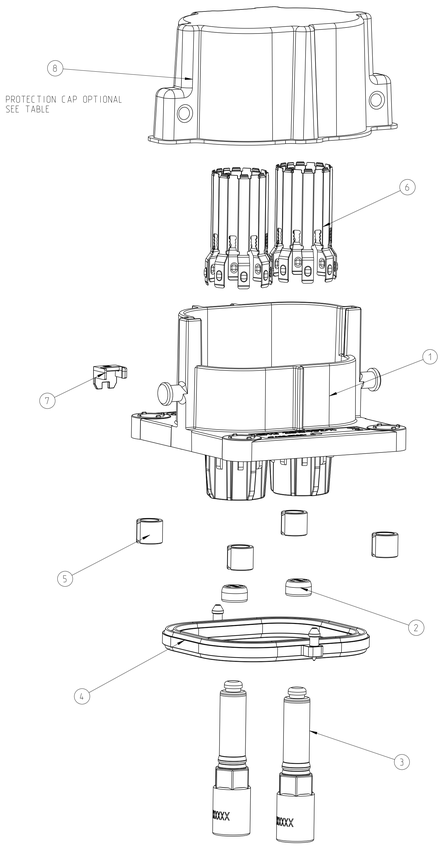
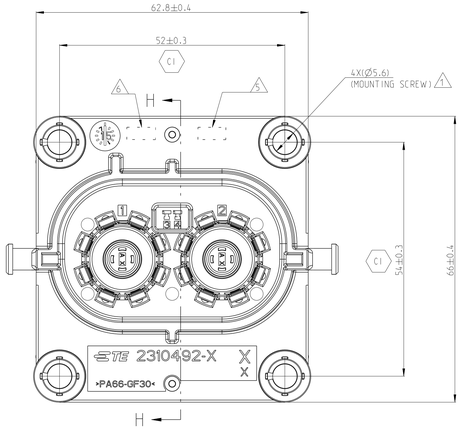
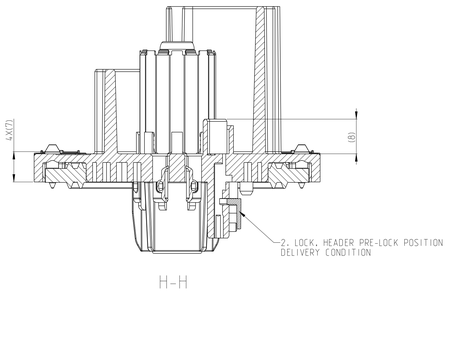
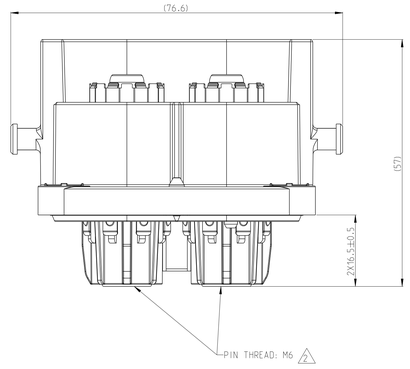
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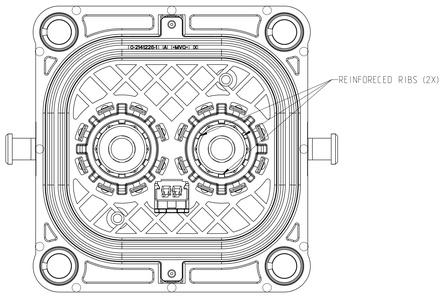
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	C	REVISED ECO-18-017400	07NOV2018	SX	EJ
	C1	REVISED ECR-19-004927	09APR2019	SX	EJ

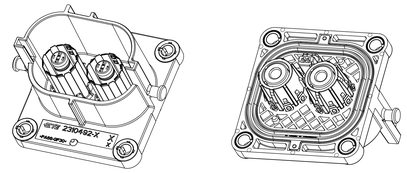












•-1 AS SHOWN

1 MOUNTING SCREW M5 WITH MINIMUM SCREWHEAD Ø10MM.
MAXIMUM SCREWHEAD Ø12MM
RECOMMENDED TIGHTENING TORQUE OF THE SCREW 6±0.5NM
THREAD ENGAGEMENT ACCORDING TO TE-DRAWING NO: 114-94032

2 RECOMMENDED TIGHTENING TORQUE OF THE SCREW M6:8±1NM
A SCREW RETENTION WILL RECOMMENDED

3 SUITABLE HVIL-CONTACTS: TE P/N: 1418760-3

4 FIRE RETARTANT CLASS FOR PLASTIC PART MATERIAL REFER TO TABLE AS BELOW:

P/N	FIRE RETARTANT CLASS OF PLASTIC MATRIAL (NOT INCLUDE DUST CAP)
2322122-1	HB
2322122-2	
2322122-3	
2322122-4	
2322122-5	
2322122-6	
2322122-7	
2322122-8	
1-2322122-1	
1-2322122-2	
1-2322122-3	
1-2322122-4	
1-2322122-5	
1-2322122-6	
1-2322122-7	
1-2322122-8	
2-2322122-1	
2-2322122-2	
2-2322122-3	
2-2322122-4	
2-2322122-5	
2-2322122-6	
2-2322122-7	
2-2322122-8	

P/N	FIRE RETARTANT CLASS OF PLASTIC MATRIAL (NOT INCLUDE DUST CAP)
3-2322122-1	V0
3-2322122-2	
3-2322122-3	
3-2322122-4	
3-2322122-5	
3-2322122-6	
3-2322122-7	
3-2322122-8	
4-2322122-1	
4-2322122-2	
4-2322122-3	
4-2322122-4	
4-2322122-5	
4-2322122-6	
4-2322122-7	
4-2322122-8	
5-2322122-1	
5-2322122-2	
5-2322122-3	
5-2322122-4	
5-2322122-5	
5-2322122-6	
5-2322122-7	
5-2322122-8	

5 ASSY. P/N MARKING

6 PRODUCTION CODE

7 OPERATION TEMPERATURE: -40-125°C

ITEM	FEATURE	TE-PART-NO 90 DEG	TE-PART-NO 180 DEG
8	MATING CONNECTOR: 2POS.8MM HV.REC HSG. ASSY.SEALED	2310922 2141154	2310923 2177053
9	INTERFACE DRAWING FOR MATING SIDE	114-94034	
10	INTERFACE DRAWING FOR MOUNTING SIDE	114-94032	
11	PRODUCT-SPEC	108-32233	108-32234
12	APPLICATION-SPEC	114-32213	

-	-	-	-	1	1	1	1	2. LOCK. IL. HEADER	PA6-(GF/GB) HB	GRAY SIM RAL 7037	(113.3)	7
1	1	1	1	-	-	-	-		PA6-(GF) V0	RED SIM RAL 3000		
2	2	2	2	2	2	2	2	SHIELDING SLEEVE	Cu-ALLOY	TIN PLATED		6
4	4	4	4	4	4	4	4	COMPRESSION DELIMITER. HV HEADER	CARBON STEEL	ZnNi - PLATING		5
-	-	-	-	1	1	1	1	RADIAL SEAL 56.4 X 50	SILICONE RUBBER HB	NATURE		4 C1
1	1	1	1	-	-	-	-		SILICONE RUBBER V0	DARK GREY		
2	2	2	2	2	2	2	2	PIN DIA 8.0. CONTACT	Cu-ALLOY	SILVER PLATED		3
-	-	-	-	2	-	2	-	PROTECTION COVER 8MM HV	PA6-(GF/GB) HB	NATURE		2 C1
-	-	-	-	-	2	-	2		PA6-(GF/GB) HB	BLACK SIM RAL 9005		
2	-	2	-	-	-	-	-		PA66 V0	WHITE SIM RAL 9010		
-	2	-	2	-	-	-	-		PA66 V0	BLACK SIM RAL 9005		
-	-	-	-	1	-	-	-	2POS.PIN DIA 8.0.PIN HSG,90,SEALED	PA66-GF HB	ORANGE SIM RAL 2003		1
-	-	-	-	-	1	-	-		PA66-GF HB			
-	-	-	-	-	-	1	-		PA66-GF HB			
-	-	-	-	-	-	-	1		PA66-GF HB			
1	-	-	-	-	-	-	-		PA66-GF V0			
-	1	-	-	-	-	-	-		PA66-GF V0			
-	-	1	-	-	-	-	-		PA66-GF V0			
-	-	-	1	-	-	-	-		PA66-GF V0			
3-2322122-4	3-2322122-3	3-2322122-2	3-2322122-1	2322122-4	2322122-3	2322122-2	2322122-1	DESCRIPTION	MATERIAL	SURFACE COLOUR	WEIGHT [g]	ITEM
D	C	B	A	D	C	B	A	CODING				
2POS.PIN DIA 8.0.PIN HSG,90,ASSY				DESCRIPTION								
QTY PER ASSY PARTS				PART LIST								

3-2322122-8	D	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-4	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7
3-2322122-7	C	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-3	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7
3-2322122-6	B	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-2	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7
3-2322122-5	A	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-1	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7

2322122-8	D	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2322122-4	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7
2322122-7	C	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2322122-3	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7
2322122-6	B	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2322122-2	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7
2322122-5	A	2POS.PIN DIA 8.0.PIN HSG,90,ASSY PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2322122-1	-	2POS.PIN DIA 8.0.PIN HSG,90,ASSY	-	-	-	1	1-7
TE-ASSY-NO.	COD.	DESCRIPTION	TE-ASSY-NO.	TE-PART-NO.	DESCRIPTION	MATERIAL	SURFACE COLOUR	WEIGHT [g]	QTY	ITEM

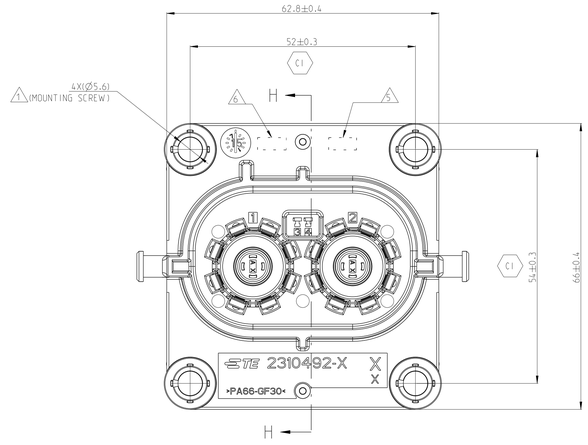
勝特力電材超市-龍山店 886-3-5773766
勝特力電材超市-光復店 886-3-5729570
胜特力电子(上海) 86-21-34970699
胜特力电子(深圳) 86-755-83298787
http://www.100y.com.tw

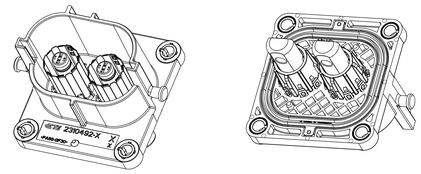
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DIMENSIONS: mm
TOLERANCES UNLESS OTHERWISE SPECIFIED: 1 PLC ±0.5; 2 PLC ±-; 3 PLC ±0.25; 4 PLC ±0.127; ANGLES ±2°
MATERIAL: SEE TABLE
FINISH: SPEC-2
DWN: J.LI 09APR2019
CHK: S.Y.WANG 24JUL2017
APVD: Y.YIN 02AUG2017
PRODUCT SPEC: 11 -
APPLICATION SPEC: 12 -
WEIGHT: -
CUSTOMER DRAWING:RESTRICTED CUSTOMER
TE Connectivity
NAME: 2POS.PIN DIA 8.0.PIN HSG.ASSY
SIZE A0 | CAGE CODE 00779 | DRAWING NO C-2322122 | RESTRICTED TO
SCALE 2:1 | SHEET 1 OF 4 | REV C1

4806 13/131

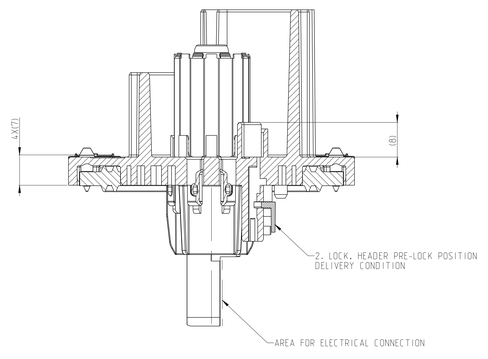
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REVISIONS						
P	LTR	DESCRIPTION	DATE	DWN	APVD
		SEE SHEET 1			

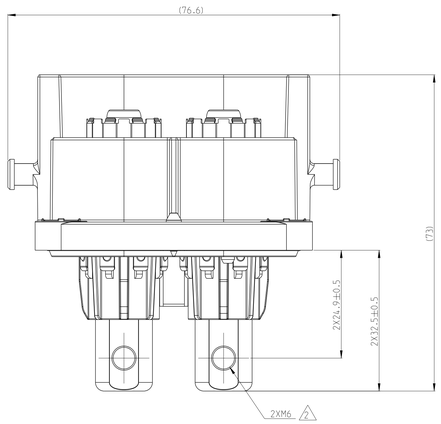


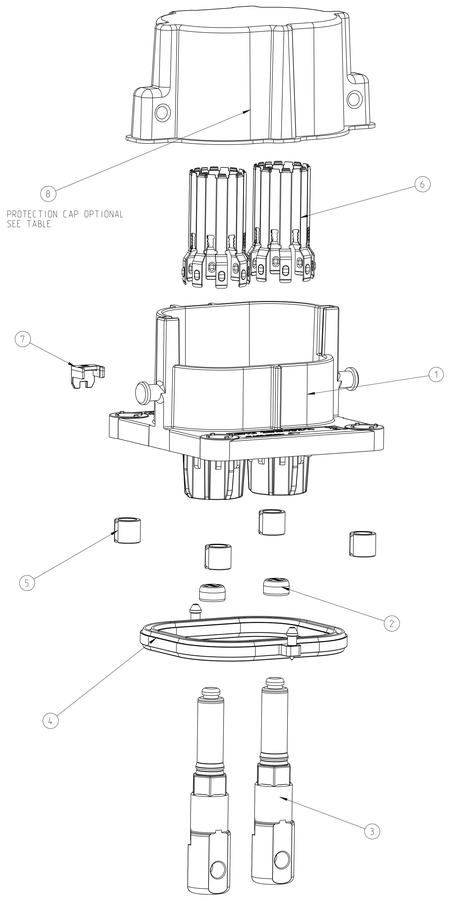


1-•-1 AS SHOWN



H-H





-	-	-	-	1	1	1	1	2. LOCK. IL. HEADER	PA6-(GF/GB) HB	GRAY SIM RAL 7037	(144.4)	7
1	1	1	1	-	-	-	-		PA6-(GF) V0	RED SIM RAL 3000		
2	2	2	2	2	2	2	2	SHIELDING SLEEVE	Cu-ALLOY	TIN PLATED		6
4	4	4	4	4	4	4	4	COMPRESSION DELIMITER. HV HEADER	CARBON STEEL	ZnNi - PLATING		5
-	-	-	-	1	1	1	1	RADIAL SEAL 56.4 X 50	SILICONE RUBBER HB	NATURE		4 C1
1	1	1	1	-	-	-	-		SILICONE RUBBER V0	DARK GREY		
2	2	2	2	2	2	2	2	PIN DIA 8.0. PIN. M6	Cu-ALLOY	SILVER PLATED		3
-	-	-	-	2	-	2	-	PROTECTION COVER 8MM HV	PA6-(GF/GB) HB	NATURE		2 C1
-	-	-	-	-	2	-	2		PA6-(GF/GB) HB	BLACK SIM RAL 9005		
2	-	2	-	-	-	-	-		PA66 V0	WHITE SIM RAL 9010		
-	2	-	2	-	-	-	-		PA66 V0	BLACK SIM RAL 9005		
-	-	-	-	1	-	-	-	2POS.PIN DIA 8.0.PIN HSG.90. SEALED	PA66-GF HB	ORANGE SIM RAL 2003		1
-	-	-	-	-	1	-	-		PA66-GF HB			
-	-	-	-	-	-	1	-		PA66-GF HB			
-	-	-	-	-	-	-	1		PA66-GF HB			
1	-	-	-	-	-	-	-		PA66-GF V0			
-	1	-	-	-	-	-	-		PA66-GF V0			
-	-	1	-	-	-	-	-		PA66-GF V0			
-	-	-	1	-	-	-	-		PA66-GF V0			
4-2322122-4	4-2322122-3	4-2322122-2	4-2322122-1	1-2322122-4	1-2322122-3	1-2322122-2	1-2322122-1	DESCRIPTION	MATERIAL	SURFACE COLOUR	WEIGHT [g]	ITEM
D	C	B	A	D	C	B	A	CODING				
2POS.PIN DIA 8.0.PIN HSG.90.ASSY								DESCRIPTION				
QTY PER ASSY PARTS								PART LIST				

4-2322122-8	D	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-4	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
4-2322122-7	C	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-3	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
4-2322122-6	B	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-2	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
4-2322122-5	A	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			3-2322122-1	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7

1-2322122-8	D	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			1-2322122-4	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
1-2322122-7	C	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			1-2322122-3	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
1-2322122-6	B	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			1-2322122-2	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
8-2322122-1	A	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	1-2322122-1	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
1-2322122-5	A	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			1-2322122-1	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
TE-ASSY-NO.	COD.	DESCRIPTION	TE-ASSY-NO.	TE-PART-NO.	DESCRIPTION	MATERIAL	SURFACE COLOUR	WEIGHT [g]	QTY	ITEM

C1

THIS DRAWING IS A CONTROLLED DOCUMENT.

DIMENSIONS: mm

TOLERANCES UNLESS OTHERWISE SPECIFIED:
1 PLC ±0.5
2 PLC ±0.25
3 PLC ±0.127
4 PLC ±0.05
ANGLES ±1°

MATERIAL: SEE TABLE

FINISH: SPEC 2

DWN: LI 09APR2019
CHK: SY.WANG 24JUL2017
APVD: Y.YIN 02AUG2017
PRODUCT SPEC: -
APPLICATION SPEC: -
WEIGHT: -

TE Connectivity

NAME: 2POS.PIN DIA 8.0.PIN HSG.ASSY

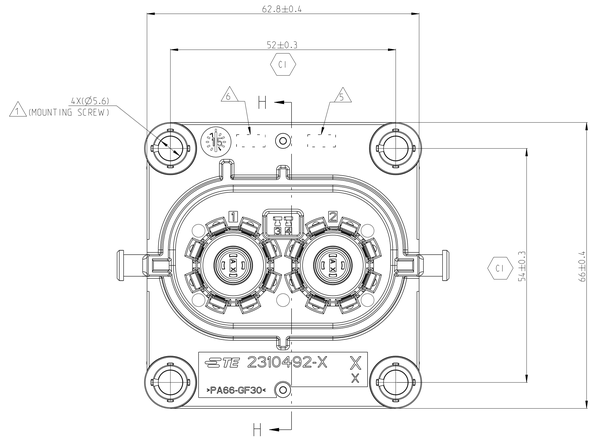
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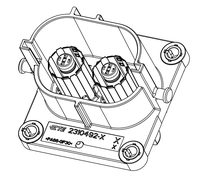
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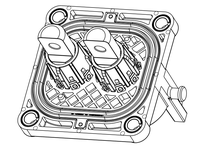
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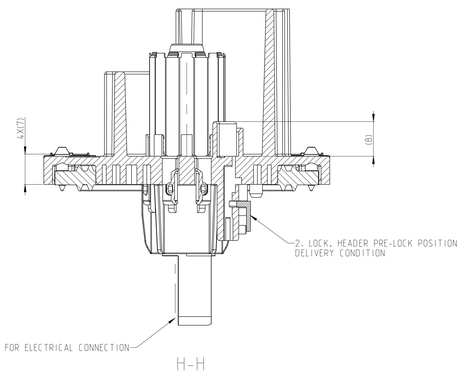
REVISIONS						
P	LTR	DESCRIPTION	DATE	DWN	APVD
		SEE SHEET 1			

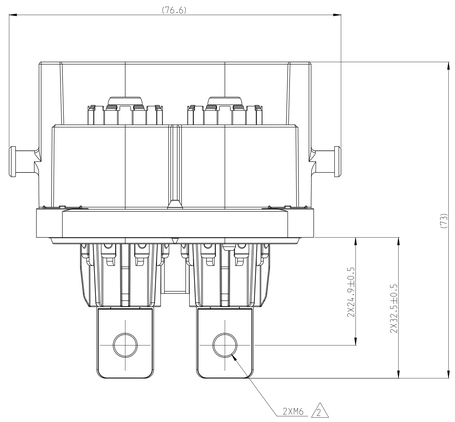


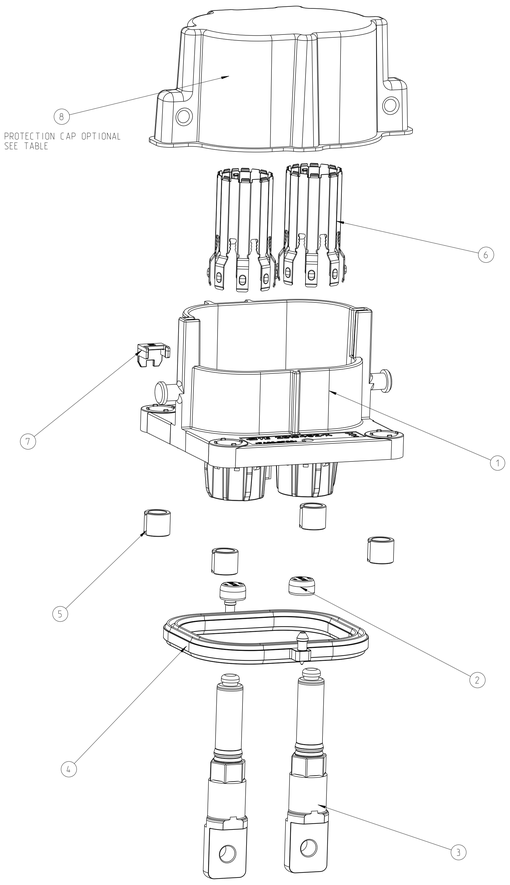




2-•-1 AS SHOWN







-	-	-	-	1	1	1	1	2. LOCK. IL. HEADER	PA6-(GF/GB) HB	GRAY SIM RAL 7037	7
1	1	1	1	-	-	-	-		PA6-(GF) V0	RED SIM RAL 3000	
2	2	2	2	2	2	2	2	SHIELDING SLEEVE	Cu-ALLOY	TIN PLATED	6
4	4	4	4	4	4	4	4	COMPRESSION DELIMITER. HV HEADER	CARBON STEEL	ZnNi - PLATING	5
-	-	-	-	1	1	1	1	RADIAL SEAL 56.4 X 50	SILICONE RUBBER HB	NATURE	4
1	1	1	1	-	-	-	-		SILICONE RUBBER V0	DARK GREY	
2	2	2	2	2	2	2	2	PIN DIA 8.0. PIN. M6	Cu-ALLOY	SILVER PLATED	3
-	-	-	-	2	-	2	-	PROTECTION COVER 8MM HV	PA6-(GF/GB) HB	NATURE	2
-	-	-	-	-	2	-	2		PA6-(GF/GB) HB	BLACK SIM RAL 9005	
2	-	2	-	-	-	-	-		PA66 V0	WHITE SIM RAL 9010	
-	2	-	2	-	-	-	-		PA66 V0	BLACK SIM RAL 9005	
-	-	-	-	1	-	-	-	2POS.PIN DIA 8.0.PIN HSG.90.SEALED	PA66-GF HB	ORANGE SIM RAL 2003	1
-	-	-	-	-	1	-	-		PA66-GF HB		
-	-	-	-	-	-	1	-		PA66-GF HB		
-	-	-	-	-	-	-	1		PA66-GF HB		
1	-	-	-	-	-	-	-		PA66-GF V0		
-	1	-	-	-	-	-	-		PA66-GF V0		
-	-	1	-	-	-	-	-		PA66-GF V0		
-	-	-	1	-	-	-	-		PA66-GF V0		
5-2322122-4	5-2322122-3	5-2322122-2	5-2322122-1	2-2322122-4	2-2322122-3	2-2322122-2	2-2322122-1	DESCRIPTION	MATERIAL	SURFACE COLOUR	WEIGHT (g)	ITEM
D	C	B	A	D	C	B	A	CODING				
2POS.PIN DIA 8.0.PIN HSG.90.ASSY				DESCRIPTION								
QTY PER ASSY PARTS				PART LIST								

5-2322122-8	D	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			5-2322122-4	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
5-2322122-7	C	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			5-2322122-3	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
5-2322122-6	B	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			5-2322122-2	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
5-2322122-5	A	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			5-2322122-1	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7

2-2322122-8	D	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2-2322122-4	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
2-2322122-7	C	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2-2322122-3	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
2-2322122-6	B	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2-2322122-2	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
2-2322122-5	A	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6 PROTECTION CAP	-	9-2208100-1	2POS. PROTECTION CAP	PS	BLACK SIM RAL 9005	(3.3)	1	8
			2-2322122-1	-	2POS.PIN DIA 8.0.PIN HSG.90.ASSY BUSBAR M6	-	-	-	1	1-7
TE-ASSY-NO.	COD.	DESCRIPTION	TE-ASSY-NO.	TE-PART-NO.	DESCRIPTION	MATERIAL	SURFACE COLOUR	WEIGHT (g)	QTY	ITEM

THIS DRAWING IS A CONTROLLED DOCUMENT.

DIMENSIONS: mm

TOLERANCES UNLESS OTHERWISE SPECIFIED:
X PLC ±0.5
XX PLC ±0.5
XXX PLC ±0.25
4 PLCS ±0.0001
ANGLES 4 PLCS ±1°

MATERIAL: SEE TABLE
FINISH_spec_2

DWN	ELI	09APR2019
CHK	SY.WANG	24JUL2017
APVD	LYIN	02AUG2017
PRODUCT SPEC	A1	
APPLICATION SPEC	A2	
BEI/GPI		

TE Connectivity

NAME: 2POS.PIN DIA 8.0.PIN HSG.ASSY

SIZE	CAGE CODE	DRAWING NO	RESTRICTED TO
A0	00779	C-2322122	

CUSTOMER DRAWING:RESTRICTED CUSTOMER | SCALE 2:1 | SHEET 3 OF 4 | REV C1

4806 (3/13)

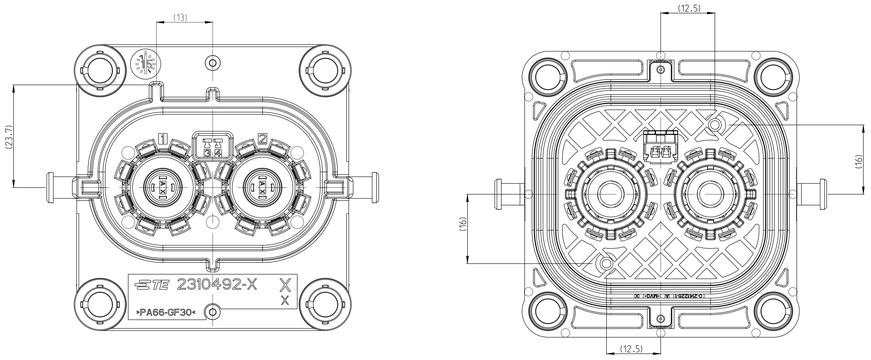
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REVISIONS					
P	LTR	DESCRIPTION	DATE	DWN	APVD
		SEE SHEET 1			

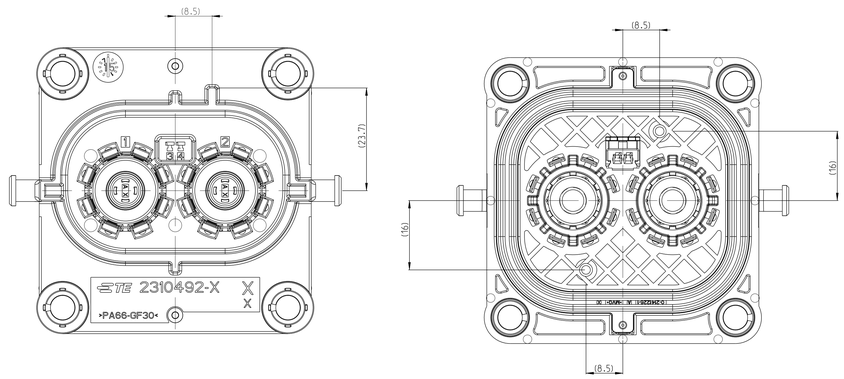
CODING DEFINITION FOR ALL VARIANT

ACCORDING TO INTERFACE DRAWING: 114-94034 AND 114-94032

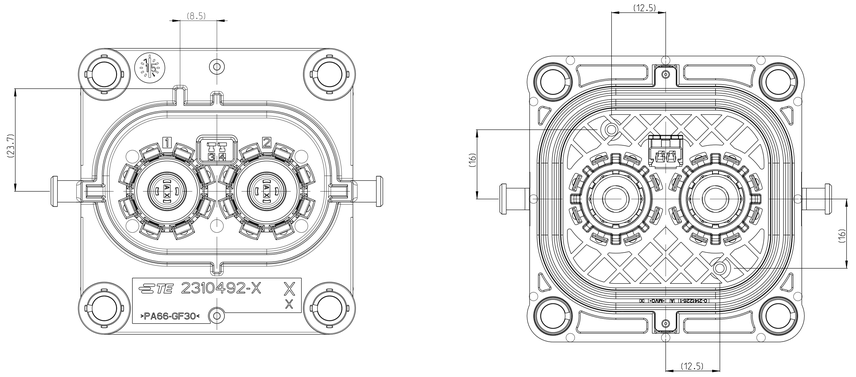
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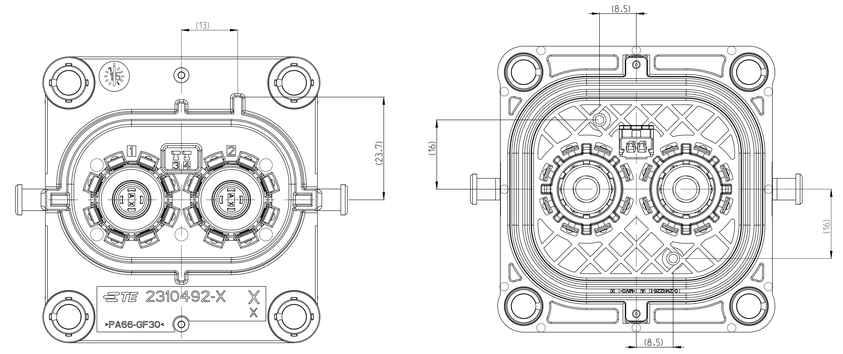
CODING C



CODING B



CODING D



THIS DRAWING IS A CONTROLLED DOCUMENT.	DWN LLI 09APR2019	TE Connectivity	
DIMENSIONS: mm	CHK SY.WANG 24JUL2017	NAME 2POS.PIN DIA 8.0.PIN HSG.ASSY	
TOLERANCES UNLESS OTHERWISE SPECIFIED: 1 PLC ±0.5; 2 PLC ±0.25; 3 PLC ±0.127; 4 PLC ±0.0005; ANGLES 4°±2°; FINISH spec 2	APVD LYIN 02AUG2017	PRODUCT SPEC - A1	
MATERIAL SEE TABLE -	APPLICATION SPEC - A2	SIZE A0	CAGE CODE 00779
	HISTORY	DRAWING NO C-2322122	RESTRICTED TO
	CUSTOMER DRAWING;RESTRICTED CUSTOMER	SCALE 2:1	SHEET 4 OF 4 REV C1

Product Specification

108-32233

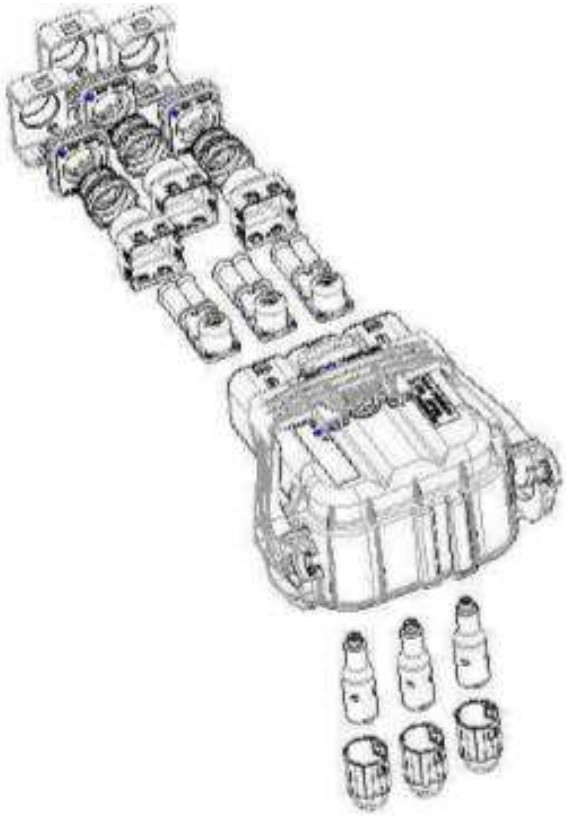
2019-04-22 Rev A

HVP800 2PHI AND 3PHI 90º

AMP+ High Current Connectors and Headers

SPECIFICATION





				PR: Z.ZHANG **DATE:** 22APR2019			
				CHK: E.JIANG **DATE:** 22APR2019	**TE Connectivity** **Shanghai, China**		
A	Initial Released	Z.Z	22APR19	**APP:** I.YIN **DATE:** 22APR2019	**Document No.:** 108-32233	**LOC:** ES	**REV:** A
LTR	**REVISION RECORD**	**PR**	**DATE**				

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HVP800 2PHI AND 3PHI 90º

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1. SCOPE

1.1 Introducing

TE Connectivity's touch-proof 2-3 position high current connector HVP800 and header are designed to meet WG 4.3.3, LV215-1 specifications , for a metric wire size range from 25mm² up to 50mm² acc. to LV216-2.
With a 90º cable outlet incorporates the sealed connector system two or three (2-3pos) 8mm power contacts and an integrated High Voltage Interlock (HVIL) System. The HVP800 connector is available for four different keying or polarizing configurations and incorporates 360º conductive EMI shields to reduce radiated emissions in the application. Assembly is simplified with a lever assist for low insertion force and the housings are molded in orange to denote a high voltage system.

1.2 Content

This specification covers performance, test and quality requirements for the TE Connectivity 2-3 position high current connector HVP800 with 90º Plug and Header assembly.
Please note, performance, tests and quality requirements to the contact systems are not part of this specification, but are included by the validation of the connector system.

1.3 Qualification

When tests are performed the following specifications and standards shall be used. All inspections shall be performed using the applicable inspection plan and customer drawing.

2. APPLICABLE DOCUMENTS

The following mentioned documents are part of this specification. Unless otherwise specified, the latest edition of the documents applies. In the event of conflict between the requirements of this specification and the information contained in the referenced documents, this specification shall take precedence (exempt from documents to the contact systems).

2.1 TE Connectivity Documents

2.1.1 General Requirements

Table 1: General Requirements

Requirements	Description
TEC-109-1 Rev. J	General Requirements for Test Specifications

2.1.2 Customer Drawings

Table 2: Customer Drawings

2pos Receptacle housing	
2310922	2 Pos, 8mm HV, REC HSG 90º, Assy
3pos Receptacle housing	
2325010	3 Pos, 8mm HV, REC HSG 90º, Assy
2pos Pinheader	
2322122	2 Pos. Dia 8mm Pin housing, Assy
3pos Pinheader	
2325013	3 Pos. Dia 8mm Pin housing, Assy

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Single Components	
2141155 2310488	Cover, Seal
2141156	Single Wire Seal
2141157 2307011	Shield Crimp Ferrule
2141158	Shielding Sleeve
2141159 2303272	Finger Protection Cap
2141211 2328073	Deep drawn socket, 90º, Assy
2141212 2328074	Deep drawn socket, Pin 90º, Assy
Interface drawings	
114-94032	Interface aggregate cut-out for 2/3 pos. HVP 800 90º/180º Pin housing

* Others TE China HVP800 series part number also suitable for this specification.

2.1.3 Specifications

Table 3: TE-Specifications

Specifications	Description
108-94256	Product Specification HV 8mm 90º Contact
108-18782	Product Specification MCON-1.2 Contact System
114-32213	Application Specification HVP800 2PHI AND 3PHI 90º
114-94083	Application Specification HV 8mm 90º Contact
114-18464	Application Specification MCON-1.2 Contact System

2.2 Other Documents

Table 4: References

Document number	Edition	Standard: Title, Author
DIN EN 60664-1	2008-01	Isolation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests
DIN 40050-9	1993-05	Degrees of protection (IP-Code) - Protection of electrical equipment against foreign objects, water and access
ISO 20653	2006-08	Road vehicles – Degrees of protection (IP-Code) - Protection of electrical equipment against foreign objects, water and access
ISO 6469-3	2001-1	Electric road vehicles – Safety specifications. Part 3: Protection of person against electric hazards
ISO 16750	-1: 2006-01 -2: 2010-03 -3: 2007-07 -4: 2010-04 -5: 2010-04	Electric road vehicles – Environmental conditions and testing for electrical and electronic equipment
SAE J 1742	1998-03 (2005-12)	Connections for High Voltage On-Board Road Vehicle, Electrical Wiring Harnesses Test Methods and General Performance Requirements
LV 214-1	2010-03	Test specification for motor vehicle connectors
LV 215-1	2009-02	Electrical/Electronic Requirements of HV Connectors

3. REQUIREMENTS

3.1 Design and Construction

The product design, construction and physical dimensions shall correspondent to the latest customer drawings.
Please note, prototype parts or pre-serial parts can be differing slightly in dimensioning, form- and position tolerances to the interface drawings.

3.2 Material

Descriptions for material see latest valid customer drawings.

3.3 Ratings

Table 5: Product Ratings

Description	**Range**
Max working voltage at 5500m above see level	≤ 650VDC
Voltage class acc. ISO 6469-3	B
Class 1 equipment acc. ISO 6469-3	1
Dielectric withstand voltage acc. ISO 6469-3, SAE J 1742	2700V
Insulation resistance acc. ISO 6469-3, SAE J 1742	> 200MΩ
Isolation Group I acc. DIN EN 60664-1	600 ≤ CTI

Pollution degree acc. DIN EN 60664-1	2
Ambient temperature	-40ºC to 125ºC
Degrees of protection (IP-Code) against access acc. ISO 20653	IPXXB, IPXXD
Degrees of protection (IP-Code) against foreign objects and water acc. ISO 20653	IP6K9K, IP6K7
Color of plastic housing	Orange similar RAL 2003

3.4 Performance and Test Description

The product is designed to meet the electrical, mechanical and environmental performance requirements specified in table 6 and table 7. Unless otherwise specified, all tests shall be performed at ambient environmental conditions according to TE-TEC 109-1.

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3.5 Test Requirements and Procedures Summary

Not shown test-details see LV 214 / March 2010.

Table 6: Test Requirements and Procedures Summary

Test Description	Requirement	Procedure
PG 0 RECEIVING INSPECTION		
E 0.1 Visual inspection	Basic function proven	LV215-2 DIN EN 60512-1-1
E 0.2 Contact resistance	Contact ≤0.36mΩ (50mm^2); ≤0.39mΩ (35mm^2); ≤0.40mΩ (25mm^2) HVIL-contact ≤15mΩ Shielding cable - Header <7mΩ	LV215-2 DIN EN 60512-2-1
E 0.3 Insulation resistance	Insulation resistance at 1kVDC: > 200MΩ	LV215-2 DIN EN 60512-3-1
PG 4 CONTACT OVERLAPPING		
E 4.1 Contact engagement length	Values see appendix 5.3	Theoretical study
PG 6 INTERACTION BETWEEN CONTACT AND HOUSING		
E 6.1 Deflection of contacts in the housing cavity	No damage during joining	Theoretical study

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B 6.1 Drop test	Drop test from 1m height; No damages or impairments of function	LV215-2 DIN EN 60068-2-31
PG 7 HANDING AND FUNCTIONAL RELIABILITY OF THE HOUSINGS		
E 7.1 Error-proof design of housings	Coding/Polarization Test load: 80N	LV214 DIN EN 60512-13-5
E 7.2 Retention force of the housing latch/lock	Retention force of the housing latch mechanism / housing interlock: >250N	LV215-2 DIN EN 60512-15-6
E 7.3 Functionality of CPA	Actuation force to close: 5-30N CPA Efficiency: ＞80N	DIN EN 60512-15-6
E 7.4 Insertion force or actuation force for insertion with removal aids	Insertion and actuation force: ≤ 75N	DIN EN 60512-15-6
PG 8 MATING AND RETENTION FORCE OF CONTACT PARTS		
E 8.1 Contact insertion forces	8mm-Contact: Insertion force Average ≤50N	LV214
E 8.2 Contact removal force from the housing	Primary lock and Secondary lock measured separately Cable assy with 8mm-contact ≥ 180N HVIL-contact ≥ 55N	LV214

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PG 9 SKEWED INSERTION ANGLE		
E 9.2 Max. possible insertion inclination	Max. possible insertion inclination warrants the contacting without damage	Theoretical study
E 9.3 Examination of housing for scoop-proofing	Live parts must only touch its counter-part while mounting (including insertion chamfers). In case of incorrect insertion of the plug no live parts must be touched	Theoretical study
PG 11 MATING CYCLES		
B 11.1 Mating cycles	Connector with HVIL-Contacts 50 Cycles	LV214
PG 13 HOUSING INFLUENCE ON THE DERATING		
E 13.2 Derating with housing	Dependent on application and cable type different values are possible Max. temperature at contacts 180ºC Derating see appendix 5.1	LV215-2 DIN EN 60512-5-1/2
PG 17 DYNAMIC LOAD		

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B 17.2 Dynamic Load Broad-band random	Severity 2: “Body” sealed; Details see appendix 5.2 Slight wear, surface ok Resistances after testing ● Contact ≤0.72mΩ ● HVIL-Contact ≤15mΩ ● Shielding cable – aggregate <7mΩ	LV214 DIN EN 60068-2-64
B 17.3 Endurance shock test	30g; T=6ms; N=6000 Slight wear, surface ok. Resistances after testing ● Contact ≤0.72mΩ ● HVIL-Contact ≤15mΩ ● Shielding cable – aggregate <7mΩ	LV214 DIN EN 60068-2-27
In the event of particularly critical installation conditions, special agreements shall be made between the manufacturer and the user		
PG 18C DICING SALT LOAD		
B 18.3 Salt spray, cyclic	Resistances after Salt spray test, not sealed ● Contact ≤0.72mΩ ● HVIL-Contact ≤15mΩ ● Shielding cable – aggregate <7mΩ	LV215-2 DIN EN 60068-2-52 (SG3)
PG 20 CLIMATIC LOAD OF HOUSINGS		
B 20.1 Dry heat	Dry heat 120h / 125ºC	LV214

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B 20.2 Damp heat	Damp heat 10 days /40ºC / 95% rel. humidity Insulation resistance at 1kVDC: >200MΩ	LV214
B 20.3 Climatic cold	Climatic cold 48h / -40ºC Plugging / unmating possible at -20ºC	LV214
B 20.1 Dry heat	Dry heat 48h / 80ºC	LV214
B 6.1 Drop test after aging	Drop test from 1m height; No damages or impairments of function	LV215-2 DIN EN 60068-2-31
PG 21 LONG-TERM AGING		
B 21.1 Long-term aging in dry heat	1000h at 125ºC; Resistances after aging: ● Contact ≤0.72mΩ ● HVIL-Contact ≤15mΩ ● Shielding cable – aggregate <7mΩ Functionality; Contact Removal forces acc. E8.2	LV215-2 DIN EN 60068-2-2
PG 22B CHEMICAL RESISTANCE		
B 22.1B Chemical Resistance (water-tight design)	Application of media for 48h at specified temperature; only tested at single parts No textural or dimensional change, no impairments of function Insulation resistance >100MΩ	LV214

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PG 23 WATER - TIGHTNESS		
B 19.3 Aging in dry heat	120h at 125ºC	DIN EN 60068-2-2
B 19.1 Temperature shock	Period: 144 cycles -40ºC / +125ºC each 15min	DIN EN 60068-2-14
B 23.1 Immersion with pressure difference	Low pressure: -100mbar, holding time 5min. -500mbar, holding time 5min.	LV214 DIN EN 60512-14-5
B 23.2 Immersion with pressure difference	Movement of cable at low pressure: -100mbar, holding time 5min. -500mbar, holding time 5min.	LV214 DIN EN 60512-14-5
B 23.3 Thermal shock test	30min. in 120ºC air; 15min in 0ºC Water: 5 cycles	LV214
B 23.4 Degree of protection test / pressure washer test	Severity: IP X9K Test duration per side: 15s Distance to nozzle: 10-15cm Pressure: 80 bar Temperature: 80ºC	LV214 DIN 40050-9
E 0.3 Insulation resistance	Insulation resistance at 1000VDC: >200MΩ	LV215-2 DIN EN 60512-3-1
PG 28 LOCKING NOISE		
E 28.1 Locking noise	Locking noise ≥70dB(A)	LV214

PG 50 EMC - ELECTROMAGNETIC COMPATIBILITY		
PG 50 EMC- Electromagnetic compatibility	**Frequency** / **Delta-Transferimpedance** 2MHz / <10mΩ 30MHz / <60mΩ	VG 95214-11 LV 215-1 LV215-2
PG 51 IP PROTECTION OPEN CONNECTOR		
PG51 Protection open connector	IP-Protection IPXXB, un-mated (VDE test finger ø12mm) IP-Protection IPXXD, mated	ISO 20653

3.6 Additional Test Procedures and Test Results

Table 7: Additional test requirements

Test Description	Requirement	Procedure
A1 Crimp validation	Pull-out force of isolation crimp: 140N Pull-out force of shield crimp: 280N Cross section examination: crimp sleeves are well formed	TE-Spec. 109-18212
A2 Retention force further connector parts	Protection cover for single wire seal: 500N Compression limiter (header): 50N Finger protection cap (2141159/2303272): 120N Header Shielding sleeve : >100N	DIN IEC 60512-8
A3 Insertion force further connector parts	Insertion force Protection cover for single wire seal: <50N Finger protection cap (2141159/2303272):<50N	DIN IEC 60512-8

4. QUALITY ASSURANCE PROVISIONS

4.1 Qualification Testing

The samples shall be prepared in accordance with product drawings. They shall be selected at random from current production.

4.2 Requalification Testing

If changes significantly affecting from, fit, or function depending on the product or manufacturing process, product engineering shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality, and reliability engineering.

4.2.1 Acceptance

Acceptance is based on verification that the product meets the requirements of chapter 4. Failures attributed to equipment, test setup, or operator deficiencies shall not disqualify the product. When product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before resubmittal.

4.2.2 Quality Conformance Inspection

The applicable quality inspection plan will specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.

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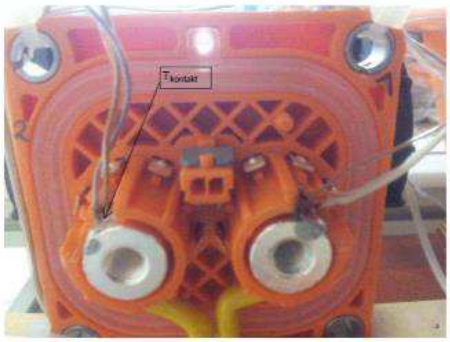
5. APPENDIX

5.1 Housing influence on derating: 2pos connector

Derating inside housing: Current at contact with load at shield

80% Characteristic curve of measured value, cable length according to DIN EN 60512-5-2

Test setup



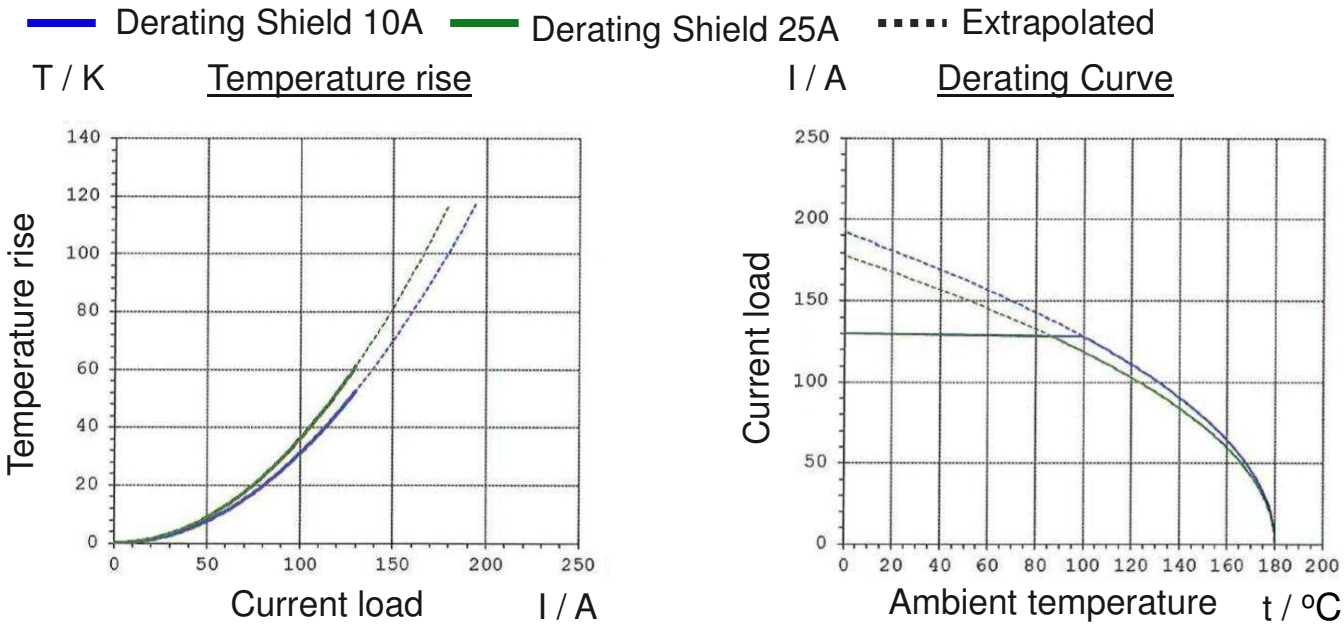


Figure 1: 2pos, 25 mm² (Coroplast-No. 9-2611) Derating and temperature rise – current at contact

HVP800 2PHI AND 3PHI 90º

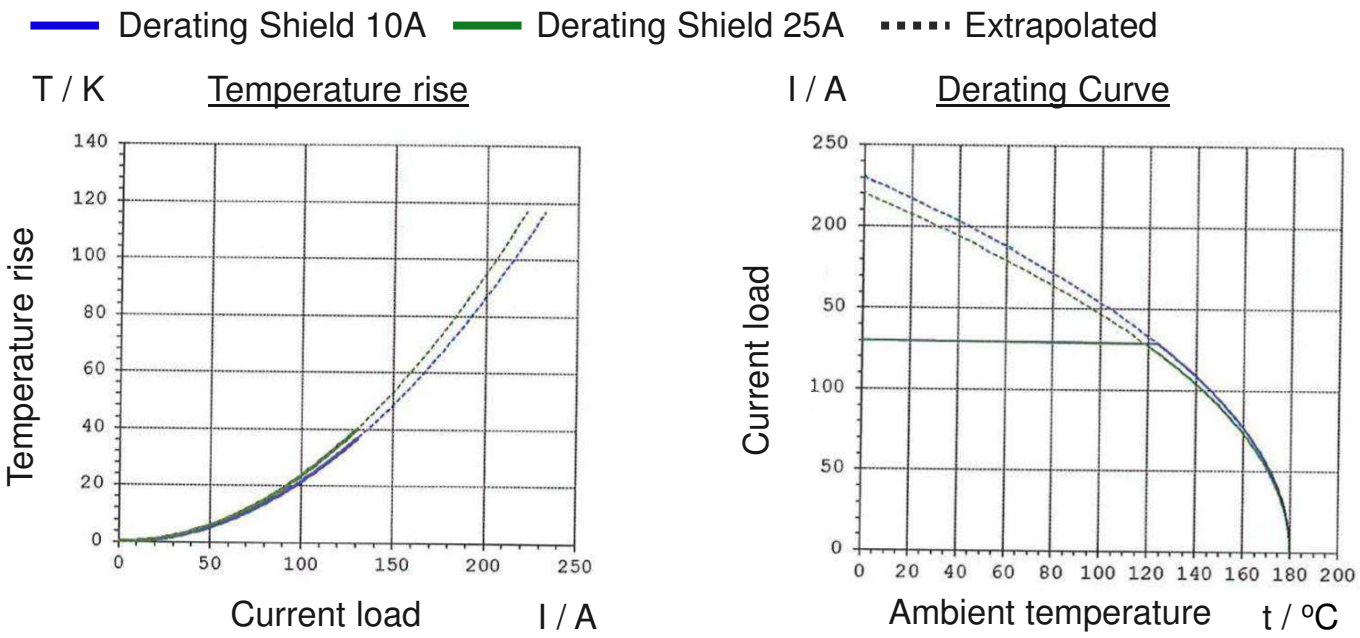


Figure 2: 2pos, 35 mm² (Coroplast-No. 9-2611) Derating and temperature rise – current at contact

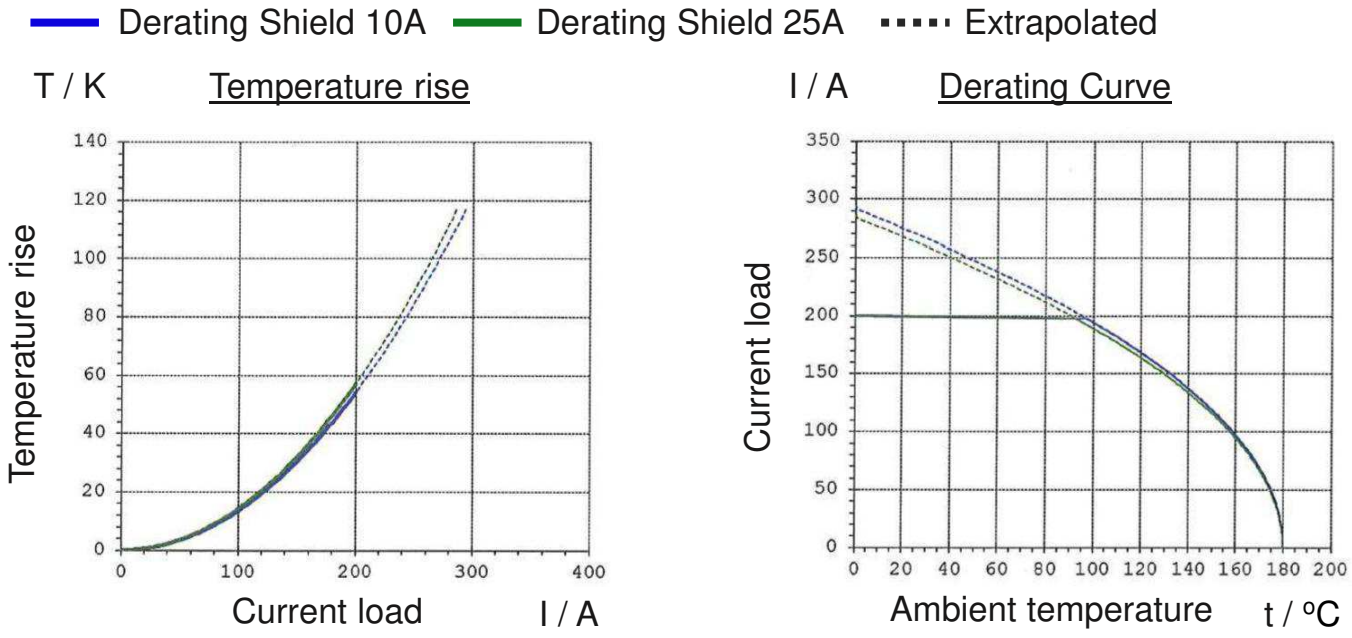


Figure 3: 2pos, 50 mm² (Coroplast-No. 9-2611) Derating and temperature rise – current at shield

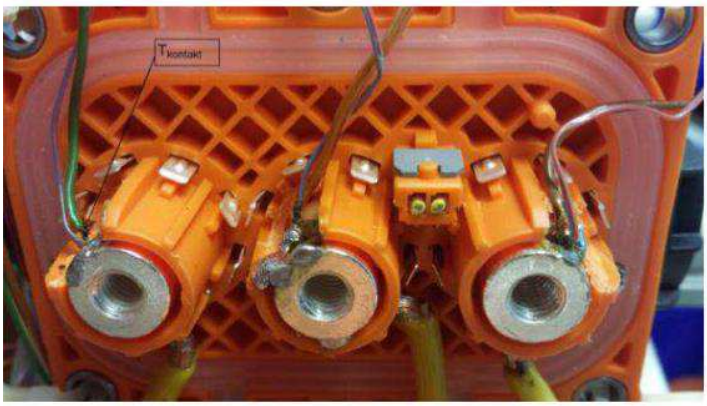
HVP800 2PHI AND 3PHI 90º

5.2 Housing influence on derating: 3pos connector

Derating inside housing: Current at contact with load at shield

80% Characteristic curve of measured value, cable length according to DIN EN 60512-5-2

Test setup



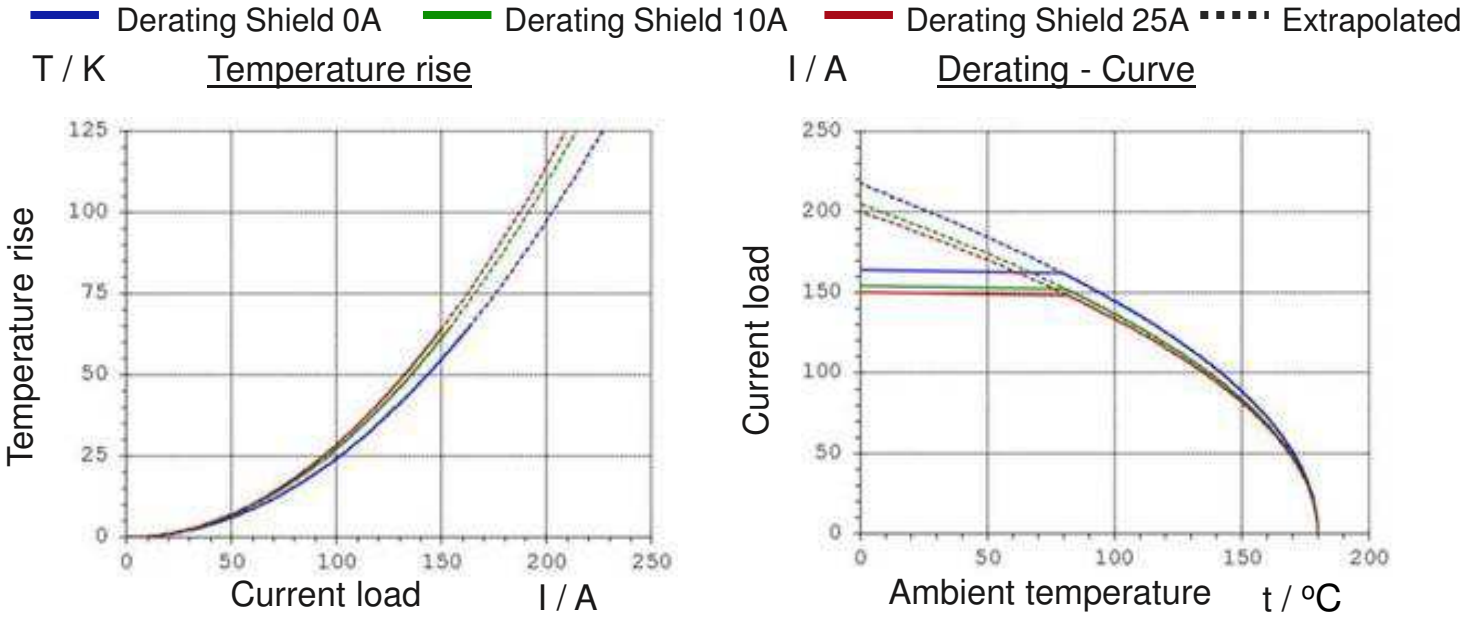


Figure 4: 3pos, 25 mm² (Coroplast-No. 9-2611) Derating and temperature rise – current at contact

HVP800 2PHI AND 3PHI 90º

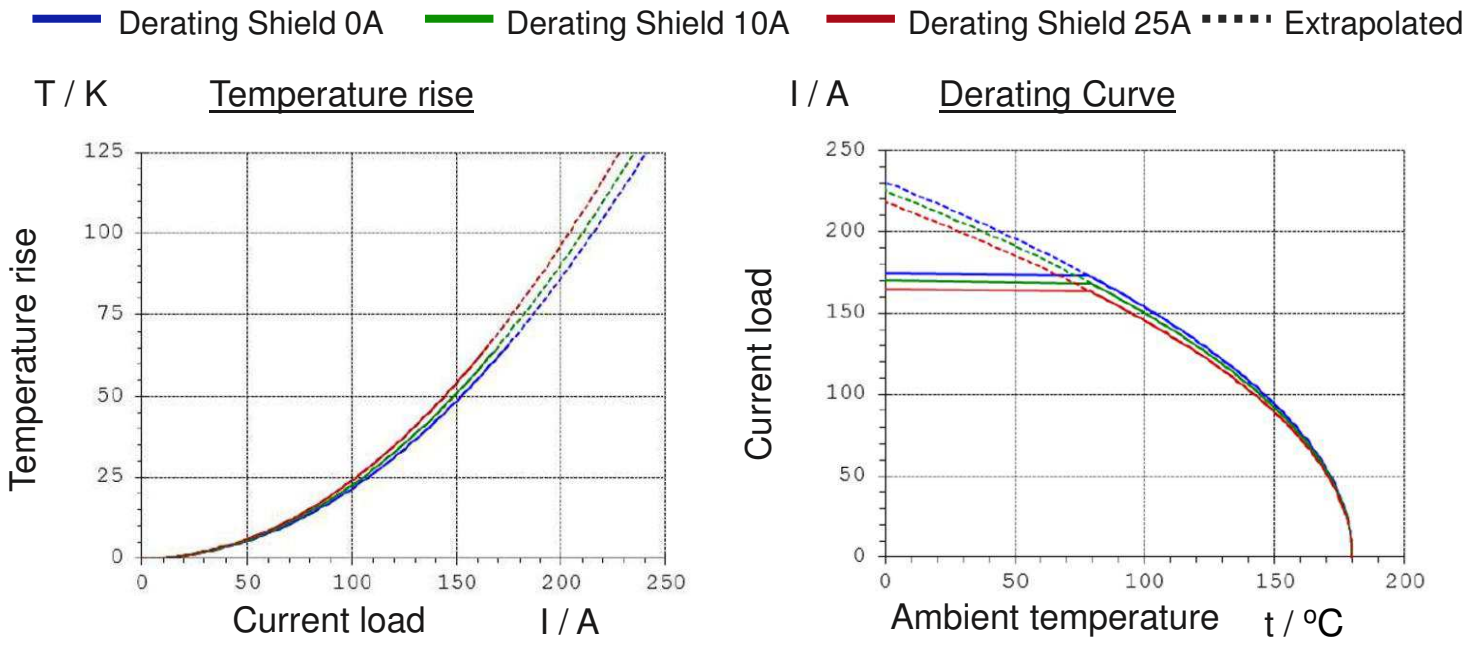
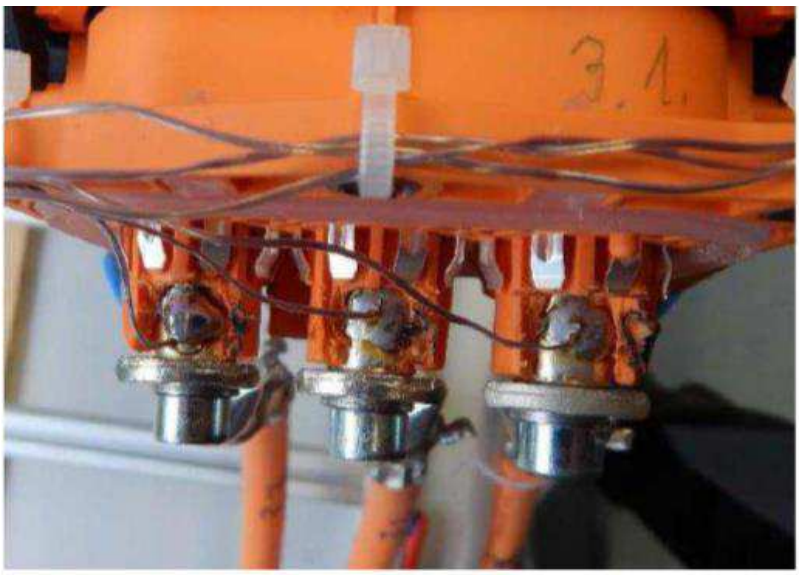


Figure 5: 3pos, 35 mm² (Coroplast-No. 9-2611) Derating and temperature rise – current at contact

HVP800 2PHI AND 3PHI 90º

Test setup



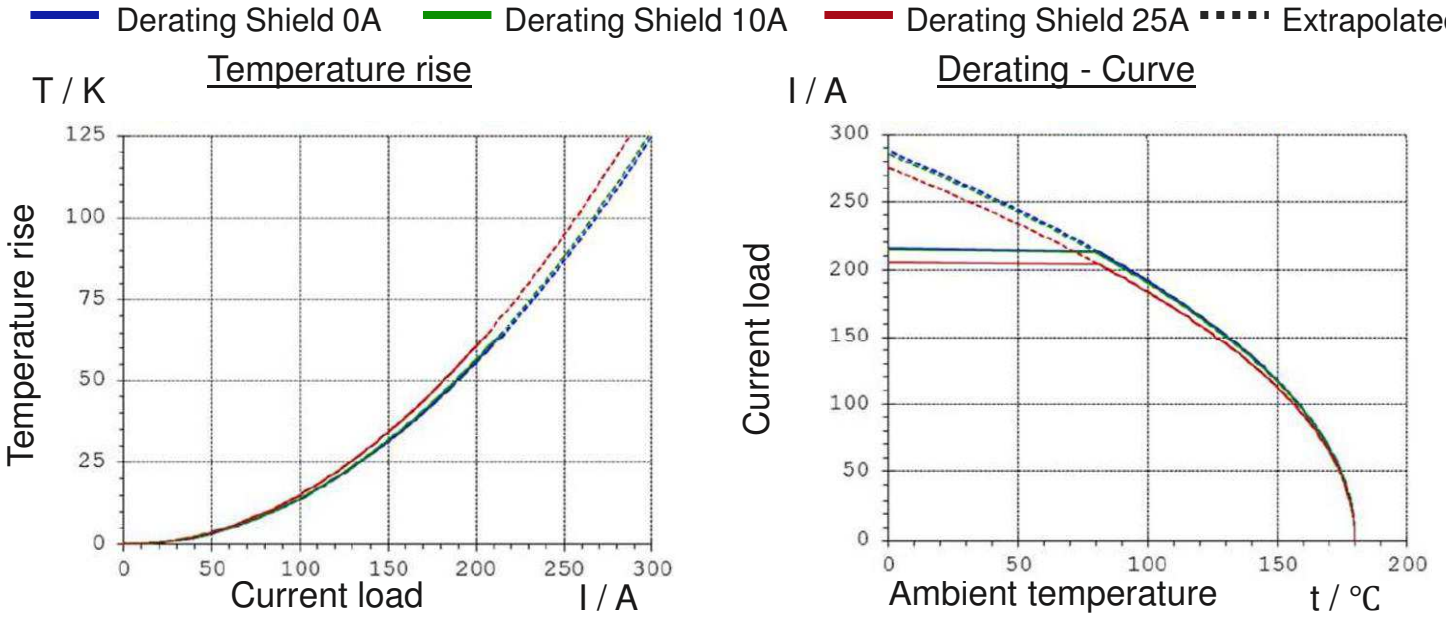


Figure 6: 3pos, 50 mm² (Coroplast-No. 9-2611) Derating and temperature rise – current at contact

5.3 Dynamic load

Dynamic load acc. LV214 (release 03.2010)

Design of vibration device (see picture 7)

2 and 3pos. connector

Coroplast 50mm² acc. to Coroplast-No.: 9-2611 / 50mm², Version A4

Cable fixed after Dimensioning

A=100mm

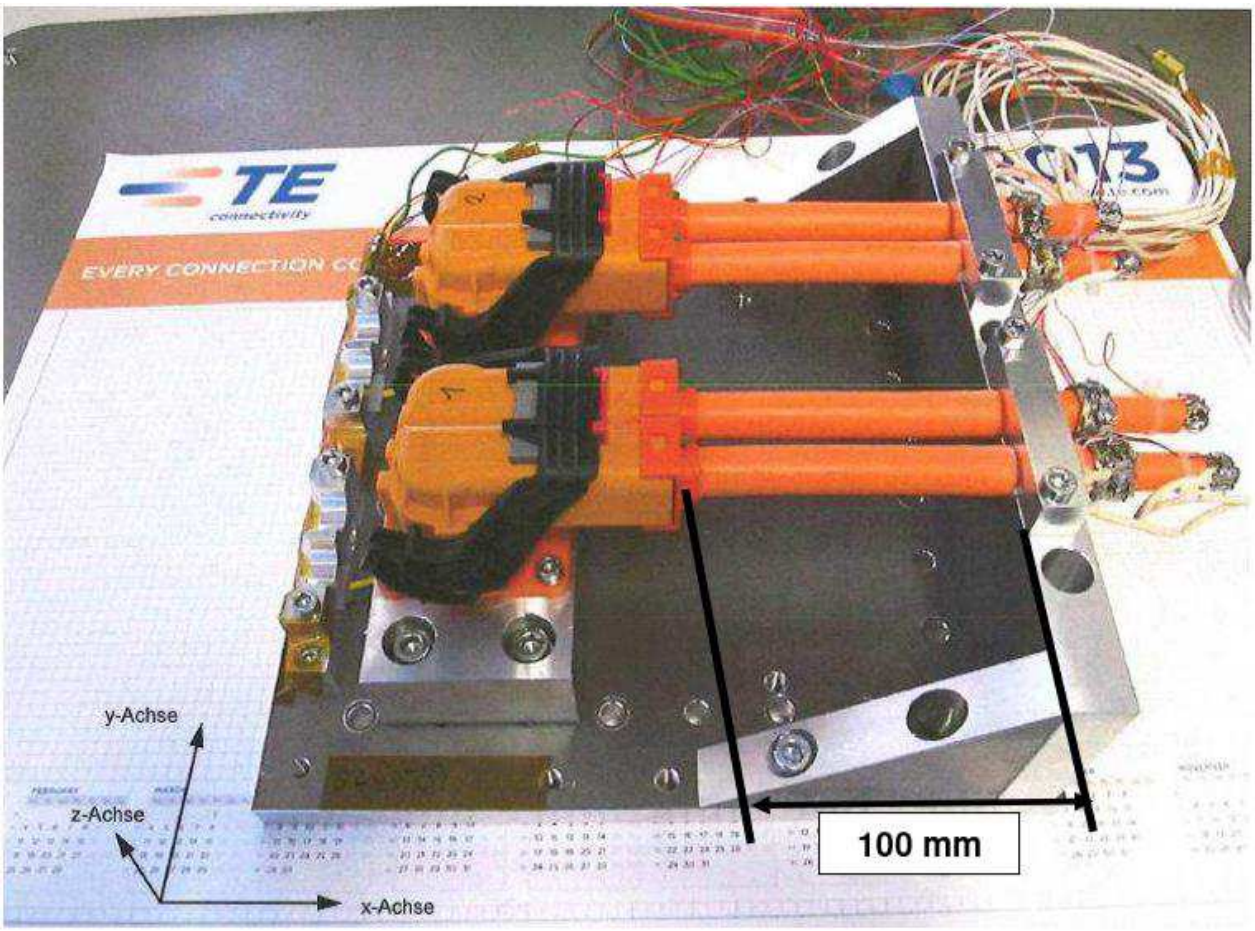


Figure 7: Vibration device (exemplary view at 2pos. connector)

HVP800 2PHI AND 3PHI 90º

5.4 Contact engagement length

A	Contact overlap – power contact	≥ 1mm
B	Contact overlap – HVIL contact	≥ 1mm
	Interlock Disconnected advanced by pull-out process	≥ 1mm

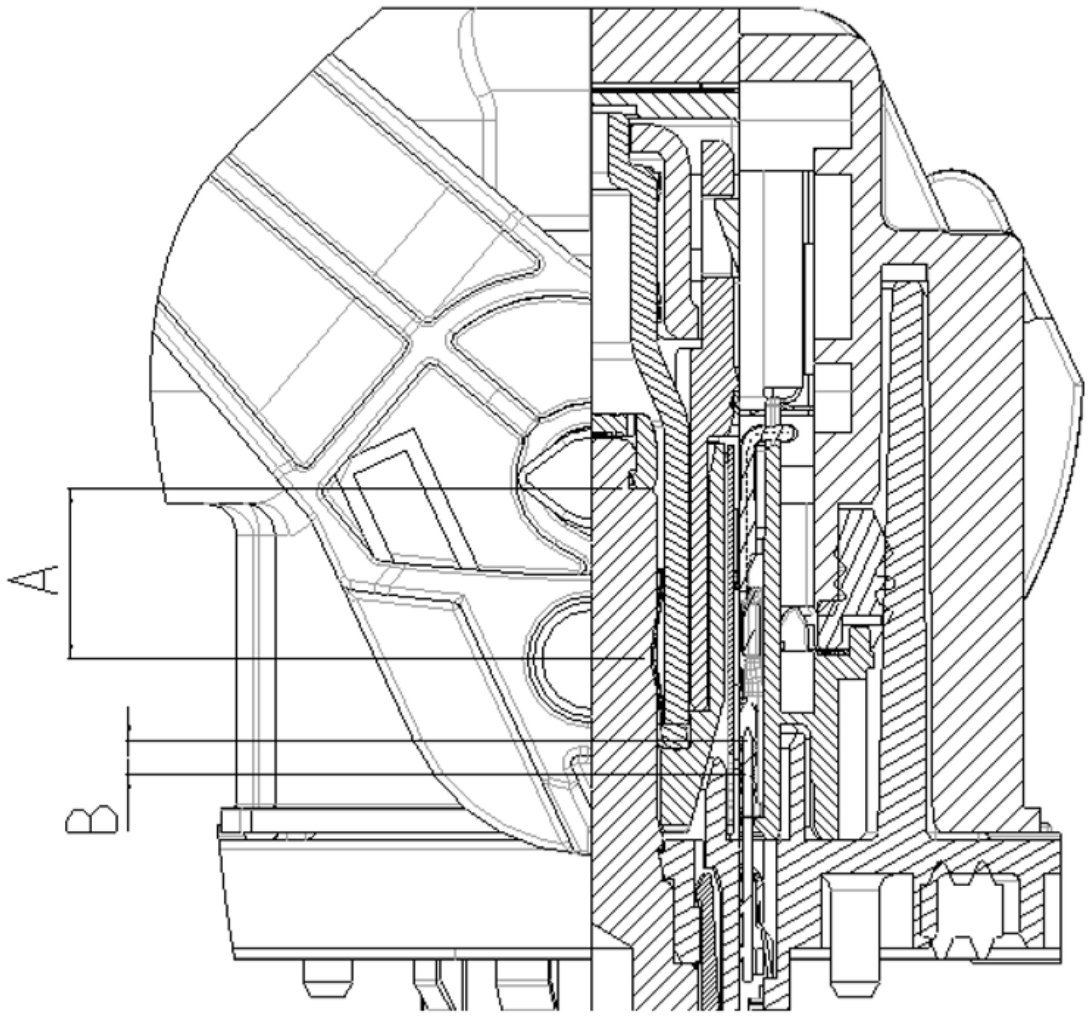


Figure 8: Contact engagement length

5.5 Strain Relief

System is validated with strain relief at 100mm. Each application has to be evaluated independently with regards to the external influences on the system. Having strain relief, which moves with the connector body, close to the end of the connector will have a positive influence on the performance of the connector. Have strain relief further from the end of the connector or that moves independent of the connector body will have a negative influence on the performance of the connectors.

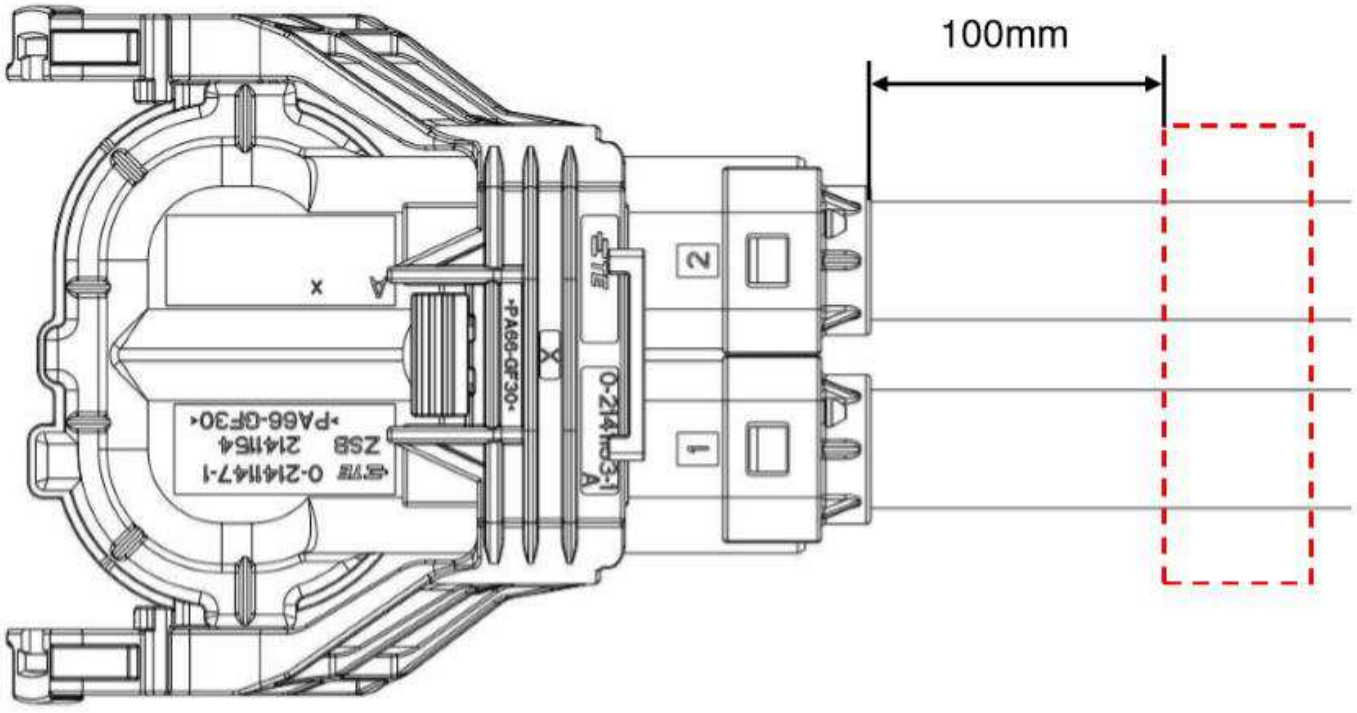


Figure 9: Recommended requirement for strain relief