



# EXCEL | MATE MSD

**Manual Service Disconnect** 



#### CONTENTS

PDC	3
PRODUCT DIMENSIONS	
MCMSD	8
PRODUCT DIMENSIONS	9
MINI MSD	10
PRODUCT DIMENSIONS	
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	
MSD	21
PRODUCT DIMENSIONS	
MSD V	25
HOW TO ORDER   MSD V	26
MSD XL	27
PRODUCT DIMENSIONS	
CHD SERIES	32
CHD10	34

# EXCEL|MATE MSD

650A										]
600A								630A	630A	
550A										
330A										
500A							500A			
450A										
400A				400A	400A	400A				
350A			shunt							
300A			version							
250A		250A								
00A		230/1								
50A										
100A										
50A	32A									
0A	PDC	CHD10	MCMSD	Mini MSD	Mini MSD V	Mini MSD Fuse Box	CHD14	MSD V MSDE	MSD XL	X A
	500V to 1000V	1500V	1500V	600V to 700V	600V to 750V	600V to 750V	1500V	500V to 800V	1000V	אורם יטנואטר טכ (יי)
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#### EXCEL|MATE PDC - TECHNICAL CHARACTERISTICS





# **KEY FEATURE**

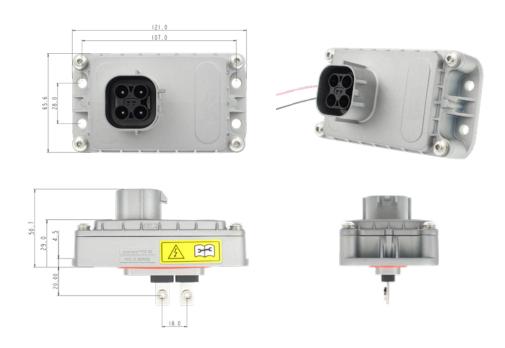
Waterproof (unmated socket): IP67

#### **DESCRIPTION**

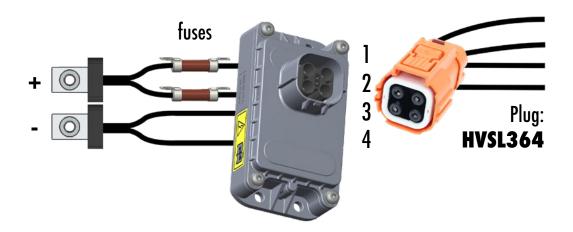
This Power Distribution Connector (PDC) finds its best use in the case where the PDU is already fully integrated into the Battery Pack. Without a PDC, we would need to entirely disassemble the Battery Pack to replace a blown fuse. However, using a PDC with removable fuses makes the replacement of blown 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 <sup>2</sup>	
ENVIRONMENTAL		
Ambient temperature:	40 to 70°C	
Waterproof (mated):	IP67, IP6K9K	
Waterproof (unmated socket):	IP67	
MATERIAL		
Housing:	Metallic	



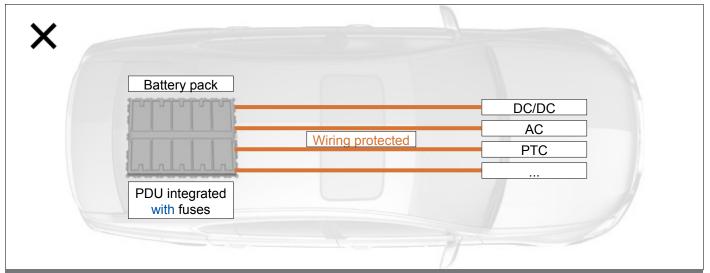






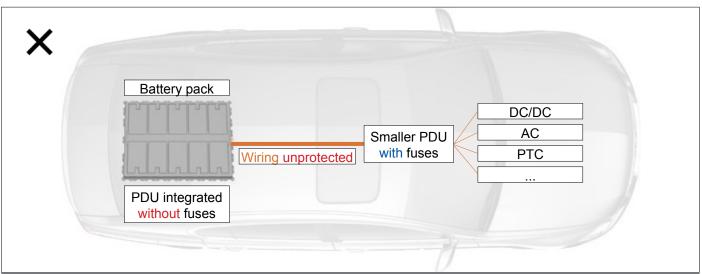
Basically, the PDC is a mini PDU-like type of connector!

#### Basic structure



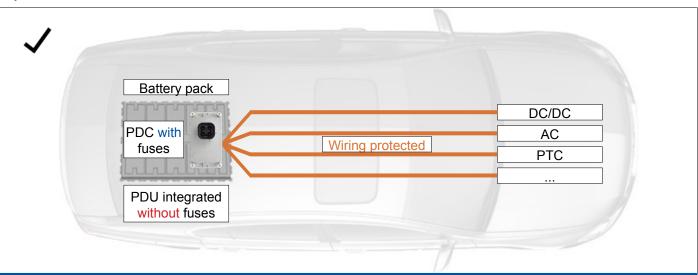
This structure **safely** secures the wiring, but once a fuse blows, its replacement requires a **complex** disassembly of the whole battery pack.

#### Workground structure



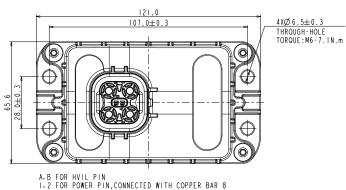
This workaround structure allows for an **easier** replacement of the fuses, which are placed in an external additional PDU. However, the wiring between the battery pack and this added PDU is **unprotected**.

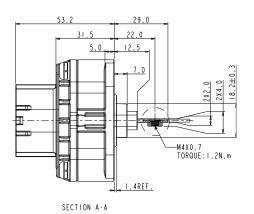
### Optimized structure



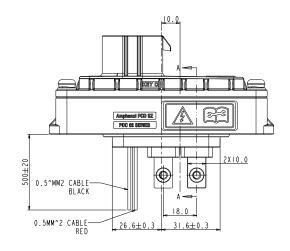
By adding a PDC connector to the battery pack, this optimized structure benefits from both a successfully protected wiring as well as an easy and effortless replacement of its fuses.

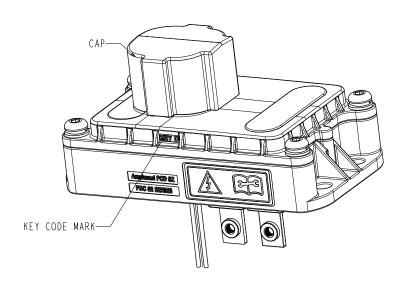
#### PRODUCT DIMENSIONS



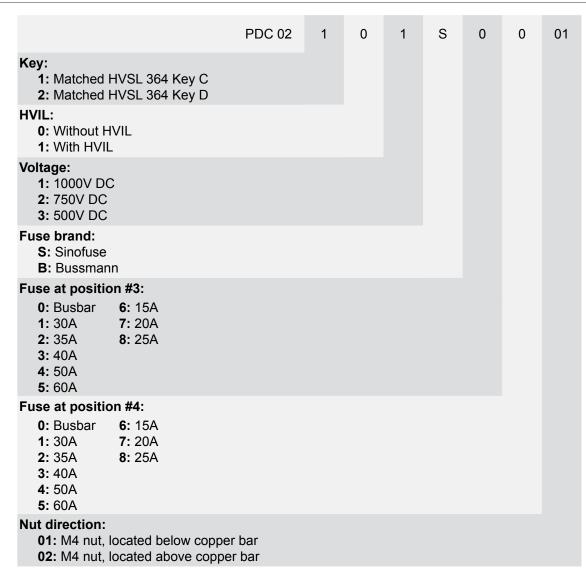


A.B FOR HVIL PIN
1.2 FOR POWER PIN, CONNECTED WITH COPPER BAR 8
3.4 FOR POWER PIN, CONNECTED WITH COPPER BAR 7, CONTAINED FUSE



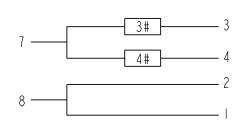


#### HOW TO ORDER - EXCEL|MATE PDC



#### 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.



RATING VOLTAGE	SINOFUSE	BUSSMANN
	30A	35A
10007	40A	40A
	50A	50A
	I 5 A	I5A
	20A	20A
	25A	25A
750V	30A	30A
	40 A	40A
	50A	50A
	N/A	60A
		15A
		20A
		25A
500V	N/A	30A
		40A
		50A
		60A

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

# EXCEL|MATE MCMSD - TECHNICAL CHARACTERISTICS





# **KEY FEATURE**

IP2XB (Socket): Yes

# **DESCRIPTION**

**MC**MSD is an Electric Vehicle-friendly connector that has been mainly designed for Energy Storage.

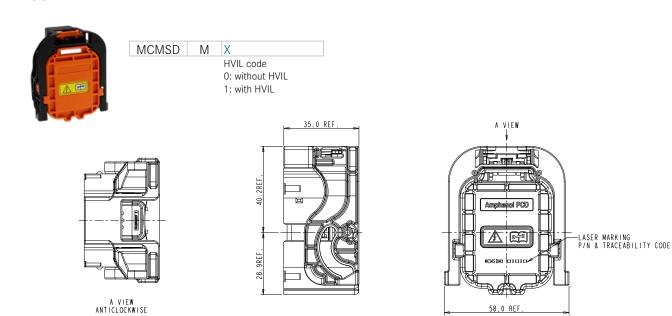
MECHANICAL			
Mating cycles	≥ 50 cycles		
ELECTRICAL			
Rated current:	350A@ ambient temperature 70°C		
Rated voltage:	1500V (DC)		
Insulation resistance:	200 MΩ Min		
Dielectric withstanding voltage:	4000V AC		
ENVIRONMENTAL			
Ambient temperature:	-40 to 70°C		
Operating temperature:	-40 to 125°C		
Waterproof (mated):	IP67, IP6K9K		
Touch-proof:	IP2XB		
STANDARDS			
RoHS			



Receptacle's cap

#### PRODUCT DIMENSIONS

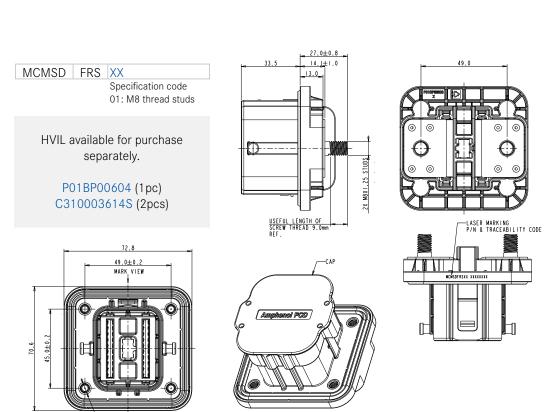
#### **PLUG**



4X M5X0.8 NUT

#### **RECEPTACLE**





58.0 REF



**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.

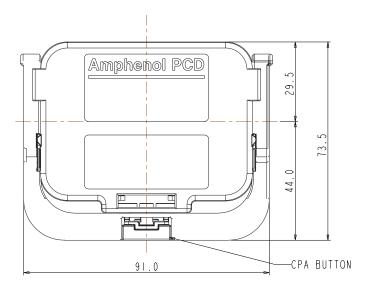
MECHANICAL

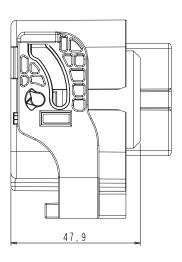
Mating cycles	≥ 50 cycles	
ELECTRICAL		
Fuse specification	up to 400A	
With fuse:		
Rated current	Current is approximately 1/3 the fuse rating (170A Max)	
Rated voltage	600 <b>V</b> to 700V DC	
With shunt:		
Rated current	170A Max	
Rated voltage	1500V DC Max	

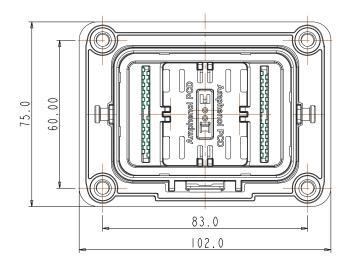
ENVIRONMENTAL		
Protection degree	IP67, IP6K9K (mated)	
Ambient temperature	-40°C to 70°C	
Storage temperature	-40°C to 85°C	
Operating temperature	-40°C to 125°C	
Flammability	UL94V0	

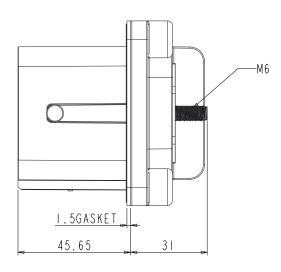
	STANDARDS
USCAR-2	
USCAR-37	
LV-215	
RoHS	

#### PRODUCT DIMENSIONS

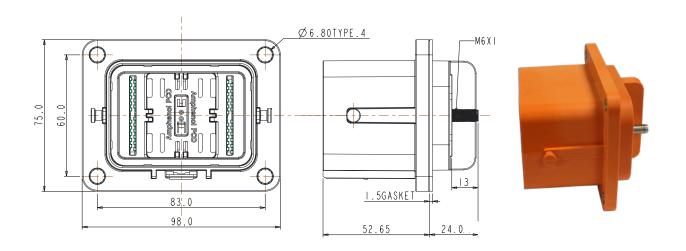




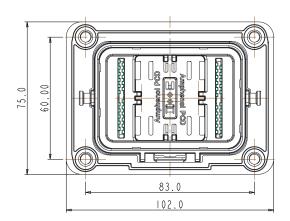


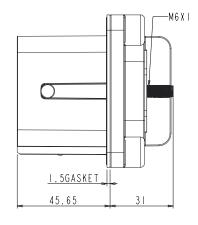


#### FRONT MOUNTED



#### **REAR MOUNTED**





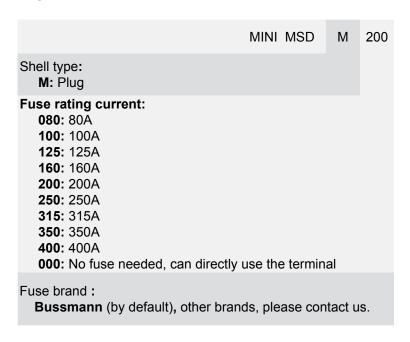


DUST CAP AVAILABLE: P/N: C270006809

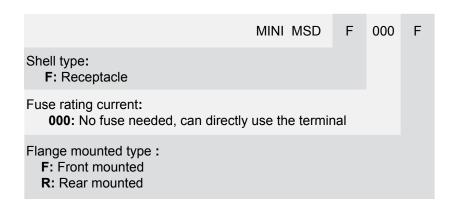




#### Plug



#### Receptacle







# **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

LV-215

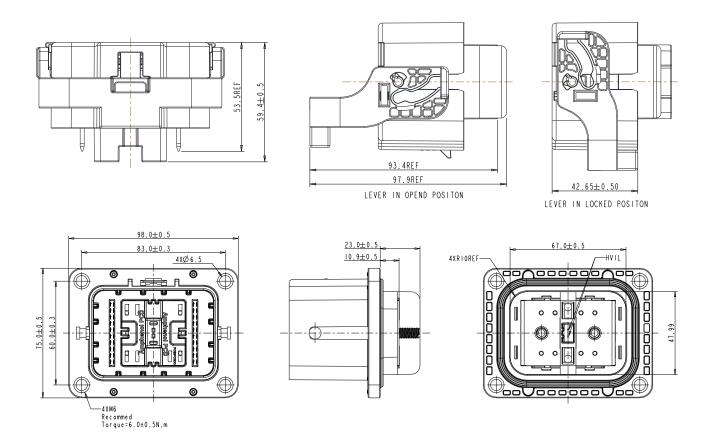
RoHS

#### **APPLICATION**

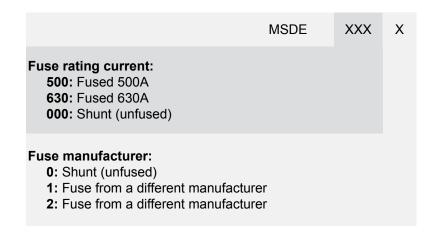
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.

MECHANICAL		
Mating cycles	≥ 50 cycles	
E	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	
EN\	/IRONMENTAL	
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		

#### PRODUCT DIMENSIONS



#### HOW TO ORDER - EXCELIMATE MSDE





#### **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		

ELECTRICAL		
up to 400A		
Current is approximately 1/3 the fuse rating (220A Max)		
750V DC		
220A Max		
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		

#### **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

RoHS

#### HOW TO ORDER - EXCEL|MATE MINI MSD V

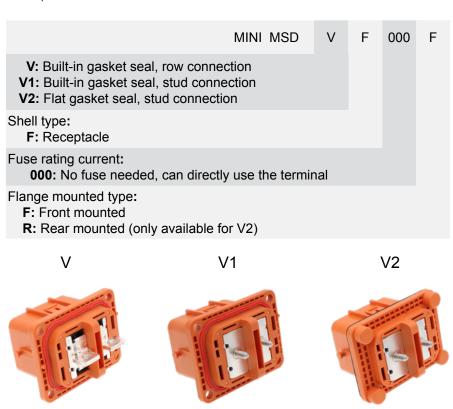
Plug: With fuse

	MINI N	/ISD	М	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: <b>Bussmann</b> (by default), other	brands, plea	se con	tact ι	JS.

Plug: With shunt

	MINI MSE	VM	000
Shell type: <b>VM</b> : Plug, shunt			
000: No fuse needed, can directly	use the term	inal	

#### Receptacle



# EXCEL|MATE MINI MSD FUSE BOX - TECHNICAL CHARACTERISTICS







# **KEY FEATURES**

Small in size Removable housing

# DESCRIPTION

• Small in size

Seal ring material

Removable housing

ELECTRICAL
With fuse

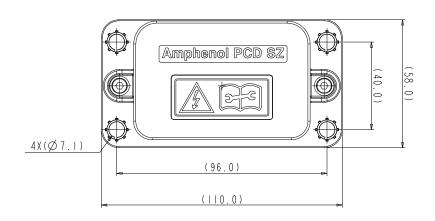
Version T (plugged version):	
80A to 315A	700V DC
350A & 400A	600V DC

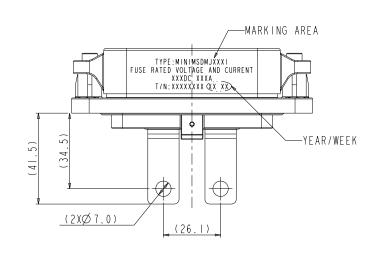
Version J (screwed version):	
80A to 350A	750V DC
400A	700V DC

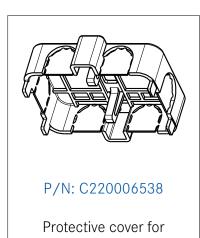
ENVIRONMENTAL		
Protection degree	IP67	
MATERIAL		
Plastic shell material	PA66+GF	
Terminal Material	Copper Alloy	

Silicone rubber

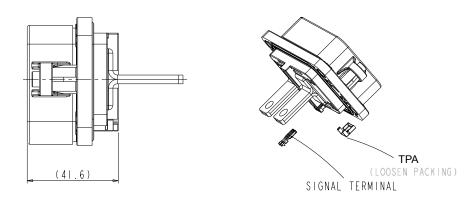
#### PRODUCT DIMENSIONS







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	Χ
Fuse rating current: 080: 80A 100: 100A 125: 125A 160: 160A 200: 200A 250: 250A 315: 315A 350: 350A 400: 400A		
X: Fuse Brand		



# Version J (screwed version):



	MINI MSI	) J	080	X
Fuse rating current:				
<b>080</b> : 80Å				
<b>100</b> : 100A				
<b>125</b> : 125A				
<b>160</b> : 160A				
<b>200</b> : 200A				
<b>250</b> : 250A				
<b>315</b> : 315A				
3 <b>50</b> : 350A				
<b>400</b> : 400A				
X: Fuse Brand				



# **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

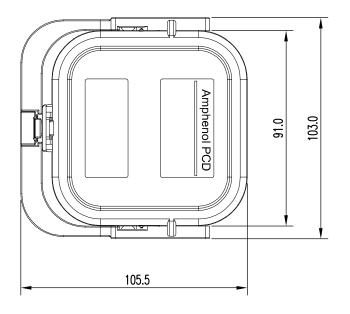
Receptacle can be front or rear mounted

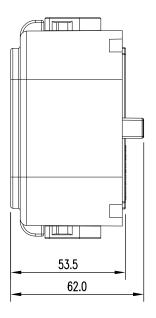
#### APPLICATION

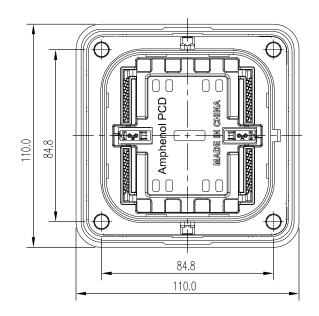
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.

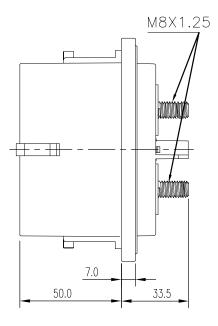
MECHANICAL			
Mating cycles	≥ 50 cycles		
ELECTRICAL			
Fuse specification	up to 630A		
With fuse:			
Rated current	Current is approximately 1/3 the fuse rating		
Rated voltage	500V DC to 600V DC		
With shunt:			
Rated current	260A Max @ Ambient 70°C		
Rated voltage	1000V DC Max		
ENVIRC	NMENTAL		
Protection 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			

#### PRODUCT DIMENSIONS

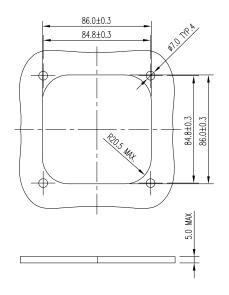






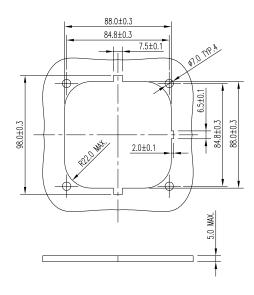


#### FRONT MOUNTED





#### **REAR MOUNTED**





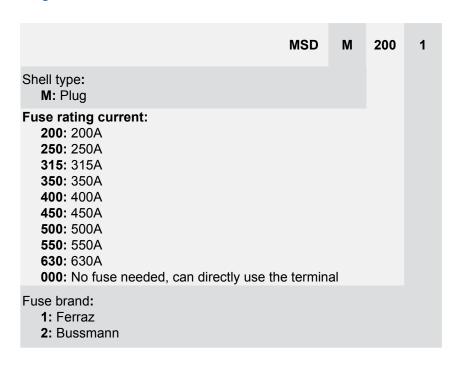
DUST CAP AVAILABLE P/N: C270006810



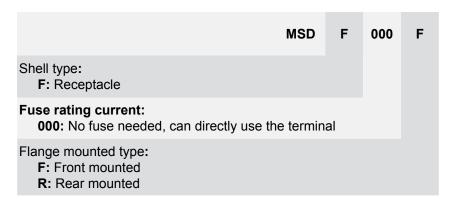


#### HOW TO ORDER - EXCELIMATE MSD

#### Plug



#### Receptacle



#### 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

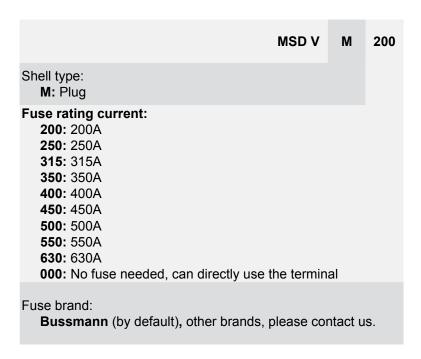
Receptacle can be front or rear mounted

# **APPLICATION**

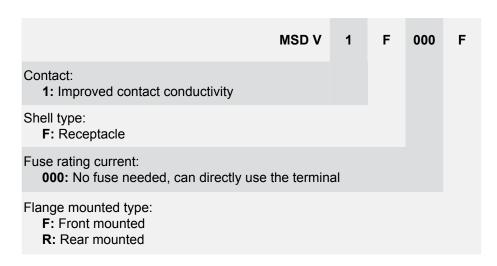
It is a tool-free solution for disconnecting the internal high voltage battery pack and protecting it from short circuit.

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	
ENVIRC	NMENTAL	
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



#### Receptacle



#### EXCELIMATE MSD XL - TECHNICAL CHARACTERISTICS



#### **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	
up to 630A	
With fuse:	
300A	
1000V DC	
With shunt:	
350A	
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	
OTANDADDO		

STANDARDS	
USCAR-2	
USCAR-37	
LV-215	
RoHS	

# **KEY FEATURES**

1 x integrated internal HVIL

Unique cooling structure

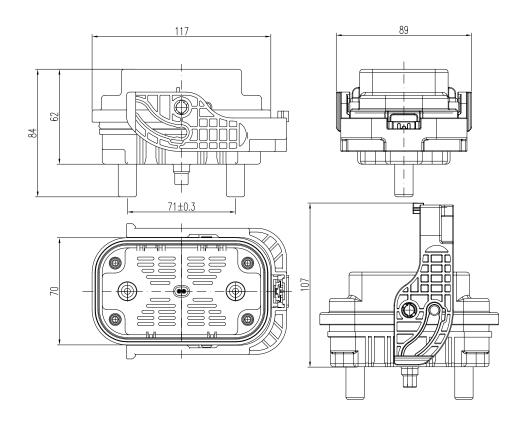
High current contacts with Amphenol Radsok technology

No tools required to unmate

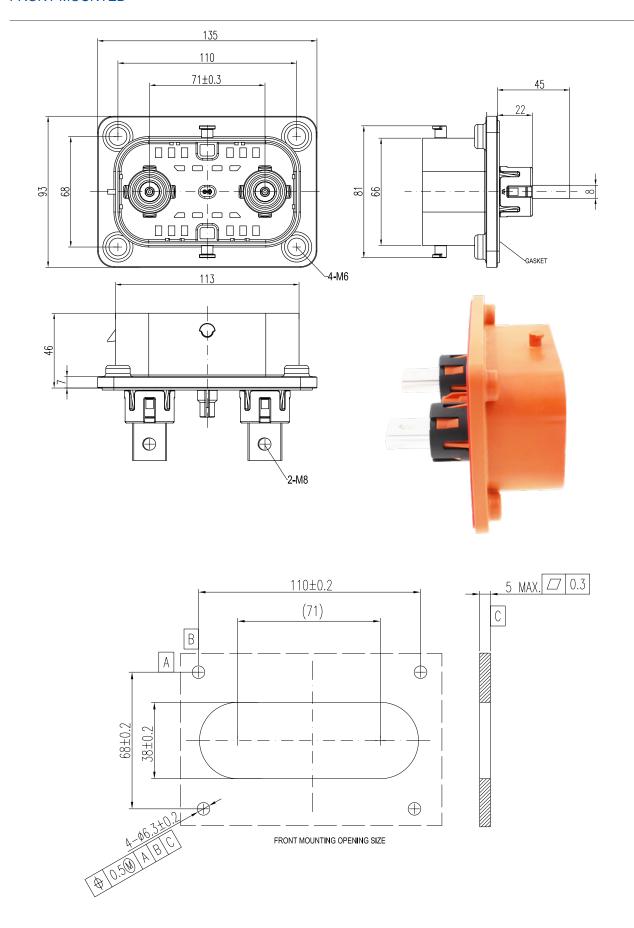
Various fuse ratings

Receptacle can be front or rear mounted

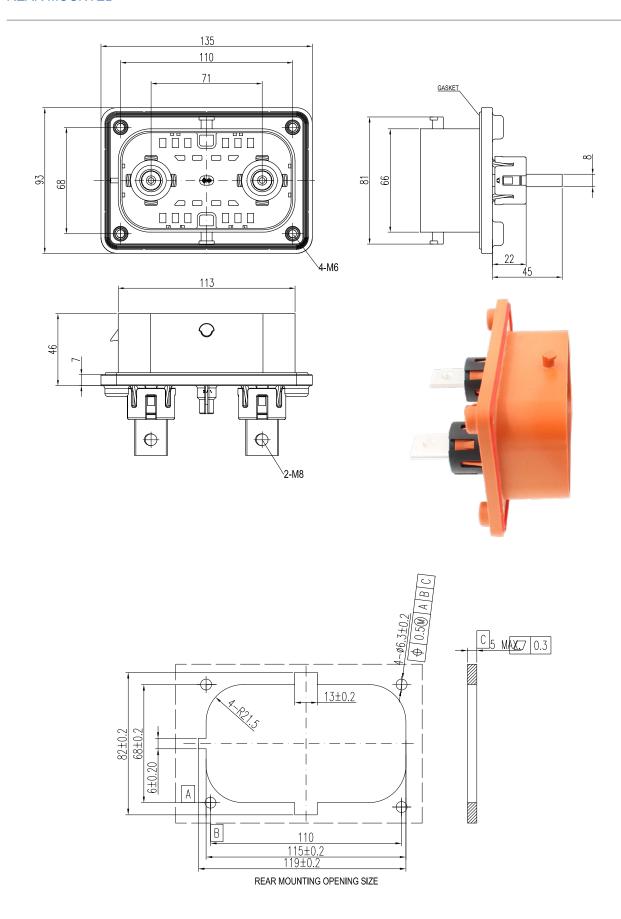
# PRODUCT DIMENSIONS



#### FRONT MOUNTED

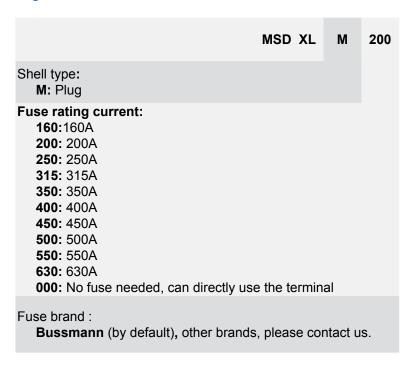


#### **REAR MOUNTED**

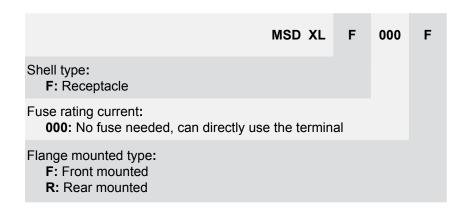


#### HOW TO ORDER - EXCEL|MATE MSD XL

#### Plug



#### Receptacle



#### **CHD SERIES**







# **KEY FEATURES**

- Unmated socket: IP67Salt Spray over 500HRated current up to 500ARated voltage up to 1500V

#### APPLICATIONS

CHD has been designed for high-power charging in harsh

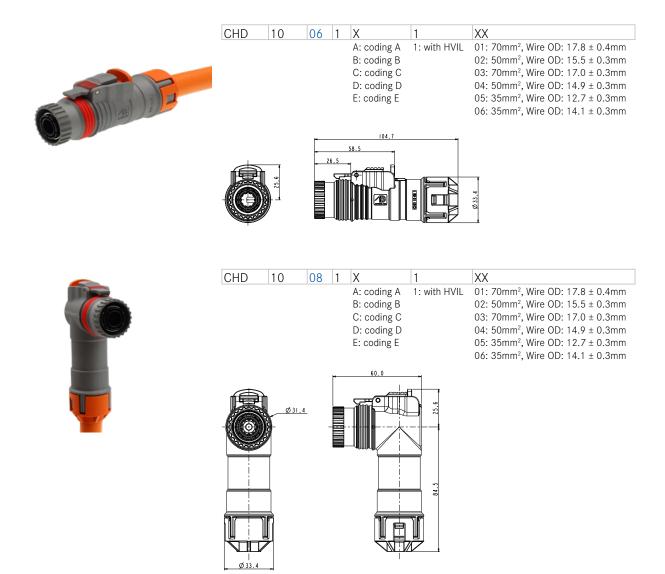
environments.		
MECHANICAL		
Durability	> 50 mating cycles	
ELECTRICAL		
Rated voltage	1500V Max. (DC)	
Rated current:		
70mm <sup>2</sup> shield cable	300A@ Ambient temp. 70°C	
95mm² shield cable	400A@ Ambient temp. 70°C	
120mm <sup>2</sup> shield cable	450A@ Ambient temp. 70°C	
150mm <sup>2</sup> shield cable	500A@ Ambient temp. 70°C	
Shielding	Yes	
ENVIRONMENTAL		
Sealing	IP67, IP6K9K (mated)	
Temperature range	-40°C to 125°C	

MATERIAL		
Housing	Aluminum alloy	
Contacts	Copper alloy, silver plating	
Insulator	Flame-retardant thermoplastic composition	
Sealing	Rubber	

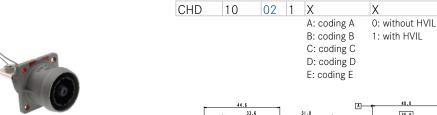
500h Min.

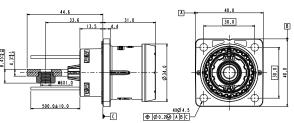
Salt spray

#### CHD10 | PLUGS



#### CHD10 | RECEPTACLE

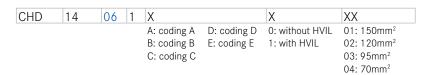




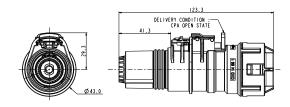
Unmated socket: IP67

01

#### CHD14 1-PIN | PLUG

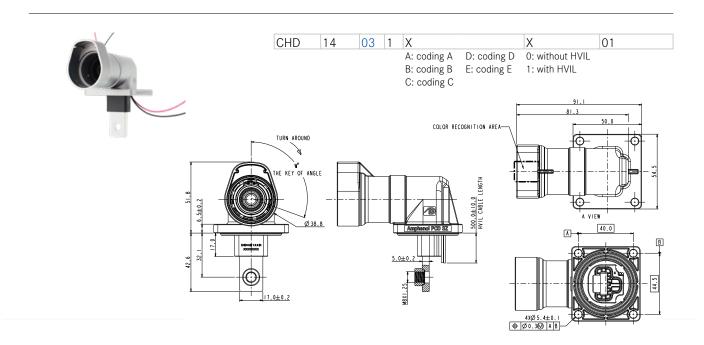






#### CHD14 1-PIN | RECEPTACLES

Unmated sockets: IP67



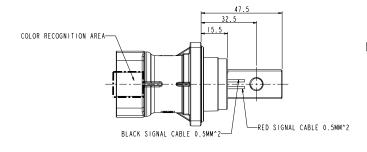


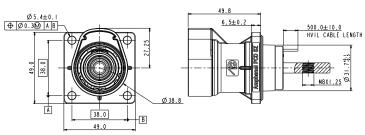
CHD 14 02 1 X X 01

A: coding A D: coding D 0: without HVIL

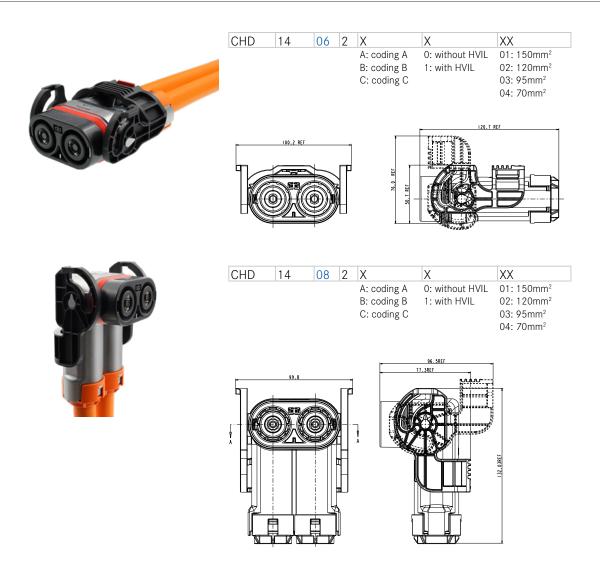
B: coding B E: coding E 1: with HVIL

C: coding C





#### CHD14 2-PIN | PLUGS



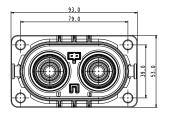
#### CHD14 2-PIN | RECEPTACLE

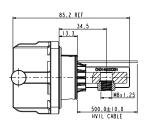
CHD 14 02 2 X X 01

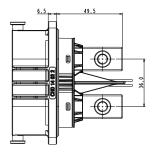
A: coding A 0: without HVIL

B: coding B 1: with HVIL

C: coding C







Unmated socket: IP67

#### CHD14 2-PIN SHUNT | PLUG

#### **PLUG**

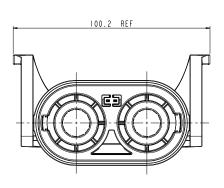


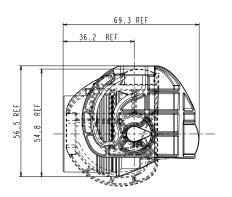
CHD 14 06 2 N 1 1 SC 

→ with power terminal & with HVIL

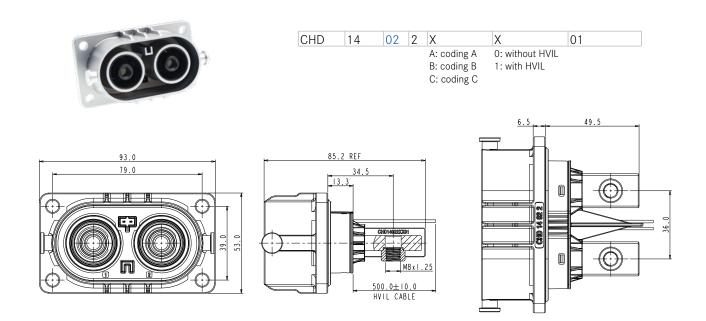
CHD 14 06 2 N 0 0 SC 

→ without power terminal & without HVIL





#### CHD14 2-PIN **SHUNT** | RECEPTACLE





#### Amphenol PCD Shenzhen

Building C Dagang Industrial Zone Guangming District Shenzhen 518132 China

Tel.: +86 755-8173-8000

Email: inquiry@amphenolpcd.com.cn

www.amphenolpcd.com.cn

#### Notes:

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