



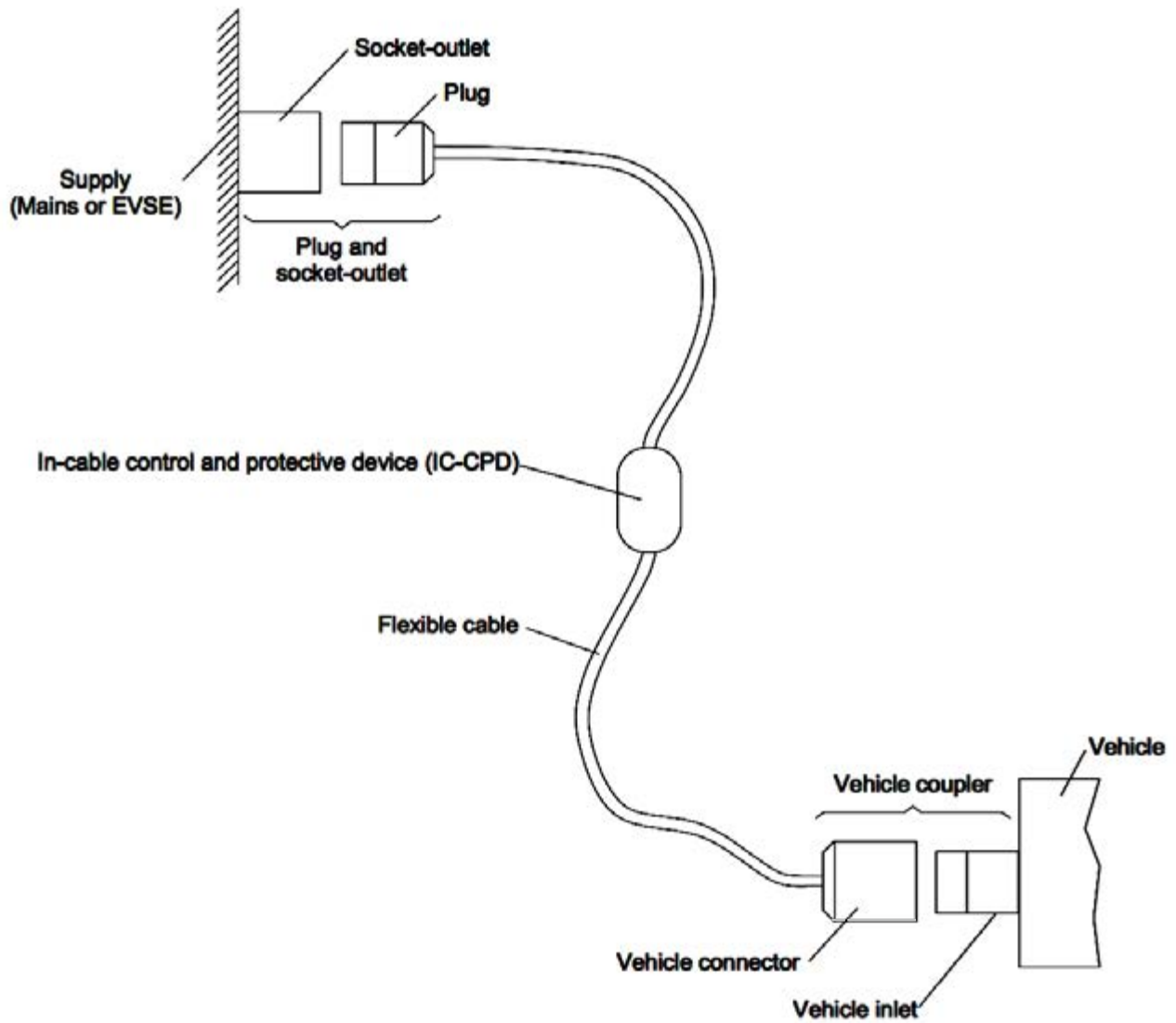
EXCEL | MATE CC (Charging Coupler)

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IEC STANDARD 62196-2



STANDARD SHEET	
Socket-outlet	Standard sheet 2-IIa
Plug	Standard sheet 2-IIb
Vehicle connector	Standard sheet 2-IIe
Vehicle inlet	Standard sheet 2-IIf

IEC STANDARD 62196-2



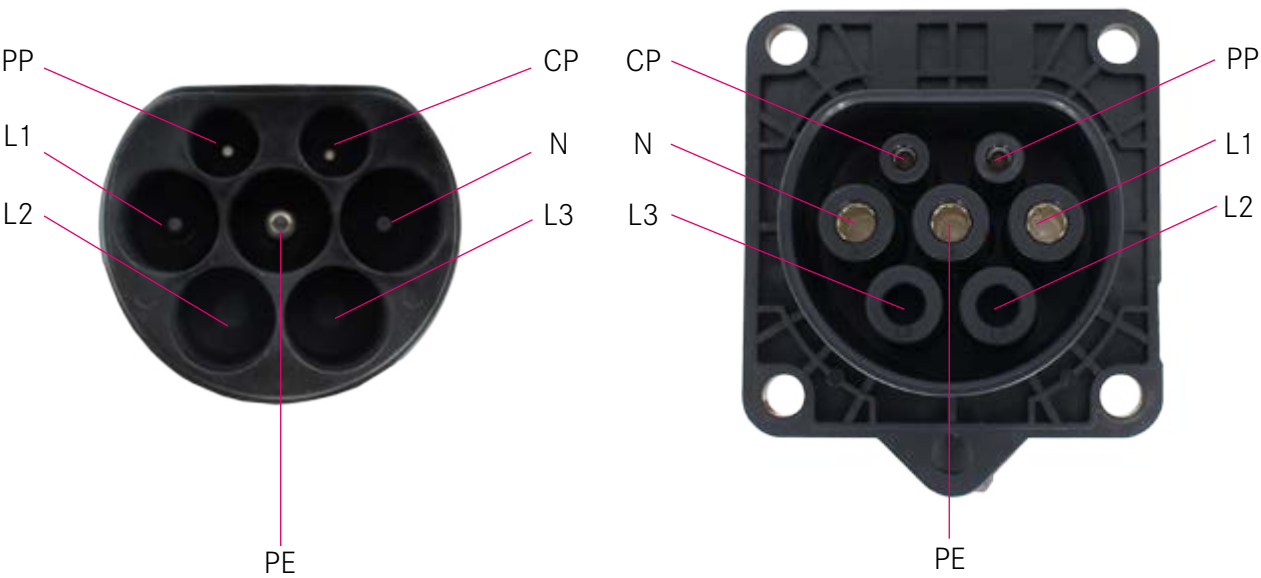
KEY FEATURES:

Compliant with:
IEC 62196-2
IEC 61851-1

High current contacts with
Amphenol Radsok technology

MECHANICAL		
Mating cycles	> 10,000 cycles (unloaded)	
Connector (in mated condition) retention force:		
AC coupler	Unmating	100N Max
	Mating	100N Min
ELECTRICAL		
Rated current	See page 7	
Rated voltage	See page 7	
Contact resistance	0.5MΩ Max	
Insulation resistance	>100MΩ (DC500V)	
ENVIRONMENTAL		
Protection degree	IP55 (mated)	
Ambient temperature	-30°C to 50°C	
MATERIAL		
Shell	Thermoplastic	
Contact	Copper alloy, silver or nickel plating	
Inserts	Thermoplastic	
Sealing gasket	Rubber or silicon rubber	
Insulator inflammability	UL94V0	

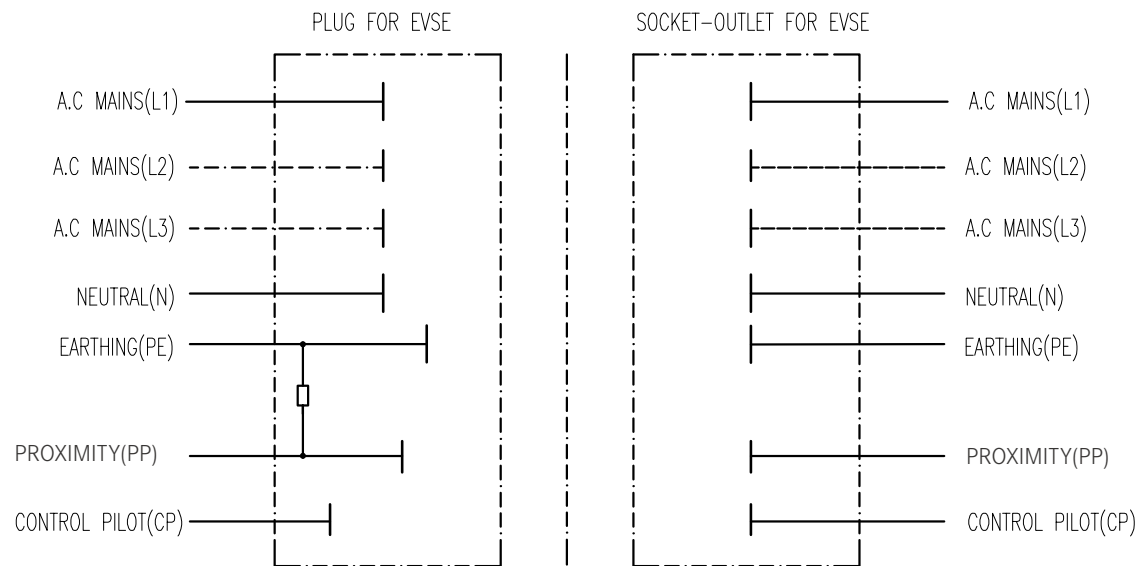
INSERT ARRANGEMENTS



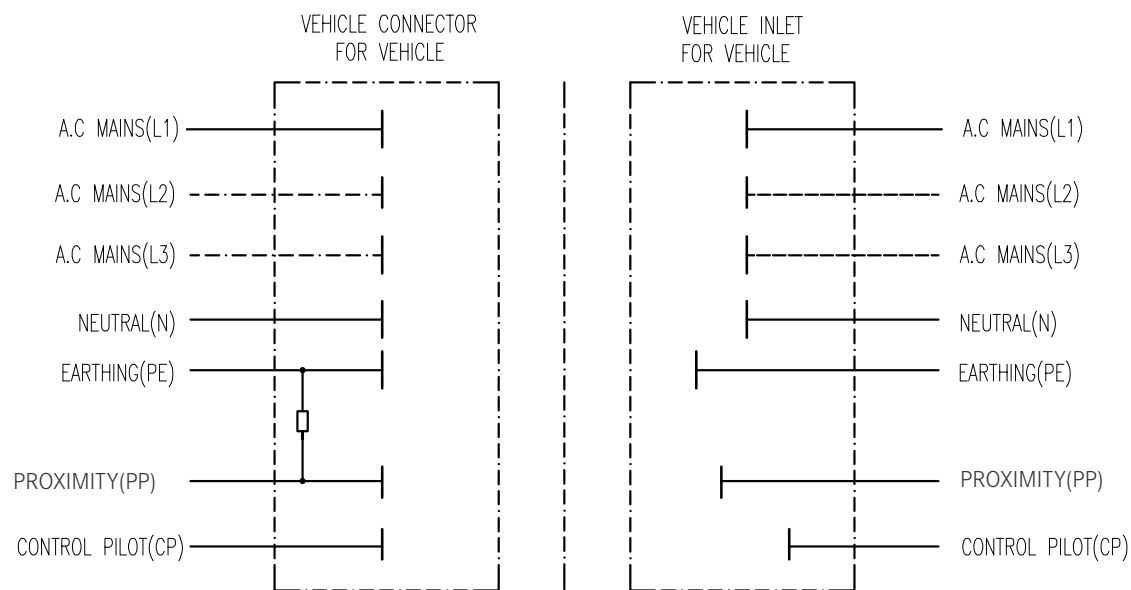
CONFIGURATION

A.C. Type 2		Functions
1-Phase	3-Phase	
250V (16A), 20A, 32A	480V 16A, 20A, 32A	L1 (Mains 1)
-	480V 16A, 20A, 32A	L2 (Mains 2)
-	480V 16A, 20A, 32A	L3 (Mains 3)
250V (16A), 20A, 32A	480V 16A, 20A, 32A	N (Neutral)
Rated for fault		PE (Protective Ground/Earth)
30V 2A		CP (Control pilot)
30V 2A		PP (Proximity)

Circuit diagram for EVSE charging coupler



Circuit diagram for vehicle coupler



AC TYPE 2 COUPLER FOR EVSE SIDE

Socket-outlet



Type 2 / Mode 3	Part Number (without cable)		
	16/20A	1-Phase	HVCOIFSR6SS502L0000
	16/20A	3-Phase	HVCOIFSR6SS702L0000
	32A	1-Phase	HVCOIFSR6SF510L0000
	32A	3-Phase	HVCOIFSR6SF710L0000
	63A	1-Phase	HVCOIFSR6SF516L0000
	63A	3-Phase	HVCOIFSR6SF716L0000

Compliant with IEC 62196-2 standard 2-II a.

Configuration:

250V | (16A), 20A, 32A or 63A | 1-phase
 480V | (16A), 20A, 32A or 63A | 3-phase

Electronic lock and Solenoid lock both available

3 positions (120° rotatable):

4 o'clock, 8 o'clock, 12 o'clock

More features:

Protection cap, water drainage design, rear mount

Plug



Type 2 / Mode 3	Part Number (without cable)		
	16/20A	1-Phase	HVCOIMASR6PS502L0000
	16/20A	3-Phase	HVCOIMASR6PS702L0000
	32A	1-Phase	HVCOIMASR6PF506L0000
	32A	3-Phase	HVCOIMASR6PF706L0000

Compliant with IEC 62196-2 standard sheet 2-II b.

Configuration:

250V | 16A/20A or 32A | 1-phase
 480V | 16A/20A or 32A | 3-phase

AC TYPE 2 COUPLER FOR EV SIDE

Vehicle connector



Type 2 / Mode 3	Part Number (without cable)		
	16/20A	1-Phase	HVCOIMAR6PS502L0000
	16/20A	3-Phase	HVCOIMAR6PS702L0000
	32A	1-Phase	HVCOIMAR6PF506L0000
	32A	3-Phase	HVCOIMAR6PF706L0000

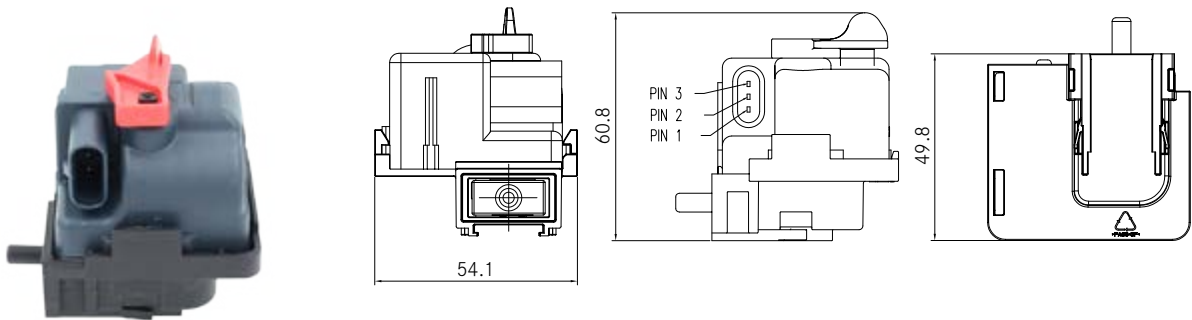
Compliant with IEC 62196-2 standard sheet 2-II e.

Configuration:

250V | 16A/20A or 32A | 1-phase
 480V | 16A/20A or 32A | 3-phase

LOCKING ACTUATOR

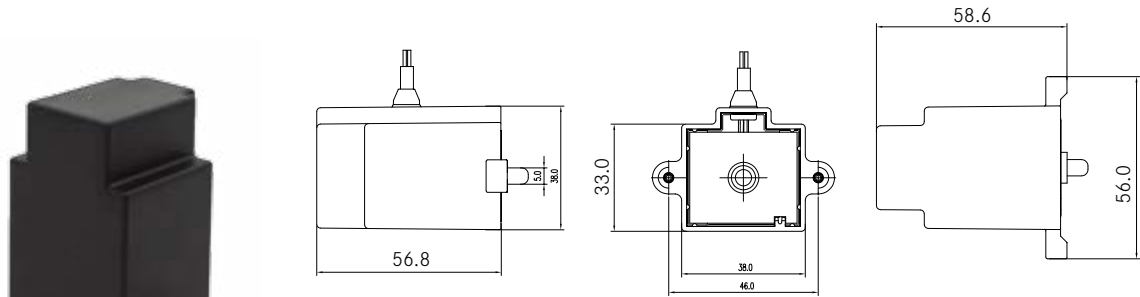
Electronic lock



P/N: HVCOACSELOCKH

E-LOCK	PIN 3	PIN 1	PIN 2 SIGNAL
UNLOCKING	+12V DC	-	
LOCKING	-	+12V DC	SIGNAL

Solenoid lock

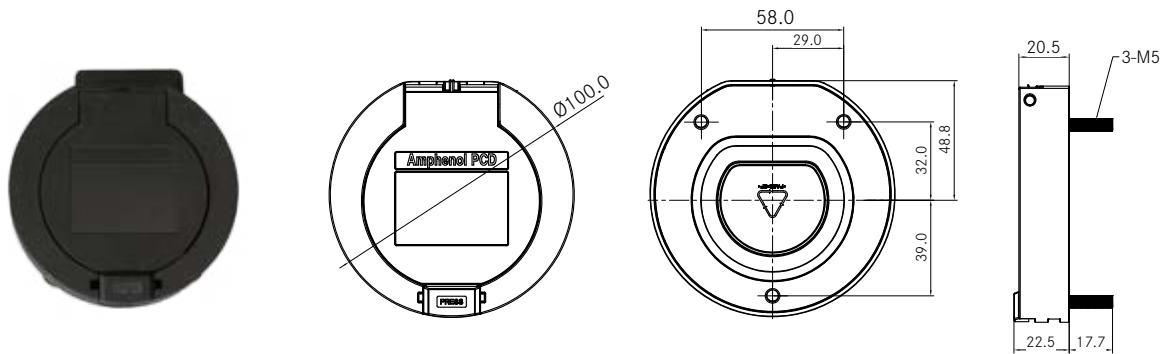


P/N: HVCOACSELOCKS

	LOCKING ACTUATOR		SIGNAL (Switch circuit)	
Wire color	Black	Yellow	Red	White
Lock	+12V	0V	Up to 250V AC	
Unlock	0V		0V	
Current	Initial current: 0.5A		0.1A	

PROTECTION CAP

Protection cap with hinged lid



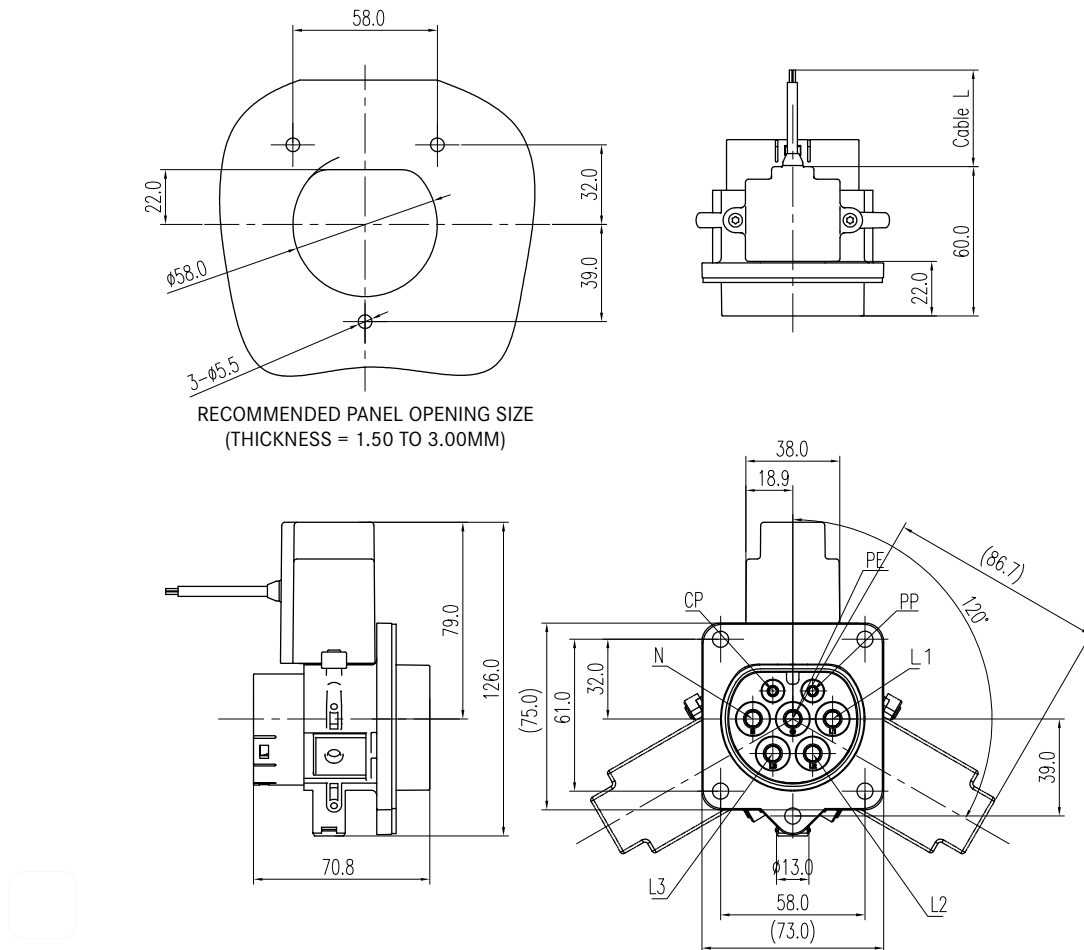
P/N: HVCOILIDA

Socket-outlet with electronic lock



SOCKET OUTLET DIMENSIONS

Socket-outlet with solenoid lock



12 o'clock

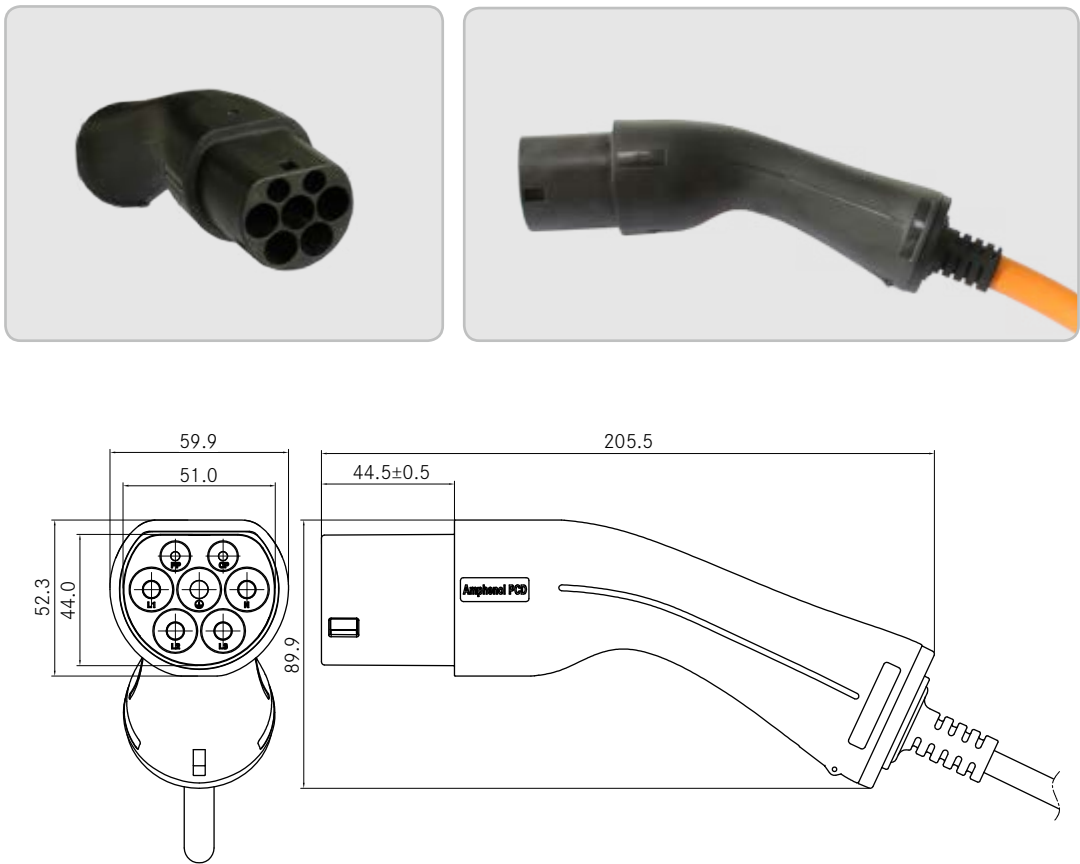


8 o'clock

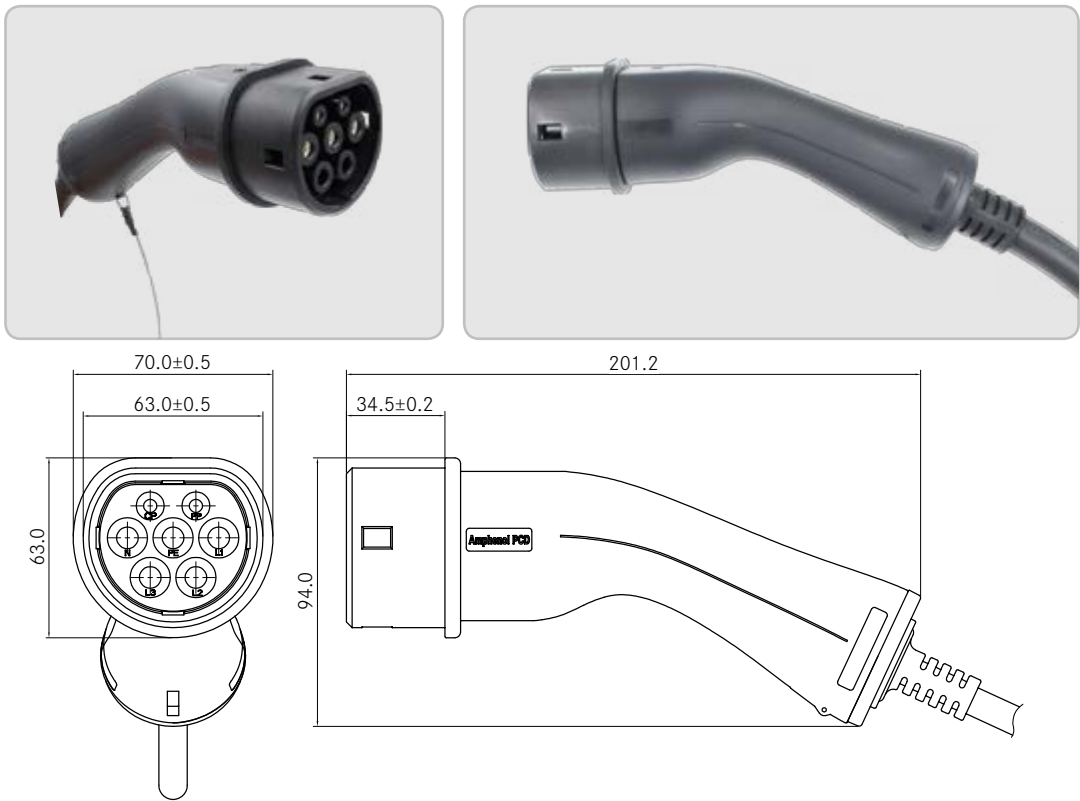


4 o'clock

PLUG DIMENSIONS (EVSE)



VEHICLE CONNECTOR DIMENSIONS

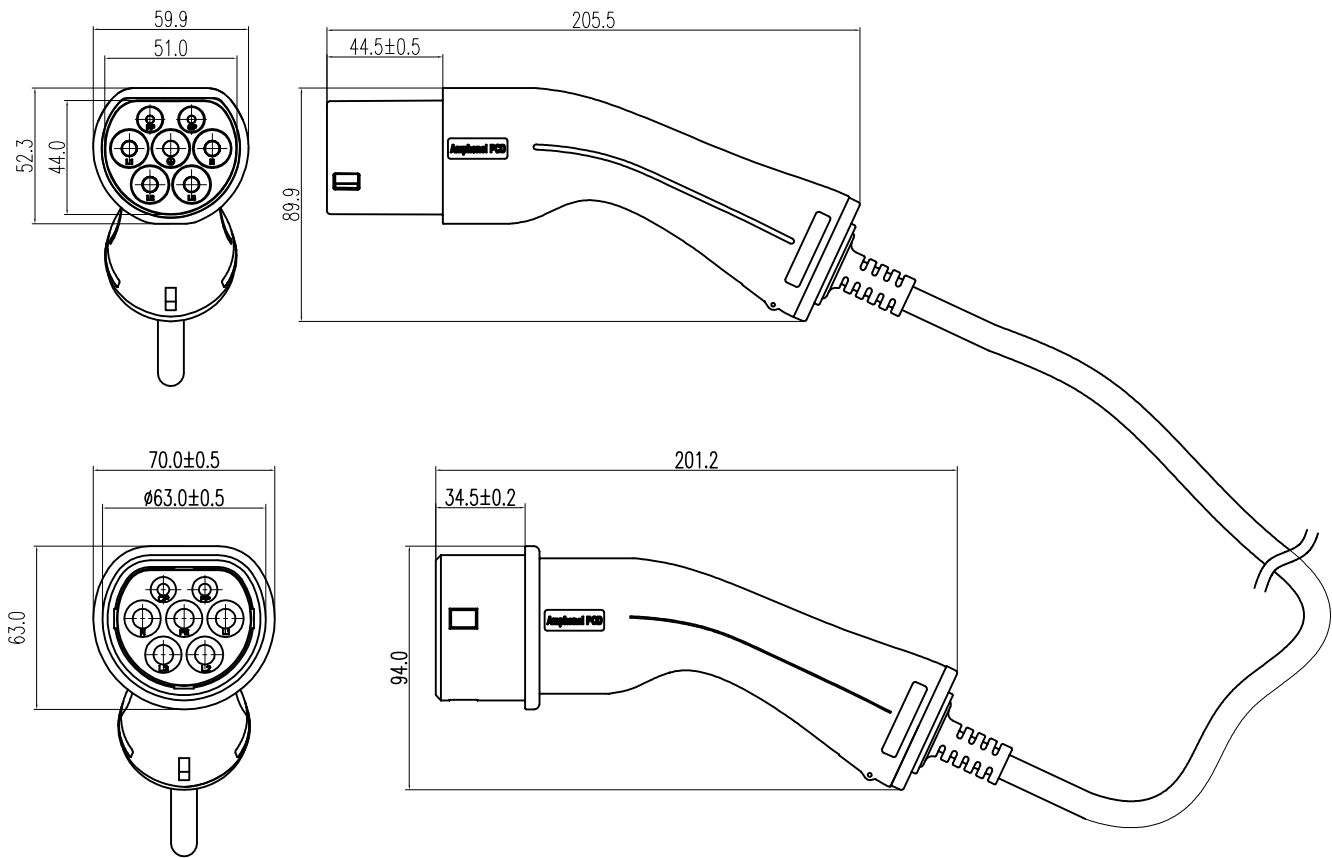


PLUG (EVSE) + VEHICLE CONNECTOR (EV) DIMENSIONS



Part Number (without cable)		
16/20A	1-Phase	HVCOIMASCR6PS502LXXXX
16/20A	3-Phase	HVCOIMASCR6PS702LXXXX
32A	1-Phase	HVCOIMASCR6PF506LXXXX
32A	3-Phase	HVCOIMASCR6PF706LXXXX

LXXXX: Cable lenght (unit in mm)



HOW TO ORDER

	HVCO	I	M	A	SC	R6	PSXXX	T	R	W	LXXXX	XXXX
I: IEC Type 2 Charge outlet												
Connector type: M: Plug / Plug + Vehicle connector (see p.12) / Vehicle connector F: Socket-outlet / Vehicle inlet												
Plug version: A: Version A (Plug only)												
S: EVSE coupler (Plug or socket-outlet) SC: Plug + Vehicle connector (see p.12) Omit SC: Vehicle coupler (Vehicle connector or vehicle inlet)												
Contact size: R6: 6mm Radsok, pin contact												
Type of connector and insert arrangements: PSXXX: 20A cable side (Plug Slow / Vehicle connector Slow) PFXXX: 32A cable side (Plug Fast / Vehicle connector Fast) SSXXX: 20A panel side (Socket-outlet Slow / Vehicle inlet Slow) SFXXX: 32A panel side (Socket-outlet Fast / Vehicle inlet Fast)												
Temperature sensor: T: Temperature sensor Omit: No temperature sensor needed												
R: Resistor inside the plug / vehicle connector Omit: No resistor needed												
W: Protection tube Omit: No protection tube needed												
Cable length: LXXXX: Cable lenght (Unit in mm) Omit: No cable needed												
Cable accessories: XXXX: Cable accessories or customer code												



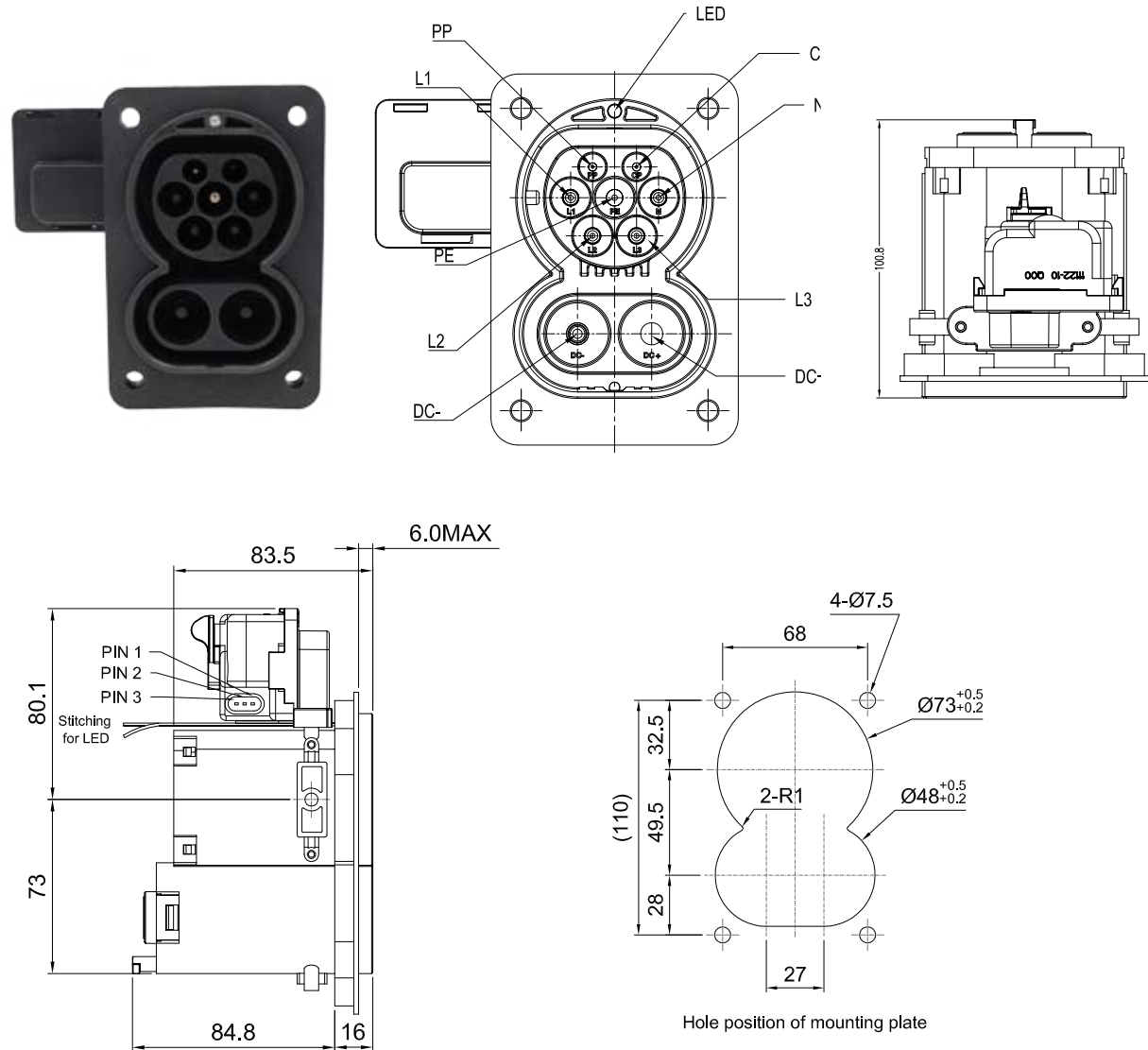
KEY FEATURES:

Compliant with:
IEC 62196-2
IEC 62196-3

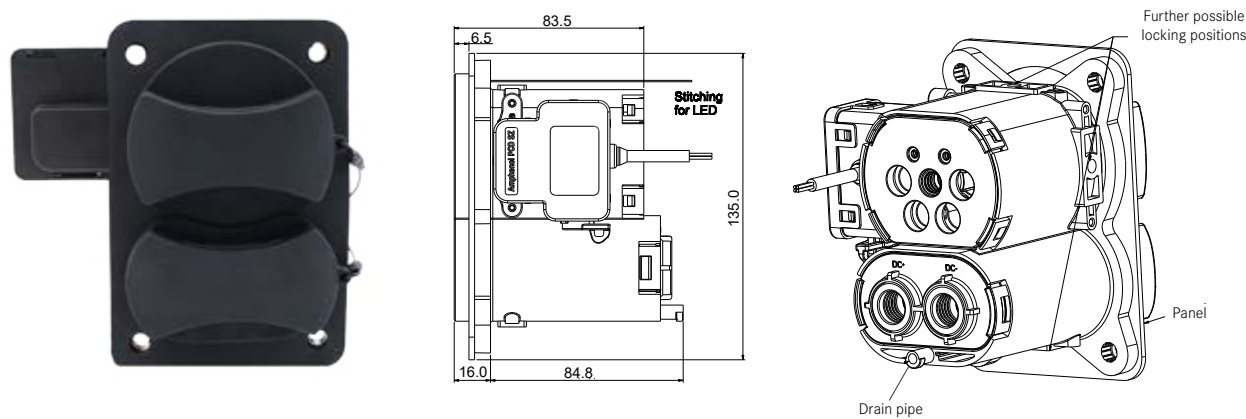
MECHANICAL	
Mating cycles	> 10,000 cycles (unloaded)
Insertion / withdrawal force	< 100N
ELECTRICAL	
Rated current	See page 18 and 20
Rated voltage	See page 18 and 20
Contact resistance	0.5MΩ Max (AC) 0.35MΩ Max (DC)
Insulation resistance	> 100MΩ
Temperature sensor (Optional)	The two power contacts DC+ and DC- are monitored by temperature-dependent resistor sensors
ENVIRONMENTAL	
Protection degree	IP44 (mated)
Ambient temperature	-30°C to 50°C
MATERIAL	
Shell	Nylon
Contact	Copper alloy, silver or nickel plating
Inserts	Thermoplastic
Sealing gasket	Rubber or silicon rubber
Insulator inflammability	UL94V0

IEC COMBO VEHICLE INLET DIMENSIONS

Rear mount without protection cap

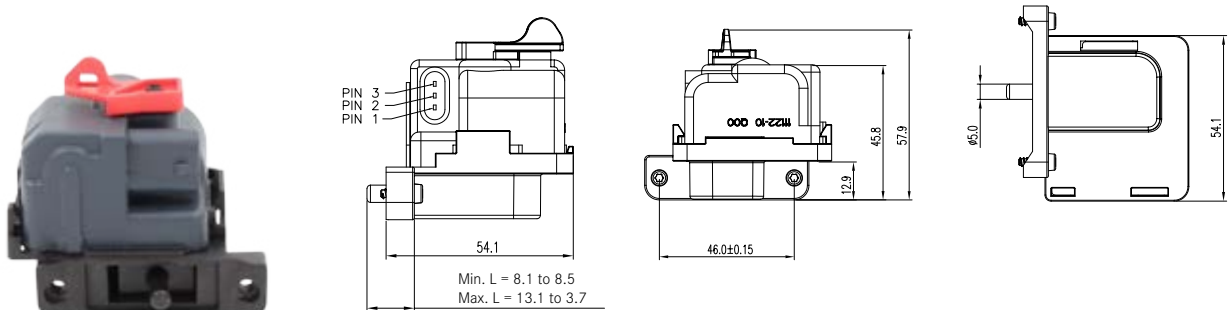


Rear mount with protection cap



LOCKING ACTUATOR

Electronic lock | HELLA (12V)



P/N: HVCOCBELOCKH

E-LOCK	PIN 3	PIN 1	PIN 2 SIGNAL
UNLOCKING	+12V DC	-	
LOCKING	-	+12V DC	SIGNAL



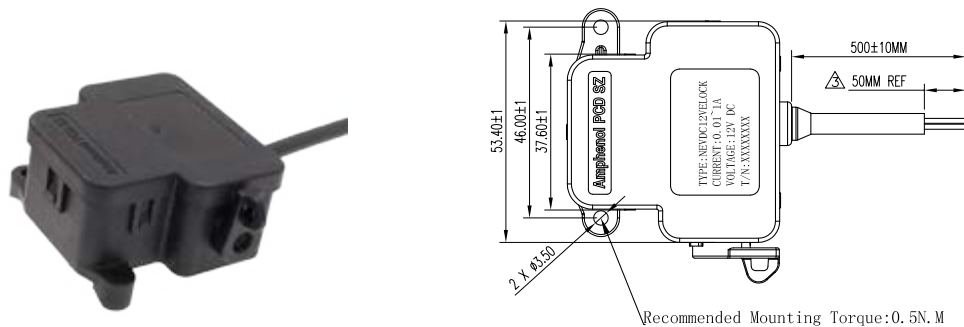
9 o'clock



3 o'clock

Electronic lock | AMPHENOL PCD SHENZHEN (12V, 24V)

4 wire solution is available for both 12V and 24V.



P/N (12V): NEVDC12VELOCK

TYPE	RED	BLACK	WHITE	BLUE
UNLOCKING	+	-	SIGNAL($R_U=1k\Omega$)	
LOCKING	-	+	SIGNAL($R_L=11k\Omega$)	

P/N (24V): NEVDC24VELOCK

TYPE	RED	BLACK	WHITE	BLUE
UNLOCKING	+	-	SIGNAL($R_U=+\infty\Omega$)	
LOCKING	-	+	SIGNAL($R_L=0\Omega$)	

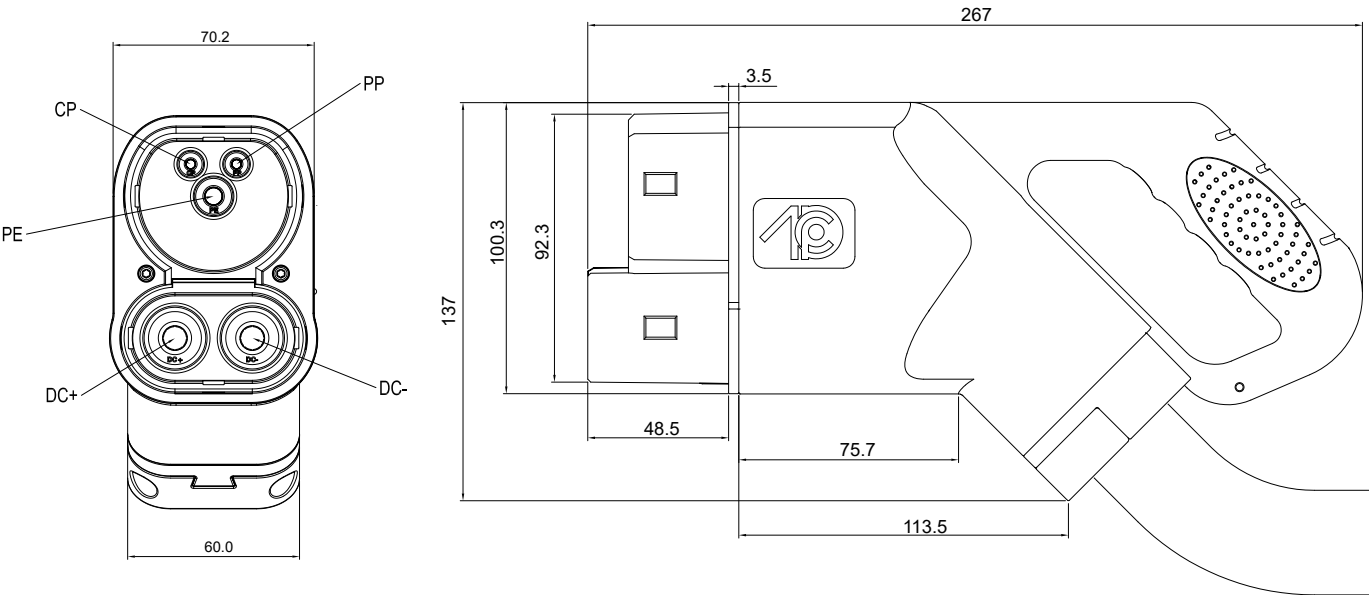


9 o'clock

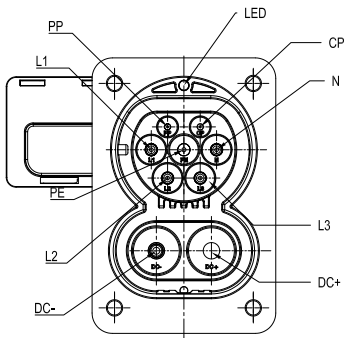


3 o'clock

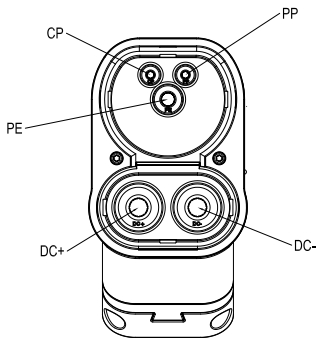
IEC COMBO VEHICLE CONNECTOR DIMENSIONS



IEC COMBO ELECTRICAL SPECIFICATIONS

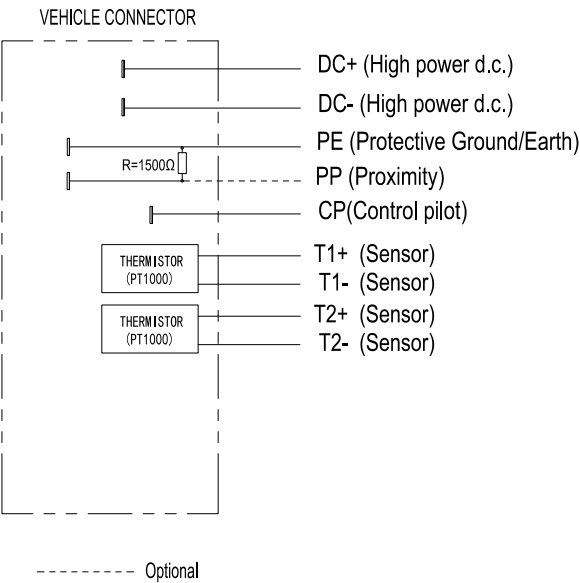
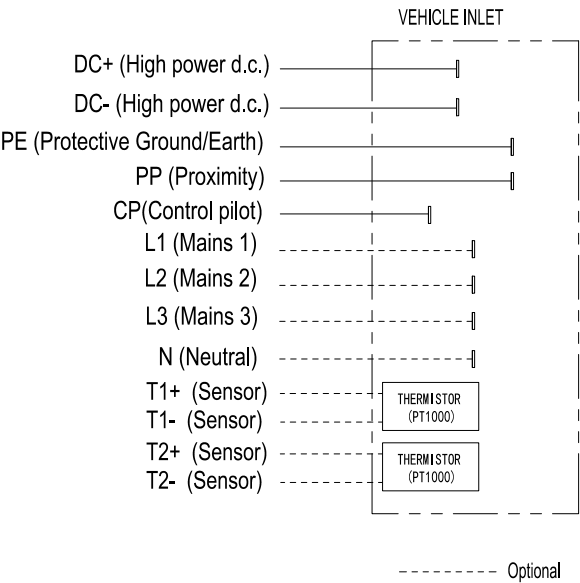


Combined interface		Functions
1-phase	3-phase	
250V 32A	480V 32A, 63A	L1 (Mains 1) - Optional
-	480V 32A, 63A	L2 (Mains 2) - Optional
-	480V 32A, 63A	L3 (Mains 3) - Optional
250V 32A	480V 32A, 63A	N (Neutral) - Optional
Rated for fault		PE (Protective Ground/Earth)
30V 2A		CP (Control pilot)
30V 2A		PP (Proximity)
1000V 65A, 125A, 200A		DC+ (High power d.c.)
1000V 65A, 125A, 200A		DC- (High power d.c.)



Combined interface	Functions
Rated for fault	PE (Protective Ground/Earth)
30V 2A	CP (Control pilot)
30V 2A	PP (Proximity)
1000V 65A, 125A, 200A	DC+ (High power d.c.)
1000V 65A, 125A, 200A	DC- (High power d.c.)

CIRCUIT DIAGRAMS



HOW TO ORDER | IEC COMBO

IEC Combo [Vehicle inlet](#)

	HVCO	C	F	6	A	T	R8	SFXXX	LXXXX	XXXX
C: IEC Combo										
Connector type: F: Vehicle inlet										
AC cable size: 6: 6mm ² , 32A 10: 10mm ² , 63A Omit: Without AC cable (DC cable only)										
Protection cap: A: Protection cap										
Temperature sensor (optional): T: NTC temperature sensor PT: PT1000 temperature sensor Omit: No temperature sensor needed										
Contact size: R8: 8mm pin contact										
Type of connector and insert arrangements: SFXXX: 32A panel side (Vehicle inlet Fast)										
Cable length: LXXXX: Cable length (Unit in mm) L0000: No cable needed										
Cable accessories: XXXX: Cable accessories or customer code										

IEC Combo [Vehicle connector](#)

	HVCO	C	M	T	R8	PF	5XX	LXXXX	XXXX
C: IEC Combo									
Connector type: M: Vehicle connector									
Temperature sensor: T: PT1000 temperature sensor									
Contact size: R8: 8mm Radsok									
Type of connector and insert arrangements: PFXXX: 32A cable side (Vehicle connector Fast)									
Cable size for DC: 5XX: Cable size for DC									
Cable length: LXXXX: Cable length (Unit in mm) L0000: No cable needed									
Cable accessories: XXXX: Cable accessories or customer code									

Vehicle inlet

The temperature sensor is **optional** for the vehicle inlet.

P/N	Rated current (AC)	Rated current (DC)	Phase	AC cable size	DC cable size
HVCOCF6R8SF916	32A	65A	3	6mm ²	16mm ²
HVCOCF6R8SF950	32A	125A	3	6mm ²	50mm ²
HVCOCF6R8SF970	32A	200A	3	6mm ²	70mm ²
HVCOCF6R8SF716	32A	65A	1	6mm ²	16mm ²
HVCOCF6R8SF750	32A	125A	1	6mm ²	50mm ²
HVCOCF6R8SF770	32A	200A	1	6mm ²	70mm ²
HVCOCFR8SF516	-	65A	-	-	16mm ²
HVCOCFR8SF550	-	125A	-	-	50mm ²
HVCOCFR8SF570	-	200A	-	-	70mm ²
HVCOCF10R8SF916	63A	65A	3	10mm ²	16mm ²
HVCOCF10R8SF950	63A	125A	3	10mm ²	50mm ²
HVCOCF10R8SF970	63A	200A	3	10mm ²	70mm ²

Remark:

Please add **T** (NTC) or **PT** (PT1000) to the part numbers above according to the temperature sensor you might need (see page 19).

Examples:

T: NTC

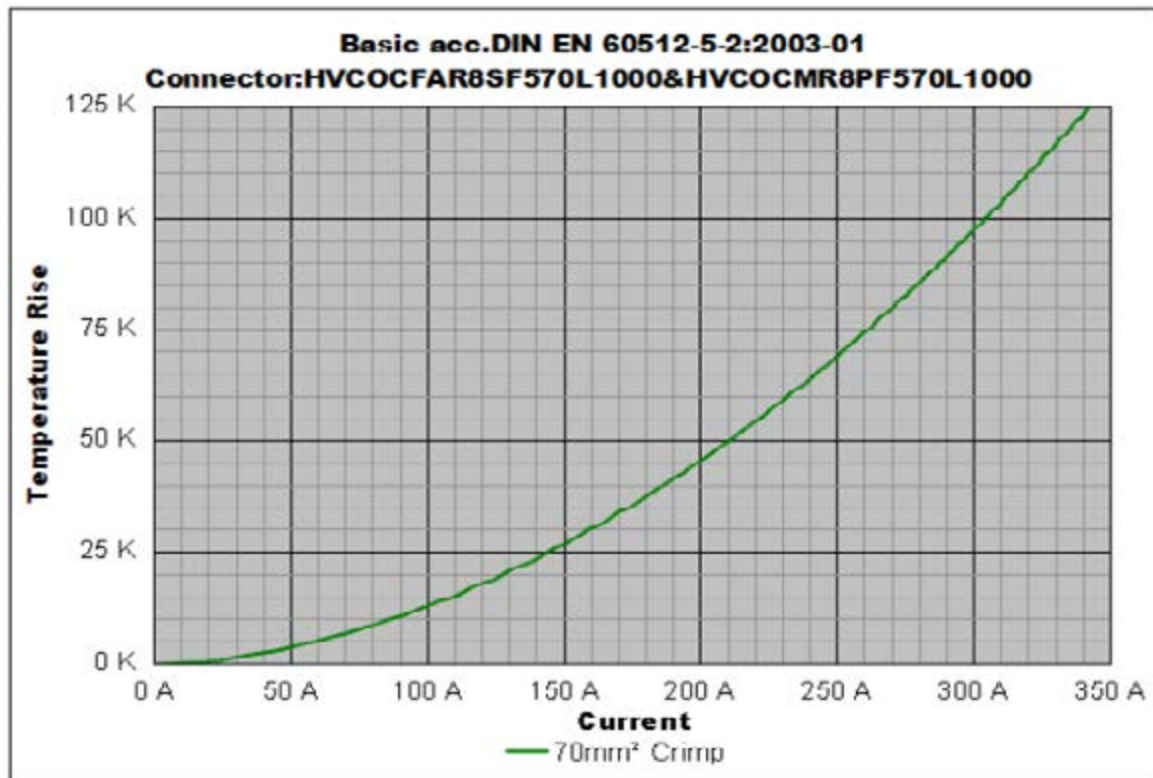
HVCOCF6**T**R8SF916

PT: PT1000

HVCOCF6**PT**R8SF916

Vehicle connector

P/N	Rated current (DC)	DC cable size
HVCOCMTR8PF516	65A	16mm ²
HVCOCMTR8PF550	125A	50mm ²
HVCOCMTR8PF570	200A	70mm ²



Test process and record:

T max = 125°C@Tambient = 75°C, I max = 209.9A

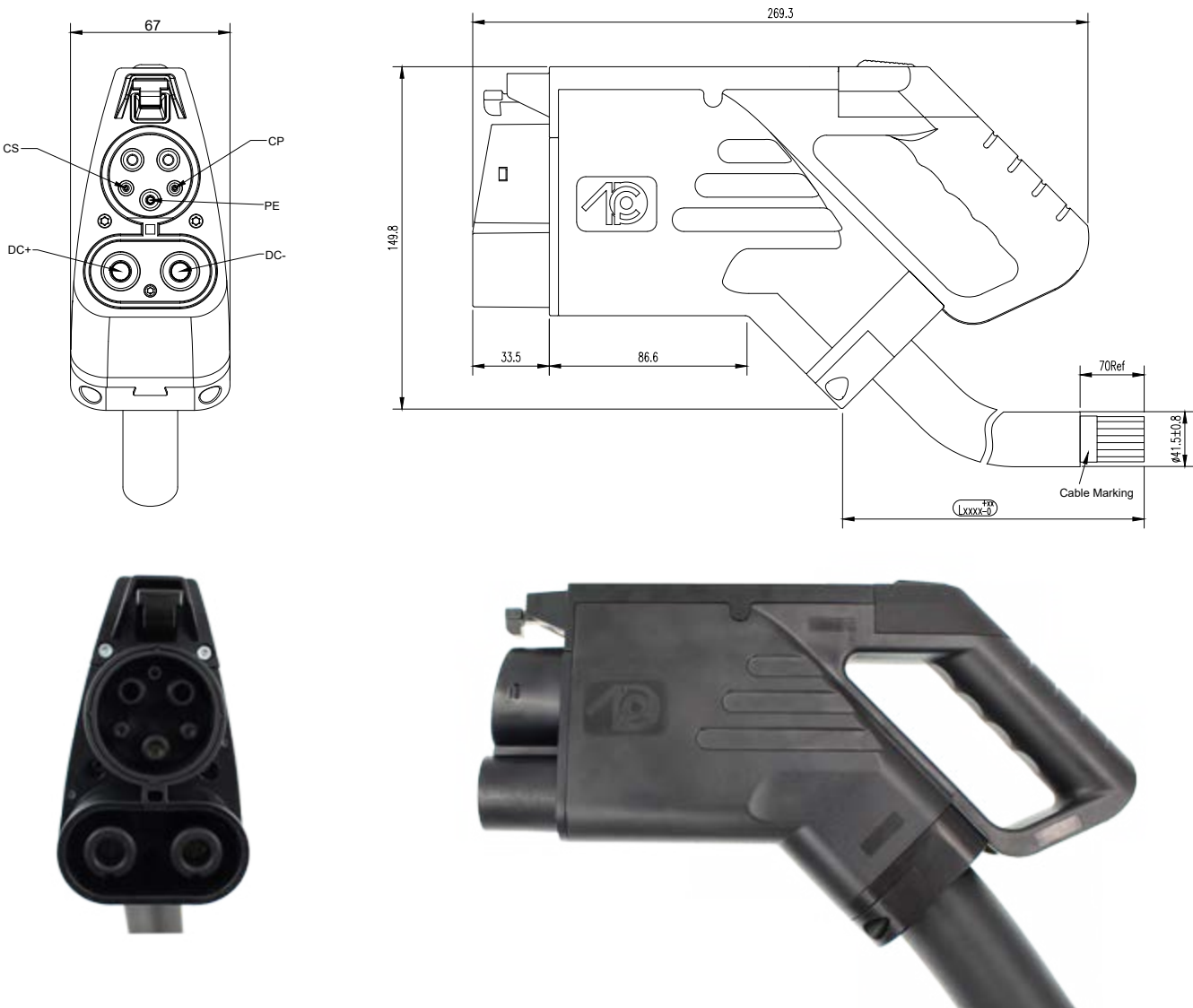


KEY FEATURES:

Compliant with:
SAE J1772
IEC 62196-3

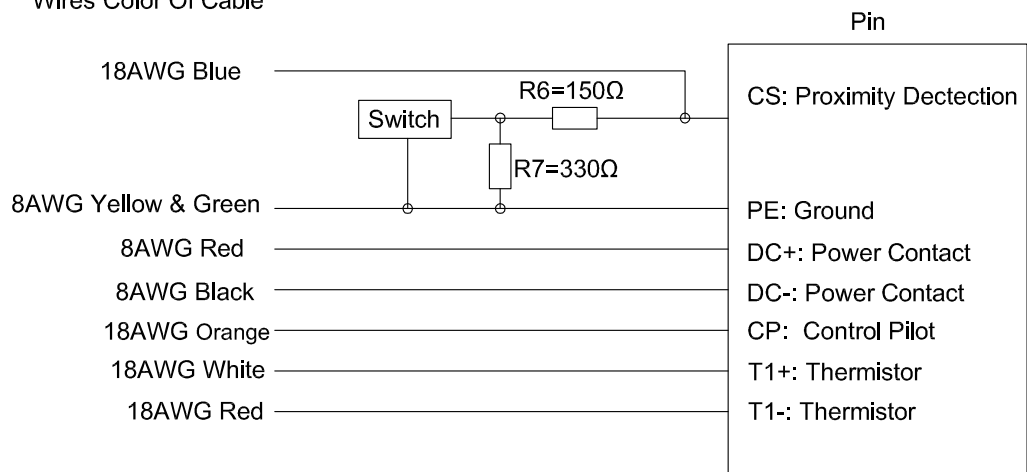
MECHANICAL	
Mating cycles	> 10,000 cycles (unloaded)
Insertion / withdrawal force	< 75N
ELECTRICAL	
Rated current	200A Max
Rated voltage	600V DC
Contact resistance	0.35MΩ Max
Insulation resistance	> 100MΩ
Temperature sensor	PT1000 The two power contacts DC+ and DC- are monitored by temperature-dependent resistor sensors
ENVIRONMENTAL	
Protection degree	3R
Ambient temperature	-30°C to 50°C
MATERIAL	
Shell	Nylon
Contact	Copper alloy, silver or nickel plating
Inserts	Thermoplastic
Sealing gasket	Rubber or silicon rubber
Insulator inflammability	UL94V0

SAE COMBO VEHICLE CONNECTOR DIMENSIONS

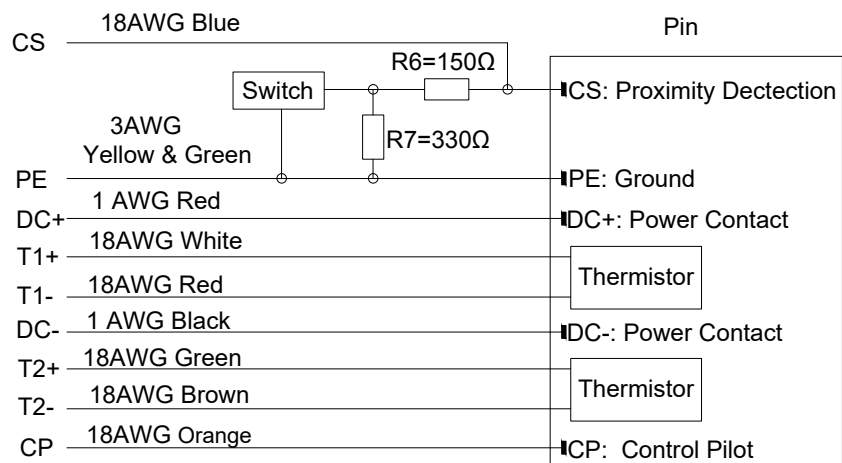


SAE COMBO VEHICLE CONNECTOR - CIRCUIT DIAGRAMS

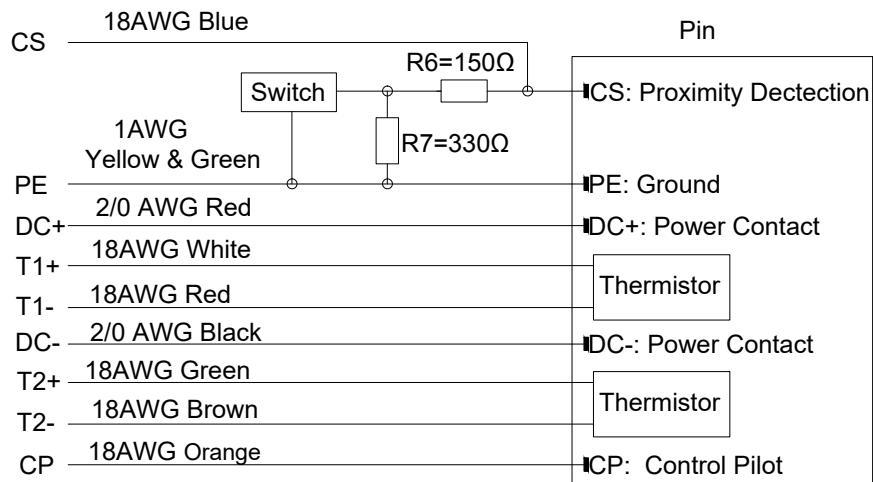
65A Pin And Cable For EV Connector Definition
Wires Color Of Cable



125A Pin And Cable For EV Connector Definition
Wires Color Of Cable



200A Pin And Cable For EV Connector Definition
Wires Color Of Cable



SAE Combo [Vehicle Connector](#)

	HVCO	SAE	M	XXXA	LXXXX	XXXX
SAE: SAE Combo						
Connector type: M: Vehicle Connector						
Rated current: XXXA: Rated current DC						
Cable length: LXXXX: Cable length (Unit in mm)						
Cable accessories: XXXX: Cable accessories or customer code						

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Notes:

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Amphenol PCD Shenzhen reserves the right to clarify this catalog.