



AMPHENOL PCD



EXCEL|MATE MSD

Manual Service Disconnect

CONTENTS

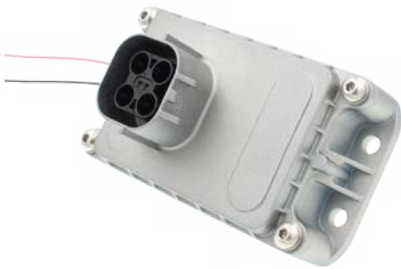
PDC	3
PRODUCT DIMENSIONS	4
HOW TO ORDER PDC	7
MCMSD	8
PRODUCT DIMENSIONS	9
MINI MSD	10
PRODUCT DIMENSIONS	11
HOW TO ORDER MINI MSD	13
MSDE	14
PRODUCT DIMENSIONS & HOW TO ORDER MSDE	15
MINI MSD V	16
HOW TO ORDER MINI MSD V	17
MINI MSD FUSE BOX	18
PRODUCT DIMENSIONS	19
HOW TO ORDER MINI MSD FUSE BOX	20
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								800A	RATED VOLTAGE DC (V)	
	750A										
	650A						630A	630A			
	600A										
	550A										
	500A					shunt version					
	450A										
	400A		400A	400A	400A						
	350A	shunt version									
	300A										
	250A										
	200A										
	150A										
	100A										
	50A	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



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

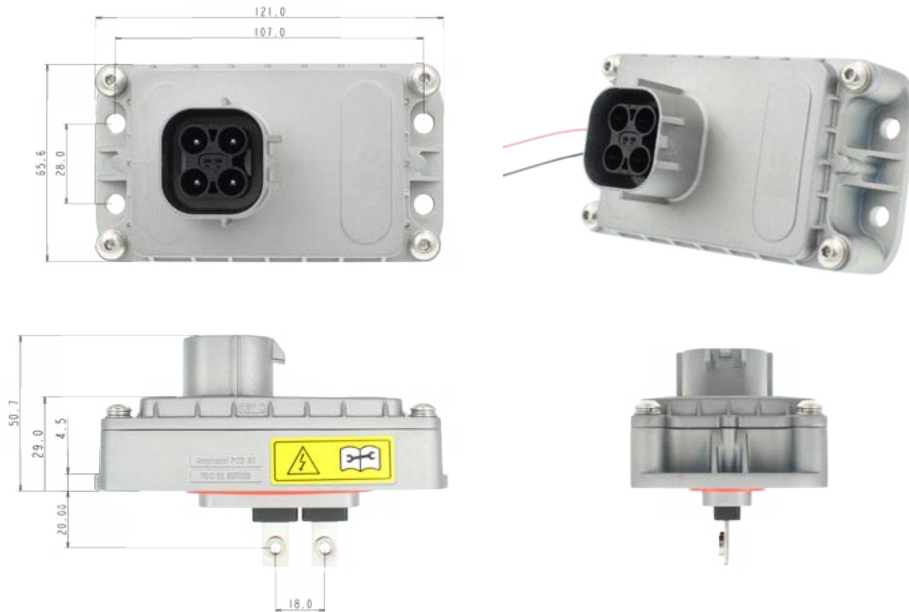
Ambient temperature:	40 to 70°C
Waterproof (mated):	IP67, IP6K9K
Waterproof (unmated socket):	IP67

MATERIAL

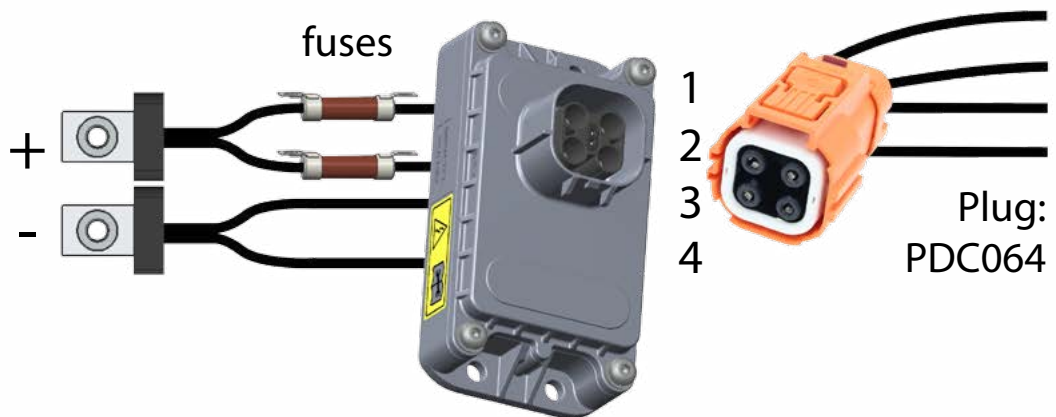
Housing:	Metallic
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BATTERY PACK TO MAIN POWER DISTRIBUTION UNIT – HIGH POWER AUXILIARIES

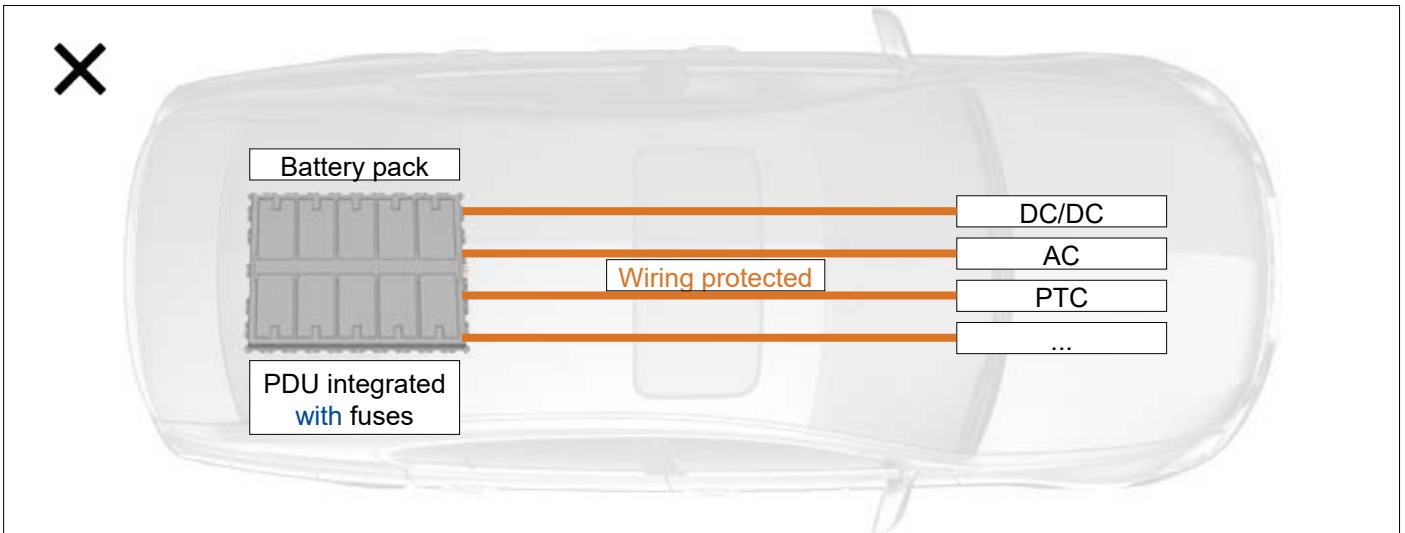


The PDC connector converts a 2-pin input into a 4-pin output.



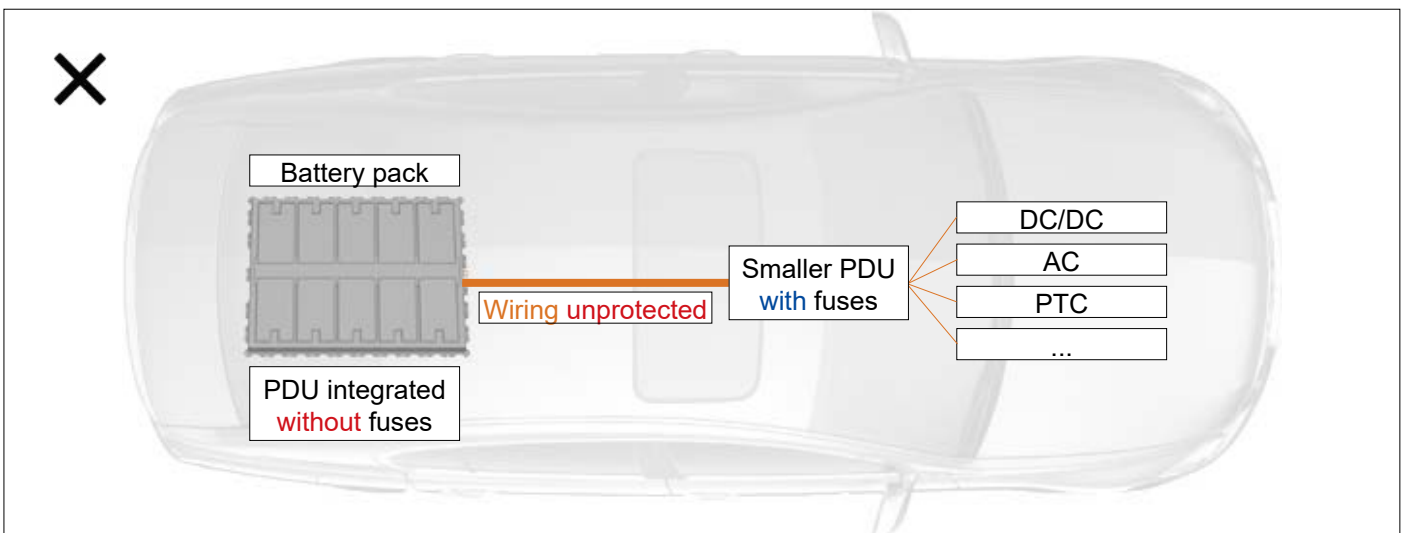
Basically, the PDC is a mini PDU-like type of connector!

Basic structure



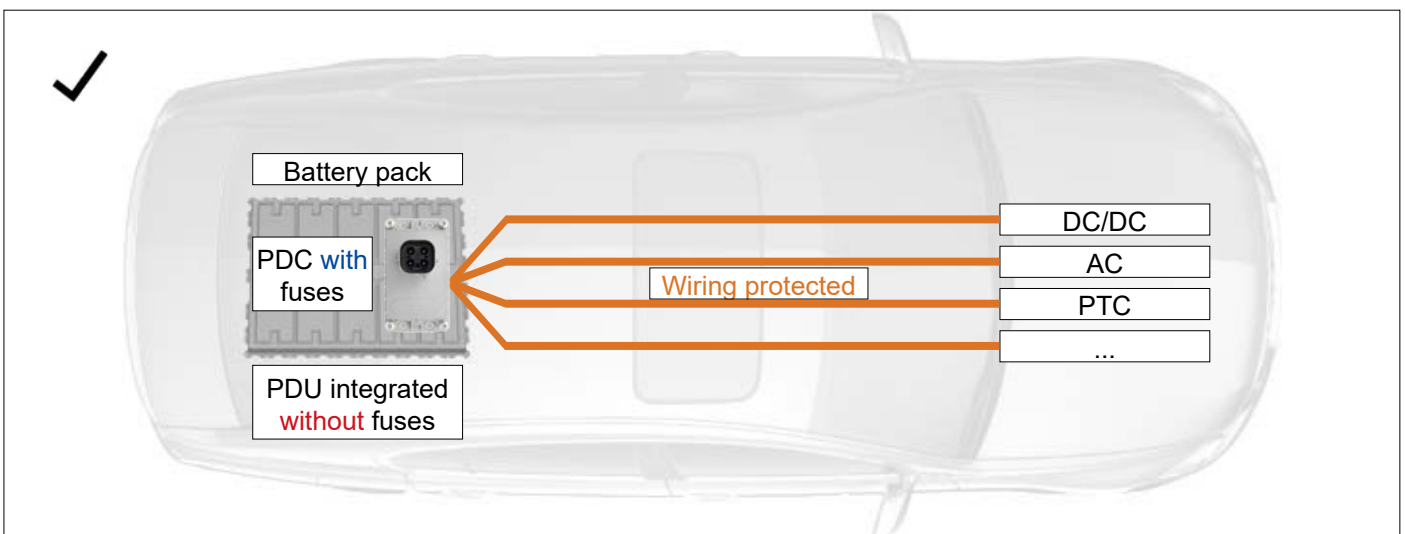
This structure **safely** secures the wiring, but once a fuse blows, its replacement requires a **complex** disassembly of the whole battery pack.

Workaround structure



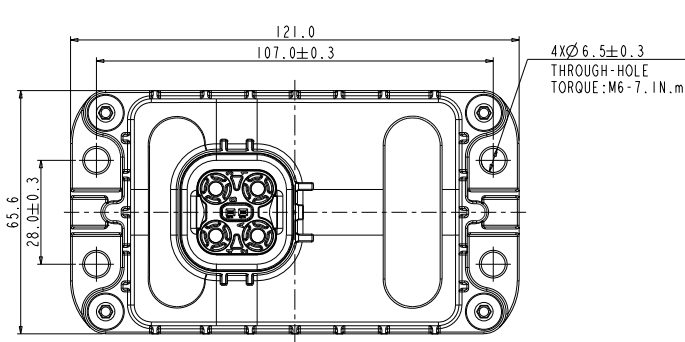
This workaround structure allows for an **easier** replacement of the fuses, which are placed in an external additional PDU. However, the wiring between the battery pack and this added PDU is **unprotected**.

Optimized structure

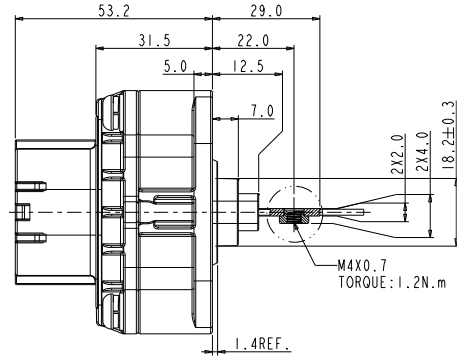


By adding a PDC connector to the battery pack, this optimized structure benefits from both a successfully protected wiring as well as an easy and effortless replacement of its fuses.

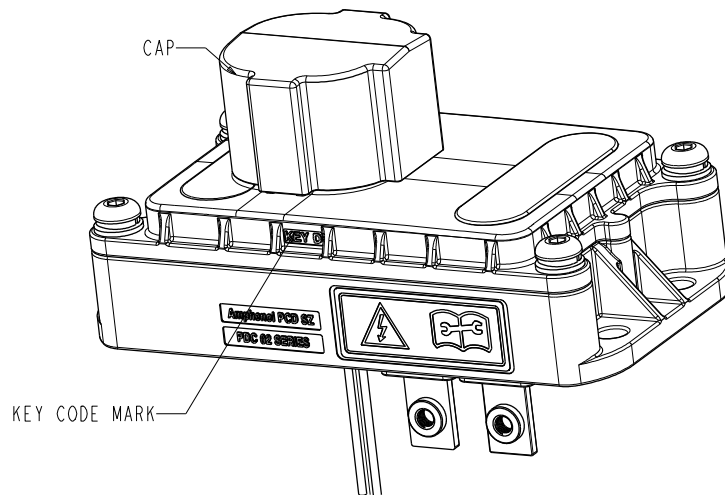
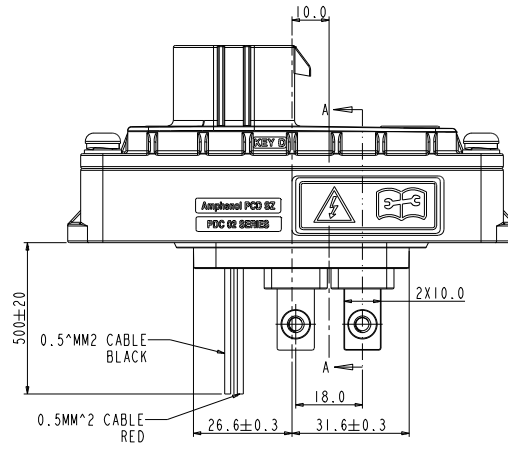
PRODUCT DIMENSIONS



A, B FOR HVIL PIN
 1, 2 FOR POWER PIN, CONNECTED WITH COPPER BAR 8
 3, 4 FOR POWER PIN, CONNECTED WITH COPPER BAR 7, CONTAINED FUSE



SECTION A-A



HOW TO ORDER - EXCELMATE 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

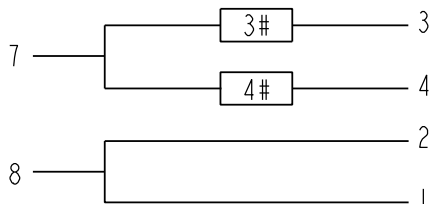
Fuse at position #3:
 0: Busbar 6: 15A
 1: 30A 7: 20A
 2: 35A 8: 25A
 3: 40A
 4: 50A
 5: 60A

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
	N/A	20A
	N/A	25A
	N/A	30A
	N/A	40A
	N/A	50A
N/A	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

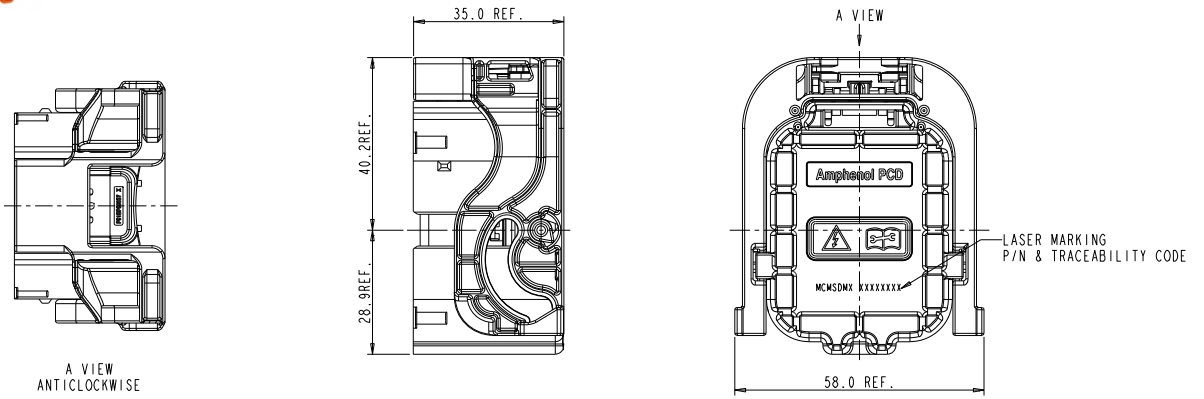
PRODUCT DIMENSIONS

PLUG



MCMSD	M	X
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HVIL code
 0: without HVIL
 1: with HVIL



RECEPTACLE

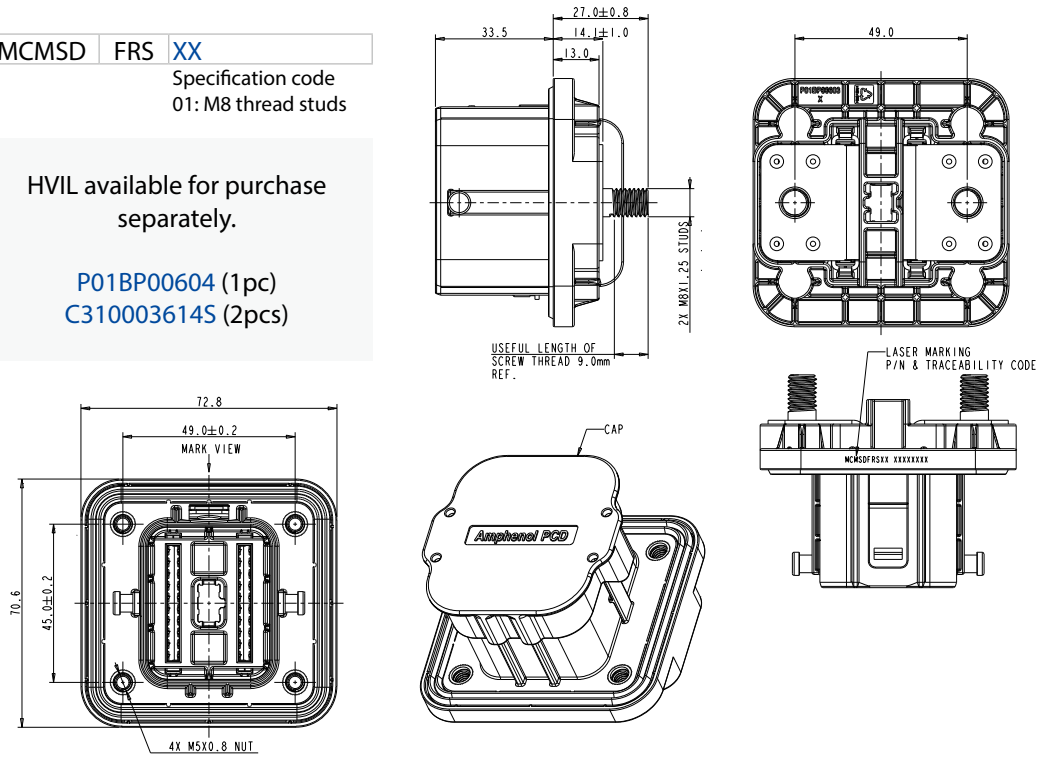


MCMSD	FRS	XX
-------	-----	----

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
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STANDARDS

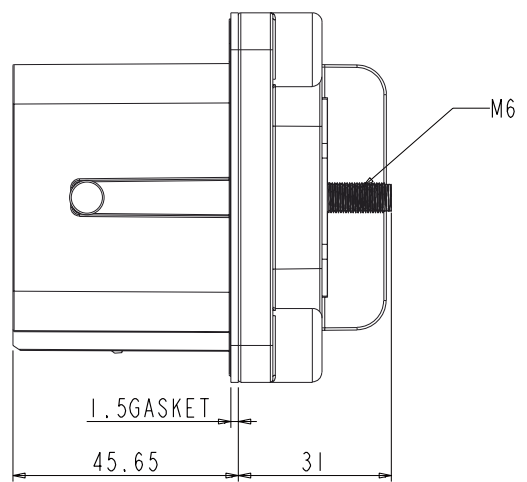
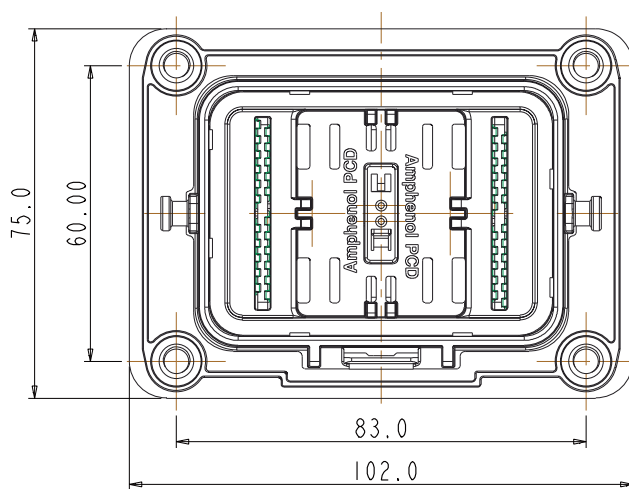
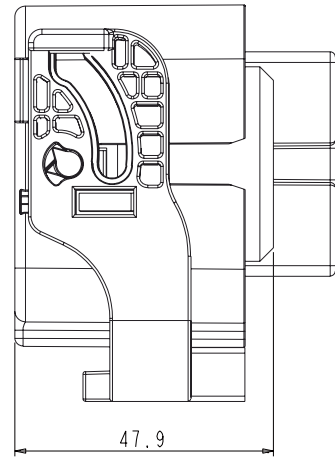
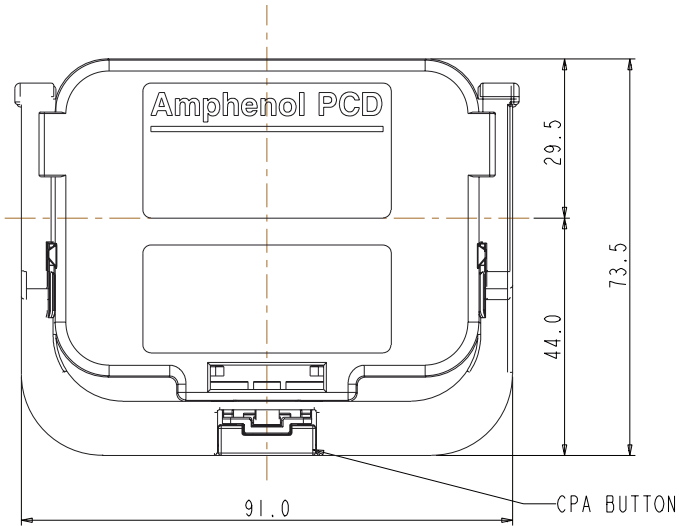
USCAR-2

USCAR-37

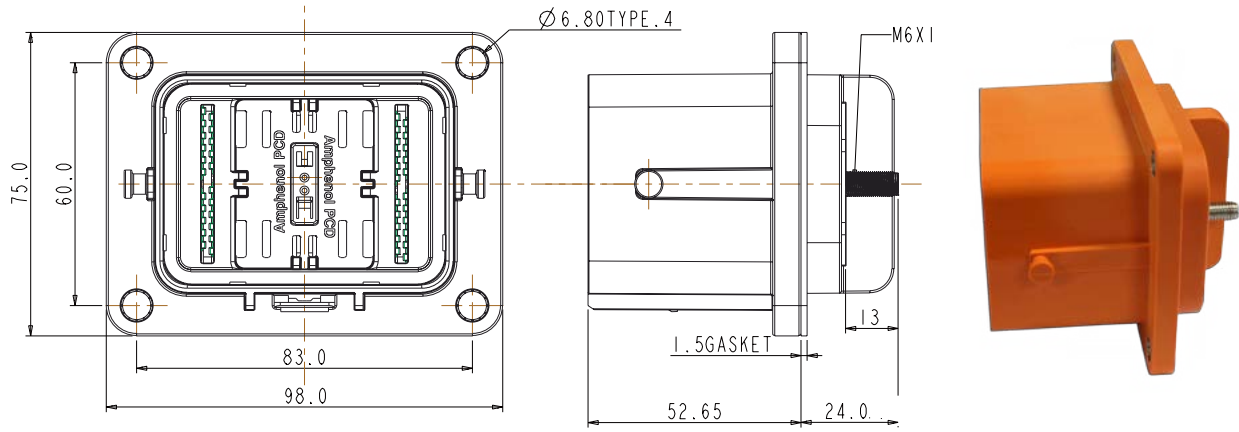
LV-215

RoHS

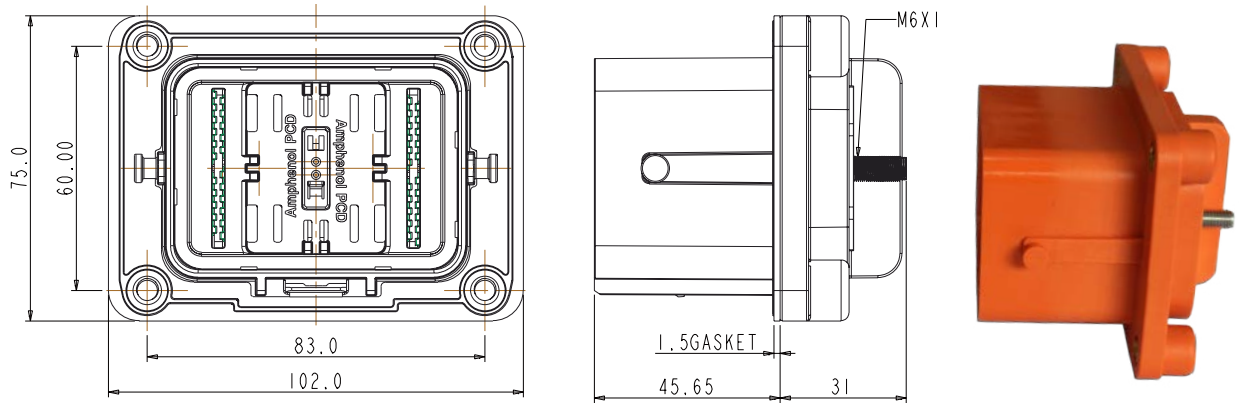
PRODUCT DIMENSIONS



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
--------------	--------

STANDARDS

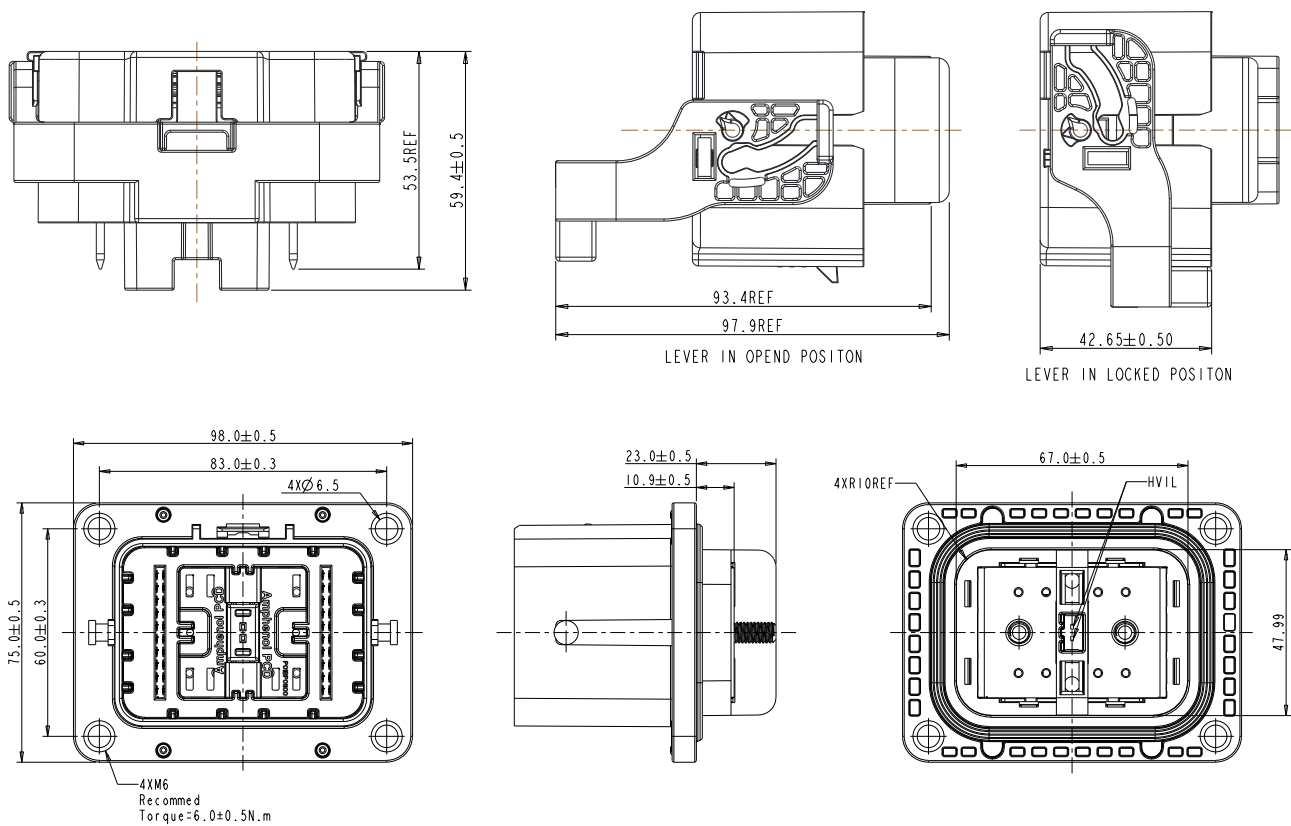
USCAR-2

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		



KEY FEATURES

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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
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STANDARDS

USCAR-2

USCAR-37

LV-215

RoHS

HOW TO ORDER - EXCEL|MATE MINI MSD V

Plug: With fuse

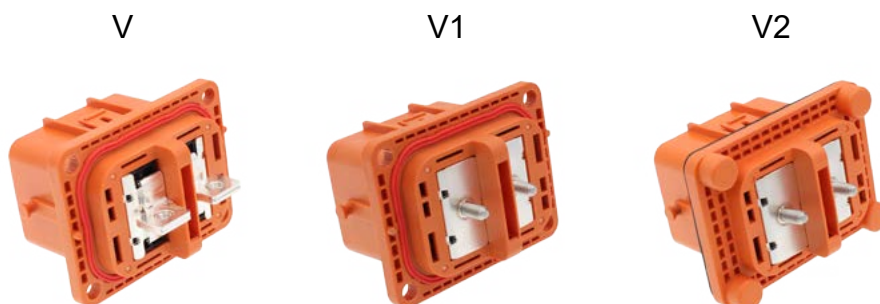
	MINI MSD	M	2002
Shell type:			
M: Plug			
Fuse rating current:			
0802: 80A			
1002: 100A			
1252: 125A			
1602: 160A			
2002: 200A			
2502: 250A			
3152: 315A			
3502: 350A			
4002: 400A			
Fuse brand:			
Bussmann (by default), other brands, please contact us.			

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





EXCEL|MATE MINI MSD FUSE BOX - TECHNICAL CHARACTERISTICS

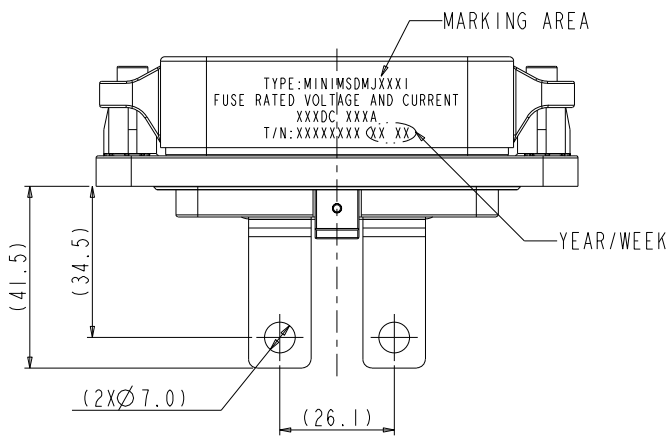
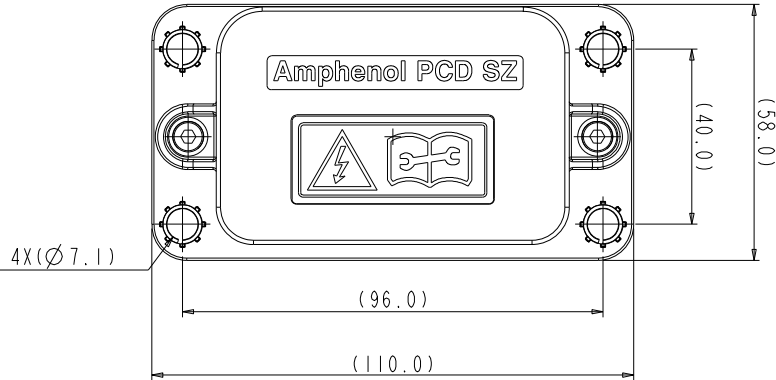


KEY FEATURES

Small in size
Removable housing

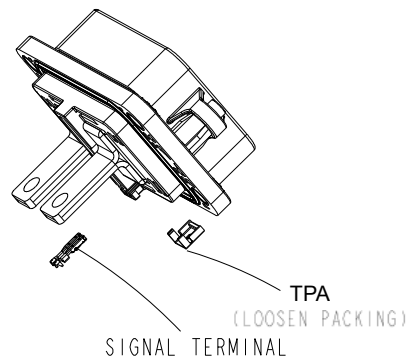
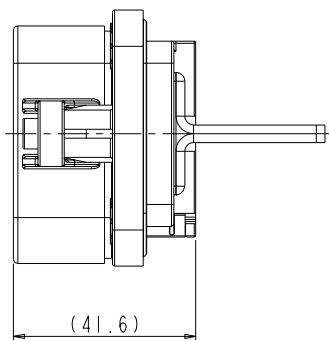
DESCRIPTION	
<ul style="list-style-type: none"> • Small in size • Removable housing 	
ELECTRICAL	
With fuse	
 Version T (plugged version):	
80A to 315A	700V DC
350A & 400A	600V DC
 Version J (screwed version):	
80A to 350A	750V DC
400A	700V DC
ENVIRONMENTAL	
Protection degree	IP67, IP6K9K (mated)
MATERIAL	
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		
400: 400A		
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

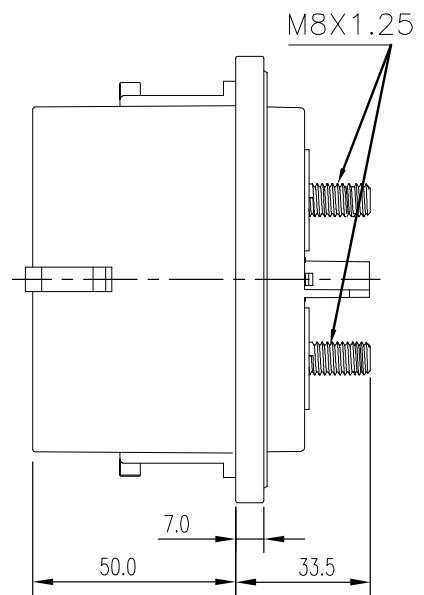
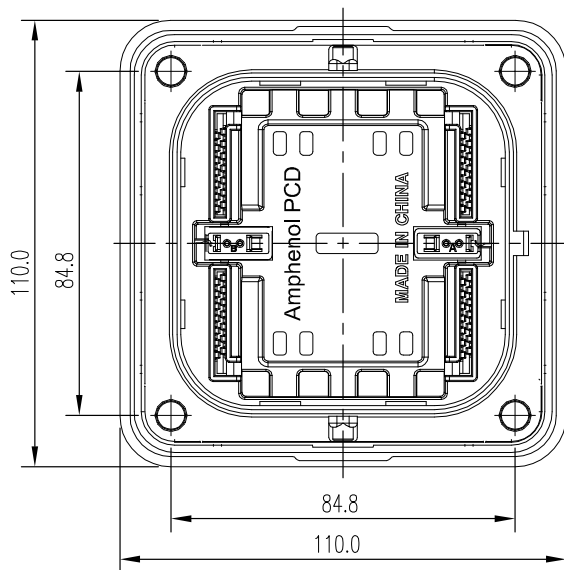
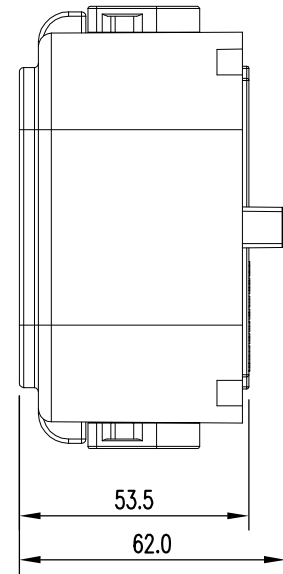
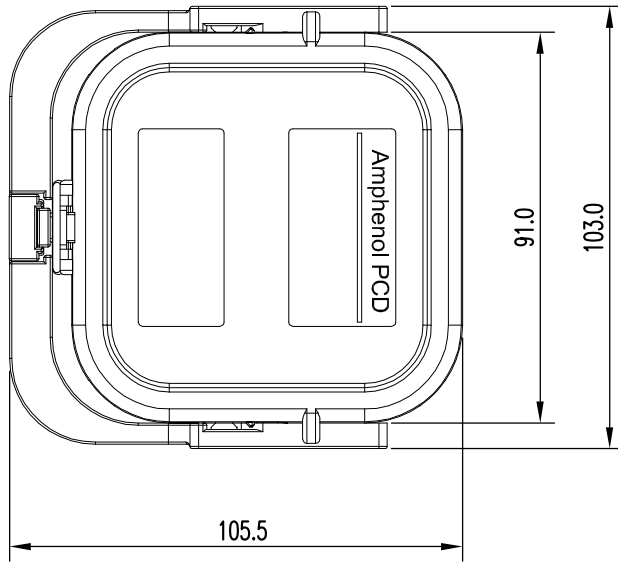
No tools required to unmate

Various fuse ratings

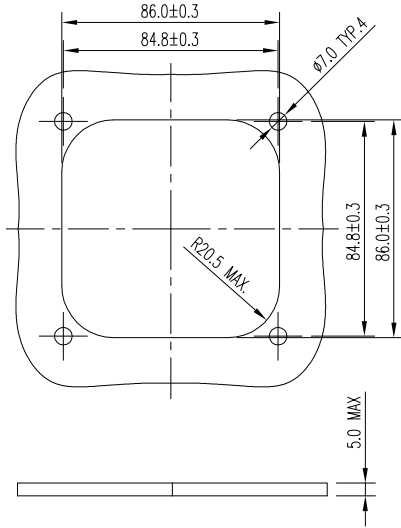
Receptacle can be front or rear mounted

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	

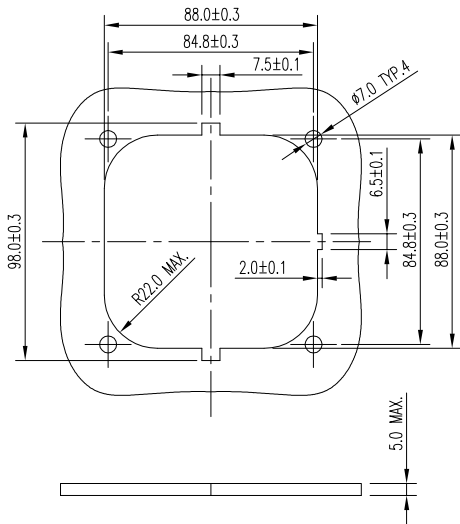
PRODUCT DIMENSIONS



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				



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					

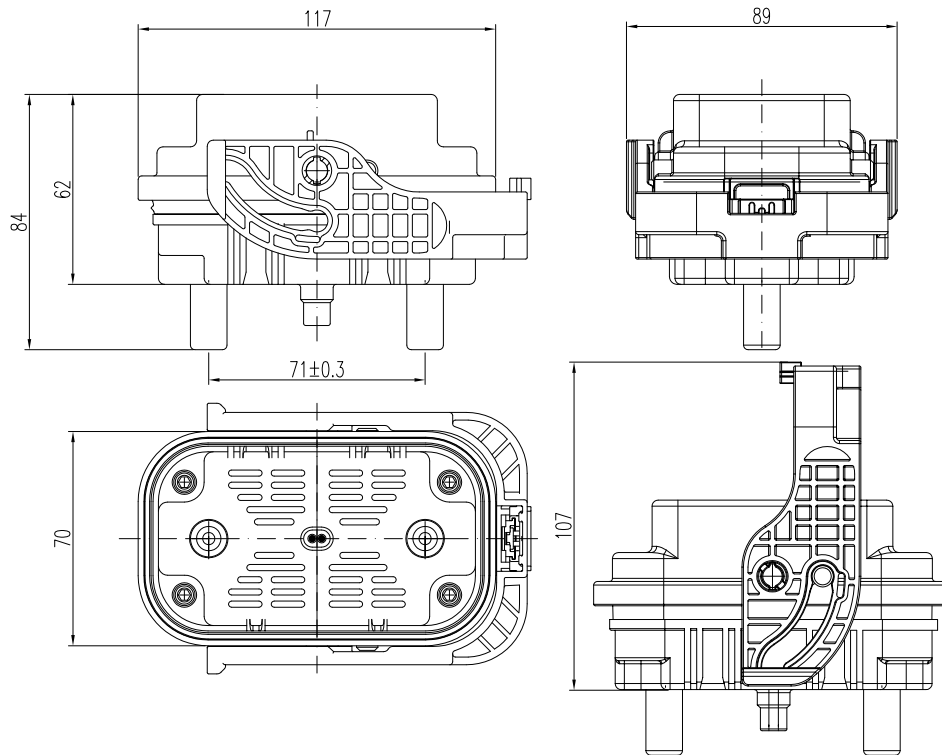


KEY FEATURES

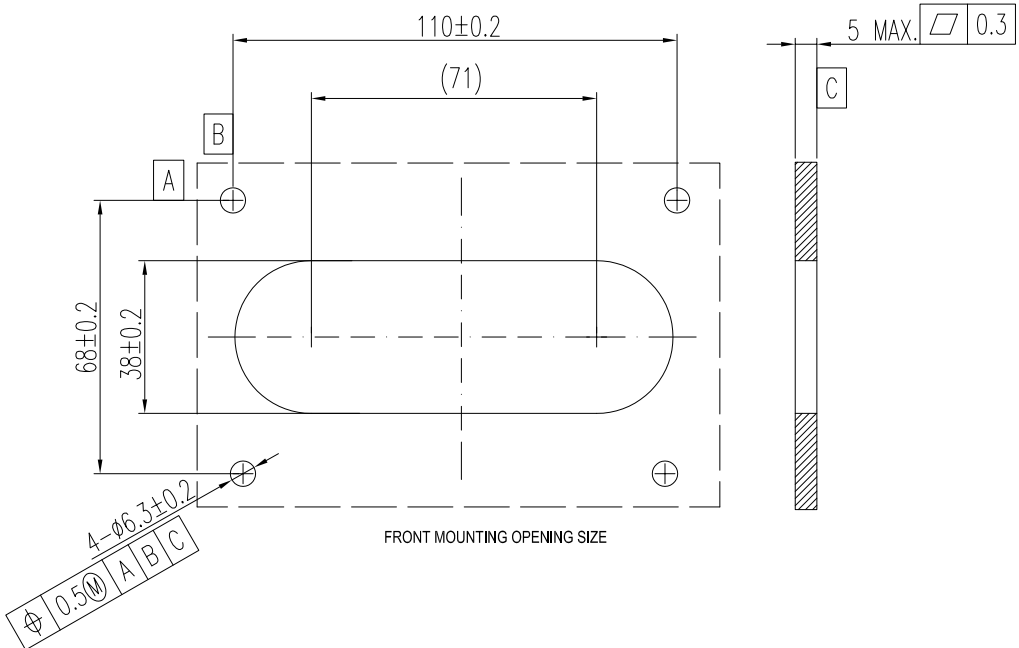
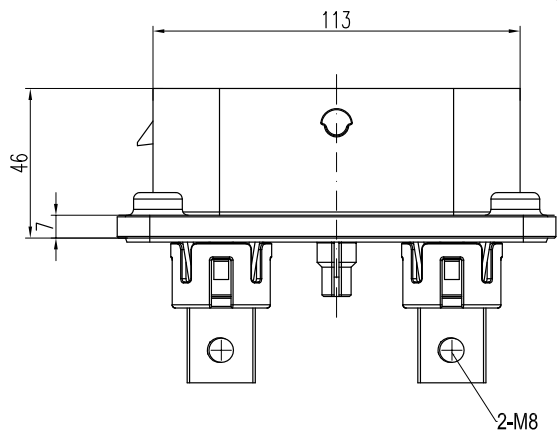
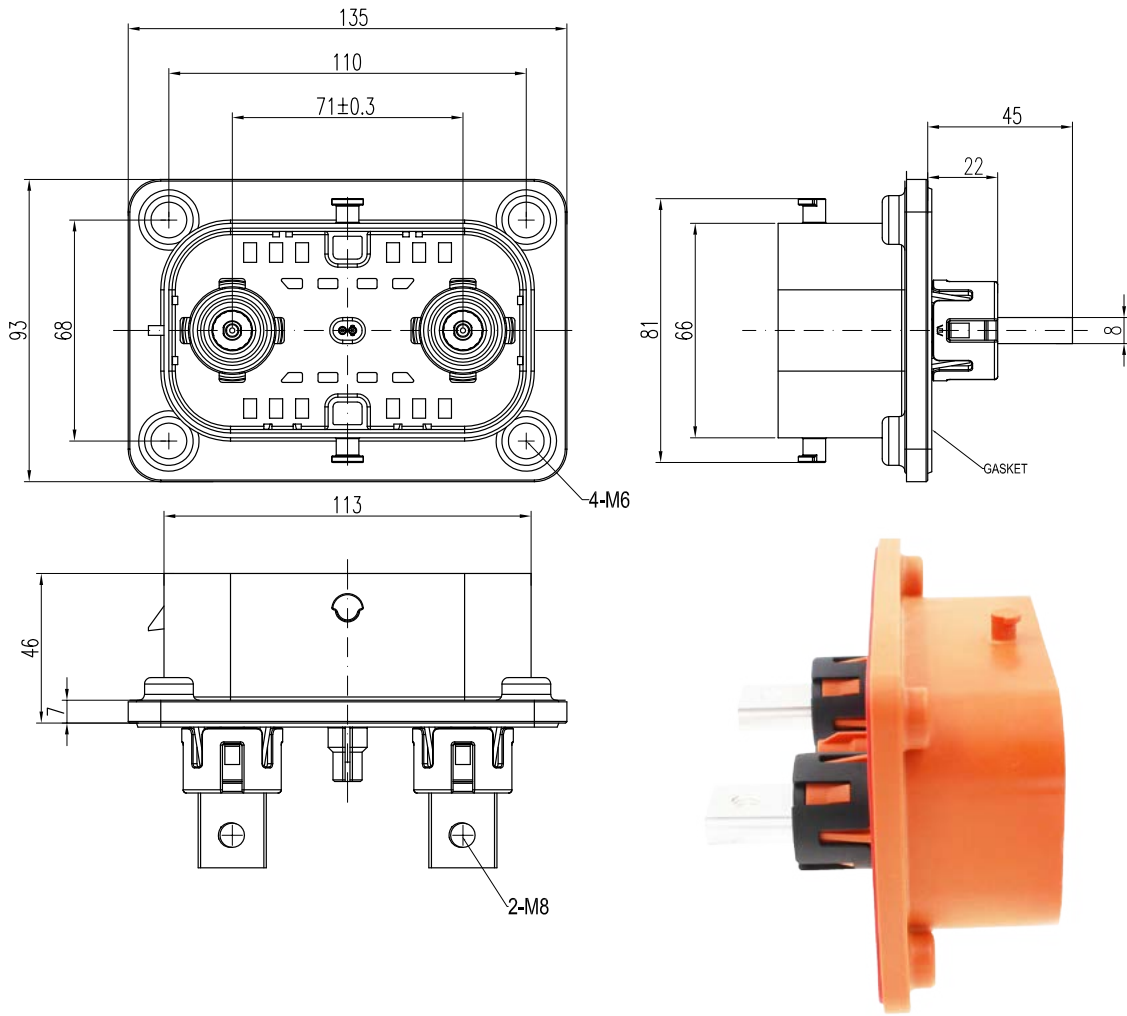
- 1 x integrated internal HVIL
- Unique cooling structure
- High current contacts with Amphenol Radsok technology
- No tools required to unmate
- Various fuse ratings
- Receptacle can be front or rear mounted

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	

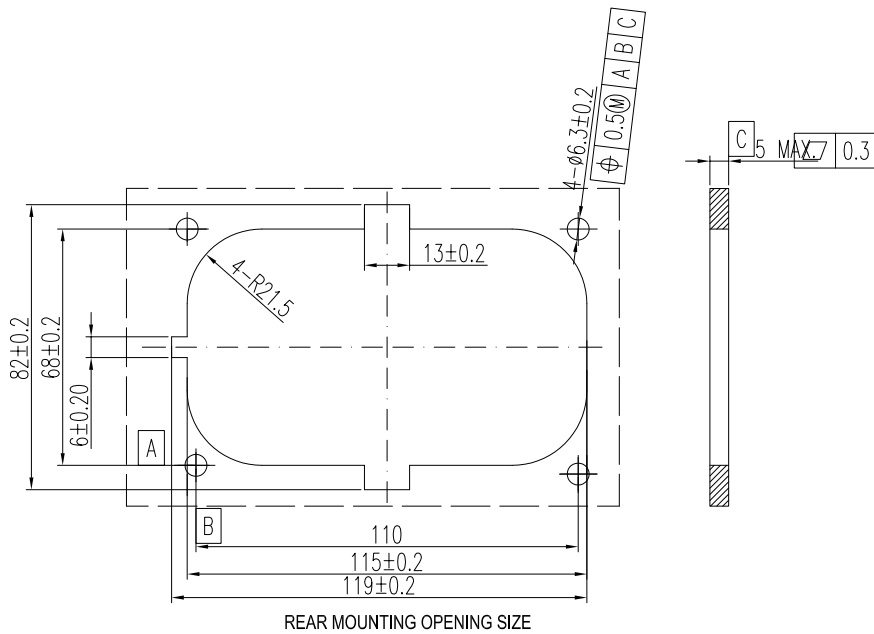
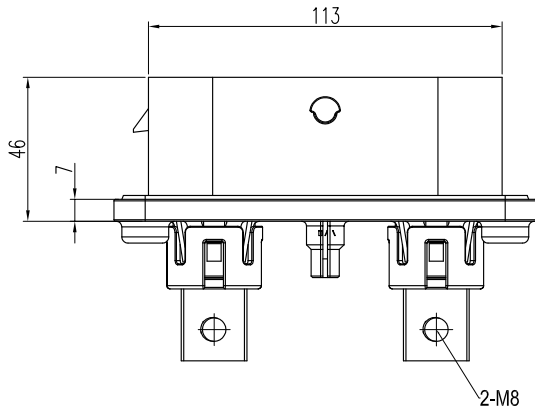
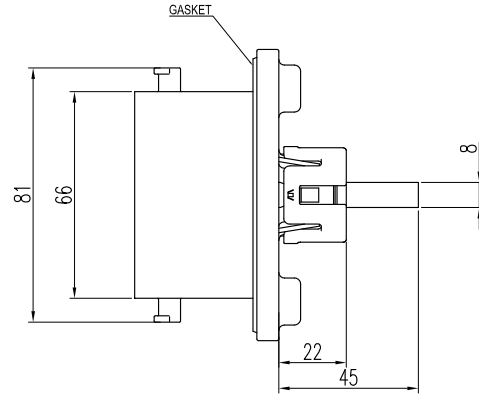
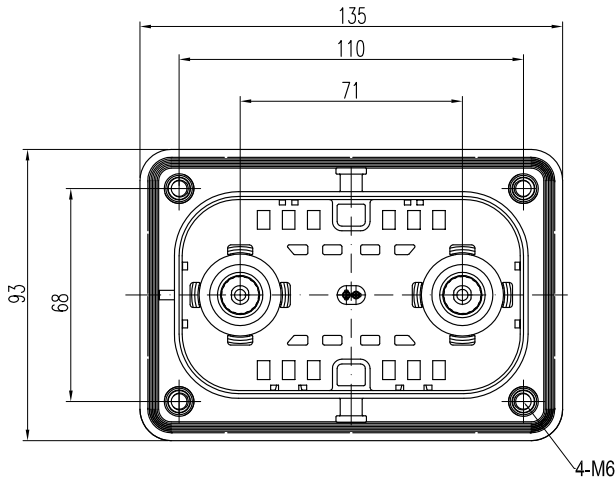
PRODUCT DIMENSIONS



FRONT MOUNTED



REAR MOUNTED



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
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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

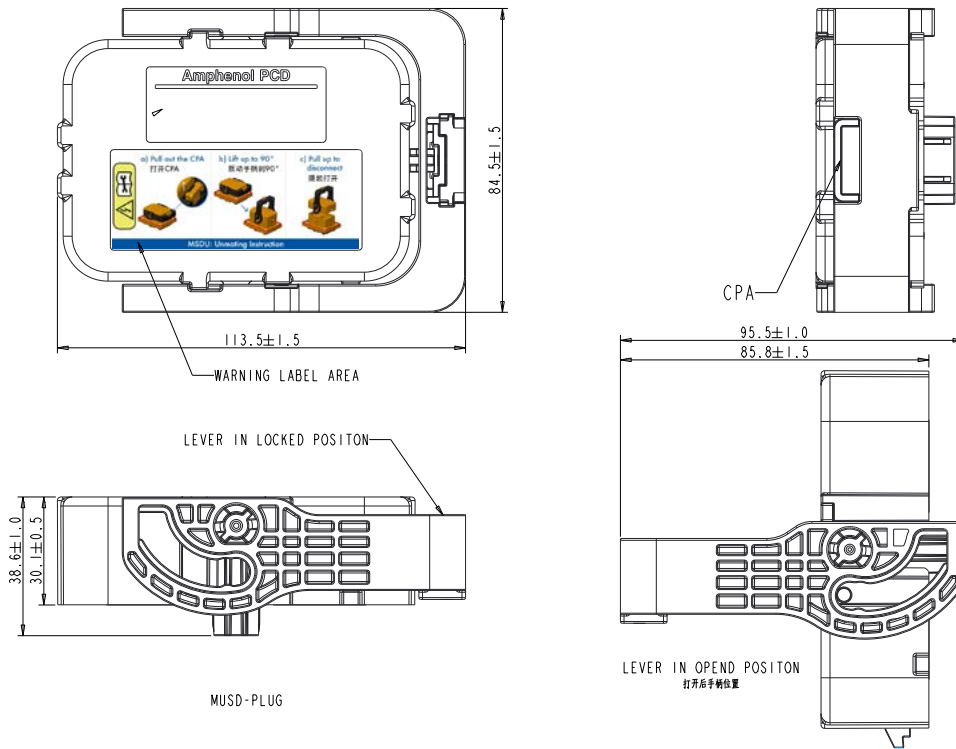
USCAR-37

LV-215

RoHS

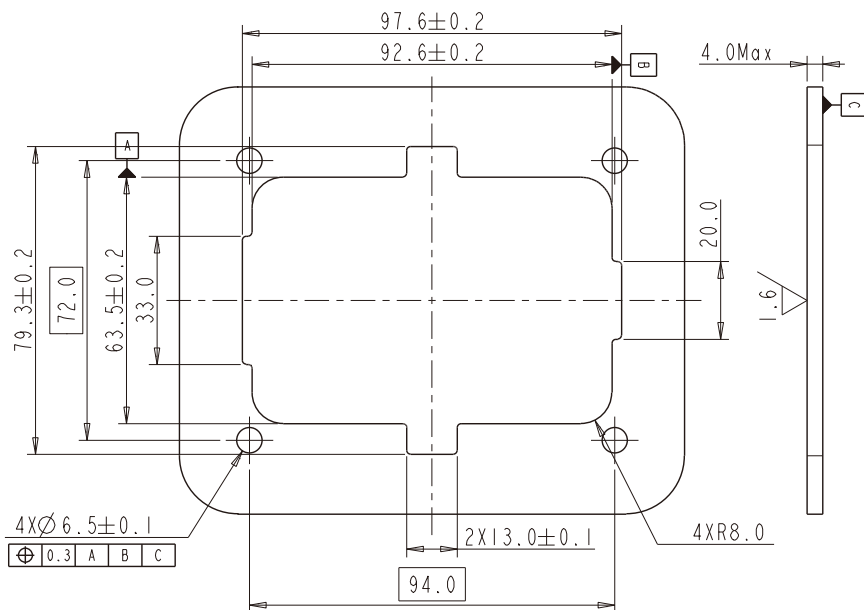
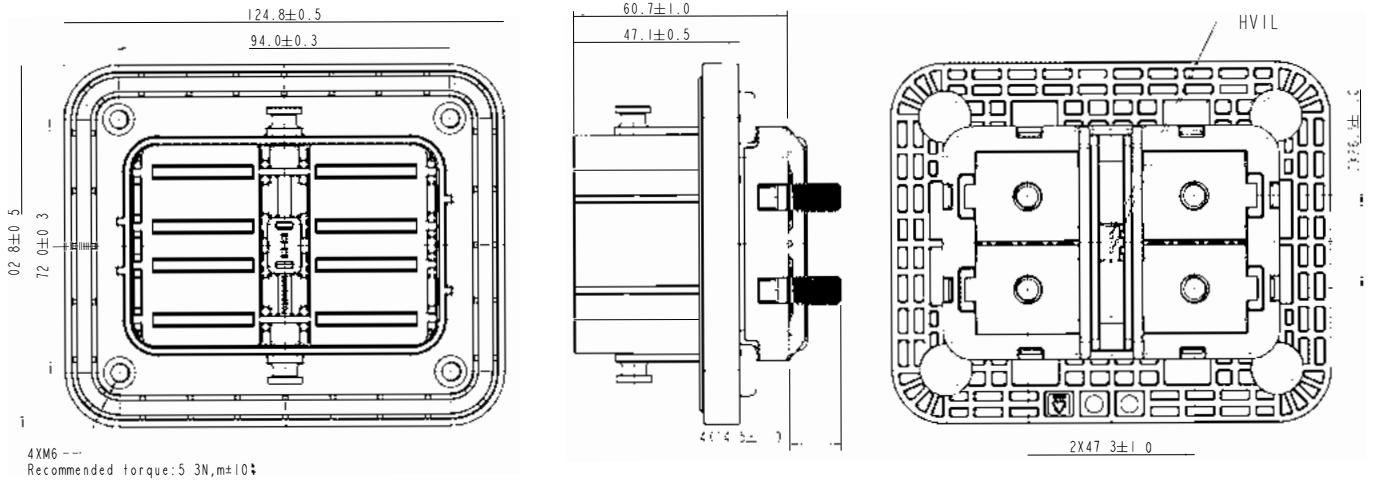
PRODUCT DIMENSIONS

PLUG P/N: MSDU0000



REAR MOUNTED

SOCKET P/N: MSDUF00R

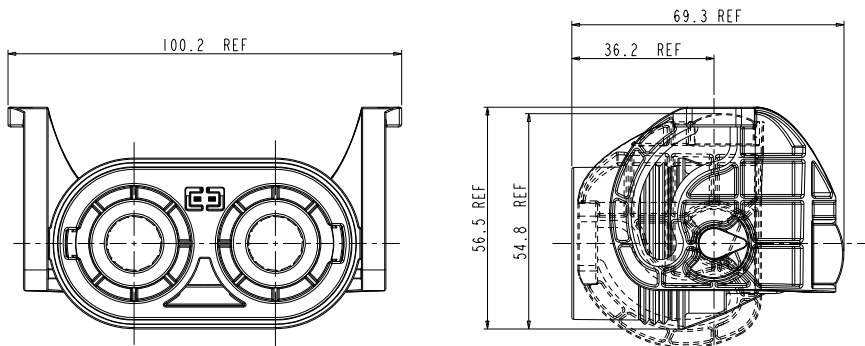


CHD SERIES - CHD14 2-PIN SHUNT

PLUG



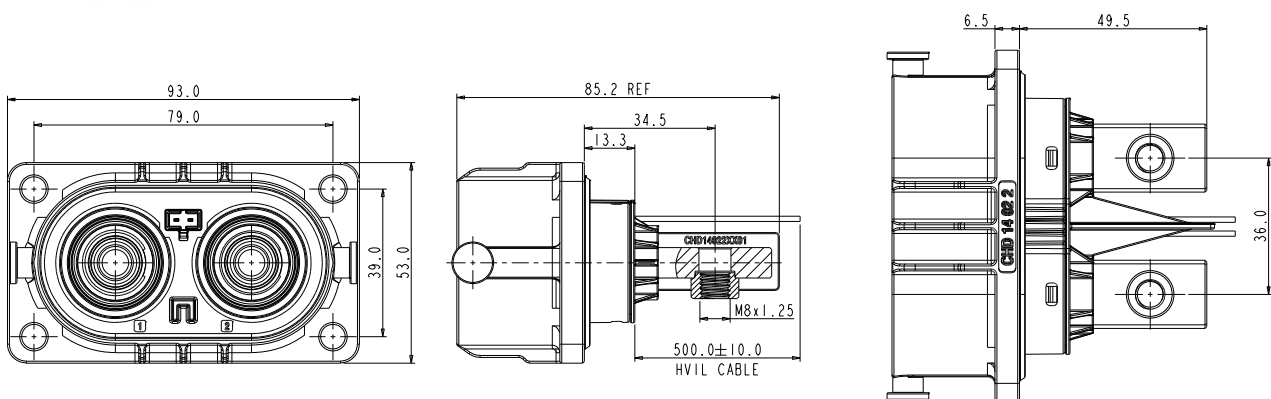
CHD 14 06 2 N 1 1 SC	with power terminal & with HVIL
CHD 14 06 2 N 0 0 SC	without power terminal & without HVIL



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.