AMPHENOL PCD



EXCEL | MATE MSD

Manual Service Disconnect

Ref. No: MSD-1126

www.amphenolpcd.com.cn

HIGHPOWER @AMPHENOL TRUSTED GLOBALLY

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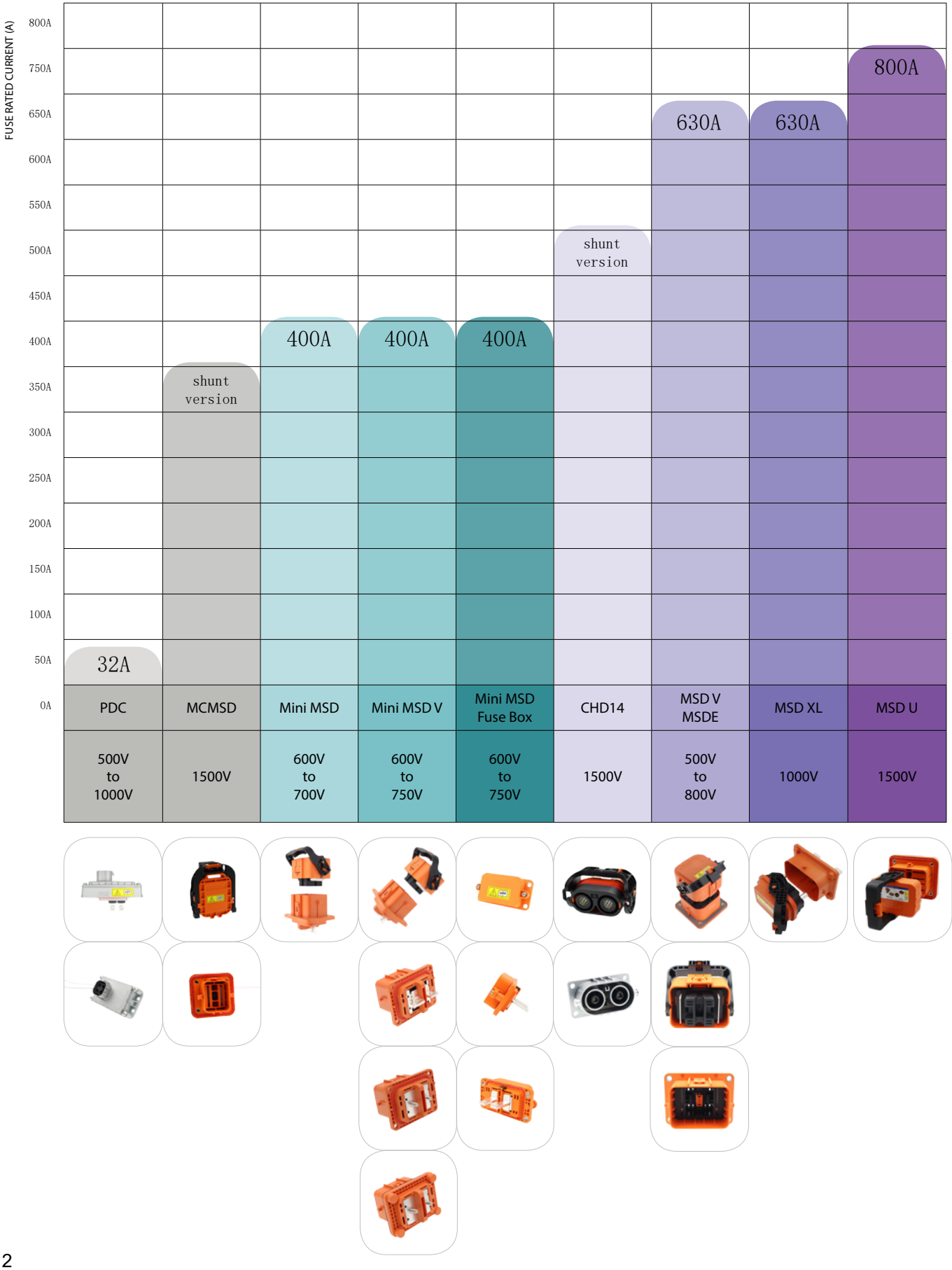
PRODUCT DIMENSIONS 28
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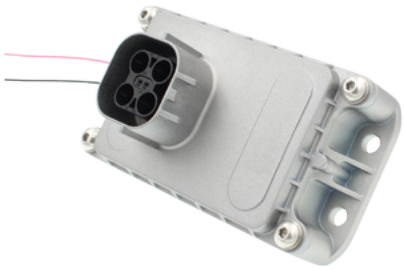
CHD SERIES - CHD14 2-PIN **SHUNT** 35

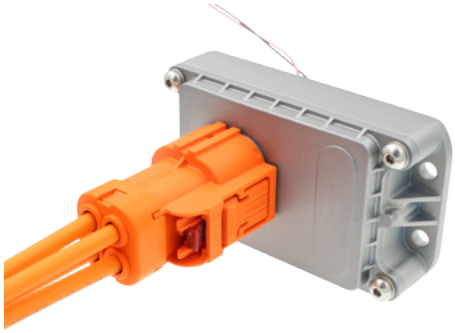
EXCEL|MATE MSD



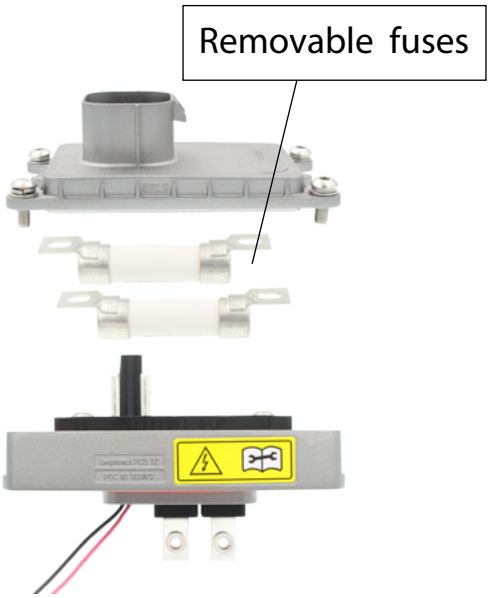
EXCEL|MATE PDC - TECHNICAL CHARACTERISTICS



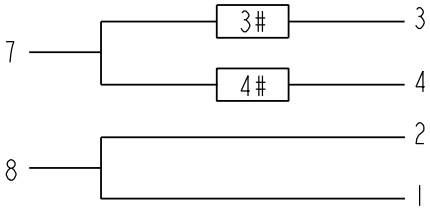




DESCRIPTION	
This Power Distribution Connector (PDC) finds its best use in the case where the PDU is already fully integrated into the Battery Pack. Without a PDC, we would need to entirely disassemble the Battery Pack to replace a blown fuse. However, using a PDC with removable fuses makes the replacement of blown fuses much more accessible and effortless.	
ELECTRICAL	
Fuse:	10A,15A,16A, 20A, 25A, 30A, 35A, 40A, 50A, 60A
Rated current:	8A to 32A
Rated voltage:	500V, 750V, 850V, 1000V
Wire range:	2.5, 4, and 6 mm^2
ENVIRONMENTAL	
Ambient temperature:	40 to 70°C
Salt spray:	500h/720h
Waterproof (mated):	IP67, IP6K9K
Waterproof (unmated socket):	IP67
MATERIAL	
Housing:	Metallic



BATTERY PACK TO MAIN POWER DISTRIBUTION UNIT – HIGH POWER AUXILIARIES



Positions 3# and 4# can carry busbar or fuses. PDC circuit diagram.



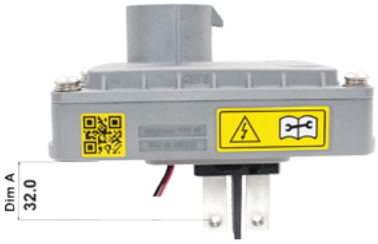
Nut direction: 01



Nut direction: 02



Omit

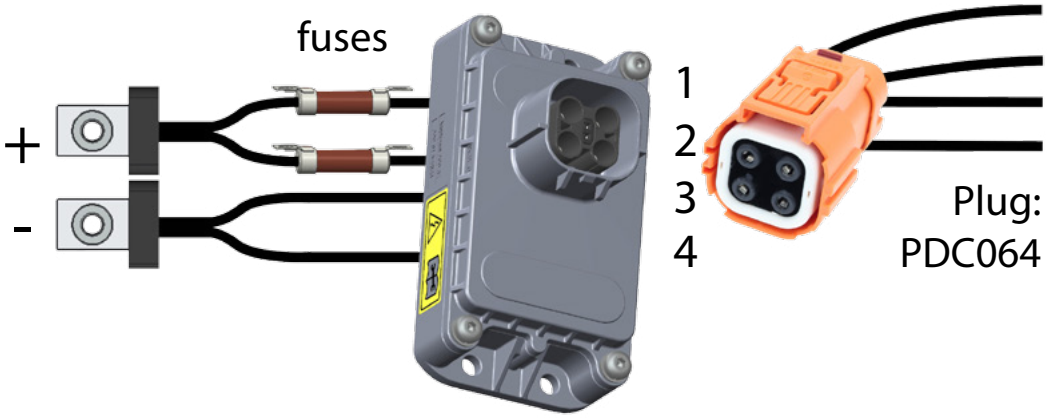


S



A

The PDC connector converts a **2-pin input** into a **4-pin output**.



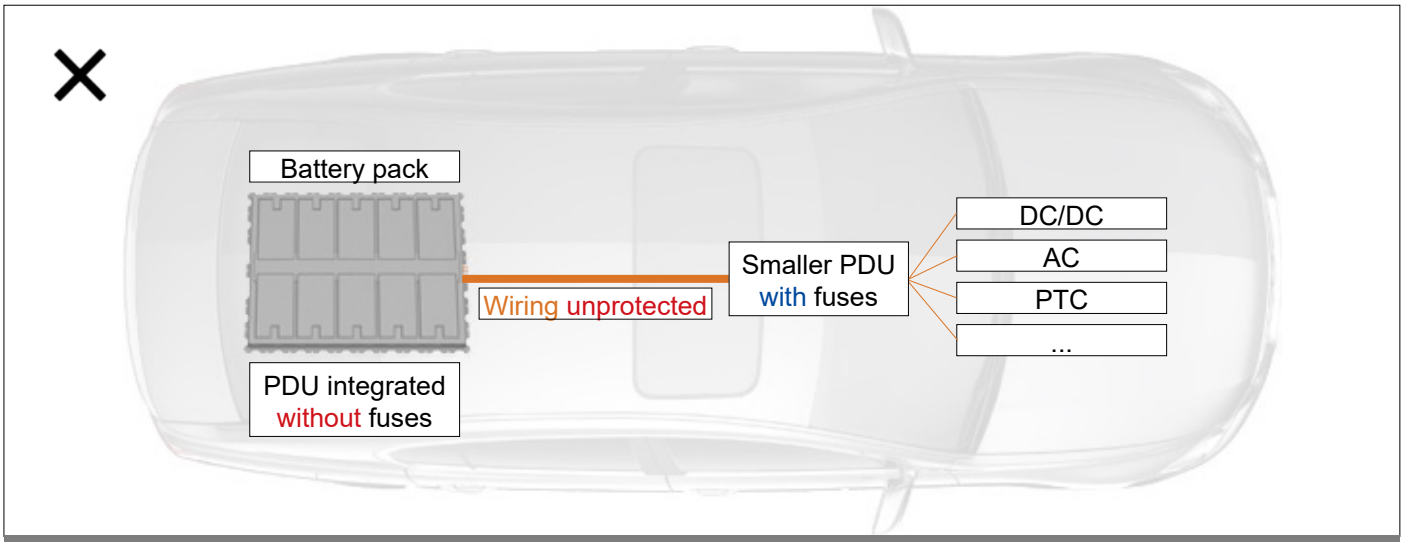
Basically, the PDC is a mini PDU-like type of connector!

Basic structure



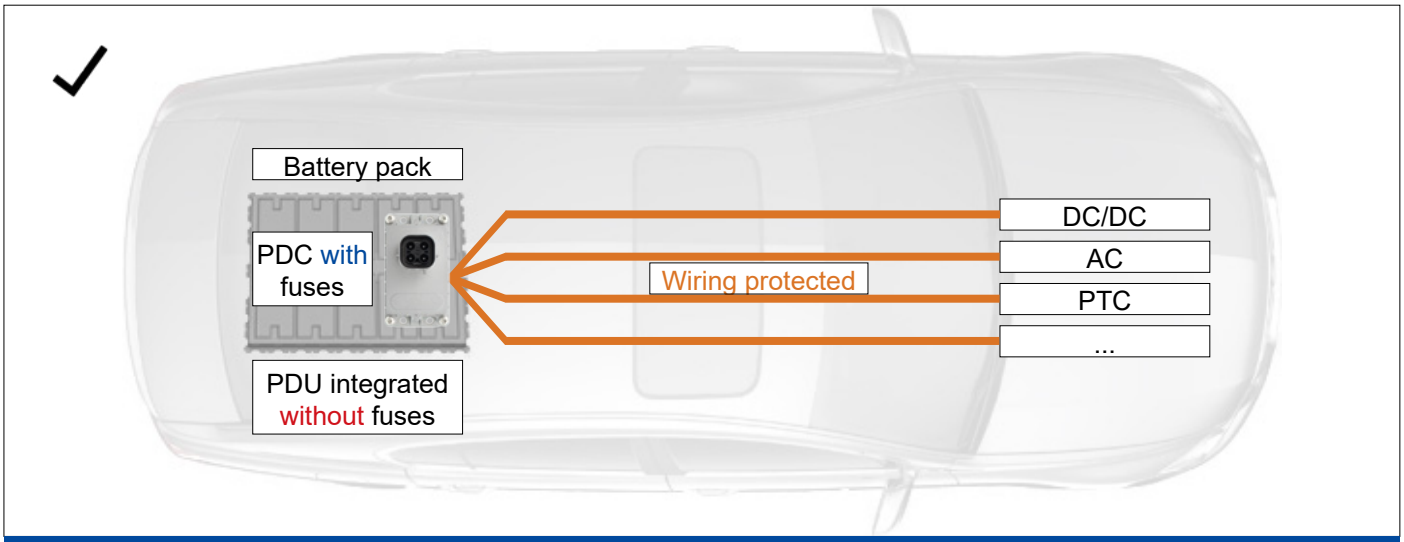
This structure **safely** secures the wiring, but once a fuse blows, its replacement requires a **complex** disassembly of the whole battery pack.

Workaround structure



This workaround structure allows for an **easier** replacement of the fuses, which are placed in an external additional PDU. However, the wiring between the battery pack and this added PDU is **unprotected**.

Optimized structure



By adding a PDC connector to the battery pack, this optimized structure benefits from both a successfully protected wiring as well as an easy and effortless replacement of its fuses.

HOW TO ORDER - EXCEL|MATE PDC

PDC	02	1	1	2	S	3	3	S	02

PDC: Fuse element (silver)
PDCC: Fuse element (copper) (for 850V DC)

02: Socket

Key:
- **1:** Matched PDC 064 Key C
- **2:** Matched PDC 064 Key D

HVIL:
- **0:** Without HVIL
- **1:** With HVIL

Voltage:
- **1:** 1000V DC
- **2:** 750V DC
- **3:** 500V DC
- **4:** 850V DC

Fuse brand:
- **S:** Sinofuse
- **B:** Bussmann

Fuse at position #3:

1: 30A	**6:** 10A
2: 35A	**7:** 16A
3: 40A	**8:** 20A
4: 50A	**9:** 25A
5: 60A	**A:** 15A

Fuse at position #4:

1: 30A	**6:** 10A
2: 35A	**7:** 16A
3: 40A	**8:** 20A
4: 50A	**9:** 25A
5: 60A	**A:** 15A

Copper busbar hole centre to mounting face dimension:
- **Omit:** Dim A 22.0
- **S:** Dim A 32.0, plastic insulating plate added.
- **A:** Dim A 34.0, plastic insulating shroud added.

Nut direction:
- **01:** M4 nut, located below copper bar
- **02:** M4 nut, located above copper bar

Remarks:
1. When a single fuse is loaded, other holes vacant.
2. When two fuses are loaded, the same brand of fuses shall be selected.

FUSE SPECIFICATION

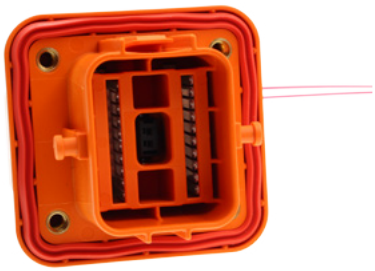
Fuse Specification																					
Voltage	Brand	30A		35A		40A		50A		60A		10A		16A		20A		25A		15A	
		AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current	AVAIL	Rated current
1000V	BUSSMANN			√	25A	√	25A	√	28A												
	SINOFUSE	√	20A			√	25A	√	28A	√	30A	√	8A	√	10A	√	14A				
750V	BUSSMANN	√				√		√		√						√		√		√	
	SINOFUSE	√	20A			√	25A	√	28A			√				√		√		√	
500V	BUSSMANN	√				√		√		√						√		√		√	
	SINOFUSE																				
850V	BUSSMANN	√	12A			√	16A	√	20A												
	SINOFUSE	√				√		√	25A												

Remarks:

√ : Available
Omit: Not available

EXCEL|MATE MCMSD - TECHNICAL CHARACTERISTICS





KEY FEATURE

IP2XB (Socket): Yes

DESCRIPTION	
MCMSD is an Electric Vehicle-friendly connector that has been mainly designed for Energy Storage.	
MECHANICAL	
Mating cycles	≥ 50 cycles
ELECTRICAL	
Rated current:	350A@ ambient temperature 70°C
Rated voltage:	1500V (DC)
Insulation resistance:	200 MΩ Min
Dielectric withstanding voltage:	4000V AC
ENVIRONMENTAL	
Ambient temperature:	-40 to 70°C
Operating temperature:	-40 to 125°C
Waterproof (mated):	IP67, IP6K9K
Touch-proof:	IP2XB
STANDARDS	
RoHS	



Receptacle's **cap**

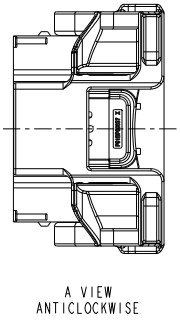
PRODUCT DIMENSIONS

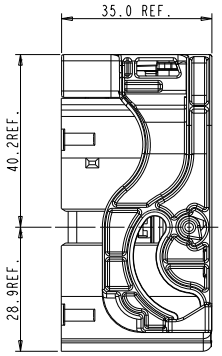
PLUG

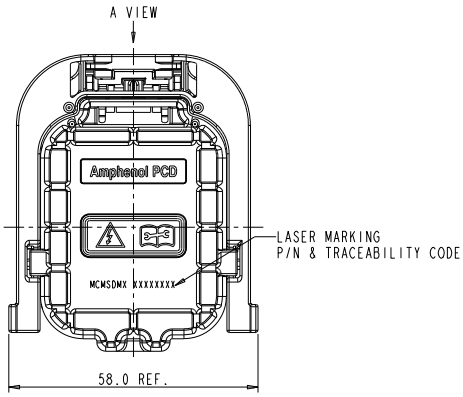


MCMSD	M	X

HVIL code
0: without HVIL
1: with HVIL







RECEPTACLE

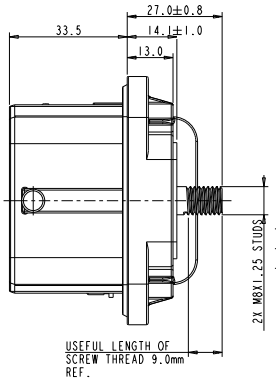


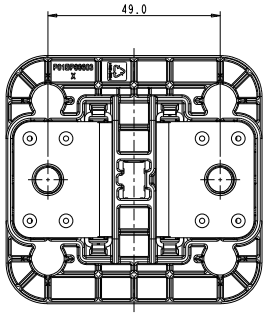
MCMSD	FRS	XX

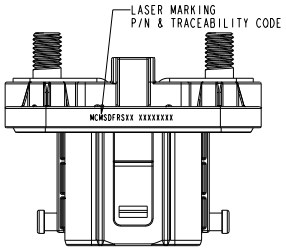
Specification code
01: M8 thread studs

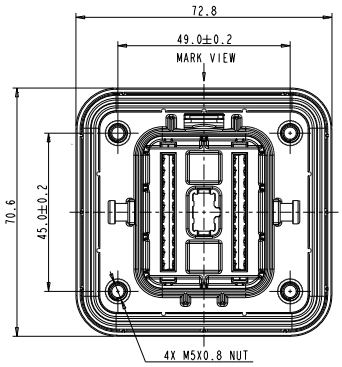
HVIL available for purchase separately.

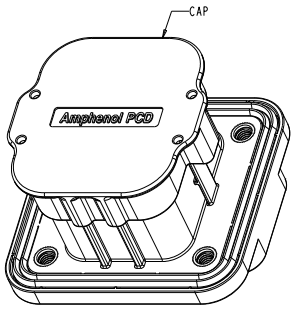
P01BP00604 (1pc)
C310003614S (2pcs)













KEY FEATURES

A two-stage lever provides an HVIL time delay

1 x integrated internal HVIL

Unique cooling structure

Dual-channel design lowers temperature rise

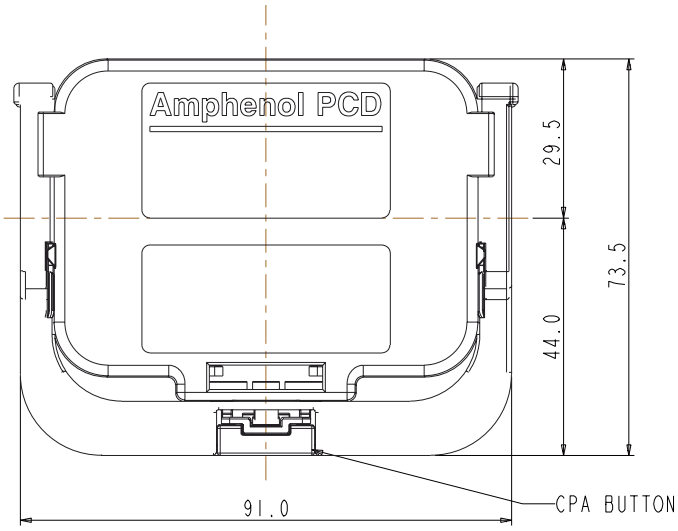
No tools required to unmate

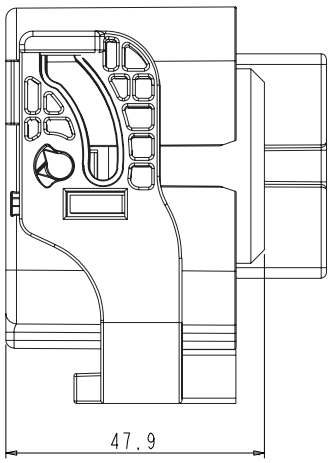
Various fuse ratings

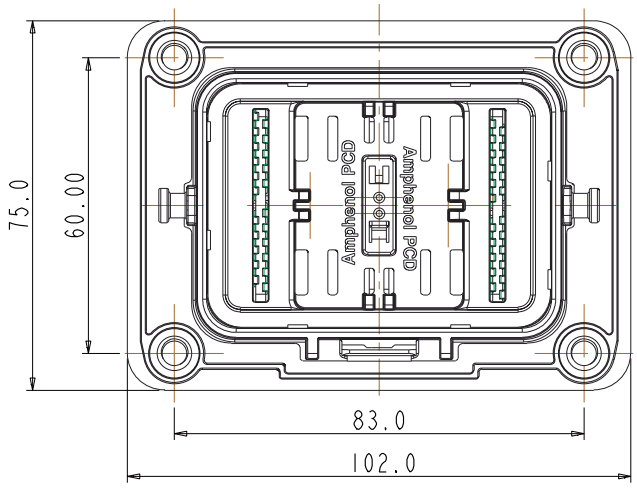
Receptacle can be front or rear mounted

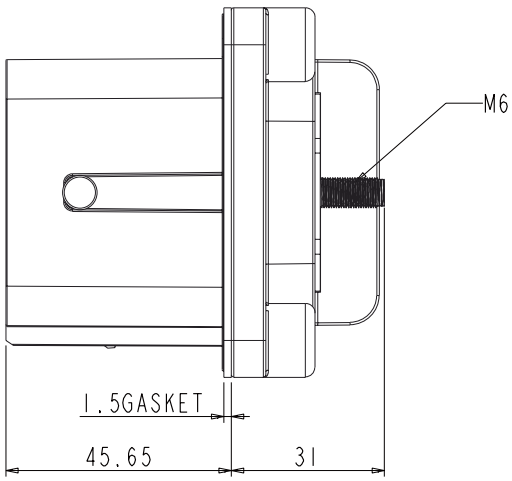
APPLICATION	
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.	
MECHANICAL	
Mating cycles	≥ 50 cycles
ELECTRICAL	
Fuse specification	up to 400A
With fuse:	
Rated current	Current is approximately 1/3 the fuse rating (170A Max)
Rated voltage	600V to 700V DC
With shunt:	
Rated current	170A Max
Rated voltage	1500V DC Max
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
Ambient temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Operating temperature	-40°C to 125°C
Flammability	UL94V0
STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

PRODUCT DIMENSIONS

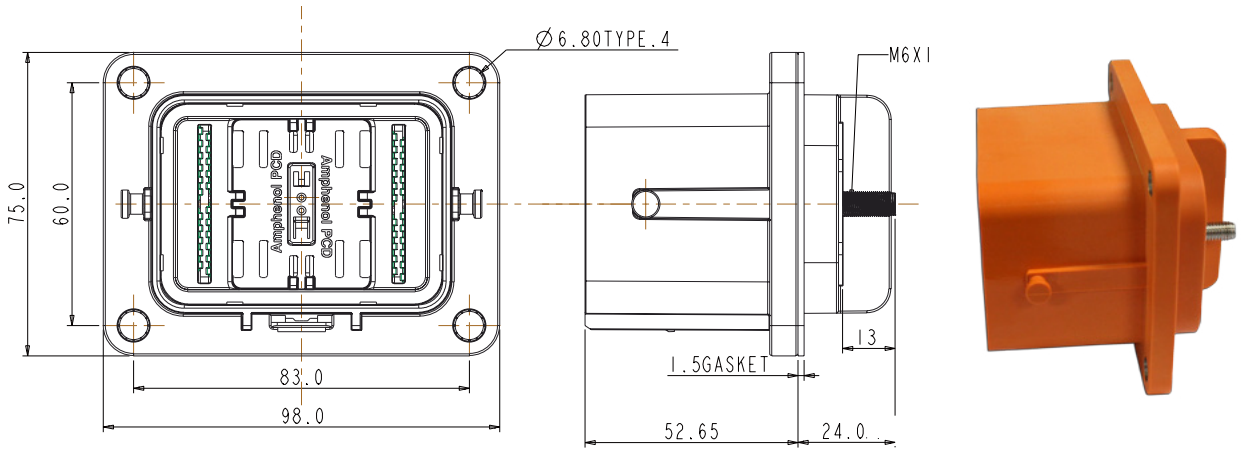




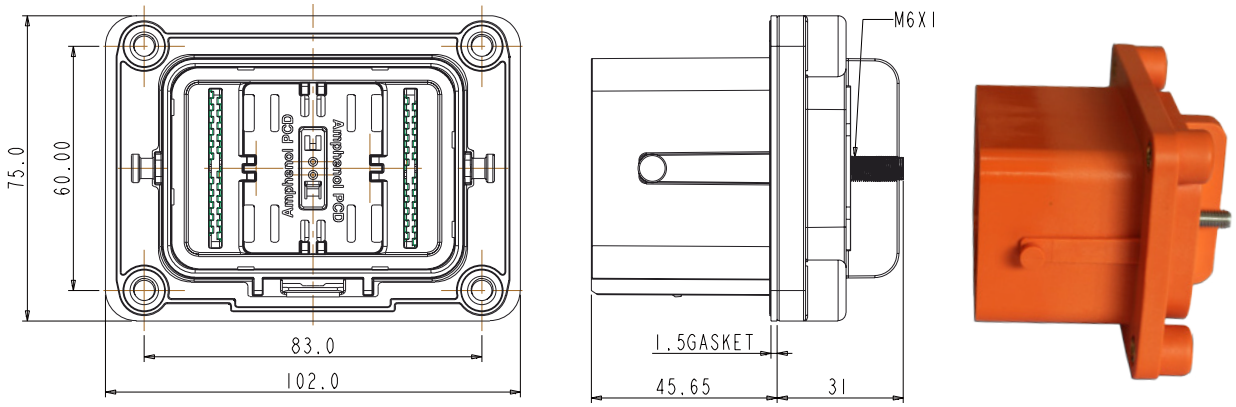




FRONT MOUNTED



REAR MOUNTED



DUST CAP AVAILABLE:
P/N: C270006809



Plug

		MINI MSD	M	200
Shell type: **M:** Plug				
Fuse rating current: **080:** 80A **100:** 100A **125:** 125A **160:** 160A **200:** 200A **250:** 250A **315:** 315A **350:** 350A **400:** 400A **000:** No fuse needed, can directly use the terminal				
Fuse brand : **Bussmann** (by default), other brands, please contact us.				

Receptacle

		MINI MSD	F	000	F
Shell type: **F:** Receptacle					
Fuse rating current: **000:** No fuse needed, can directly use the terminal					
Flange mounted type : **F:** Front mounted **R:** Rear mounted					





KEY FEATURES

A two-stage lever provides an HVIL time delay

1 x integrated internal HVIL

Unique cooling structure

Dual-channel design lowers temperature rise

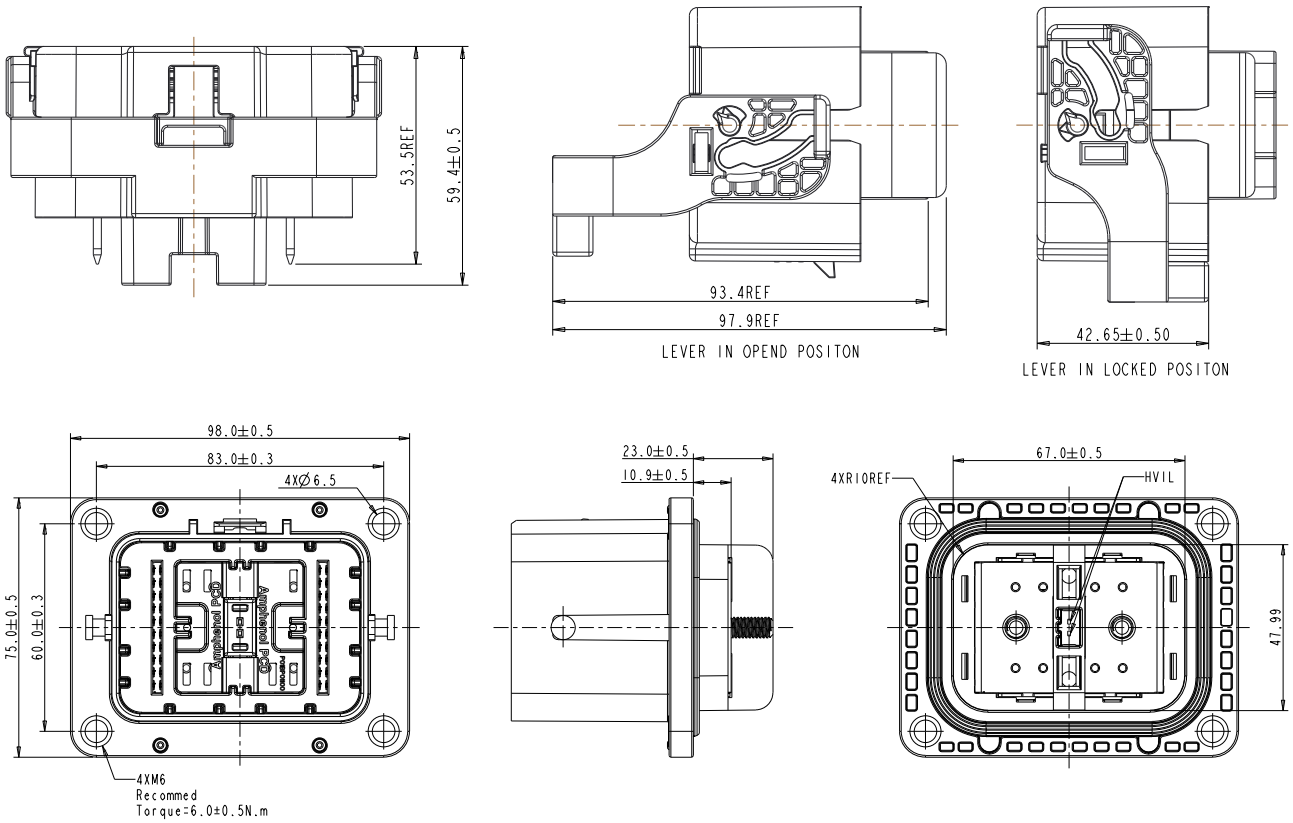
No tools required to unmate

Various fuse ratings

Receptacle can be front or rear mounted

APPLICATION	
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.	
MECHANICAL	
Mating cycles	≥ 50 cycles
ELECTRICAL	
Fuse specification	up to 630A
With fuse:	
Rated current	Current is approximately 1/3 the fuse rating (170A Max)
Rated voltage	500V DC
With shunt:	
Rated current	350A Max
Rated voltage	500V DC Max
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
Ambient temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Operating temperature	-40°C to 125°C
Flammability	UL94V0
STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

PRODUCT DIMENSIONS



HOW TO ORDER - EXCEL|MATE MSDE

Plug

	MSDE	XXX	X

Fuse rating current:
- **500:** Fused 500A
- **630:** Fused 630A
- **000:** Shunt (unfused)

Fuse manufacturer:
- **0:** Shunt (unfused)
- **1:** Fuse from a different manufacturer
- **2:** Fuse from a different manufacturer

Receptacle: Front Mounted Socket

	MSDEF00	F

Flange mounted type:
- **F:** Front Mounting



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Receptacle can be front or rear mounted

APPLICATION	
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.	
MECHANICAL	
Mating cycles	≥ 50 cycles
ELECTRICAL	
Fuse specification	up to 400A
With fuse:	
Rated current	Current is approximately 1/3 the fuse rating (220A Max)
Rated voltage	750V DC
With shunt:	
Rated current	220A Max
Rated voltage	1500V DC Max
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
Ambient temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Operating temperature	-40°C to 125°C
Flammability	UL94V0
STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

HOW TO ORDER - EXCEL|MATE MINI MSD V

Plug: With fuse

MINI MSD	M	2002

Shell type:
M: Plug

Fuse rating current:
0802: 80A
1002: 100A
1252: 125A
1602: 160A
2002: 200A
2502: 250A
3152: 315A
3502: 350A
4002: 400A

Fuse brand:
Bussmann (by default), other brands, please contact us.

Plug: With shunt

MINI MSD	VM	000

Shell type:
VM: Plug, shunt

000: No fuse needed, can directly use the terminal

Receptacle

MINI MSD	V	F	000	F

V: Built-in gasket seal, row connection
V1: Built-in gasket seal, stud connection
V2: Flat gasket seal, stud connection

Shell type:
F: Receptacle

Fuse rating current:
000: No fuse needed, can directly use the terminal

Flange mounted type:
F: Front mounted
R: Rear mounted (only available for V2)

V



V1



V2







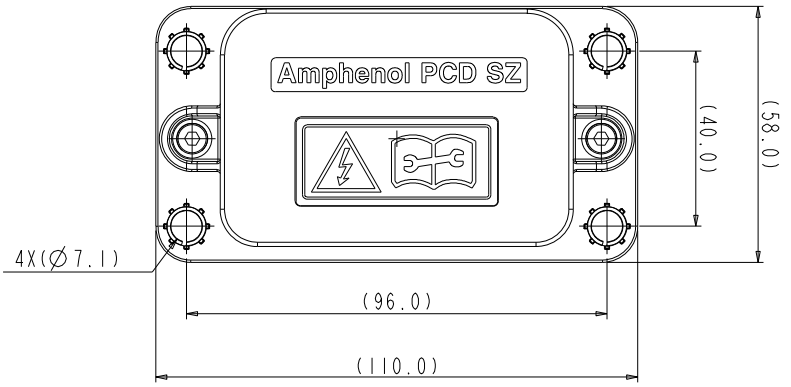


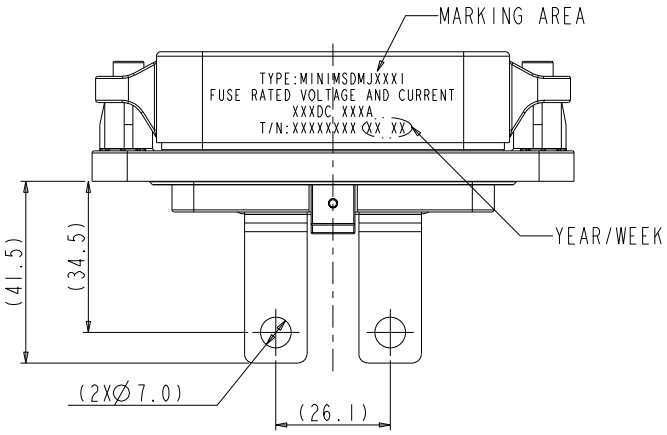
KEY FEATURES

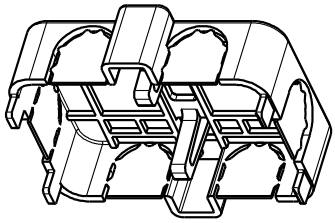
Small in size
Removable housing

DESCRIPTION	
• Small in size • Removable housing	
ELECTRICAL	
With fuse	
Version T (plugged version):	
80A to 315A	700V DC
350A & 400A	600V DC
Version J (screwed version):	
80A to 350A	750V DC
400A	700V DC
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
MATERIAL	
Plastic shell material	PA66+GF
Terminal Material	Copper Alloy
Seal ring material	Silicone rubber

PRODUCT DIMENSIONS

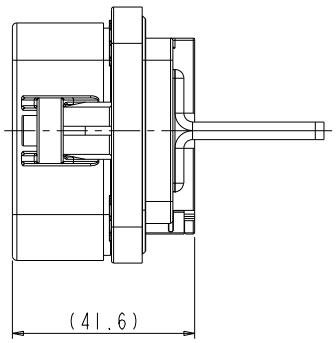


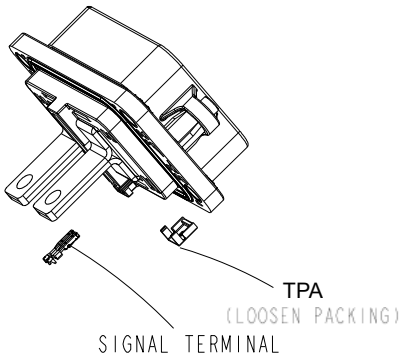




P/N: C220006538

Protective cover for MINI MSD T available to purchase separately.





Signal Terminal (C310003614S) is available for purchase separately.



Version T (plugged version):

	MINI MSD T	080	1

Fuse rating current:
- **080:** 80A
- **100:** 100A
- **125:** 125A
- **160:** 160A
- **200:** 200A
- **250:** 250A
- **315:** 315A
- **350:** 350A
- **400:** 400A

- **1:** Bussmann
- **2:** Sinofuse



Version J (screwed version):

	MINI MSD J	080	4

Fuse rating current:
- **080:** 80A
- **100:** 100A
- **125:** 125A
- **160:** 160A
- **200:** 200A
- **250:** 250A
- **315:** 315A
- **350:** 350A

- **4:** Sinofuse



KEY FEATURES

A two-stage lever provides an HVIL time delay

2 x integrated internal HVIL

Unique cooling structure

Dual-channel design lowers temperature rise

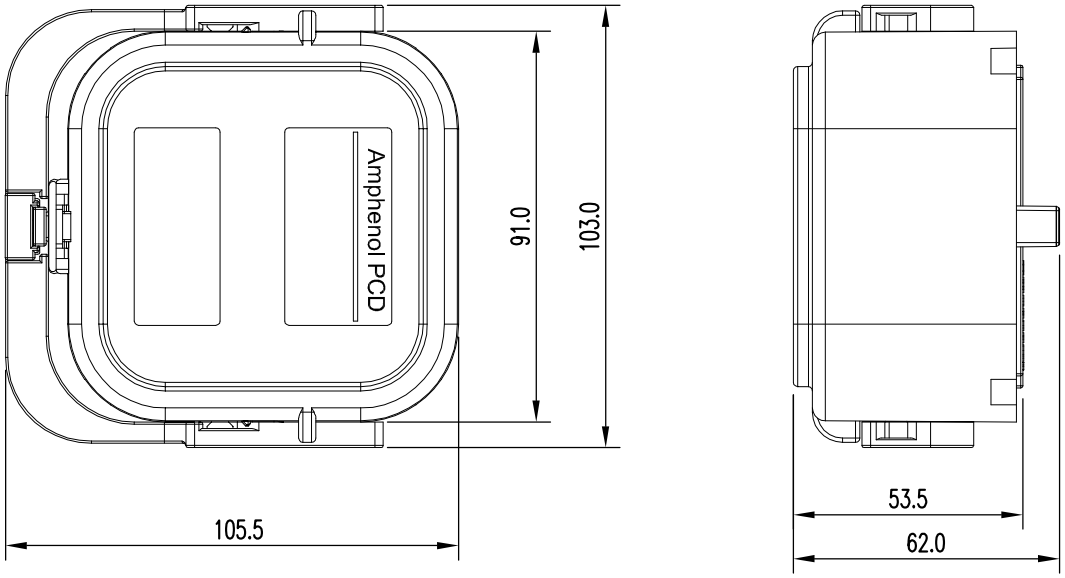
No tools required to unmate

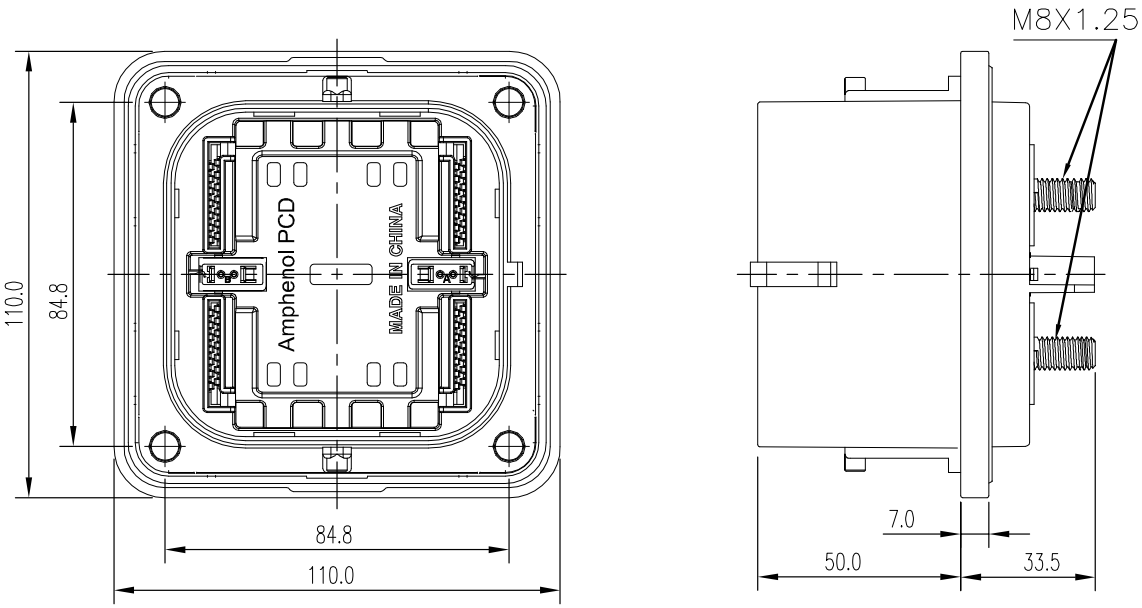
Various fuse ratings

Receptacle can be front or rear mounted

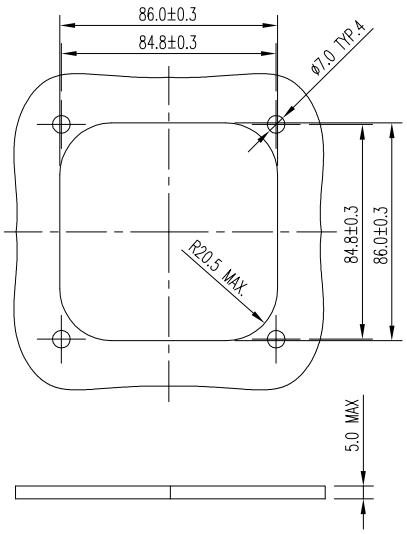
APPLICATION	
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.	
MECHANICAL	
Mating cycles	≥ 50 cycles
ELECTRICAL	
Fuse specification	up to 630A
With fuse:	
Rated current	Current is approximately 1/3 the fuse rating
Rated voltage	500V DC to 600V DC
With shunt:	
Rated current	260A Max @ Ambient 70°C
Rated voltage	1000V DC Max
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
Ambient temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Operating temperature	-40°C to 125°C
Flammability	UL94V0
STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

PRODUCT DIMENSIONS



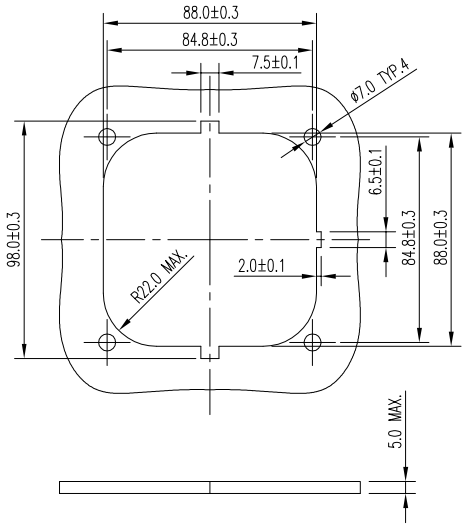


FRONT MOUNTED





REAR MOUNTED





DUST CAP AVAILABLE
P/N: C270006810



Plug

MSD	M	200	1

Shell type:
M: Plug

Fuse rating current:
200: 200A
250: 250A
315: 315A
350: 350A
400: 400A
450: 450A
500: 500A
550: 550A
630: 630A
000: No fuse needed, can directly use the terminal

Fuse brand:
1: Ferraz
2: Bussmann

Receptacle

MSD	F	000	F

Shell type:
F: Receptacle

Fuse rating current:
000: No fuse needed, can directly use the terminal

Flange mounted type:
F: Front mounted
R: Rear mounted

EXCEL|MATE MSD V - TECHNICAL CHARACTERISTICS



MSD V is an upgraded version of the standard MSD.

It provides a rated voltage of 800V and a plug with integrated fuse.The other parameters remain unchanged.

KEY FEATURES

A two-stage lever provides an HVIL time delay

2 x integrated internal HVIL

Unique cooling structure

Dual-channel design lowers temperature rise

No tools required to unmate

Various fuse ratings

Receptacle can be front or rear mounted

APPLICATION	
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.	
MECHANICAL	
Mating cycles	≥ 50 cycles
ELECTRICAL	
Fuse specification	up to 630A
With fuse:	
Rated current	Current is approximately 1/3 the fuse rating
Rated voltage	800V DC
With shunt:	
Rated current	260A Max @ Ambient 70°C
Rated voltage	1000V DC Max
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
Ambient temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Operating temperature	-40°C to 125°C
Flammability	UL94V0
STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

Plug

	MSD V	M	200
Shell type: **M:** Plug			
Fuse rating current: **200:** 200A **250:** 250A **315:** 315A **350:** 350A **400:** 400A **450:** 450A **500:** 500A **550:** 550A **630:** 630A **000:** No fuse needed, can directly use the terminal			
Fuse brand: **Bussmann** (by default)**,** other brands, please contact us.			

Receptacle

	MSD V	1	F	000	F
Contact: **1:** Improved contact conductivity					
Shell type: **F:** Receptacle					
Fuse rating current: **000:** No fuse needed, can directly use the terminal					
Flange mounted type: **F:** Front mounted **R:** Rear mounted					



KEY FEATURES

1 x integrated internal HVIL

Unique cooling structure

High current contacts with Amphenol Radsok technology

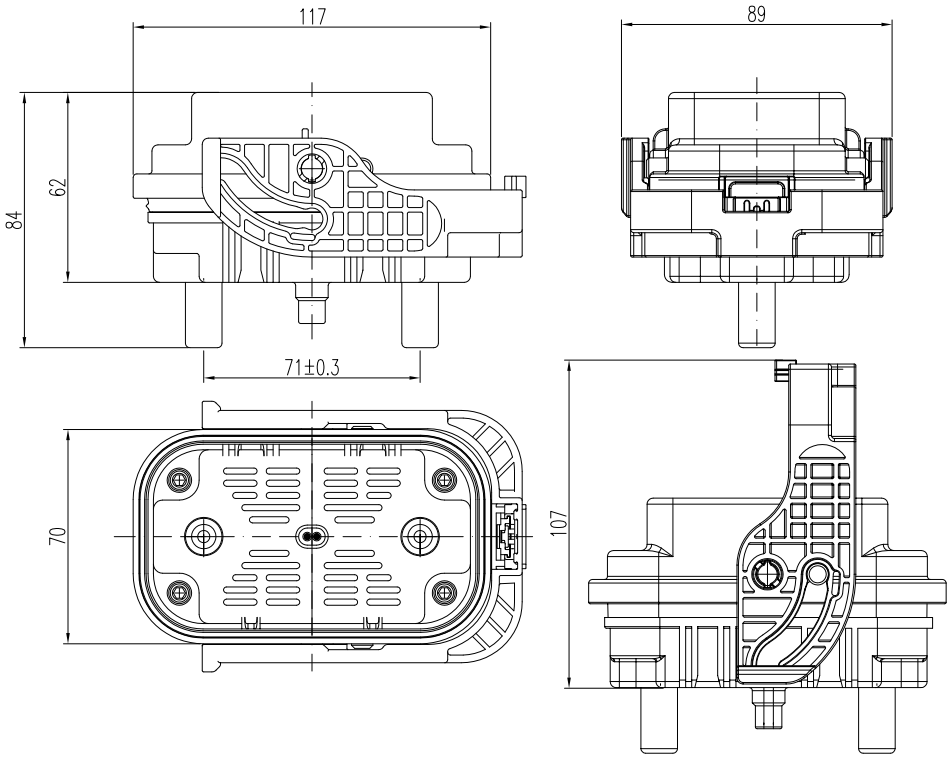
No tools required to unmate

Various fuse ratings

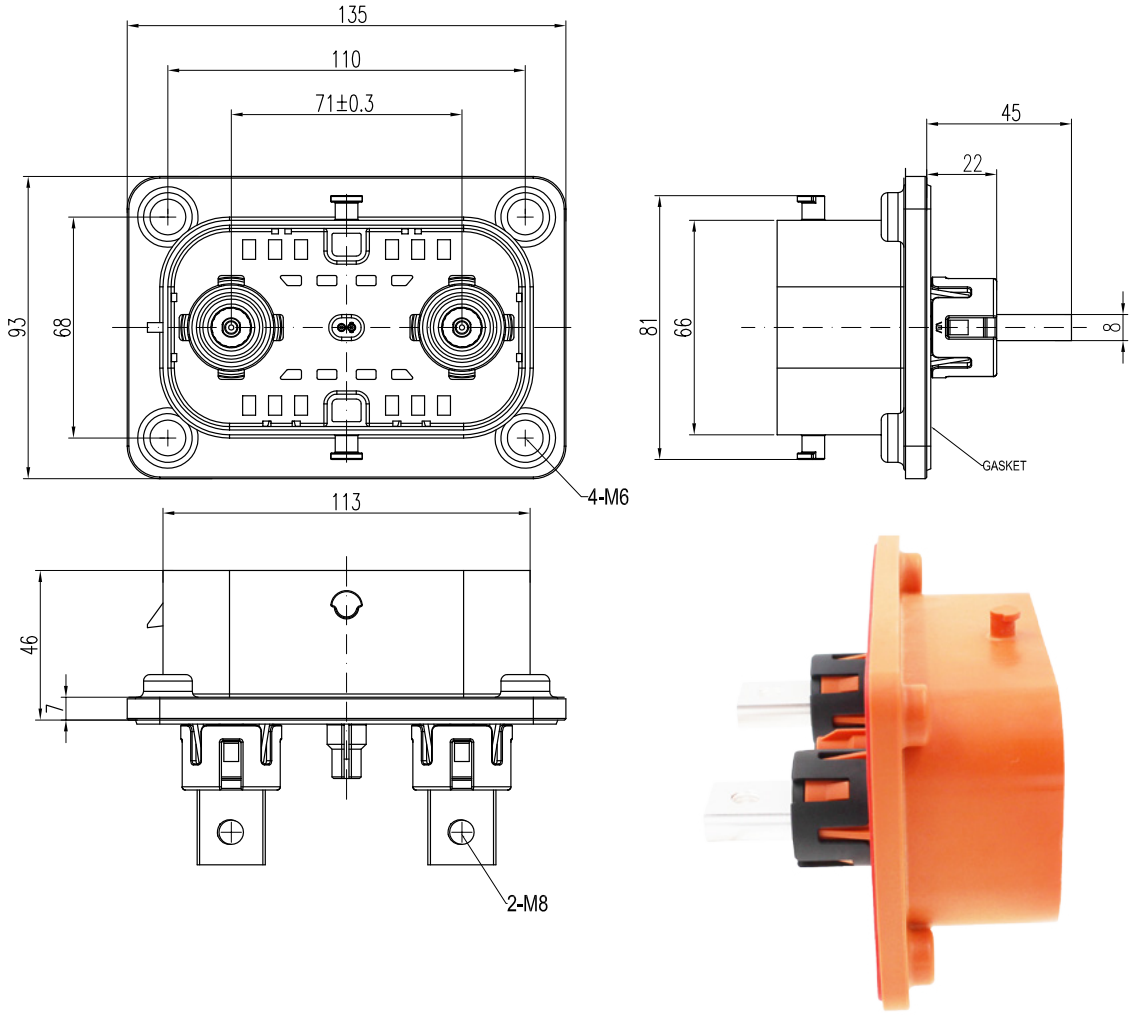
Receptacle can be front or rear mounted

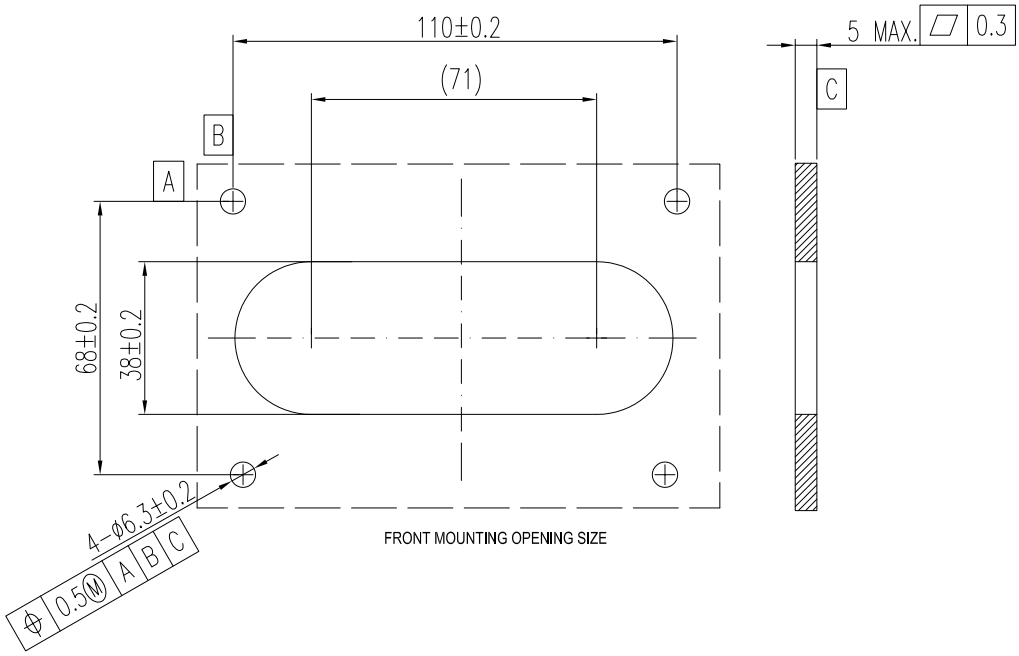
APPLICATION	
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.	
MECHANICAL	
Mating cycles	≥ 500 cycles
ELECTRICAL	
Fuse specification	up to 630A
With fuse:	
Rated current	Current is approximately 1/3 the fuse rating
Rated voltage	1000V DC
With shunt:	
Rated current	350A
Rated voltage	1500V DC Max
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
Ambient temperature	-40°C to 70°C
Storage temperature	-40°C to 85°C
Operating temperature	-40°C to 125°C
Flammability	UL94V0
STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

PRODUCT DIMENSIONS

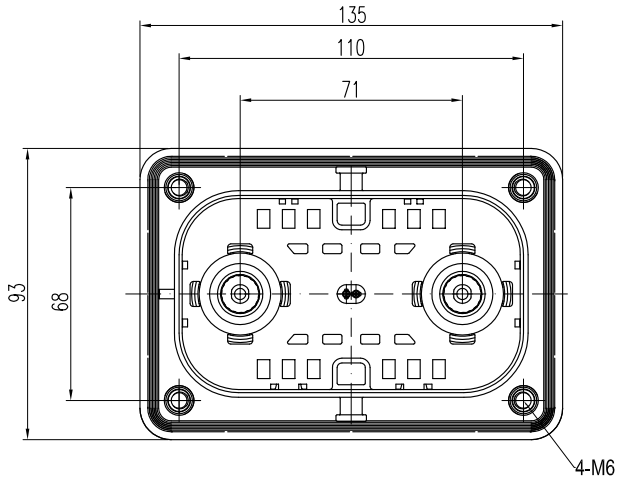


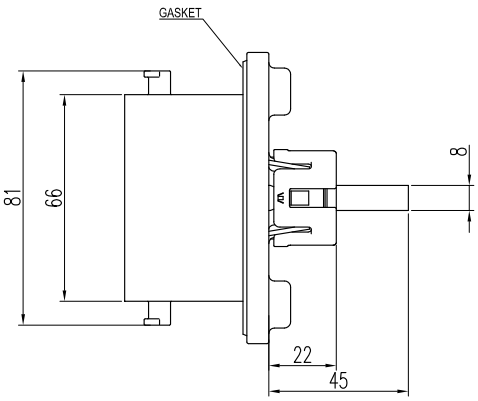
FRONT MOUNTED

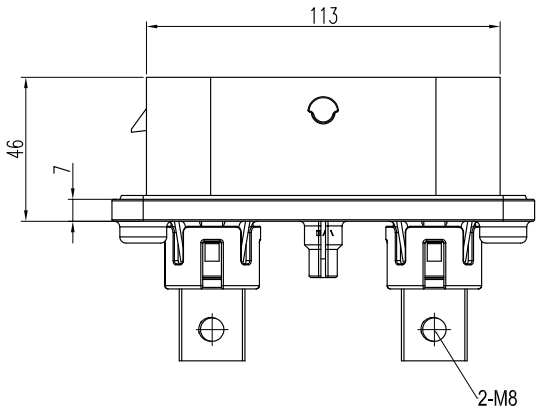




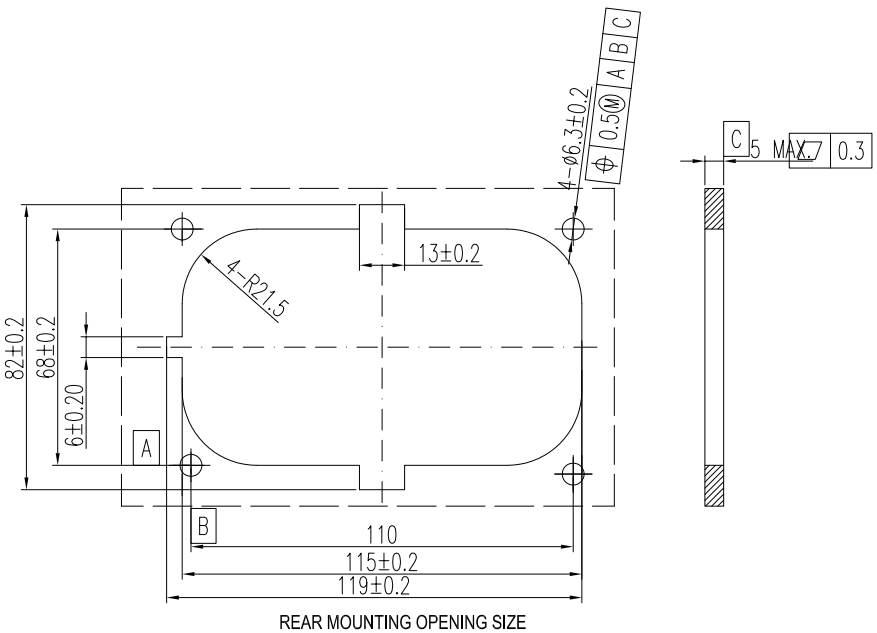
REAR MOUNTED











REAR MOUNTING OPENING SIZE

Plug

MSD XL	M	200
Shell type: **M:** Plug		
Fuse rating current: **160:**160A **200:** 200A **250:** 250A **315:** 315A **350:** 350A **400:** 400A **450:** 450A **500:** 500A **550:** 550A **630:** 630A **000:** No fuse needed, can directly use the terminal		
Fuse brand : **Bussmann** (by default)**,** other brands, please contact us.		

Receptacle

MSD XL	F	000	F
Shell type: **F:** Receptacle			
Fuse rating current: **000:** No fuse needed, can directly use the terminal			
Flange mounted type: **F:** Front mounted **R:** Rear mounted			





KEY FEATURES

1 x integrated internal HVIL

Unique cooling structure

High current contact design

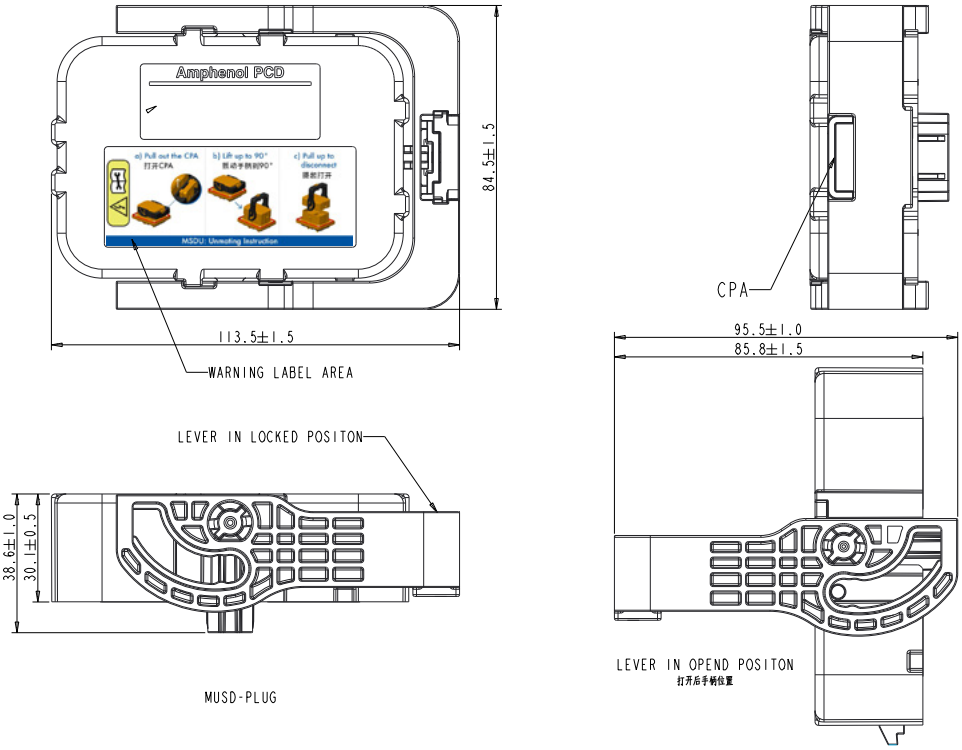
No tools required to unmate

Receptacle can be front or rear mounted

APPLICATION	
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.	
MECHANICAL	
Mating cycles	≥ 50 cycles
ELECTRICAL	
Rated voltage	1500V DC
Rated current	750A@45K 800A@55K
Dielectric withstanding voltage	3000V AC
Insulation resistance	≥100mΩ
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
Ambient temperature	-40°C to 70°C
Operating temperature	-40°C to 125°C
Flammability	UL94V0
STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

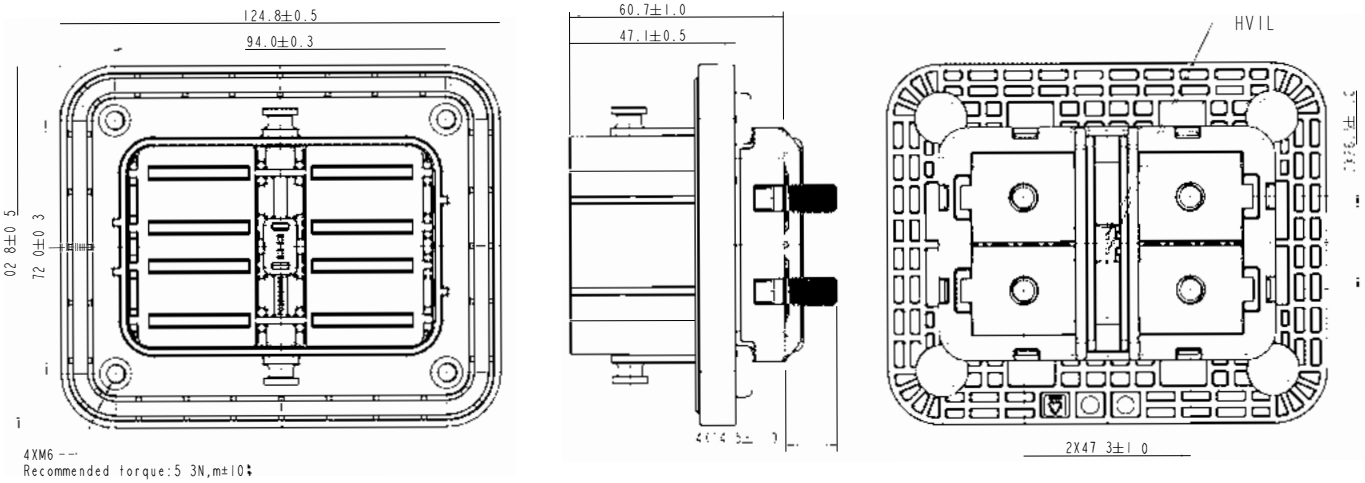
PRODUCT DIMENSIONS

PLUG P/N: MSDU0000

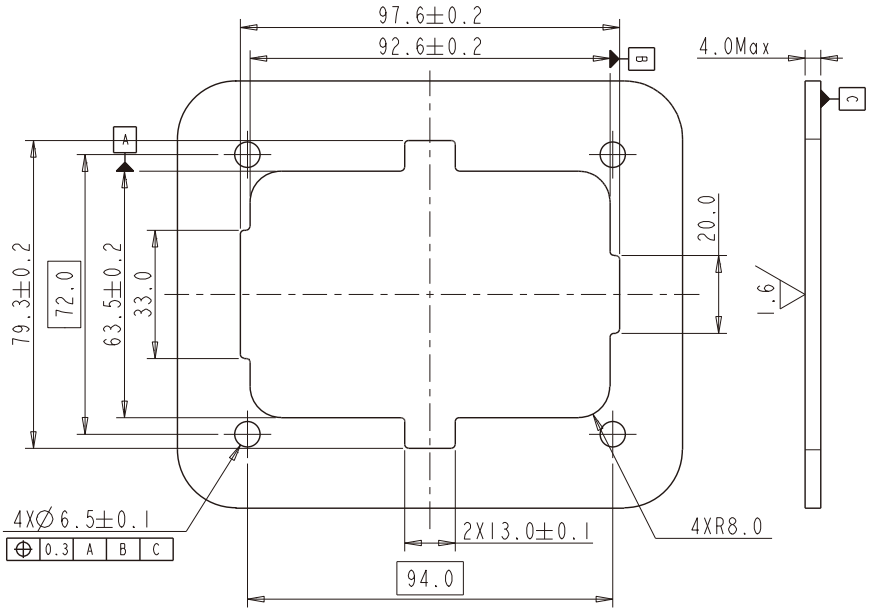


REAR MOUNTED

SOCKET P/N: MSDUF00R



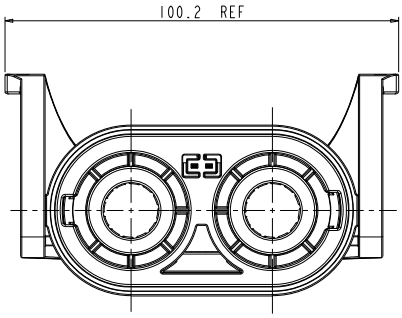


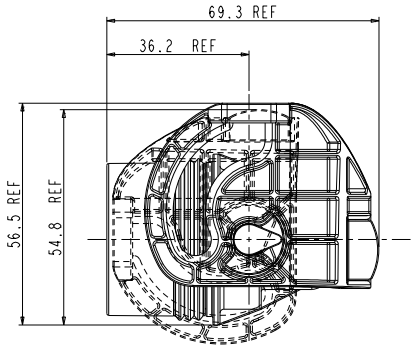


PLUG



CHD 14 06 2 N 1 1 SC	► with power terminal & with HVIL
CHD 14 06 2 N 0 0 SC	► without power terminal & without HVIL

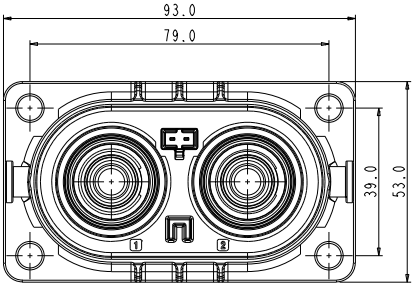


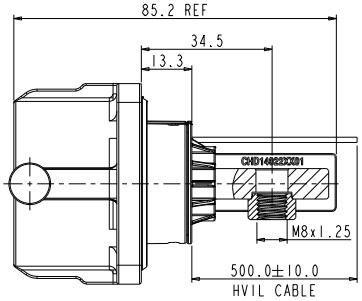


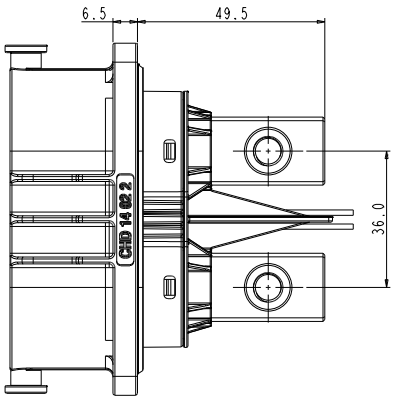
RECEPTACLE



CHD	14	02	2	X	X	01
				A: coding A B: coding B C: coding C	0: without HVIL 1: with HVIL	







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