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EPIC® Industrial connectors

EPIC® industrial connectors can be found everywhere in industrial machinery and plant engineering, for measuring, control, and drives. EPIC® is a flexible system of housings, inserts, and contacts: all extremely robust, absolutely safe, and simplicity itself to assemble.

Application range

- Electronics and telecommunications
- Measurement, testing, and control technology
- Industrial machinery and appliances
- Drive technology and industrial automation
- Photovoltaic plants

Product range

- 290** Rectangular connector inserts
- 377** Rectangular connector housing
- 425** Rectangular connector accessories
- 437** Circular connectors
- 455** Pin & sleeve connectors

EPIC® brand overview
Rectangular connectors

	HBE	HA	HQ	STA	HEE	HBS	Power HS	HBVE	HD	HDD	MC	MH	Power K
Power	■	■	■		■	■	■	■			■	■	■
Control/signal	■	■	■	■	■				■	■	■	■	■
Data											■	■	
Number of contacts	6, 10, 16, 24, 32, 48 (+PE)	3, 4, 10, 16, 32, 48, 64 (+PE)	5, 12 (+PE)	6, 14, 20, 40	10, 18, 32, 46, 64, 92 (+PE)	6, 12 (+PE)	4 (+PE)	3+2, 6+2, 10+2 (+PE)	7, 8, 15, 25, 40, 50, 64, 80, 128 (+PE)	24, 42, 72, 108, 144, 216 (+PE)	1 - 280, Data Bus (+PE), pneumatic	2 - 60, Data (+PE)	4/0, 4/2, 4/8 (+PE)
Rated voltage	600V	600V	600V	48V	600V	600V	1000V	600V	600V	600V	30 - 1000V	50 - 1000V	600V
Rated current	16A	10A, 14A	14A, 16A	10A	16A	35A	65A	16A	10A	8.5A	1 - 220A	10 - 100A	16A, 80A
Termination type*	SC, CR, CC	SC	CR	SC, SOL	CR	SC	ASC	SC	CR	CR	SC, CR, CC, HO	CR	SC
Wire size (AWG)	20 - 14, 20 - 12	20 - 14	20 - 12, 26 - 14	20 - 16	20 - 12	20 - 10	14 - 8	20 - 14	26 - 14	26 - 14	28 - 4/0	26 - 8	12 - 6, 20 - 14
Housing	HB, ULTRA HB	HA	HA	HA	HB, ULTRA HB	HB, ULTRA HB	HB	HB, ULTRA HB	HA, HB, ULTRA HB	HB, ULTRA HB	HB, ULTRA HB	HB	HB, ULTRA HB
IP rating**	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65	IP65
UL 50E**	Type 4, 4X, 12	Type 4, 12	Type 4, 12	Type 4, 12	Type 4, 4X, 12	Type 4, 4X, 12	Type 4, 12	Type 4, 4X, 12	Type 4, 4X, 12	Type 4, 4X, 12	Type 4, 4X, 12	Type 4, 12	Type 4, 4X, 12
Approvals***													

* Termination type: SC = screw, CR = crimp, CC = cage clamp, ASC = axial screw, SOL = solder, HO = hose

** When properly installed with EPIC® housing

*** See product page for individual approvals

Circular connectors

	POWER M 12	POWER LS1	SIGNAL M23	SIGNAL R3.0
Power	■	■	■	
Control/signal			■	■
Number of contacts	3+PE	5+PE, 3+PE+4	6, 7, 8+1, 9, 12, 16, 17	21, 26
Rated voltage	600V	600V	50V, 100V, 150V	24V AC, 60V DC
Rated current	12A	26A, 27A	7A, 14A	7.5A
Termination type*	SC	CR	CR, SOL	SOL
Wire size (AWG)	18 - 16	20 - 12, 24 - 18	18 - 14, 26 - 18	up to 18
IP rating	IP67	IP67, IP68	IP67, IP68	IP65/67
Approvals**				-

Pin & sleeve connectors

	MULTIMAX	CEE	ULYSSE	ALUPRES
Power	■	■	■	■
Control/signal				
Number of contacts	1+N+PE, 2+PE, 3+PE, 3+N+PE	1+N+PE, 2+PE, 3+PE, 3+N+PE	1+N+PE, 2+PE, 3+PE, 3+N+PE	1+N+PE, 2+PE, 2+N+PE, 3+PE, 3+N+PE
Rated voltage	125V - 600V	125V - 500V	125V - 500V	125V - 500V
Rated current	16A - 32A	16A - 125A	16A - 63A	16A - 63A
Termination type*	SC	SC	SC	SC
Wire size (AWG)	16 - 12, 12 - 8	16 - 12, 12 - 8, 10 - 6, 4 - 1	16 - 12, 12 - 8, 10 - 6	16 - 12, 12 - 8, 10 - 6
IP rating	IP44	IP44, IP67	IP44, IP67	IP67, IP55
Approvals**				

EPIC® rectangular housing



Strain relief

Strain relief provides a seal between the cable and the connector housing. It may also be used to offer additional functions like strain relief and braid continuity for EMC protection.

Hood

The connector housing allows for cable entry and protects the contact terminations from physical and environmental damage. EPIC® rectangular hoods are available as top-entry or side-entry in a variety of sizes and entry thread types (PG, NPT, or metric). PG entry hoods include gland.

Inserts

The male and female inserts house and insulate the contacts.

- Screw termination
- Crimp termination (stamped & formed or machined)
 - * crimp contacts must be purchased separately
- Cage clamp (screwless spring)
- Push-in

Base

Mates with the hood to complete the connection.

- Panel mount: cable entry through cut out in panel.
- Surface mount: cable entry through a gland into the side of the connector base.
- Cable coupler hood: for cable-to-cable connection; the cable connector mates with a top-entry hood. This is frequently used to extend cables.

Technical data

Specifications:	DIN 43652	Material:	
Temperature range:		- EPIC® ULTRA:	nickel-plated zinc; stainless steel locking levers & bolts
- EPIC® HB & HA:	-40°C to +125°C	- EPIC® HB 6-48 & EPIC® HA 10-64:	aluminum alloy; powder-coated (gray RAL 9006); zinc-plated steel locking levers & bolts
- EPIC® ULTRA:	-40°C to +100°C	- EPIC® HA 3/4:	die-cast zinc; powder-coated or thermoplastic flame-retardant material rated UL 94 V-0 (gray or black plastic)
Protection class*:	IP65, UL 50E Type 4, 4X, 12 or IP65 (consult for availability)		
* EPIC® connectors meet protection class standards only when in the mated condition. Please refer to individual product pages for applicable class ratings			

EPIC® rectangular connectors shall comply with all applicable requirements of Underwriters Laboratory (UL) Standards 1977 & 498, VDE Standard 0110 for creepage and clearance distances and VDE Standard 0627 for the connector design. The EPIC® HD and HDD series are developed according to DIN Standard 43652.

Approvals



UL File Number:
E75770



CSA File Number:
053004

EPIC® insert series

292 EPIC® HBE series



of contacts: 6, 10, 16, 24, 32, 48 (+PE)
Rated voltage: 600V
Rated current: 16A
Termination: screw, crimp, cage clamp, push-in
Wire size: 20-14 AWG (0.5-2.5 mm²)
 crimp available in 12 AWG (4 mm²)

300 EPIC® HA series



of contacts: 3, 4, 10, 16, 32, 48, 64 (+PE)
Rated voltage: 600V
Rated current:
 - HA 3/4: 10A
 - HA 10 - 64: 14A
Termination: screw
Wire size: 20-14 AWG (0.5-2.5 mm²)

304 EPIC® HQ series



of contacts: 5, 12 (+PE)
Rated voltage: 600V
Rated current: 14A, 16A
Termination: crimp
Wire size: 20-14 AWG (0.5-2.5 mm²)
 26-14 AWG (0.14-2.5 mm²)

307 EPIC® STA series



of contacts: 6, 14, 20, 40 (+PE)
Rated voltage: 48V
Rated current: 10A
Termination: screw, solder
Wire size: 20-16 AWG (0.5-1.5 mm²)

310 EPIC® HEE series



of contacts: 10, 18, 32, 46, 64, 92 (+PE)
Rated voltage: 600V
Rated current: 16A
Termination: crimp
Wire size: 20-12 AWG (0.5-4 mm²)

314 EPIC® HBS series



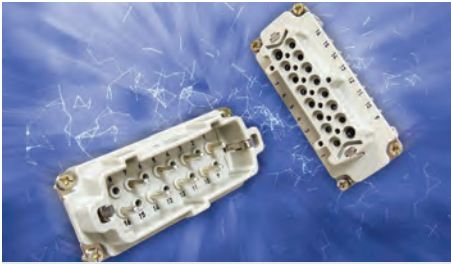
of contacts: 6, 12 (+PE)
Rated voltage: 600V
Rated current: 35A
Termination: screw
Wire size: 20-10 AWG (0.5-6 mm²)

316 EPIC® Power HS series



of contacts: 4 (+PE)
Rated voltage: 1000V
Rated current: 65A
Termination: axial screw
Wire size: 14-8 AWG (2.5-10 mm²)

317 EPIC® HBVE series



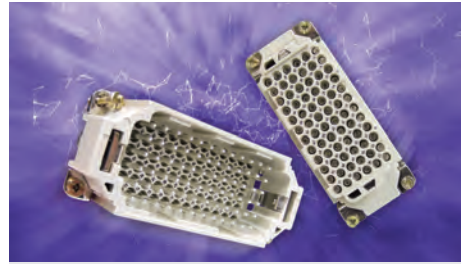
of contacts: 3, 6, 10 (+PE)
Rated voltage: 600V
Rated current: 16A
Termination: screw
Wire size: 20-14 AWG (0.5-2.5 mm²)

319 EPIC® HD series



of contacts: 7, 8, 15, 25, 40, 50, 64, 80, 128 (+PE)
Rated voltage: 250V
Rated current: 10A
Termination: crimp
Wire size: 22-14 AWG (0.14-2.5 mm²)

337 EPIC® HDD series



of contacts: 24, 42, 72, 108, 144, 216 (+PE)
Rated voltage: 600V
Rated current: 8.5A
Termination: crimp
Wire size: 22-14 AWG (0.14-2.5 mm²)

341 EPIC® MH series



of contacts: 2 - 60 (+PE)
Rated voltage: 50 - 1000V
Rated current: 10 - 100A
Termination: crimp
Wire size: 26-8 AWG (0.14-10 mm²)

351 EPIC® MC series



of contacts: 1 - 280 (+PE)
Rated voltage: 30 - 1000V
Rated current: 1 - 220A
Termination: screw, crimp, coax, cage clamp
Wire size: 28-4/0 AWG (0.08-95 mm²)

374 EPIC® Power K series



of contacts: 4 pwr + 0 sig, 4 pwr + 2 sig, 4 pwr + 8 sig
Rated voltage: 600V
Rated current: 16A, 80A
Termination: screw
Wire size:
 - power: 12-6 AWG (4-16 mm²)
 - signal: 20-14 AWG (0.5-2.5 mm²)

EPIC® inserts overview

Insert series page	HBE 292	HA 300	HQ 304	STA 307	HEE 310	HBS 314	Power HS 316	HBVE 317	HD 319	HDD 337	MH 341	MC 351	Power K 374
3	✓							✓ + 2 signal					
4	✓						✓						
5		✓											
6	✓			✓*		✓		✓ + 2 signal	✓				
7									✓*				
8													
10	✓				✓			✓ + 2 signal					
12			✓			✓							
14				✓*									
15									✓				
16	✓												
18		✓			✓								
20				✓*					✓				
24	✓									✓			
25													
32	✓				✓				✓				
40		✓		✓*					✓				
42										✓			
46					✓								
48	✓												
50		✓							✓				
64	✓				✓				✓				
72										✓			
80									✓				
92					✓								
108										✓			
128													
144									✓				
216										✓			
1 - 280											✓		
2 - 60											✓		
4 power + 0 signal													✓
4 power + 2 signal													✓
4 power + 8 signal													✓

* marked inserts do not include a dedicated ground terminal
Number of conductors (+PE)

Insert series	HBE	HA	HA	HQ	STA	HEE	HBS	Power HS	HBVE	HD	HDD	MH	MC	Power K
UL rated voltage	48V				✓									
	250V									✓				
	600V	✓	✓	✓		✓	✓		✓		✓			
	1000V							✓						
	30 – 1000V											✓	min. 50V	
	380 – 600V													
Rated current	8.5A										✓			
	10A		✓ (3/4)	✓	✓					✓				
	14A		✓											
	16A	✓		✓		✓			✓					
	35A						✓							
	65A							✓						
	1 – 220A													✓
	10 – 100A												✓	
16 – 80A														✓
Termination type	cage clamp	✓											✓	
	crimp	✓		✓		✓				✓		✓	✓	
	screw	✓					✓		✓				✓	✓
	solder													
Wire size	28 – 4/0 AWG												✓	
	26 – 14 AWG			✓						✓				
	20 – 16 AWG										✓			
	20 – 14 AWG	✓	✓	✓	✓				✓					✓ (signal)
	20 – 12 AWG	✓ (crimp)					✓							
	20 – 10 AWG						✓							
	14 – 8 AWG													
12 – 6 AWG														✓ (power)

1 mm contacts

Stamped & formed contacts for EPIC® MC 20



Contact size		Stripping length mm	Reel of 500 gold contacts: left-hand feed	
mm ²	AWG*		pin	socket
0.08-0.2	28-26	2.5 ± 0.5	44429013	44429009
0.2-0.52	26-20	2.5 ± 0.5	44429014	44429010

* AWG conversion is approximate

Contact tools



Crimp tool:
11158400



Removal tool:
11132500

for thermocouple applications



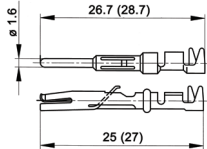
Contact size		Stripping length mm	Material	Polarity	Color	Type	Strip of 25 contacts	
mm ²	AWG*						pin	socket
0.25-0.52	24-20	2.5 ± 0.5	chromel	(+)	white	type K	TC-CH-P	TC-CH-S
0.25-0.52	24-20	2.5 ± 0.5	alumel	(-)	green	type K	TC-AL-P	TC-AL-S
0.25-0.52	24-20	2.5 ± 0.5	iron	(+)	black	type J	TC-IR-P	TC-IR-S
0.25-0.52	24-20	2.5 ± 0.5	constantan	(-)	yellow	type J	TC-CO-P	TC-CO-S

1.6 mm contacts

Stamped & formed contacts



contacts sold in
bags of 100 or 1 reel



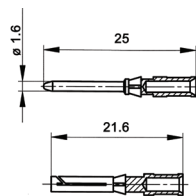
Contact size		Stripping length mm	Bag of 100 silver contacts		Bag of 100 gold contacts		Reel of 100 silver contacts: left-hand feed		Reel of 200 silver contacts: left-hand feed	
mm ²	AWG		pin	socket	pin	socket	pin	socket	pin	socket
0.14-0.5	26-20	2.5-0.5	11241100	11231100	11243100	11233100	—	—	11240700	11230700
0.5-1.5	20-16	3.5-0.5	11221000	11236100	11221300	11238100	—	—	11220700	11235700
1.5-2.5	16-14	3.5-0.5	11223500	11228500	—	—	11223000	11228000	—	—

Contact size		Stripping length mm	Reel of 2000 silver contacts: right-hand feed		Reel of 2000 gold contacts: right-hand feed		Reel of 2000 silver contacts: left-hand feed		Reel of 2000 gold contacts: left-hand feed	
mm ²	AWG		pin	socket	pin	socket	pin	socket	pin	socket
0.14-0.5	26-20	2.5-0.5	11240000	11230000	—	—	11240400	11230400	11240500	11230500
0.5-1.5	20-16	3.5-0.5	11220000	11235000	11220100	11235200	11226000	11226500	—	—
1.5-2.5	16-14	3.5-0.5	—	—	—	—	11222700	11227700	—	—

Machined contacts



contacts sold in bags of 100



Contact size		Stripping length mm	# of marking tracks	Bag of 100 silver contacts		Bag of 100 gold contacts	
mm ²	AWG			pin	socket	pin	socket
0.14-0.37	26-22	8	1	13162000	13163000	13162500	13163500
0.5	20	8	2	13162100	13163100	13162600	13163600
0.75-1.0	18	8	3	13162200	13163200	13162700	13163700
1.5	16	8	4	13162300	13163300	13162800	13163800
2.5	14	5.8	5	13162400	13163400	13162900	13163900

Contact tools



Crimp tool:
11147000



Removal tool:
11161000



Crimp dies
for machined contacts: 11147100
for stamped contacts:
0.14-0.5 mm²: 11147170
0.5-1.5 mm²: 11147180
1.5-2.5 mm²: 11147190



Crimp tool, die & locator
for stamped contacts:
0.14-0.5 mm²: 11147004
0.5-1.5 mm²: 11147005
1.5-2.5 mm²: 11147006



Locator
for machined contacts: 11147200
for stamped contacts: 11147300

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2.5 mm contacts

Stamped & formed contacts for EPIC® MC 4+PE









contacts sold in bags of 100 or 1 reel



Contact size		Bag of 100 silver contacts		Reel of 100 silver contacts		Reel of 200 silver contacts	
mm ²	AWG	pin	socket	pin	socket	pin	socket
0.5-1.5	20-16	11201000	11205000	—	—	11208000	11209000
1.5-2.5	16-14	11202000	11206000	11208500	11209500	—	—

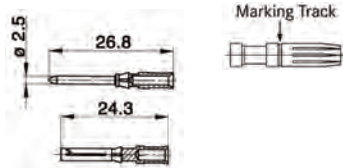
Contact tools

 Crimp tool: 11147000	 Locator: 11147300	 Removal tool: 11160000	 Crimp tool for reel: 11153500
 Crimp dies: 0.5-1.5 mm ² : 11147180 1.5-2.5 mm ² : 11147190	 Crimp dies for reel: 0.5-1.5 mm ² : 11153700 1.5-2.5 mm ² : 11153800		

Machined contacts



contacts sold in bags of 100



Contact size		Stripping length (mm)		# of marking tracks	Bag of 100 silver contacts		Bag of 100 gold contacts	
mm ²	AWG	pin	socket		pin	socket	pin	socket
0.5	20	7.4	7.3	—	11190000	11195000	11192000	11197000
0.75-1.0	18	7.4	7.3	1	11190100	11195100	11192100	11197100
1.5	16	7.4	7.3	2	11190200	11195200	11192200	11197200
2.5	14	7.4	7.3	3	11190300	11195300	—	—
4.0	12	7.4	7.3	—	11190400	11195400	—	—

Machined contacts for EPIC® MC 5

0.5	20	7.8	7.8	—	1121300C	1121800C	—	—
0.75-1.0	18	7.8	7.8	1	1121310C	1121810C	—	—
1.5	16	7.8	7.8	2	1121320C	1121820C	—	—
2.5	14	7.8	7.8	3	1121330C	1121830C	—	—
4.0	12	7.8	7.8	—	1121340C	1121840C	—	—

Contact tools

 Crimp tool: 11147000	 Crimp dies: 11147100	 Locator: 11147200	 Removal tool: 11171000 (required for EPIC® MC 5)
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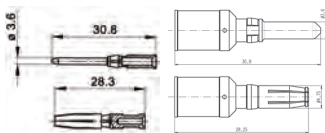
For removal of contacts, use a slotted screwdriver; no special tool is necessary. EPIC® MC 5 requires a removal tool.

3.6 mm contacts

Machined contacts



contacts sold in bags of 100







1.5 - 10 mm²

16 mm²

Contact size		Stripping length mm	Bag of 100 silver contacts	
mm ²	AWG		pin	socket
1.5	16	10	1121070C	1121570C
2.5	14	10	1121060C	1121560C
4.0	12	10	1121000C	1121500C
6.0	10	10	1121010C	1121510C
10.0	8	10	1121020C	1121520C
16	6	10	44424014	44424015

Contact tools

 Crimp tool: 11147000	 Crimp dies: 1.5-2.5 mm ² : 11147110 4.0-10 mm ² : 11147120 16 mm ² : 11147111	 Locator: 11147210	 Removal tool: 11171100
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4 mm contacts

Machined contacts for EPIC® MH 3 & MH 4



contacts sold in bags of 10

Contact size		Stripping length mm	Bag of 10 silver contacts	
mm ²	AWG		pin	socket
1.5	16	10	44423250	44423255
2.5	14	10	44423251	44423256
4	12	10	44423252	44423257*
6	10	10	44423253	44423258
10	8	10	44423254	44423259

* contact 44423257 requires crimp die 11174101

Contact tools



Crimp tool:
11147000



Crimp dies:
16 - 12 AWG: 11147100
10 - 8 AWG: 11147101



Locator:
11147201



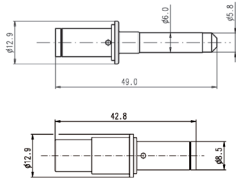
Removal tool:
44423268

6 mm contacts

Machined contacts for EPIC® MC HHC2



contacts sold in bags of 20



Contact size		Bag of 20 silver-plated contacts	
mm ²	AWG	pin	socket
16	6	44424019	44424022
25	4	44424020	44424023
35	1	44424021	44424024

Contact tools



Crimp dies:
16 mm²: 44424025
25 mm²: 44424026
35 mm²: 44424027

Use hydraulic crimp tool:
Klaue type FK 60/22-L

8 mm contacts

Machined contacts for EPIC® MH2



contacts sold in bags of 10

Contact size		Stripping length mm	Bag of 10 silver contacts	
mm ²	AWG		pin	socket
10	8	18	44423242	44423246
16	6	18	44423243	44423247
25	4	18	44423244	44423248
35	2	18	44423245	44423249

Contact tools



Crimp dies:
10 mm²: 44423270
16 mm²: 44423271
25 mm²: 44423272
35 mm²: 44423273



Removal tool:
44423269

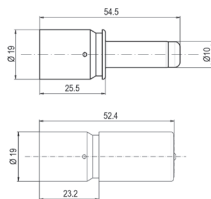
Use with hydraulic crimp tool

10 mm contacts

Machined contacts for EPIC® MC HHC1



part number = 1 contact



Contact size		Silver-plated contact		Pack size
mm ²	AWG	pin	socket	
50	1/0	44424032	44424035	1
70	2/0	44424033	44424036	1
95	3/0	44424034	44424037	1

Contact tools

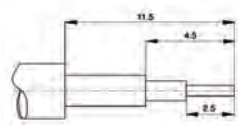


Crimp dies:
50 mm²: 44424038
70 mm²: 44424039
95 mm²: 44424040

Use hydraulic crimp tool:
Klaue type FK 60/22-L

Coax contacts

Contacts for EPIC® MC 3 Coax



Cable type	Impedance	Pin	Socket
Solder contacts			
RG58 CU	50Ω	44429018	44429017
RG180 BU	75Ω	44429020	44429019
RG187 AU	75Ω	44429022	44429021
Solder/crimp contacts			
RG58	50Ω	11214200	11219200

Contact tools



Crimp tool:
11147000



Crimp dies:
11147130



Removal tool:
11171100

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Contact tools

crimp tool



crimp die



locator



removal tool



Description	Crimp tool	Crimp dies	Locator	Removal tool
1 mm contacts				
1 mm stamped on reel	11158400	crimp dies included	—	11132500
1.6 mm contacts				
1.6 mm machined	11147000	11147100	11147200	11161000
1.6 mm stamped	11147000	0.14 - 0.5 mm ² : 11147170 0.5 - 1.5 mm ² : 11147180 1.5 - 2.5 mm ² : 11147190	11147300	11161000
1.6 mm stamped on reel		crimp kit (includes tool, dies, and locator) 0.14 - 0.5 mm ² : 11147004 0.5 - 1.5 mm ² : 11147005 1.5 - 2.5 mm ² : 11147006		11161000
2.5 mm contacts				
2.5 mm machined	11147000	11147100	11147200	HBE series: use slotted screwdriver MC series: 11171000
2.5 mm stamped	11147000	0.5 - 1.5 mm ² : 11147180 1.5 - 2.5 mm ² : 11147190	11147300	11160000
2.5 mm stamped on reel	11153500	0.5 - 1.5 mm ² : 11153700 1.5 - 2.5 mm ² : 11153800	—	11160000
3.6 mm contacts				
3.6 mm machined	11147000	1.5 - 2.5 mm ² : 11147110 4 - 10 mm ² : 11147120 16 mm ² : 11147111	11147210	11171100
4 mm contacts				
4 mm machined	11147000	1.5 - 4 mm ² : 11147100 6 - 10 mm ² : 11147101	11147201	44423268
6 mm contacts				
6 mm machined	use hydraulic crimp tool	16 mm ² : 44424025 25 mm ² : 44424026 35 mm ² : 44424027	—	—
8 mm contacts				
8 mm machined	use hydraulic crimp tool	10 mm ² : 44423270 16 mm ² : 44423271 25 mm ² : 44423272 35 mm ² : 44423273	—	44423269
10 mm contacts				
10 mm machined	use hydraulic crimp tool	50 mm ² : 44424038 70 mm ² : 44424039 95 mm ² : 44424040	—	—
Coax contacts				
Coax	11147000	11147130	—	11171100

If not otherwise specified, all values relating to the product are nominal values.
Photographs are not to scale and are not true representations of the products in question.
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