500V	3500V
4	40D-4			4			C	4200V	3000V	8500V	7000V
5	14S-5	5					I	250V	200V	1400V	1000V
5	16S-8					5	A	700V	500V	2800V	2000V
5	18-11				5		A	700V	500V	2800V	2000V
5	18-20					5	A	700V	500V	2800V	2000V
5	18-30 (18-20x110˚)					5	A	700V	500V	2800V	2000V
5	18-31 (18-20x260˚)					5	A	700V	500V	2800V	2000V
5	18A-5*		1			4	A	700V	500V	2800V	2000V
5	22-12			2		3	D	1250V	900V	3600V	2800V
5	22-13*				4	1	D	1250V	900V	3600V	2800V
5	22-34				3	2	D	1250V	900V	3600V	2800V
5	24-12		2		3		A	700V	500V	2800V	2000V
5	28-5		2		1	2	D	1250V	900V	3600V	2800V
5	28A-5			5			A	700V	500V	2800V	2000V
5	32-1	2			3		*	*			
5	32-2		3			2	E	1750V	1250V	4500V	3500V
5	32A-5		5				A	700V	500V	2800V	2000V
5	32B-5		5				A	700V	500V	2800V	2000V
5	40A-3*	3			2		E	1750V	1250V	4500V	3500V
5	40A-5	5					A	700V	500V	2800V	2000V
5	40B-5*	3	1		1		A	700V	500V	2800V	2000V
6	14S-6					6	I	250V	20V	1400V	1000V
6	18-06*				4	2	A	700V	500V	2800V	2000V
6	18-12					6	A	700V	500V	2800V	2000V
6	20-8			2		4	I	250V	200V	1400V	1000V
6	20-17				5	1	A	700V	500V	2800V	2000V
6	20-22			3		3	A	700V	500V	2800V	2000V
6	22-5				2	4	D	1250V	900V	3600V	2800V
6	22-15				5	1	*	*			
6	24-06			4		2	D	1250V	900V	3600V	2800V
6	24A-6			2	4		D	1250V	900V	3600V	2800V
6	28-22		3			3	D	1250V	900V	3600V	2800V
6	28A-6		1	4		1	A	700V	500V	2800V	2000V
6	36-3	3			3		D	1250V	900V	3600V	2800V
6	36-6	2	4				A	700V	500V	2800V	2000V
6	36A-6*	2	4				A	700V	500V	2800V	2000V
6	36A-51	3	2			1	D	1250V	900V	3600V	2800V
6	36A-61*		2		4		E	1750V	1250V	4500V	3500V
6	36B-6			3	1	2	B	2450V	1750V	5700V	4500V
6	36B-61		2		4		E	1750V	1250V	4500V	3500V
6	40A-4	4			2		A	700V	500V	2800V	2000V
7	14SA-7*					7	I	250V	200V	1400V	1000V
7	16S-1					7	A	700V	500V	2800V	2000V
7	18-9				2	5	I	250V	200V	1400V	1000V
7	18-17 (18-9x100˚)				2	5	I	250V	200V	1400V	1000V
7	20-15				7		A	700V	500V	2800V	2000V
7	20A-7	7 x size 18					D	1250V	900V	3600V	2800V
7	22-28				7		A	700V	500V	2800V	2000V
7	24-2				7		D	1250V	900V	3600V	2800V
7	24-10			7			A	700V	500V	2800V	2000V
7	24-27					7	E	1750V	1250V	4500V	3500V
7	24A-7				7		D	1250V	900V	3600V	2800V
7	28-10		2	2	3		*	*			
7	28A-7		3			4	A	700V	500V	2800V	2000V
7	28B-7*			7			A	700V	500V	2800V	2000V
7	32A-7		3		4		D	1250V	900V	3600V	2800V
7	36-77		7				D	1250V	900V	3600V	2800V
7	40A-7*	5			2		A	700V	500V	2800V	2000V
8	14S-8	6					A/I	700V	500V	2800V	2000V
8	18-8				1	7	A	700V	500V	2800V	2000V
8	20-7					8	*	*			
8	20A-8			2		6	I	250V	200V	1400V	1000V
8	22-18					8	*	*			
8	22-23				8		*	*			
8	22-36*				8		*	*			
8	22M23		7x				A	700V	500V	2800V	2000V
8	24-6				8		*	*			
8	32-15	2			6		D	1250V	900V	3600V	2800V
8	32A-8			8			A	700V	500V	2800V	2000V
8	40A-8		4			4	E	1750V	1250V	4500V	3500V
8	40A-10	4				4	D	1250V	900V	3600V	2800V

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Number of contacts

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
8	40B-8	2 Coax special 2 twx special					I	250V	200V	1400V	1000V
9	20-16				2	7	A	700V	500V	2800V	2000V
9	20-18				3	6	A	700V	500V	2800V	2000V
9	20-21				1	8	A	700V	500V	2800V	2000V
9	20A-9				9		*	*			
9	22-17				1	8	*	*			
9	22-27 (CR)			1		8	*	*			
9	22A-9					9	A	700V	500V	2800V	2000V
9	24-11			3	6		A	700V	500V	2800V	2000V
9	28-1			3	6		*	*			
9	28-4*				2	7	*	*			
9	28A-9		4			5	A	700V	500V	2800V	2000V
9	32-3*	1	2		2	4	D	1250V	900V	3600V	2800V
10	16A-10	10 x size 18					A	700V	500V	2800V	2000V
10	18-1					10	*	*			
10	18-19					10	A	700V	500V	2800V	2000V
10	18-24 (18-1x250˚)					10	*	*			
10	22A-10					10	A	700V	500V	2800V	2000V
10	22B-10*			2		8	A	700V	500V	2800V	2000V
10	24-21			1		9	D	1250V	900V	3600V	2800V
10	28-19				4	6	*	*			
10	28A-10*				10		D	1250V	900V	3600V	2800V
10	32A-10*		2	8			A	700V	500V	2800V	2000V
10	36A-10*		2	8			A	700V	500V	2800V	2000V
10	36B-10*		2	8			A	700V	500V	2800V	2000V
11	16A-11	11 x size 18					A	700V	500V	2800V	2000V
11	20-33					11	A	700V	500V	2800V	2000V
11	20A-11*	5 x # 20		1		5	A	700V	500V	2800V	2000V
11	24-20				2	9	D	1250V	900V	3600V	2800V
11	24A-11			2		9	A	700V	500V	2800V	2000V
12	24-19					12	A	700V	500V	2800V	2000V
12	24A-24*				12		A	700V	500V	2800 V	2000V
12	28-9				6	6	D	1250V	900V	3600V	2800V
12	28-18					12	*	*			
12	28-51				12		D	1250V	900V	3600V	2800V
12	36A-12		2	10			A	700V	500V	2800V	2000V
12	36B-12		3	3	3	3	D	1250V	900V	3600V	2800V
13	20-11					13	I	250V	200V	1400V	1000V
13	20-25 (20-11x100˚)					13	I	250V	200V	1400V	1000V
13	20-30 (20-11x250˚)					13	I	250V	200V	1400V	1000V
13	24-013*				6	7	A	700V	500V	2800V	2000V
13	32A-13				13		D	1250V	900V	3600V	2800V
14	20-27					14	A	700V	500V	2800V	2000V
14	22-19					14	A	700V	500V	2800V	2000V
14	28-2				2	12	D	1250V	900V	3600V	2800V
14	28-20				10	4	A	700V	500V	2800V	2000V
14	28A-14				14		D	1250V	900V	3600V	2800V
14	32-9		2			12	D	1250V	900V	3600V	2800V
14	32A-14*	14 x special					E	1750V	1250V	4500V	2800V
14	36-78			12		2	D	1250V	900V	3600V	2800V
14	36B-78			12		2	D	1250V	900V	3600V	2800V
14	36D-78			10		4	D	1250V	900V	3600V	2800V
14	40A-14		8		6		A	700V	500V	2800V	2000V
15	28-17					15	*	*			
16	22A-16*					16	I	250V	200V	1400V	1000V
16	24-5					16	A	700V	500V	2800V	2000V
16	24-7				2	14	A	700V	500V	2800V	2000V
16	24A-16*			1		15	E	1750V	1250V	4500V	3500V
16	28A-16*			4		12	A	700V	500V	2800V	2000V
16	32-68		4			12	A	700V	500V	2800V	2000V
17	20-29					17	A	700V	500V	2800V	2000V
17	28-59				7	10	A	700V	500V	2800V	2000V
19	20A-48					19	I	250V	200V	1400V	1000V
19	22-14					19	A	700V	500V	2800V	2000V
19	24-67				19		A	700V	500V	2800V	2000V
19	24A-19*	13 x size 18+					A	700V	500V	2800V	2000V
19	32-76				19		A	700V	500V	2800V	2000V
19	40-19		2		17		A	700V	500V	2800V	2000V
19	40A-19		2	17			A	700V	500V	2800V	2000V
19	40B-19			19			A	700V	500V	2800V	2000V
20	28-16					20	A	700V	500V	2800V	2000V
20	40A-20			2	18		D	1250V	900V	3600V	2800V

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Number of contacts

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
21	40A-21		1		20		*	*			
22	28-11				4	18	A	700V	500V	2800V	2000V
22	32A-22	2				20	A	700V	500V	2800V	2000V
22	32B-22*		2			20	A	700V	500V	2800V	2000V
22	36A-22				22		A	700V	500V	2800V	2000V
23	32-6		2	3	2	16	A	700V	500V	2800V	2000V
23	32-13				5	18	D	1250V	900V	3600V	2800V
23	32-16		2	3	2	16	A	700V	500V	2800V	2000V
24	20A-24*	22 x size 18				2	I	250V	200V	1400V	1000V
24	24-28					24	I	250V	200V	1400V	1000V
24	40A-24			8	16		D	1250V	900V	3600V	2800V
25	24A-25					25	I	250V	200V	1400V	1000V
25	32A-25				25		A	700V	500V	2800V	2000V
25	40A-25		1		24		A	700V	500V	2800V	2000V
26	28-12					26	A	700V	500V	2800V	2000V
26	28-13					26	A	700V	500V	2800V	2000V
27	32A-27				10	17	A	700V	500V	2800V	2000V
27	40A-27		2		25		A	700V	500V	2800V	2000V
28	24A-28					28	I	250V	200V	1400V	1000V
28	28A-63 (CR)				9	19	I	250V	200V	1400V	1000V
29	20A-29*	25 x size 18			4		A	700V	500V	2800V	2000V
29	28A-29*			2		27	A	700V	500V	2800V	2000V
29	40-10		4	9		16	A	700V	500V	2800V	2000V
29	40A-29*			6	18	5	A	700V	500V	2800V	2000V
30	32-8				6	24	A	700V	500V	2800V	2000V
30	32A-30				10	20	A	700V	500V	2800V	2000V
30	40A-30		1		29		A	700V	500V	2800V	2000V
31	28-31*	25 x 20		6			I	250V	200V	1400V	1000V
31	28A-31*	25 x 20		6			I	250V	200V	1400V	1000V
31	32-31					31	A	700V	500V	2800V	2000V
31	32A-31*				18	13	A	700V	500V	2800V	2000V
31	36-9		1	2	14	14	A	700V	500V	2800V	2000V
31	36-18 (36-9x100˚)		1	2	14	14	A	700V	500V	2800V	2000V
31	40A-31				31		D	1250V	900V	3600V	2800V
34	40A-34*	1					I	250V	200V	1400V	1000V
35	28-15					35	A	700V	500V	2800V	2000V
35	28A-35					35	A	700V	500V	2800V	2000V
35	28B-35					35	A	700V	500V	2800V	2000V
35	32-7				7	28	*	*			
35	36-15					35	*	*			
35	40A-35				35		D	1250V	900V	3600V	2800V
37	22A-37	37 x size 18					A	700V	500V	2800V	2000V
37	28-21					37	A	700V	500V	2800V	2000V
37	40A-37*				37		A	700V	500V	2800V	2000V
37	40B-37				37		A	700V	500V	2800V	2000V
37	40D-37*				37		A	700V	500V	2800V	2000V
38	40A-38				38		A	700V	500V	2800V	2000V
39	36-54			8		31	A	700V	500V	2800V	2000V
40	32A-40					40	A	700V	500V	2800V	2000V
40	32B-40*	10 x size 18			10	20	A	700V	500V	2800V	2000V
42	32-59			2		40	A	700V	500V	2800V	2000V
44	36-74*			1		43	A	700V	500V	2800V	2000V
47	36-7				7	40	A	700V	500V	2800V	2000V
47	36-8				1	46	A	700V	500V	2800V	2000V
47	36-16 (36-7x100˚)				7	40	A	700V	500V	2800V	2000V
47	36-17 (36-7x100˚)				7	40	A	700V	500V	2800V	2000V
47	40-9			1	22	24	A	700V	500V	2800V	2000V
47	40A-47			1	22	24	A	700V	500V	2800V	2000V
48	32A-48					48	I	250V	200V	1400V	1000V
48	36-10					48	A	700V	500V	2800V	2000V
48	36-11 (36-10x100˚)					48	A	700V	500V	2800V	2000V
48	36-12 (36-10x100˚)					48	A	700V	500V	2800V	2000V
48	36A-48					48	I	250V	200V	1400V	1000V
52	36-52*					52	A	700V	500V	2800V	2000V
54	32-22					54	A	700V	500V	2800V	2000V
55	24A-55	55 x size 20					I	250V	200V	1400V	1000V
55	32A-55					55	A	700V	500V	2800V	2000V
55	40-55*			1	19	35	I	250V	200V	1400V	1000V
56	36-66				4	52	A	700V	500V	2800V	2000V
57	40-57			1	17	39	I	250V	200V	1400V	1000V
58	40-58*			1	19	38	I	250V	200V	1400V	1000V
60	40A-60					60	A	700V	500V	2800V	2000V
61	32A-69 (CR)	41 x size 20				20	A	700V	500V	2800V	2000V

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Number of contacts

Contact layout							Service rating (all values at sea level)				
Contact qty	**Insert arrangement** 1st digits: housing size 2nd digits: insert layout	**Contact size**					**Letter**	**Operating voltage DC**	**Operating voltage AC**	**Dielectric strength – min Flashover AC RMS**	**Dielectric strength – test voltage AC RMS (Hi Pot)**
		0	4	8	12	16					
61	40-63*					61	A	700V	500V	2800V	2000V
62	40A-62			2		60	A	700V	500V	2800V	2000V
72	28-72	72 x size 20					I	250V	200V	1400V	1000V
72	36A-72	52 x # 18			4	16	I	250V	200V	1400V	1000V
85	40-56					85	A	700V	500V	2800V	2000V
85	40A-56					85	A	700V	500V	2800V	2000V
100	40A-100	100 x size 18					A	700V	500V	2800V	2000V
101	32-101	101 x size 20					I	250V	200V	1400V	1000V
130	40A-130	114 x size 18			4	12	I	250V	200V	1400V	1000V
150	40A-150*	150 x size 18					I	250V	200V	1400V	1000V
159	40T-159*	159 x size 20					I	250V	200V	1400V	1000V

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Crimp contact assembly tools

Contact size	Wire size (AWG)	VEAM contact number	Insertion tool	Removal tool kit	Removal tool kit replacement parts		Guide pins
					Handle	Tips	
20P	20	46730-20P	T98143	11-7576-101	01488	46592M-VPT	—
20S	20	46731	T98143	11-7576-101	0148B	46592M-101S	27977-20T50
18P	18	46740P	T98143	11-7576-37	0148B	46592-37P	—
18S	18	46740S	T98143	11-7576-37	0148B	46592-37S	27977-20T50
18P	20-22	46740-15P	T98143	11-7576-37	0148B	46592-37P	—
18S	20-22	46740-15S	T98143	11-7576-37	0148B	46592-37S	27977-20T50
18P	16	46740-22P	11-7345	11-7576-37	0148B	46592-37P	—
18S	16	46740-22S	11-7345	11-7576-37	0148B	46592-37S	27977-20T50
16S P	16	27911	11-7345	A43240	0148B	2-3697	—
16S S	16	27961	11-7345	A43240	0148B	2-3698	27977-16T50
16SP	20-24	27911-13	11-7345	A43240	0148B	2-3697	—
16SS	20-24	27961-13	11-7345	A43240	0148B	2-3698	27977-16T50
16SP	20	27911-15	T98143	A43240	0148B	2-3697	—
16SS	20	27961-15	T98143	A43240	01488	2-3698	27977-16T50
16SP	14-16	27911-20	11-7345	A43240	0148B	2-3697	—
16SS	14-16	27961-20	11-7345	A43240	0148B	2-3698	27977-16T50
16SP	12-14	27911-26	46736	A43240	0148B	2-3697	—
16SS	12-14	27961-26	46736	A43240	01488	2-3698	27977-16T50
16P	16	27913	11-7345	A43240	0148B	2-3697	—
16S	16	27963	11-7345	A43240	0148B	2-3698	27977-16T50
16P	24-26	27913-08	11-7345	A43240	0148B	2-3697	—
16S	24-26	27963-08	11-7345	A43240	01488	2-3698	27977-16T50
16P	20-22	27913-12	T98143	A43240	0148B	2-3697	—
16S	20-22	27963-12	T98143	A43240	0148B	2-3698	27977-16T50
16P	20-22	27913-13	T98143	A43240	0148B	2-3697	—
16S	20-22	27963-13	T98143	A42340	0148B	2-3698	27977-16T50
16P	18-20	27913-15	11-734	A40423	01488	2-3697	—
16S	18-20	27963-15	11-7345	A43240	01488	2-3698	27977-16T50
16P	14-16	27913-20	11-7345	A43240	0148B	2-3697	—
16S	14-16	27963-20	11-7345	A43240	0148B	2-3698	27977-16T50
16P	12-14	27913-26	46736	A43240	0148B	2-3697	—
16S	12-14	27963-26	46736	A43240	0148B	2-3698	27977-16T50
12P	8	27914-8	46736-6	A43240	0148B	2-3696	—
12S	8	27964-8	46736-6	A43240	0148B	2-3698	27977-12T50
12P	20-24	27914-12	46736	A43240	0148B	2-3696	—
12S	20-24	27964-12	46736	A43240	0148B	2-3698	27977-12T50
12P	14-18	27914-20	46736	A43240	0148B	2-3696	—
12S	14-18	27964-20	46736	A43240	0148B	2-3698	27977-12T50
12P	2.5mm	27914-22	46736	A43240	0148B	2-3696	—
12S	2.5mm	27964-22	46736	A43240	0148B	2-3698	27977-12T50
12P	12	27914-26	46736	A43240	0148B	2-3696	—
12S	12	27964-26	46736	A43240	0148B	2-3698	27977-12T50
12P	4mm sq	27914-30	46736	A43240	0148B	2-3696	—
12S	4mm sq	27964-30	46736	A43240	0148B	2-3698	27977-12T50
12P	10	27914-38	46736-6	A43240	0148B	2-3696	—
12S	10	27964-38	46736-6	A43240	0148B	2-3698	27977-12T50
8P	8	27915	A46151-8T50	A43240-8	0148B	2-8252	Not required
8S	8	27935	A46151-8T50	A43 240-8	0148B	2-8251	Not required
8P	12-14	27915-26-62	A46151-8T50	A43240-8	0148B	2-8252	Not required
8S	12-14	27935-26-62	A46151-8T50	A43240-8	0148B	2-8251	Not required
8P	12-14	27915-26	A46151-8T50	A43240-8	0148B	2-8252	Not required
8S	12-14	27935-26	A46151-8T50	A43240-8	0148B	2-8251	Not required
8P	4 mm sq.	27915-30	A46151-8T50	A43240-8	0148B	2-8252	Not required
8S	4 mm sq.	27935-30	A46151-8T50	A43240-8	0148B	2-8251	Not required

Turret

Manual Crimp Tool

Insertion Tools

Crimp contact assembly tools

Contact size	Wire size (AWG)	VEAM contact number	Insertion tool	Removal tool kit	Removal tool kit replacement parts		Guide pins
					Handle	Tips	
8P	10	27915-38	A46151-8T50	A43240-8	0148B-8	2-8252	Not required
8S	10	27935-38	A46151-8T50	A43240-8	0148B-8	2-8251	Not required
8P	6	27915-58	A46151-8T50	A43240-8	0148B-8	2-8252	Not required
8S	6	27935-58	A46151-8T50	A43240-8	0148B-8	2-8251	Not required
4P	4-6	27916	A46151-4T50*	46150-4	46150	11-7370-4	Not required
4S	4-6	27936	A46151-4T50*	46150-4	46150	11-7674-2	Not required
4P	2.5mm sq	27916-22	A46151-4T50*	46150-4	46150	11-7370-4	Not required
4S	2.5mm sq	27936-22	A46151-4T50*	46150-4	46150	11-7674-2	Not required
4P	16mm sq	27916-62	A46151-4T50*	46150-4	46150	11-7370-4	Not required
4S	16mm sq	27936-62	A46151-4T50*	46150-4	46150	11-7674-2	Not required
OP	0	27917V	A46151-OT50*	46150-0	46150	11-7370-5	Not required
OS	0	27937V	A46151-OT50*	46150-0	46150	11-7674-3	Not required
OP	8	27917-45	A46151-OT50*	46150-0	46150	11-7370-5	Not required
OS	8	27937-45	A46151-OT50*	46150-0	46150	11-7674-3	Not required
OP	10mm sq	27917-50	A46151-OT50*	46150-0	46150	11-7370-5	Not required
OS	10mm sq	27937-50	A46151-OT50*	46150-0	46150	11-7674-3	Not required
OP	16mm sq	27917-62	A46151-OT50*	46150-0	46150	11-7370-5	Not required
OS	16mm sq	27937-62	A46151-OT50*	46150-0	46150	11-7674-3	Not required
OP	25mm sq	27917-78	A46151-OT50*	46150-0	46150	11-7370-5	Not required
OS	25mm sq	27937-78	A46151-OT50*	46150-0	46150	11-7674-3	Not required
OP	35mm sq	27917-90	A46151-OT50*	46150-0	46150	11-7370-5	Not required
OS	35mm sq	27937-90	A46151-OT50*	46150-0	46150	11-7674-3	Not,Required
OP	50mm sq	27917-107	A46151-OT50*	46150-0	46150	11-7370-5	Not required
OS	50mm sq	27937-107	A46151-OT50*	46150-0	46150	11-7674-3	Not required
OP	4	46646-0	A46151-OT50*	46150-0	46150	11-7370-5	Not required
os	4	47647-0	A46151-OT50*	46150-0	46150	11-7674-3	Not required
4/0 P	2	47107-90	Not required	Not required	Not required	Not required	Not required
4/0 S	2	47114-90	Not required	Not required	Not required	Not required	Not required
4/0 P	0 (1/0)	47107-115	Not required	Not required	Not required	Not required	Not required
4/0 S	0 (1/0)	47114-115	Not required	Not required	Not required	Not required	Not required
4/0 P	2/0	47107-135	Not required	Not required	Not required	Not required	Not required
4/0 S	2/0	47114-135	Not required	Not required	Not required	Not required	Not required
4/0 P	70mm sq	47107-144	Not required	Not required	Not required	Not required	Not required
4/0 S	70mm sq	47114-144	Not required	Not required	Not required	Not required	Not required
4/0 P	95mm sq	47107-155	Not required	Not required	Not required	Not required	Not required
4/0 S	95mm sq	47114-155	Not required	Not required	Not required	Not required	Not required
4/0 P	4/0	47107-165	Not required	Not required	Not required	Not required	Not required
4/0 S	4/0	47114-165	Not required	Not required	Not required	Not required	Not required

Guide Pins

Removal Kit

Crimp contact assembly tools – manual and pneumatic

Contact size	Wire Size (AWG)	VEAM contact number	AF8 Hand Tool	Model 400 BHD Pneumatic		Model 500 D Pneumatic	
			Turret	Die part number	Locator part number	Die part number	Locator part number
20P	20	46730-20P	TH379*	—	—	—	—
20S	20	46731	TH379*	—	—	—	—
18P	18	46740P	TH485	—	—	—	—
18S	18	46740S	TH485	—	—	—	—
18P	20-22	46740-15P	TH485	—	—	—	—
18S	20-22	46740-15S	TH485	—	—	—	—
18P	16	46740-22P	TH485	—	—	—	—
18S	16	46740-22S	TH485	—	—	—	—
16S P	16	27911	TH379*	414DA-16N	4314-2	—	—
16S S	16	27961	TH379*	414DA-16N	4314-1	—	—
16S P	20-24	27911-13	TH379*	—	—	—	—
16S S	20-24	27961-13	TH379*	—	—	—	—
16S P	20	27911-15	TH379*	414DA-16N	4314-2	—	—
16S S	20	27961-15	TH379*	414DA-16N	4314-1	—	—
16S P	14-16	27911-20	TH379*	414DA-12N or 16N	4314-2	—	—
16S S	14-16	27961-20	TH379*	414DA-12N or16N	4314-1	—	—
16S P	12-14	27911-26	TH379*	414DA-12N	4314-1	—	—
16S S	12-14	27961-26	TH379*	414DA12N	4314-2	—	—
16P	16	27913	TH378*	414DA-16N	4332	—	—
16S	16	27963	TH378*	414DA-16N	4333	—	—
16P	24-26	27913-08	TH378*	—	—	—	—
16S	24-26	27963-08	TH378*	—	—	—	—
16P	20-22	27913-12	TH378*	—	—	—	—
16S	20-22	27963-12	TH378*	—	—	—	—
16P	20-24	27913-13	TH378*	—	—	—	—
16S	20-24	27963-13	TH378*	—	—	—	—
16P	18-20	27913-15	TH378*	414DA-16N	4332	—	—
16S	18-20	27963-15	TH378*	414DA-16N	4333	—	—
16P	14-16	27913-20	TH378*	414DA-12N or 16N	4332	—	—
16S	14-16	27963-20	TH378*	414DA-12N or 16N	4333	—	—
16P	12-14	27913-26	TH378*	414DA-12N	4332	—	—
16S	12-14	27963-26	TH378*	414DA-12N	4333	—	—
12P	8	27914-8	—	414DA-8HEXor8N	4330M	—	—
12S	8	27964-8	—	414DA-8HEXor8N	4331M	—	—
12P	20-22	27914-12	TH378*	—	—	—	—
12S	20-22	27964-12	TH378*	—	—	—	—
12P	14-18	27914-20	TH378*	414DA-10N	4330	—	—
12S	14-18	27964-20	TH378*	414DA-10N	4331	—	—
12P	2.5mm sq	27914-22	TH378*	414DA-10N	4330	—	—
12S	2.5mm sq	27964-22	TH378*	414DA-10N	4331	—	—
12P	12	27914-26	TH378*	414DA-12N or 10N	4330	—	—
12S	12	27964-26	TH378*	414DA-12N or 10N	4331	—	—
12P	4mm sq	27914-30	—	414DA-10N	4330	—	—
12S	4mm sq	27964-30	—	414DA-10N	4331	—	—
12P	10	27914-38	—	414DA-10N	4330	—	—
12S	10	27964-38	—	414DA-10N	4331	—	—
8P	8	27915	—	414DA8HEX or 8N	4329	514DA-8 HEX	5404
8S	8	27935	—	414DA8HEX or 8N	4329	514DA-8 HEX	5404
8P	12-14	27915-26-62	—	414DA-8N	4329	514DA-8 HEX	5404
8S	12-14	27935-26-62	—	414DA-8N	4329	514DA-8 HEX	5404
8P	12-14	27915-26	—	414DA-10N	4329	—	—
8S	12-14	27935-26	—	414DA-10N	4329	—	—

* TH378 and TH379 may be combined into one turret under P/N 616266

Crimp contact assembly tools – manual and pneumatic

Contact size	Wire Size (AWG)	VEAM contact number	AF8 Hand Tool	Model 400 BHD Pneumatic		Model 500 D Pneumatic	
			Turret	Die part number	Locator part number	Die part number	Locator part number
8P	4mm sq	27915-30	—	414DA-10N	4329	—	—
8S	4mm sq	27935-30	—	414DA-10N	4329	—	—
8P	10	27915-38	—	414DA-10N	4329	—	—
8S	10	27935-38	—	414DA-10N	4329	—	—
8P	6	27915-58	—	414DA-8 HEX	4329	514DA-8HEX	5497
8S	6	27935-58	—	414DA-8 HEX	4329	514DA-8 HEX	5497
4P	4 AWG 6 AWG	27916	—	414DA-4 HEX 414DA-8Nor8HEX	4043	514DA-4 HEX 514DA-8N or HEX	5497
4S	4 AWG 6 AWG	27936	—	414DA-4 HEX 414DA-8N or 8HEX	4043	514DA-4 HEX 514DA-8N or HEX	5497
4P	2.5mm sq	27916-22	—	414DA-12N	4043	—	—
4S	2.5mm sq	27936-22	—	414DA 12N	4043	—	—
4P	16mm sq	27916-62	—	414DA-4 HEX	4043	514DA-4 HEX	5497
4S	16mm sq	27936-62	—	414DA-4 HEX	4043	514DA-4 HEX	5497
OP	0	27917V	—	—	—	514DA-0 HEX	5442
OS	0	27937V	—	—	—	514DA-0 HEX	5441
OP	8	27917-45	—	—	—	514DA-0/8 HEX	5442
OS	8	27937-45	—	—	—	514DA-0/8 HEX	5441
OP	10mm sq	27917-50	—	—	—	514DA-0/8 HEX	5442
OS	10mm sq	27937-50	—	—	—	514DA-0/8 HEX	5441
OP	16mm sq	27917-62	—	—	—	514DA-4 HEX	5442
OS	16mm sq	27937-62	—	—	—	514DA-4 HEX	5441
OP	25mm sq	27917-78	—	—	—	514DA-4 HEX	5442
OS	25mm sq	27937-78	—	—	—	514DA-4 HEX	8002
OP	35mm sq	27917-90	—	—	—	514DA-0 HEX	5442
OS	35mm sq	27937-90	—	—	—	514DA-0 HEX	5442
OP	50mm sq	27917-107	—	—	—	514DA-0 HEX	5442
OS	50mm sq	27937-107	—	—	—	514DA-0 HEX	5441
OP	4	46646-0	—	—	—	514DA-4 HEX	5442
OS	4	47647-0	—	—	—	514DA-4 HEX	5441
4/0 P	2	47107-90	—	—	—	514DA-0 HEX	5498-1
4/0 S	2	47114-90	—	—	—	514DA-0 HEX	5498-2
4/0 P	0 (1/0)	47107-115	—	—	—	514DA 0 HEX	5498-1
4/0 S	0 (1/0)	47114-115	—	—	—	514DA-0 HEX	5498-2
4/0 P	2/0	47107-135	—	—	—	514DA-2/0-VHEX	5498-1
4/0 S	2/0	47114-135	—	—	—	514DA-2/0-VHEX	5498-2
4/0 P	70mm sq	47107-144	—	—	—	514DA-4/0 N	5487
4/0 S	70mm sq	47114-144	—	—	—	514DA-4/0 N	5487
4/0 P	95mm sq	47107-155	—	—	—	514DA-4/0 N	5487
4/0 S	95mm sq	47114-155	—	—	—	514DA-4/0 N	5487
4/0 P	4/0	47107-165	—	—	—	514DA-4/0 N	5487
4/0 S	4/0	47114-165	—	—	—	514DA-4/0 N	5487

Contact rating and size

Contact rating CIR				
Contact size		Max. current short term	Rated and test current	Max. voltage drop
F80, CR1	CR			
20	10	7.5A	7.5A	83mV
18		10A	7.5A	83mV
16, 16S	15, 15S	22A	13A	74mV
12	25	41A	23A	63mV
8	60–100	73A	46A	65mV
4	160	135A	80A	58mV
0	500	245A	150A	53mV
4/0		350A	225A	53mV

Contact standard sizes CIR				
Contact size	PIN contact no	Wire cross section mm²/AWG	Socket contact no	Wire cross section mm²/AWG
20S	46730-20P-1	0.15 ÷ 0,6	46731-1	0.15 ÷ 0.6
20	46730-20P	26 ÷ 20	46731	26 ÷ 20
18	46740P	0,15 ÷ 0,6 / 26 ÷ 20	46740S	0,15 ÷ 0.6 / 26 ÷ 20
16S	27911	1 ÷ 1,5 / 18 ÷ 16"	27961	1 ÷ 1,5 / 18 ÷ 16
16	27913	1 ÷ 1,5 / 18 ÷ 16	27963	1 ÷ 1.5 / 18 ÷ 16
12	27914-26	3 / 12	27964-26	3 / 12
8	27915	9 / 8	27935	9 / 8
4	27916	22 / 4	27936	22 / 4
0	27917	53 / 0	27937	53 / 0
4/0		No standard fixed		

All data without obligation. The content of the attached order reference is covering the main product portfolio.

Product safety information ITT Interconnect Solutions

This note must be read in conjunction with the Product Data Sheet/Catalogue. Failure to observe the advice in this information sheet and the operating conditions specified in the Product Data Sheet/Catalogue could result in hazardous situations.

1. Material content and physical form

Electrical connectors do not usually contain hazardous materials. They contain conducting and non-conducting materials and can be divided into two groups.

a) Printed circuit types and low cost audio types which employ all plastic insulators and casings.

b) Rugged, Fire Barrier and High Reliability types with metal casings and either natural rubber, synthetic rubber, plastic or glass insulating materials. Contact materials vary with type of connector and also application and are usually manufactured from either: copper, copper alloys, nickel, alumel, chromel or steel. In special applications, other alloys may be specified.

2. Fire characteristics and electric shock hazard

There is no fire hazard when the connector is correctly wired and used within the specified parameters. Incorrect wiring or assembly of the connector or careless use of metal tools or conductive fluids, or transit damage to any of the component parts may cause electric shock or burns. Live circuits must not be broken by separating mated connectors as this may cause arcing, ionization and burning. Heat dissipation is greater at maximum resistance in a circuit. Hot spots may occur when resistance is raised locally by damage, e.g. cracked or deformed contacts, broken strands of wire. Local overheating may also result from the use of the incorrect application tools or from poor quality soldering or slack screw terminals. Overheating may occur if the ratings in the Product Data Sheet/Catalogue are exceeded and can cause breakdown of insulation and hence electric shock. If heating is allowed to continue it intensifies by further increasing the local resistance through loss of temper of spring contacts, formation of oxide film on contacts and wires and leakage currents through carbonization of insulation and tracking paths. Fire can then result in the presence of combustible materials and this may release noxious fumes. Overheating may not be visually apparent. Burns may result from touching overheated components.

3. Handling

Care must be taken to avoid damage to any component parts of electrical connectors during installation and use. Although there are normally no sharp edges, care must be taken when handling certain components to avoid injury to fingers. Electrical connectors may be damaged in transit to the customers, and damage may result in creation of hazards. Products should therefore be examined prior to installation/use and rejected if found to be damaged.

4. Disposal

Incineration of certain materials may release noxious or even toxic fumes.

5. Application

Connectors with exposed contacts should not be selected for use on the current supply side of an electrical circuit, because an electric shock could result from touching exposed contacts on an unmated connector. Voltages in excess of 30V ac or 42.5V DC are potentially hazardous and care should be taken to ensure that such voltages cannot be transmitted in any way to exposed metal parts of the connector body. The connector and wiring should be checked, before making live, to have no damage to metal parts or insulators, no solder blobs, loose strands, conducting lubricants, swarf, or any other undesired conducting particles. Circuit resistance and continuity check should be made to make certain that there are no high resistance joints or spurious conducting paths. Always use the correct application tools as specified in the Data Sheet/Catalogue. Do not permit untrained personnel to wire, assemble or tamper with connectors. For operation voltage please see appropriate national regulations.

Important general information

(i) Air and creepage paths/operating voltage. The admissible operating voltages depend on the individual applications and the valid national and other applicable safety regulations.

For this reason the air and creepage path data are only reference values. Observe reduction of air and creepage paths due to PC board and/or harnessing.

(ii) Temperature
All information given are temperature limits. The operation temperature depends on the individual application.

(iii) Other important information
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Notes

Notes

Notes

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