



EXCEL|MATE MSD

Manual Service Disconnect

CONTENTS

PDC	3
PRODUCT DIMENSIONS	4
HOW TO ORDER PDC	7
MCMSD	8
PRODUCT DIMENSIONS	9
MINI MSD	10
PRODUCT DIMENSIONS	11
HOW TO ORDER MINI MSD	13
MSDE	14
PRODUCT DIMENSIONS & HOW TO ORDER MSDE	15
MINI MSD V	16
HOW TO ORDER MINI MSD V	17
MINI MSD FUSE BOX	18
PRODUCT DIMENSIONS	19
HOW TO ORDER MINI MSD FUSE BOX	20
MSD	21
PRODUCT DIMENSIONS	22
HOW TO ORDER MSD	24
MSD V	25
HOW TO ORDER MSD V	26
MSD XL	27
PRODUCT DIMENSIONS	28
HOW TO ORDER MSD XL	31
MSD U	32
PRODUCT DIMENSIONS	33
CHD SERIES - CHD14 2-PIN SHUNT	35

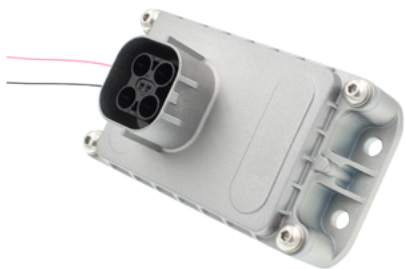
EXCEL|MATE MSD

FUSE RATED CURRENT (A)									
									800A
							630A	630A	
						shunt version			
			400A	400A	400A				
		shunt version							
	32A								
0A	PDC	MCMSD	Mini MSD	Mini MSD V	Mini MSD Fuse Box	CHD14	MSD V MSDE	MSD XL	MSD U
	500V to 1000V	1500V	600V to 700V	600V to 750V	600V to 750V	1500V	500V to 800V	1000V	1500V

RATED VOLTAGE DC (V)



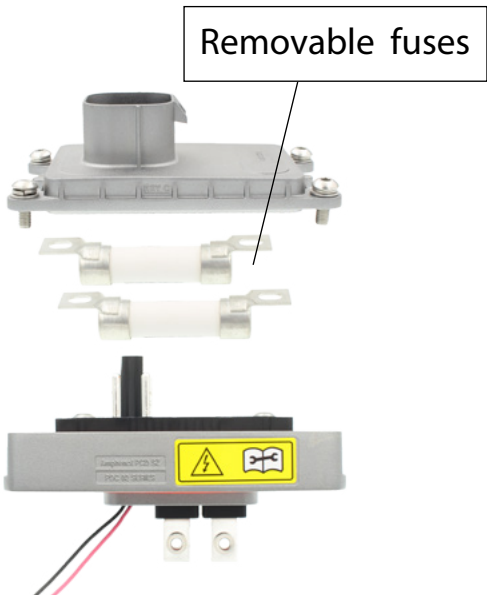
EXCEL|MATE PDC - TECHNICAL CHARACTERISTICS



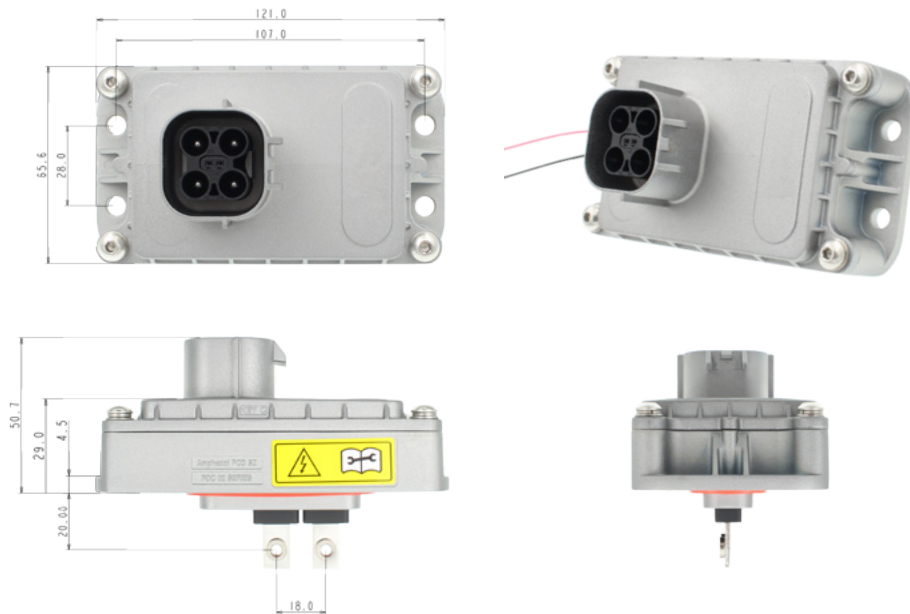
KEY FEATURE

Waterproof (unmated socket): IP67

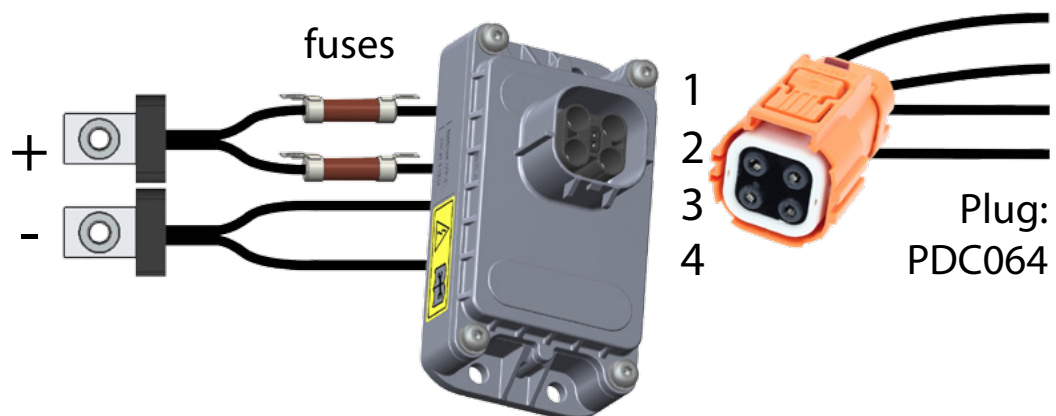
DESCRIPTION	
This Power Distribution Connector (PDC) finds its best use in the case where the PDU is already fully integrated into the Battery Pack. Without a PDC, we would need to entirely disassemble the Battery Pack to replace a blown fuse. However, using a PDC with removable fuses makes the replacement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



BATTERY PACK TO MAIN POWER DISTRIBUTION UNIT – HIGH POWER AUXILIARIES



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



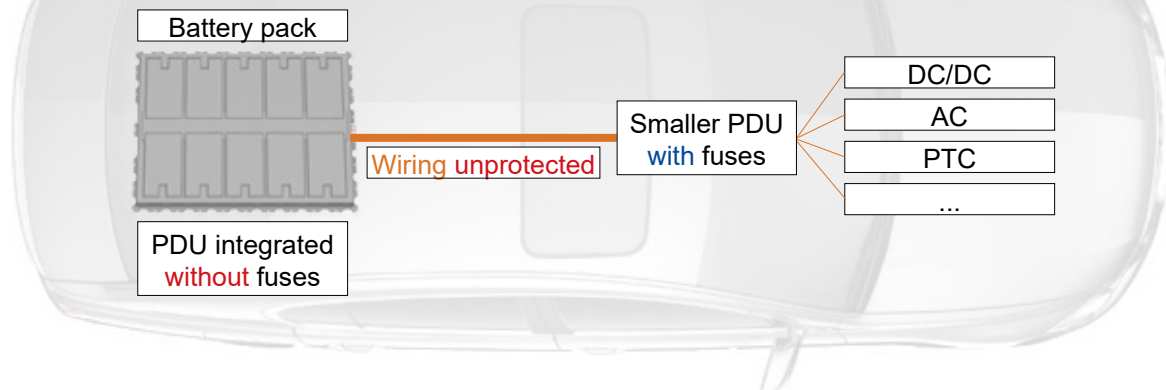
Basically, the PDC is a mini PDU-like type of connector!

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



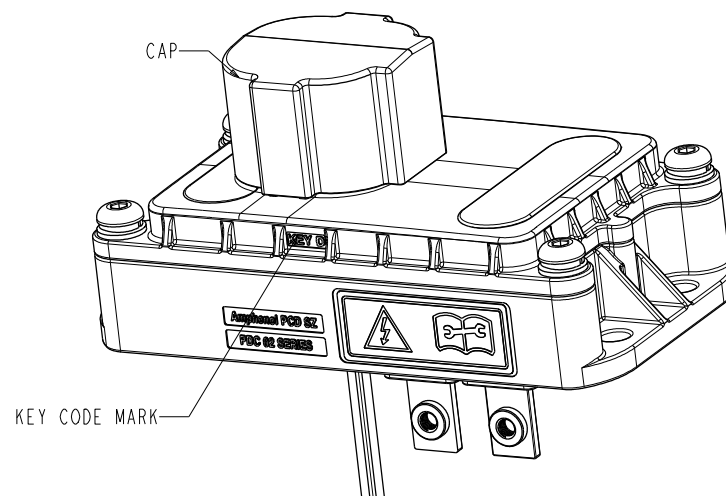
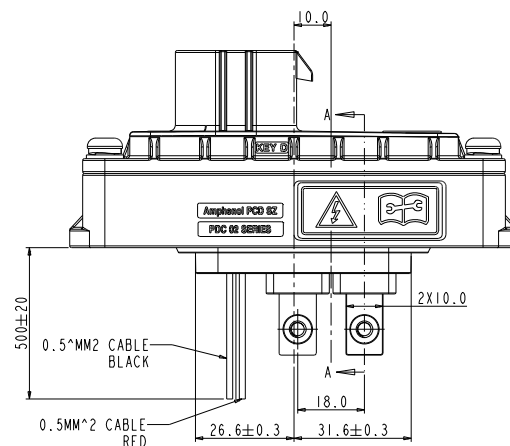
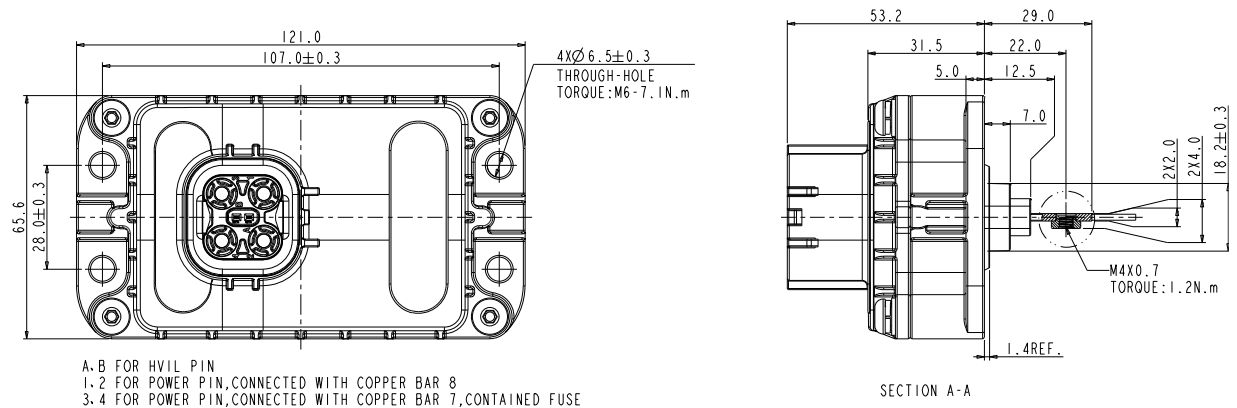
This workaround structure allows for an **easier** replacement of the fuses, which are placed in an external additional PDU. However, the wiring between the battery pack and this added PDU is **unprotected**.

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.

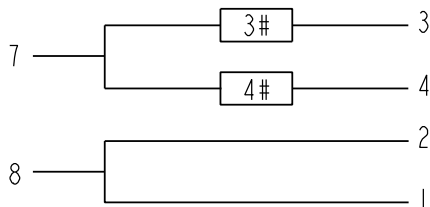
PRODUCT DIMENSIONS



HOW TO ORDER - EXCEL|MATE PDC

	PDC 02	1	0	1	S	0	0	01
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								
Fuse brand: S: Sinofuse B: Busmann								
Fuse at position #3: 0: Busbar 6: 15A 1: 30A 7: 20A 2: 35A 8: 25A 3: 40A 4: 50A 5: 60A								
Fuse at position #4: 0: Busbar 6: 15A 1: 30A 7: 20A 2: 35A 8: 25A 3: 40A 4: 50A 5: 60A								
Nut direction: 01: M4 nut, located below copper bar 02: M4 nut, located above copper bar								

- Remarks:
- 1. When a single fuse is loaded, the other hole can be loaded with copper bars.
 - 2. When two fuses are loaded, the same brand of fuses shall be selected.

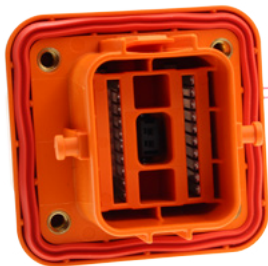


BRAND OPTIONAL FUSE SPECIFICATION SHEET:		
RATING VOLTAGE	SINOFUSE	BUSSMANN
1000V	30A	35A
	40A	40A
	50A	50A
750V	15A	15A
	20A	20A
	25A	25A
	30A	30A
	40A	40A
	50A	50A
	N/A	60A
500V	N/A	15A
		20A
		25A
		30A
		40A
		50A
		60A

POSITIONS 3# AND 4# CAN CARRY BUS BAR OR FUSES

PDC CIRCUIT DIAGRAM

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**

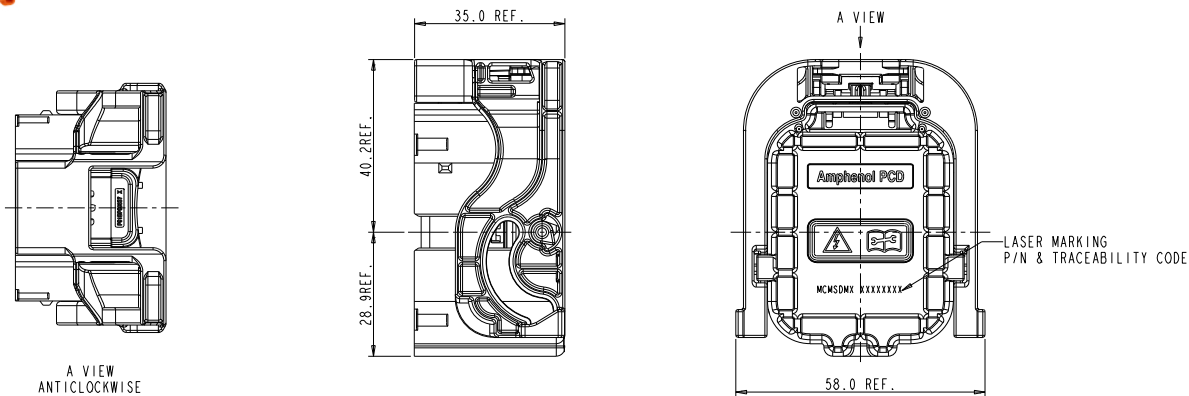
PRODUCT DIMENSIONS

PLUG



MCMSD	M	X
-------	---	---

HVIL code
0: without HVIL
1: with HVIL



RECEPTACLE

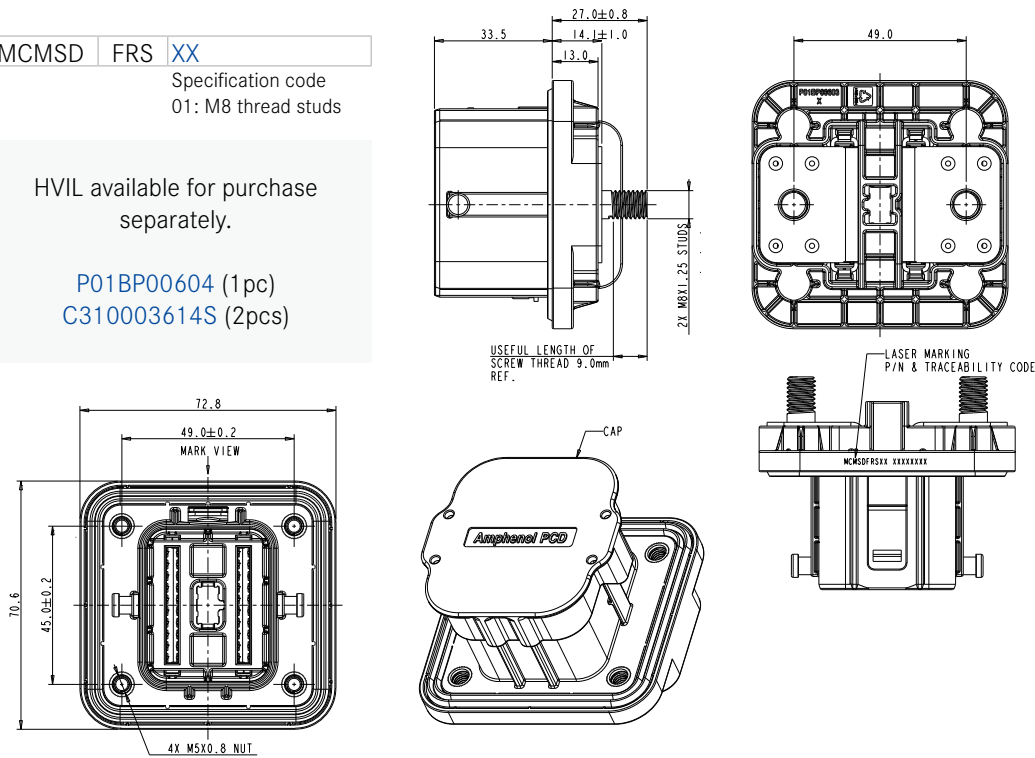


MCMSD	FRS	XX
-------	-----	----

Specification code
01: M8 thread studs

HVIL available for purchase separately.

P01BP00604 (1pc)
C310003614S (2pcs)



EXCEL|MATE MINI MSD - TECHNICAL CHARACTERISTICS



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
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STANDARDS

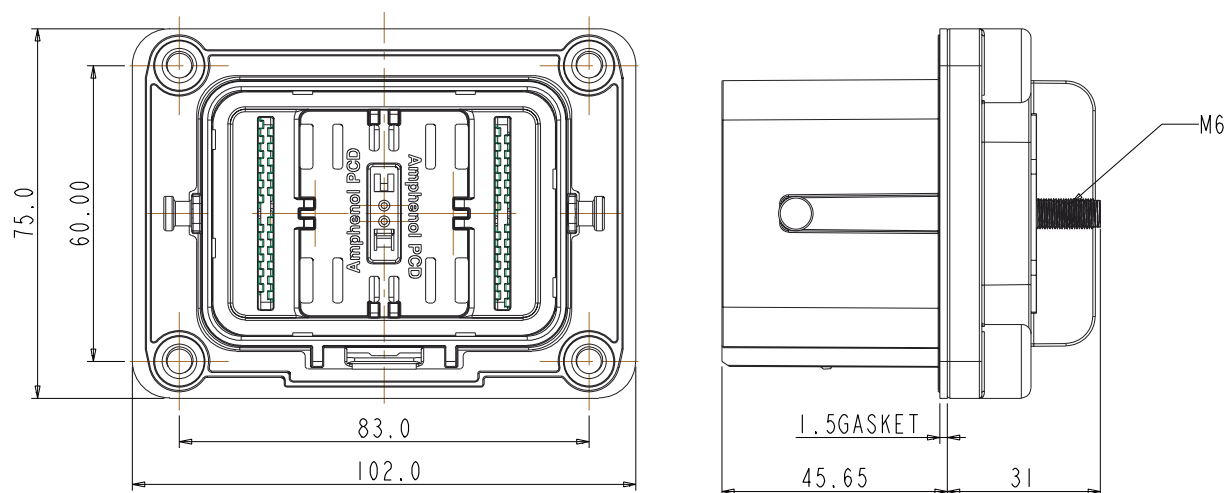
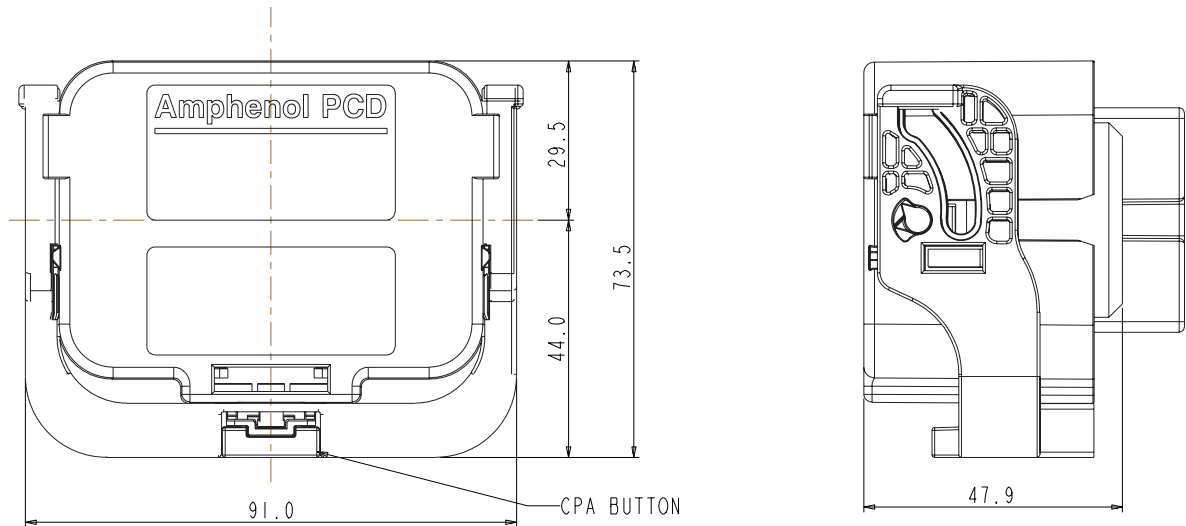
USCAR-2

USCAR-37

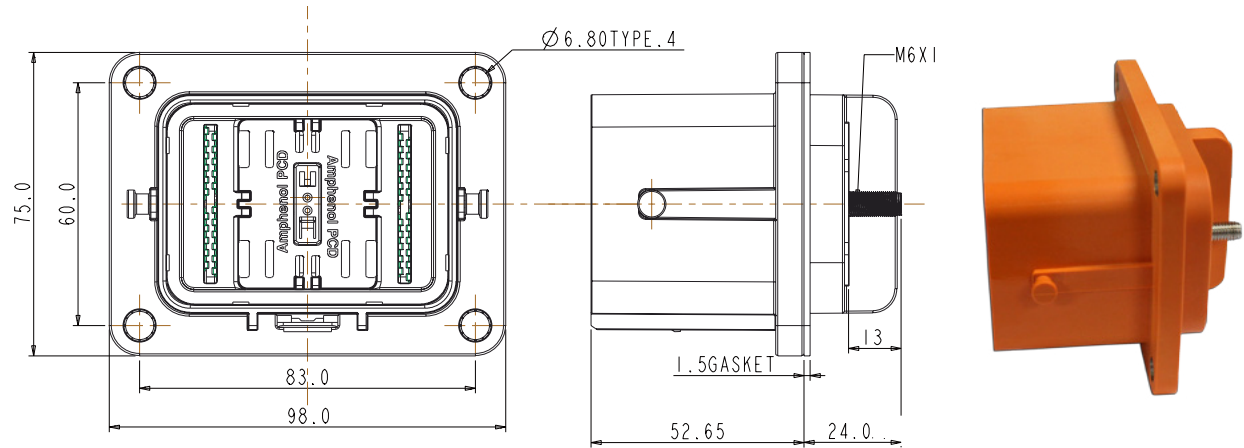
LV-215

RoHS

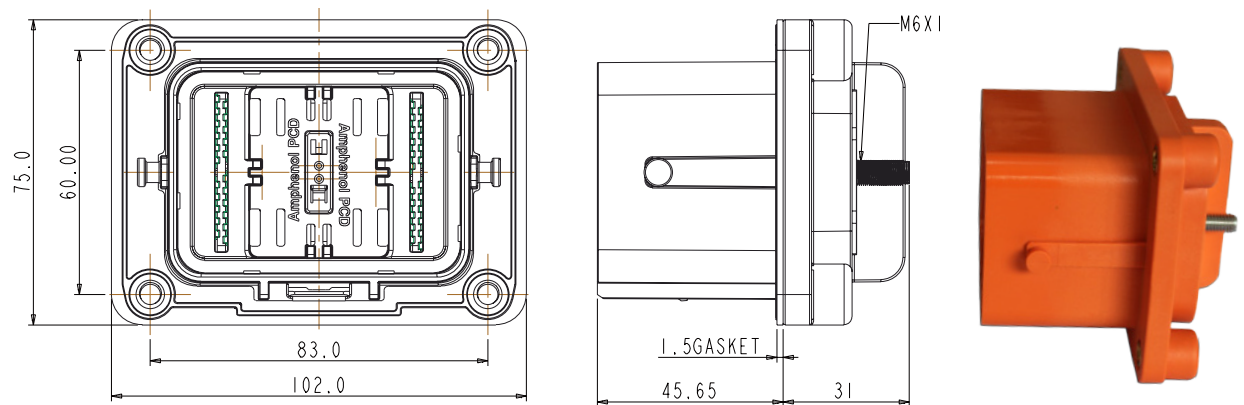
PRODUCT DIMENSIONS



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
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Flammability	UL94V0
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STANDARDS

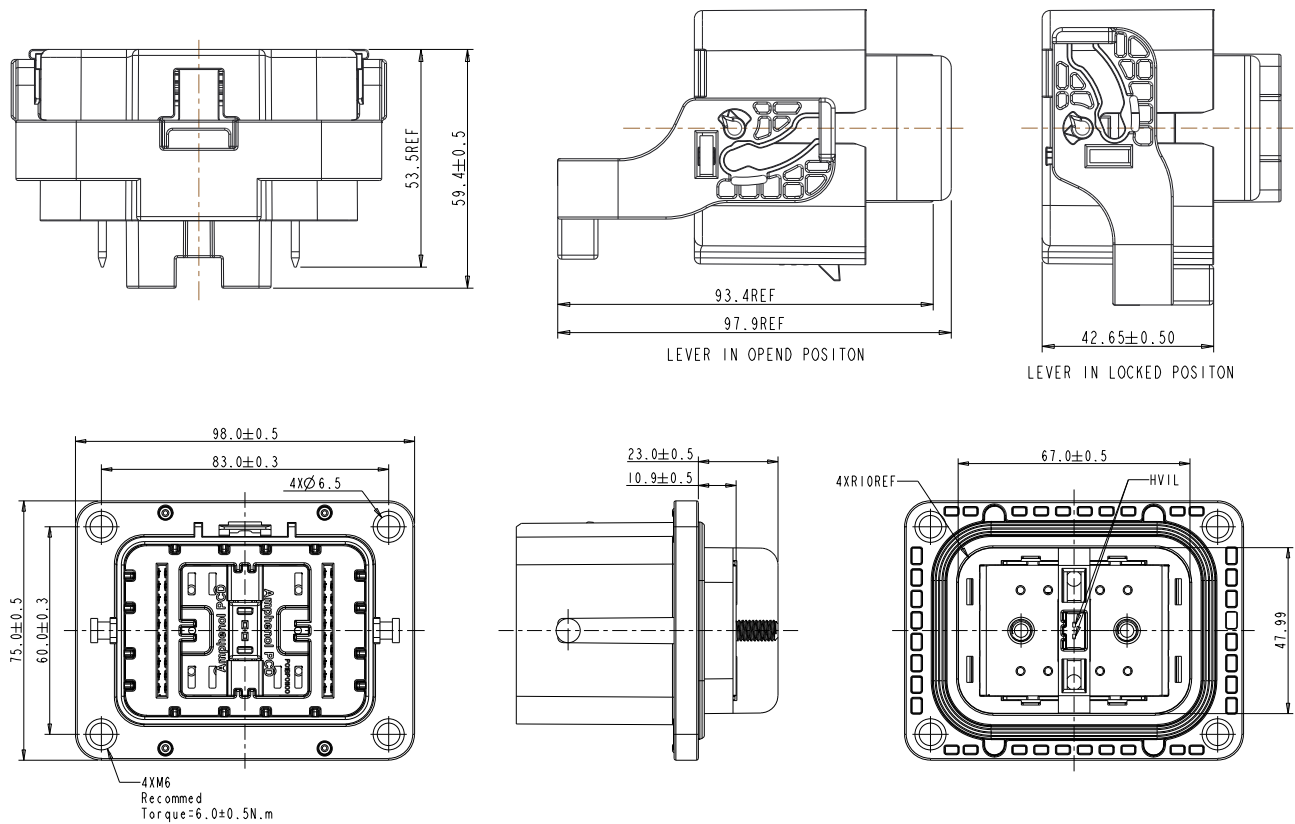
USCAR-2

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	

EXCEL|MATE MINI MSD V - TECHNICAL CHARACTERISTICS



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 (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



EXCEL|MATE MINI MSD FUSE BOX - TECHNICAL CHARACTERISTICS

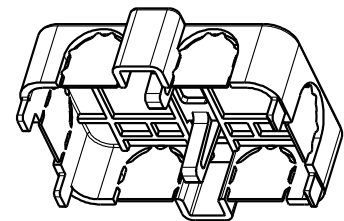
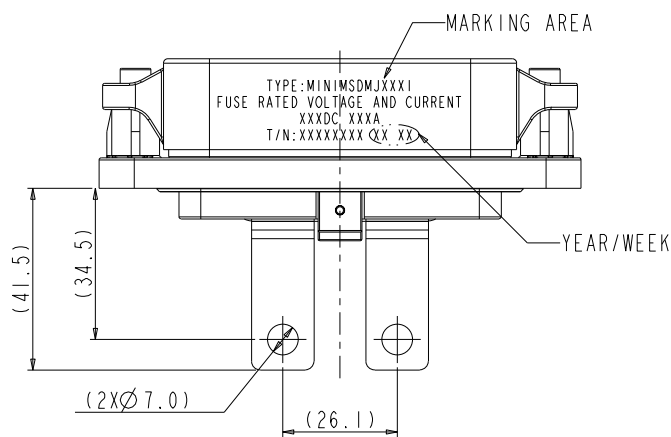
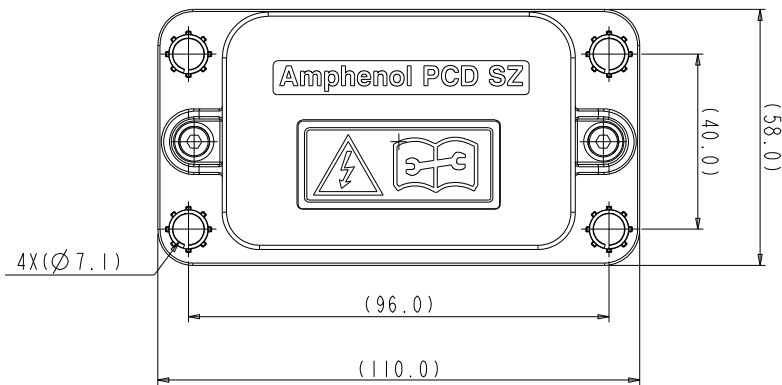


KEY FEATURES

Small in size
Removable housing

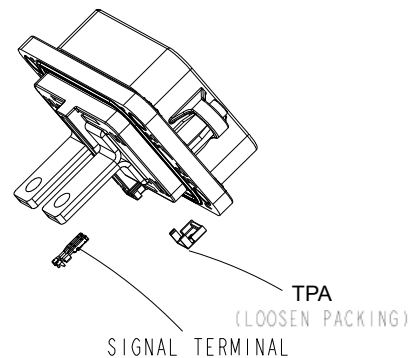
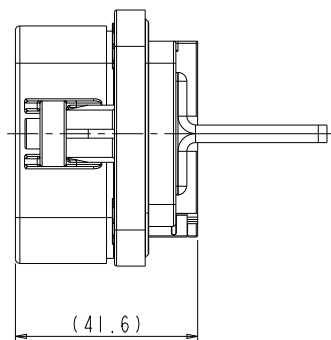
DESCRIPTION	
• Small in size • Removable housing	
ELECTRICAL	
With fuse	
 Version T (plugged version):	
80A to 315A	700V DC
350A & 400A	600V DC
 Version J (screwed version):	
80A to 350A	750V DC
400A	700V DC
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
MATERIAL	
Plastic shell material	PA66+GF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

HOW TO ORDER - EXCELMATE MINI MSD



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				

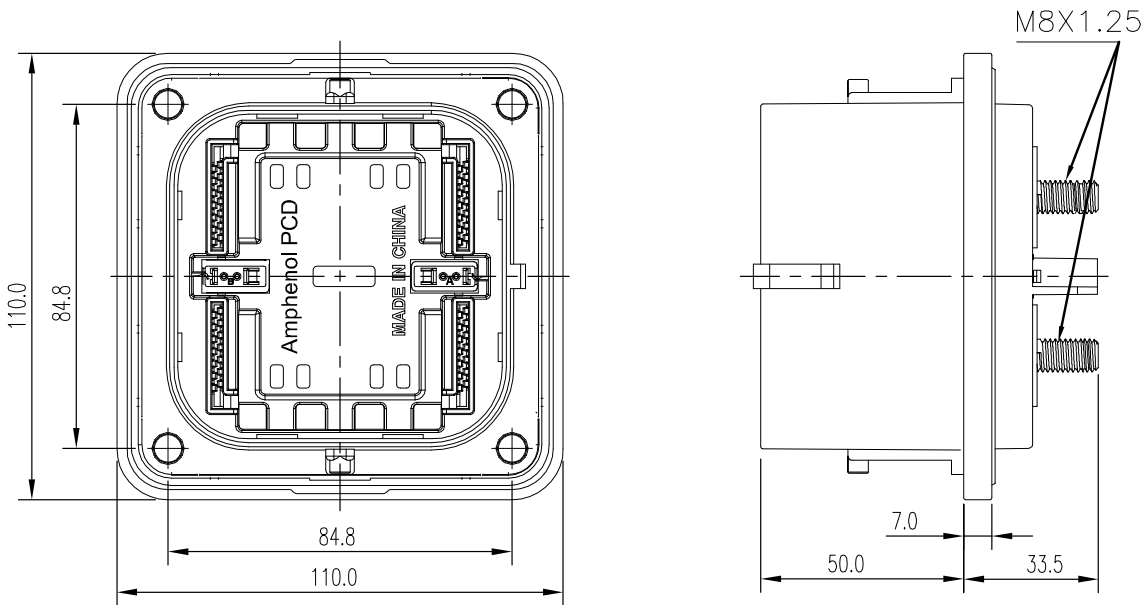
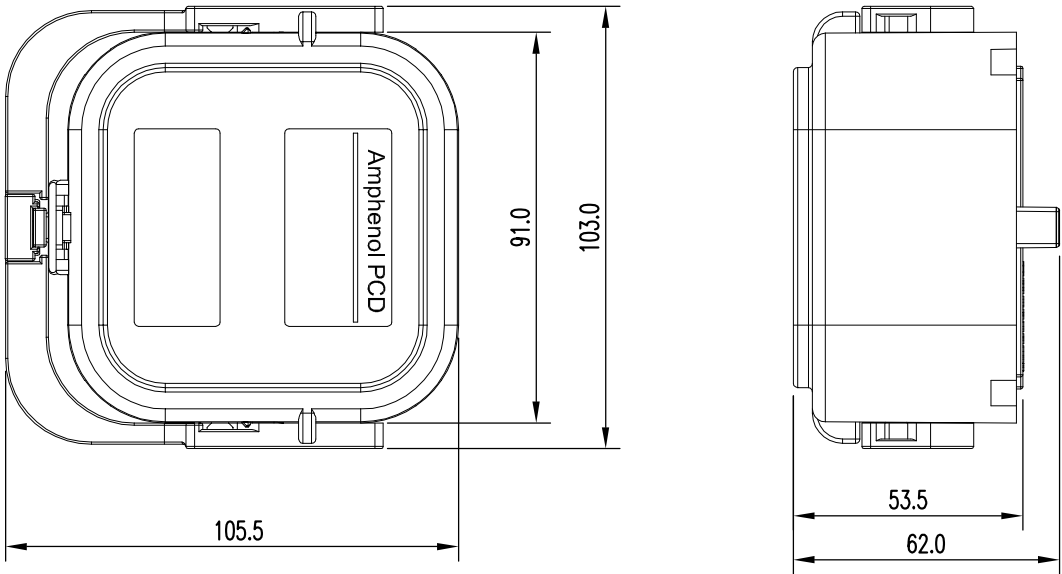


KEY FEATURES

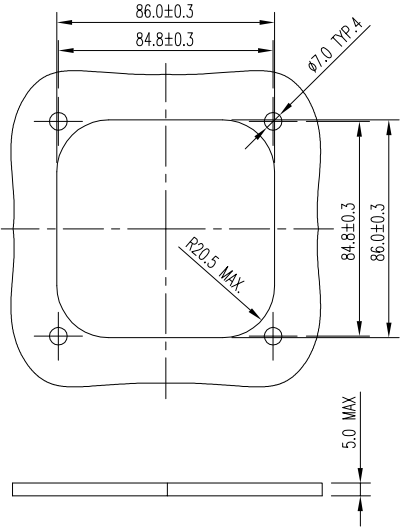
- A two-stage lever provides an HVIL time delay
- 2 x integrated internal HVIL
- Unique cooling structure
- Dual-channel design lowers temperature rise
- No tools required to unmate
- Various fuse ratings
- Receptacle can be front or rear mounted

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	

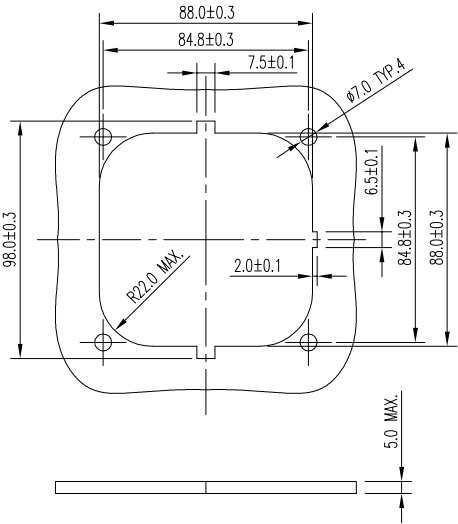
PRODUCT DIMENSIONS



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					

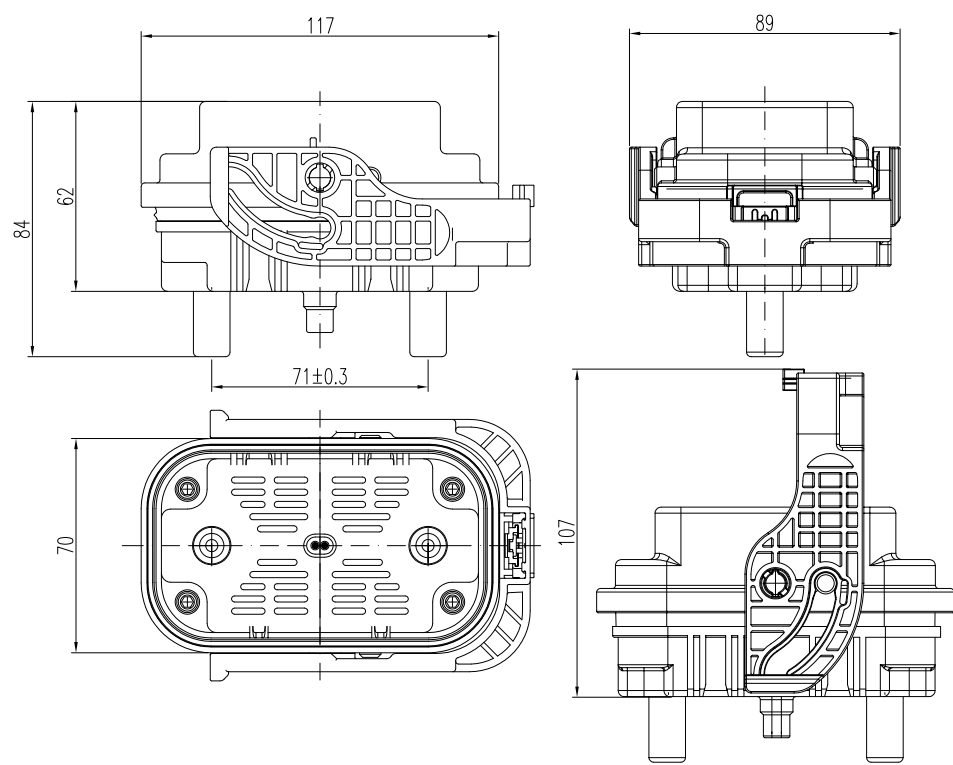


KEY FEATURES

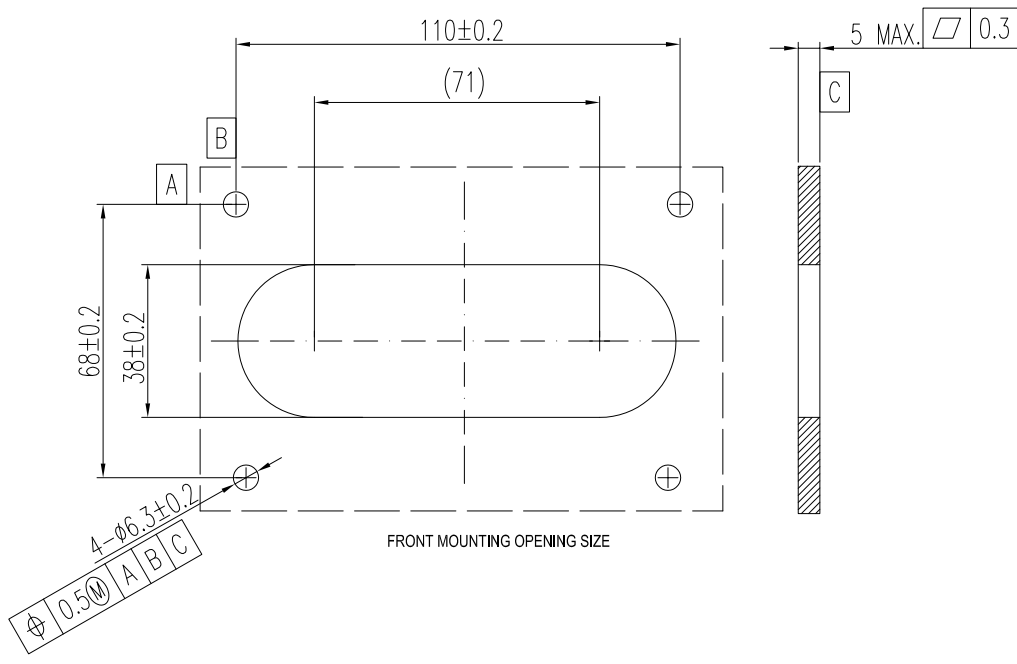
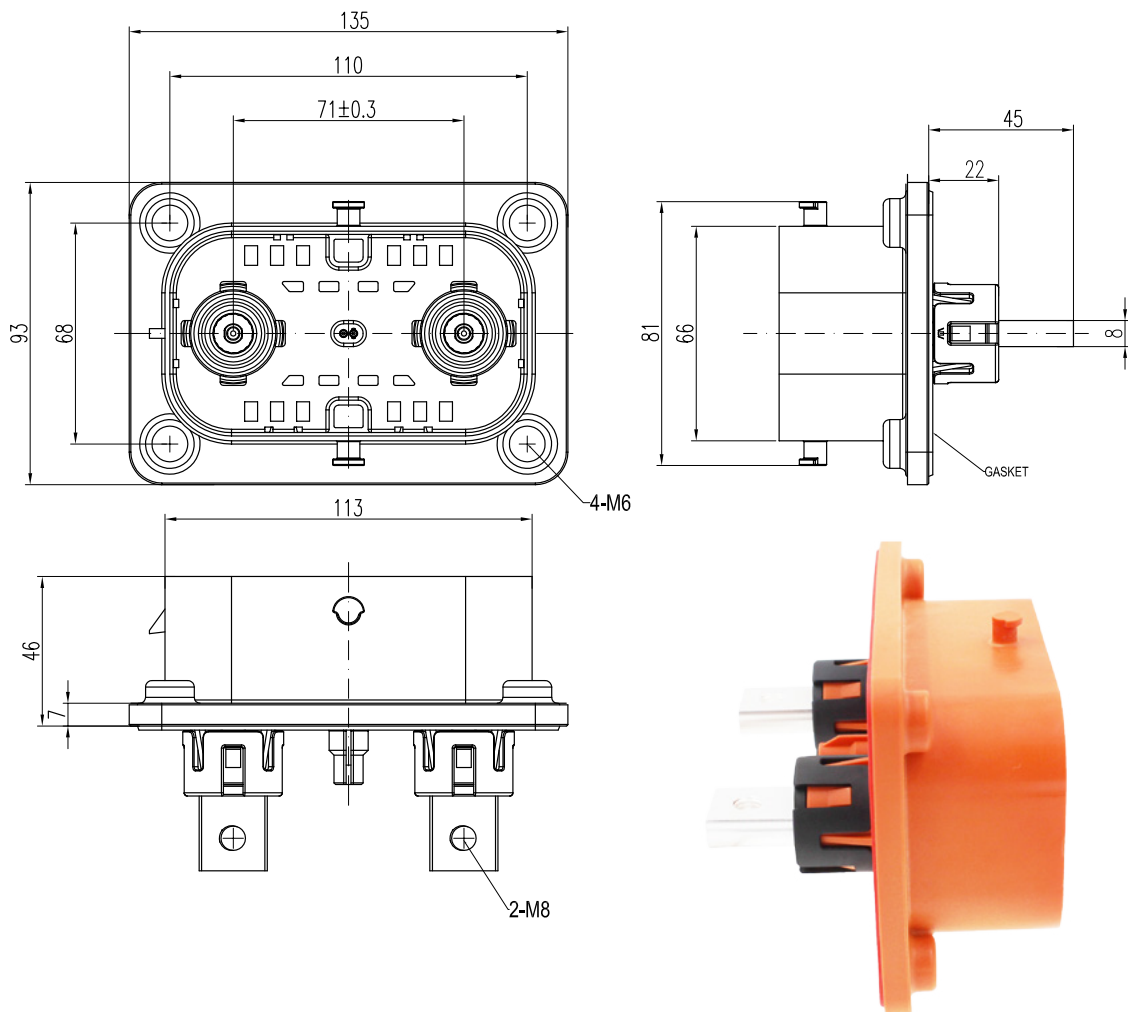
- 1 x integrated internal HVIL
- Unique cooling structure
- High current contacts with Amphenol Radsok technology
- No tools required to unmate
- Various fuse ratings
- Receptacle can be front or rear mounted

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



30



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			

EXCEL|MATE MSD U - TECHNICAL CHARACTERISTICS



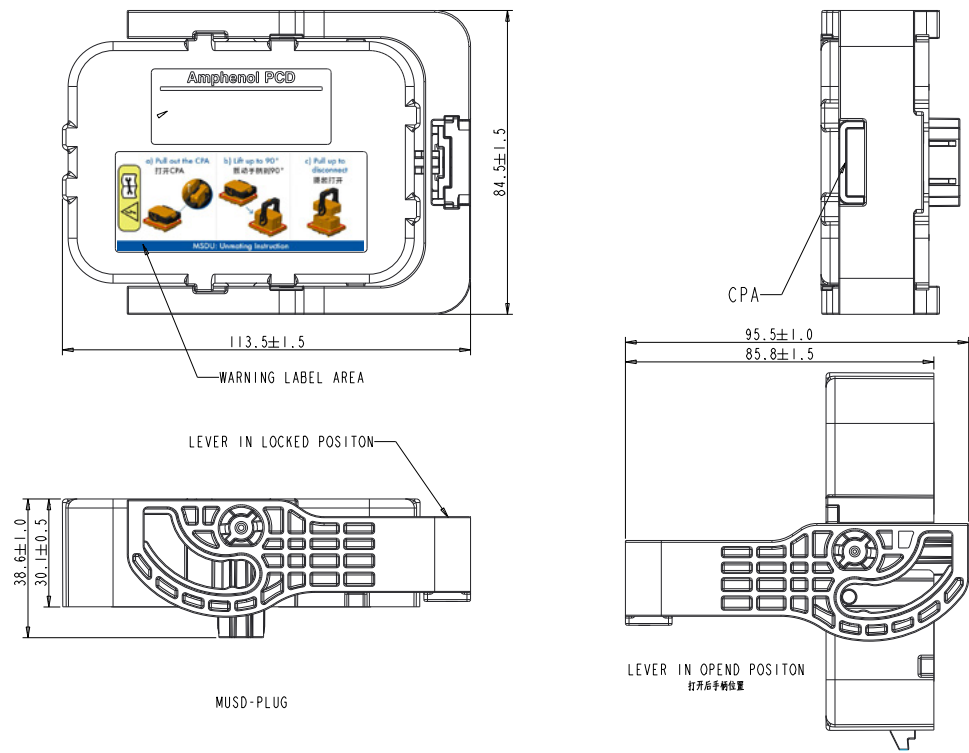
KEY FEATURES

- 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



SOCKET P/N: MSDUF00R

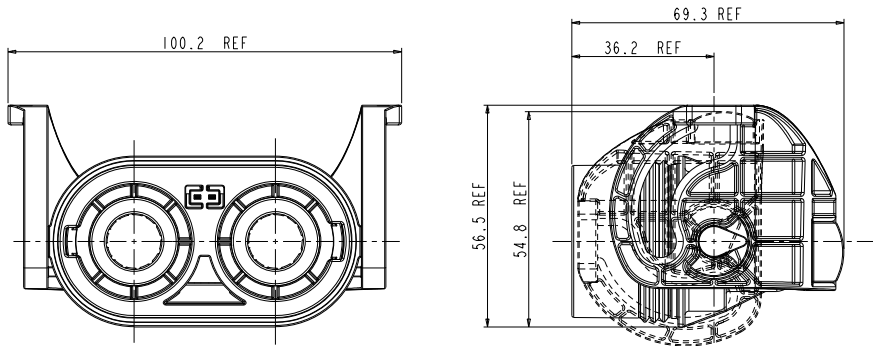


CHD SERIES - CHD14 2-PIN SHUNT

PLUG



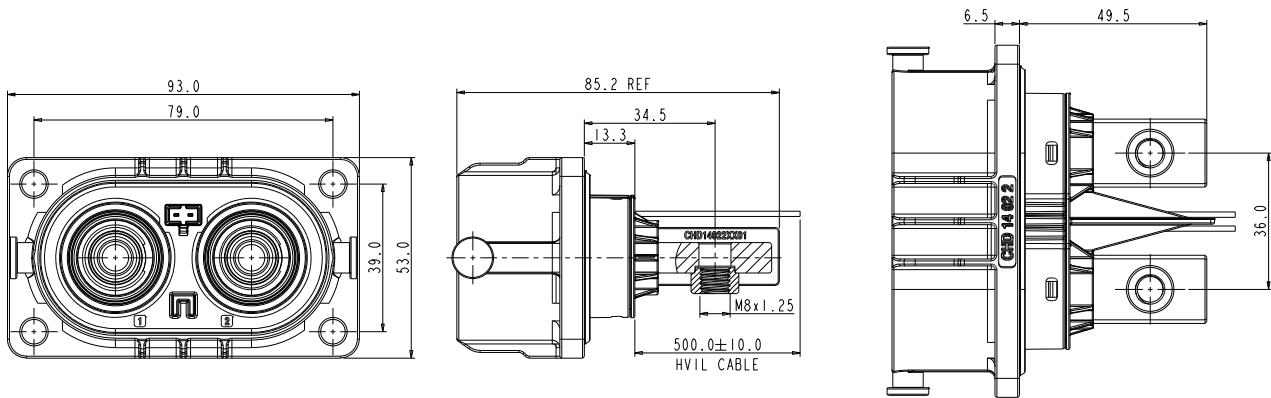
CHD 14 06 2 N 1 1 SC	▶ with power terminal & with HVIL
CHD 14 06 2 N 0 0 SC	▶ without power terminal & without HVIL



RECEPTACLE



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





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Notes:

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Amphenol PCD Shenzhen reserves the right to clarify this catalog.