

# DC charging cable - EV-GBG4C-DC180A-6,0M50ESBK01 - 1085622

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DC charging cable, with vehicle charging connector and open cable end, Housing color black-gray, with protective cap, with temperature sensors, For charging electric vehicles (EV) with direct current (DC), for installation at charging stations for electromobility (EVSE), GB/T, GB/T 20234.1-2015, GB/T 20234.3-2015, 180 A / 1000 V (DC), Generation 2, "PHOENIX CONTACT" logo, cable: 6 m, black, straight, NOTE: Cable management may be required.

## Product Description

DC charging cable with Vehicle Connector and open cable end for fast charging of electric vehicles (EV) with direct current (DC) via GB/T Vehicle Inlets, for installation at charging stations for E-Mobility (EVSE)

## Your advantages

- ✓ Consistent design of all Phoenix Contact Vehicle Connectors and Infrastructure Plugs
- ✓ Silver-plated surface of the power and signal contacts
- ✓ Certified in accordance with IATF 16949:2016 and ISO 9001:2015
- ✓ Convenient handling, thanks to the ergonomic handle and additional, rubber grip components
- ✓ Integrated temperature sensors for monitoring the temperature at the power contacts
- ✓ Integrated interlock during charging



## Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4055626874258

## Technical data

### Product definition

Type	DC charging cable
	with vehicle charging connector and open cable end
	Housing color black-gray
	with protective cap
	with temperature sensors
Application	For charging electric vehicles (EV) with direct current (DC)
	for installation at charging stations for electromobility (EVSE)
Affixed logo	"PHOENIX CONTACT" logo

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## Technical data

### Product definition

Design	Generation 2
Standards/regulations	GB/T 20234.1-2015, GB/T 20234.3-2015
Charging standard	GB/T
Charging mode	Mode 4
Normative cable length restrictions	NOTE: Cable management may be required.
	Cable management is required in certain regions if the cable length exceeds 5.0 m (Switzerland) or 7.5 m (USA) (IEC 61851-1).

### Dimensions

Height	137.8 mm (Vehicle charging connector)
Width	77 mm (Vehicle charging connector)
Depth	279.4 mm (Vehicle charging connector)
Conductor length	6 m
Stripping length	150 mm ±20 mm

### Ambient conditions

Ambient temperature (operation)	-30 °C ... 50 °C
Ambient temperature (storage/transport)	-40 °C ... 80 °C
Max. altitude	5000 m (above sea level)
Degree of protection	IP55 (plugged in; when plugged in and ready to operate, the degree of protection is only ensued if both plug-in components are original products from Phoenix Contact or suitable standard-compliant products)
	IP54 (Protective cap)

### Electrical properties

Maximum charging power	180 kW
Number of power contacts	3 (PE, DC+, DC-)
Rated current of power contacts	180 A
Rated voltage for power contacts	1000 V DC
Number of signal contacts	6 (S+, S-, A+, A-, CC1, CC2)
Rated current for signal contacts	20 A ((A+, A-))
	2 A ((S+, S-, CC1, CC2))
Rated voltage for signal contacts	30 V
Type of signal transmission	according to GB/T 27930-2015
Note on the connection method	Crimp connection, cannot be disconnected
Resistor coding	1000 Ω (between PE and CC1 / PE and CC2)
Temperature monitoring	2x Pt 1000

### Mechanical properties

Insertion/withdrawal cycles	> 10000
Insertion force	< 100 N
Withdrawal force	< 100 N

### Design

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## Technical data

### Design

Design line	Standard
Housing color	black
Mating face color	black
Color handle area	gray
Actuating element color	black
Color protective cap	black
Label	14.1 mm x 44.8 mm (customer logo on request)
Customer variations	On request

### Material

Housing material	Plastic
Material handle area	Soft plastic
Actuating lever material	Metal
Material protective cap	Plastic
Material mating face	Plastic
Flammability rating	V0
Material surface of contacts	Ag

### Cable

Cable structure	2 × 50 mm <sup>2</sup> + 1 × 25 mm <sup>2</sup> + 2 × 4 mm <sup>2</sup> + (2 × 0.75 mm <sup>2</sup> ) P + 10 × 0.75 mm <sup>2</sup>
Wiring standards/regulations	GB/T 33594-2017
Wiring class	Class 5/6
Wiring certifications	CQC1105-2015
External cable diameter	33.1 mm ±0.4 mm
Type of conductor	straight
Cable resistance	≤ 0.000386 Ω/m (based on a power core, at an ambient temperature of 20°C)
Outer sheath, material	TPU
External sheath, color	black
Minimum bending radius	165.5 mm (5 x diameter)

### Locking

Locking type	Locking option for actuating lever with actuators integrated in the Vehicle Connector
Locking current	2 A
Current supply duration	50 ms ... 100 ms (NOTE: Continuous current supply > 100 ms damages the locking actuator)
Locking detection	Maximum of 24 V / 14 mA via signal lines Lock Detection+ (WHOG) and Lock Detection- (WHBN)
	Spower+ (WHBU) and Spower- (WHPK) must also be supplied with 12 V on a continuous basis

### Temperature sensors

Type of sensor	Pt 1000
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### Technical data

#### Temperature sensors

Standards/regulations	DIN EN 60751
Recommended measured current	1 mA (1 V at 0°C)
Tolerance at the sensor with the recommended measured current	±1K
Temperature range	-50 °C ... 130 °C
Temperature coefficient (TCR)	3850 ppm/K
Long-term stability (max. R0-Drift)	0.06 % (After 1000 hours at 130°C)
Shutdown temperature	90 °C equivalent to a Pt 1000 value of 1346.5 Ω

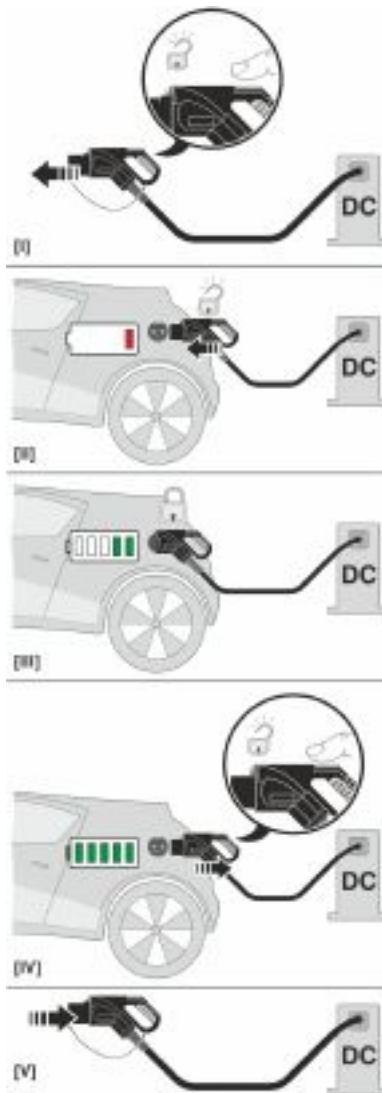
#### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 10;
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

# DC charging cable - EV-GBG4C-DC180A-6,0M50ESBK01 - 1085622

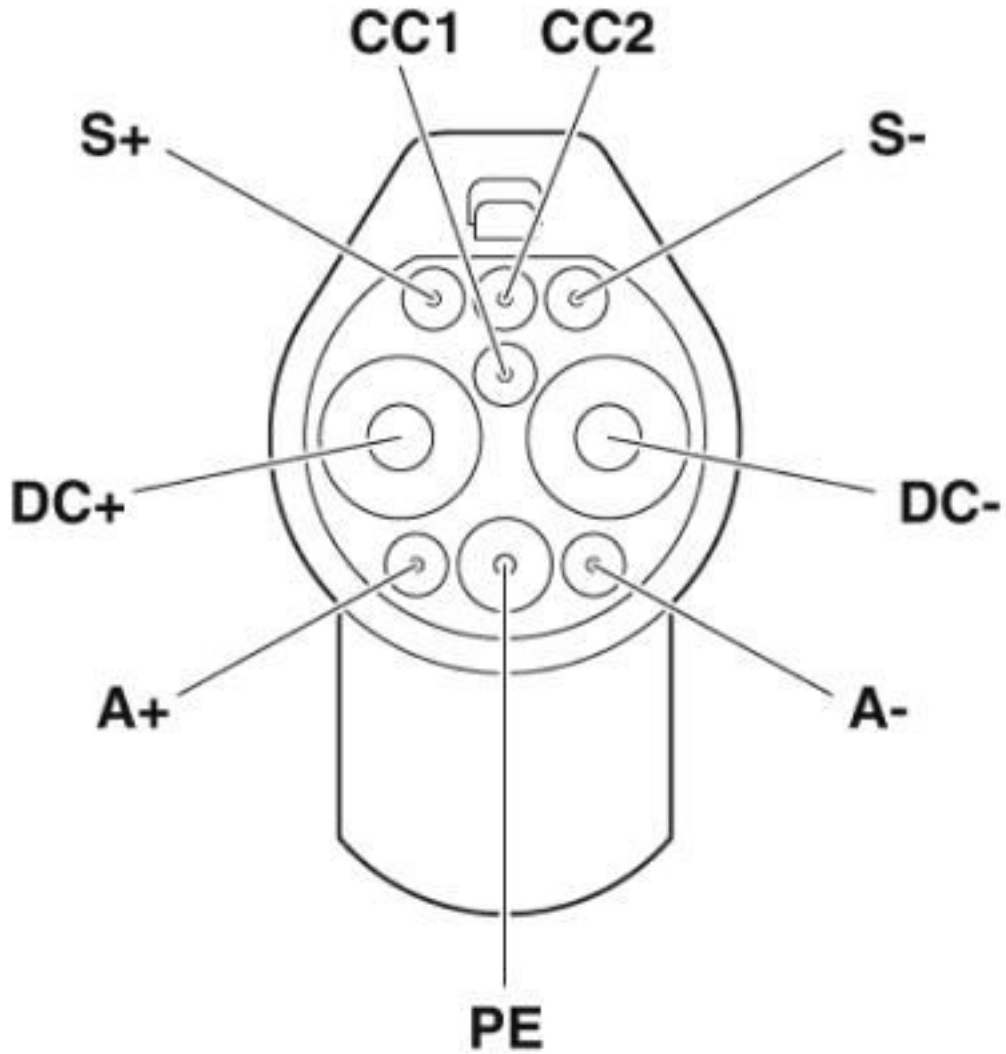
Schematic diagram



Operating instructions

# DC charging cable - EV-GBG4C-DC180A-6,0M50ESBK01 - 1085622

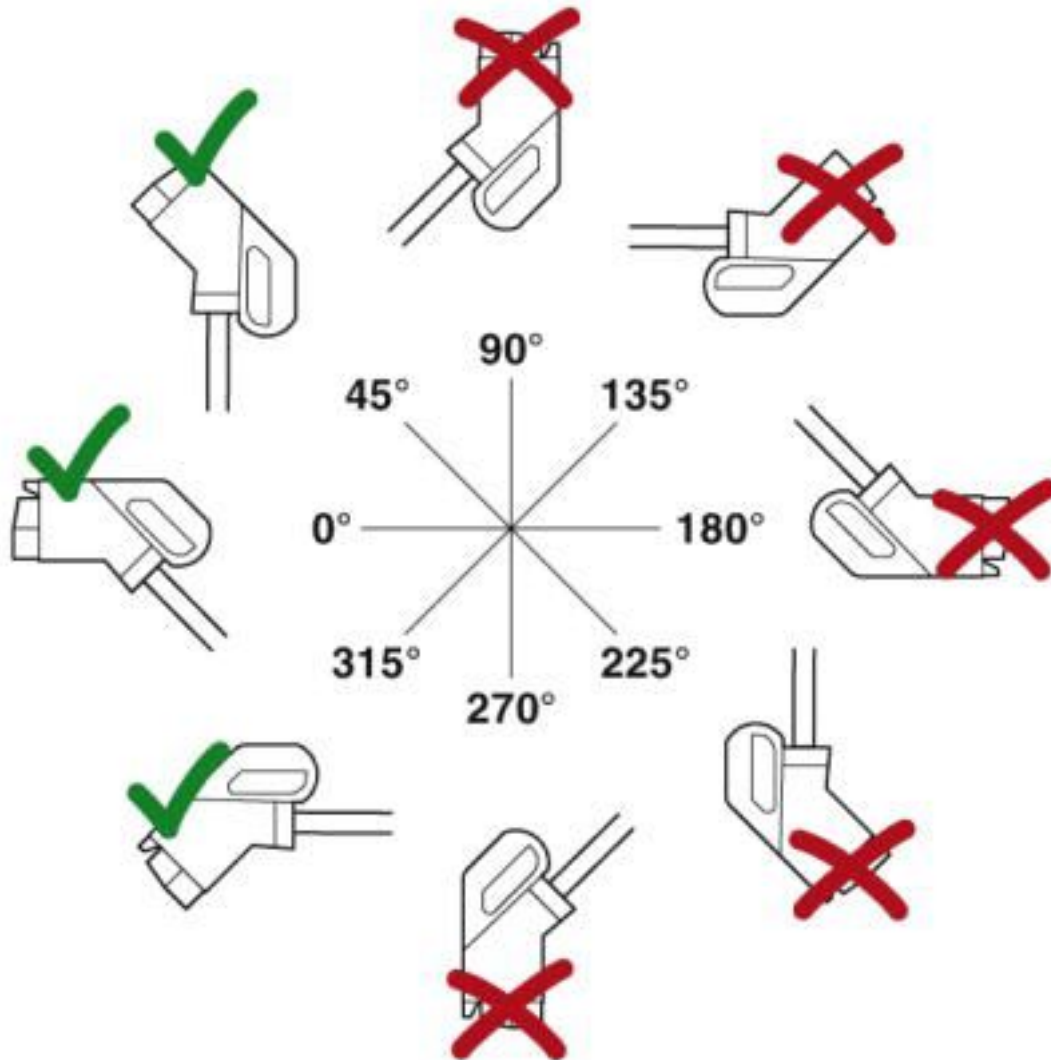
Schematic diagram



Pin assignment of the Vehicle Connector

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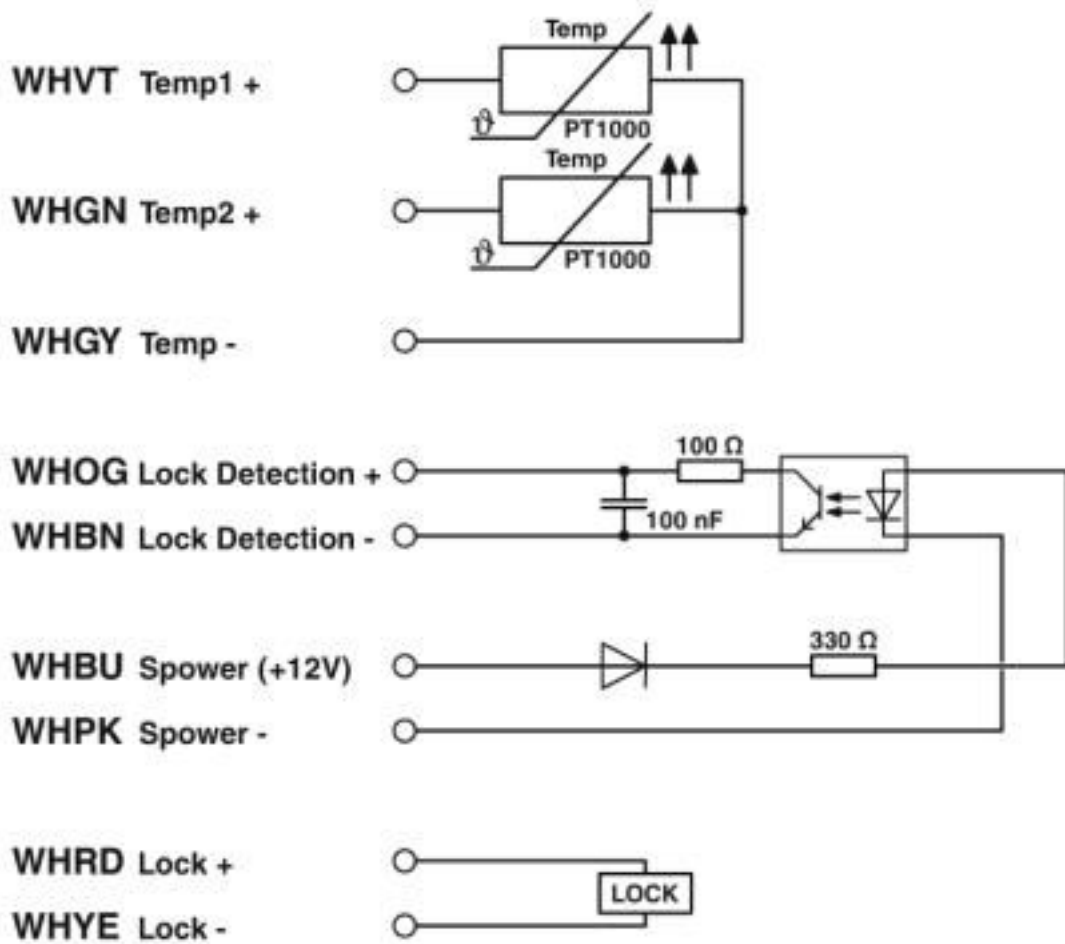
Schematic diagram



The resting position must be installed in the charging station such that the user cannot hang up the vehicle connector upside down (90° to 270°). However, positions rotated upward (45°) or downward (315°) are options for a resting position.

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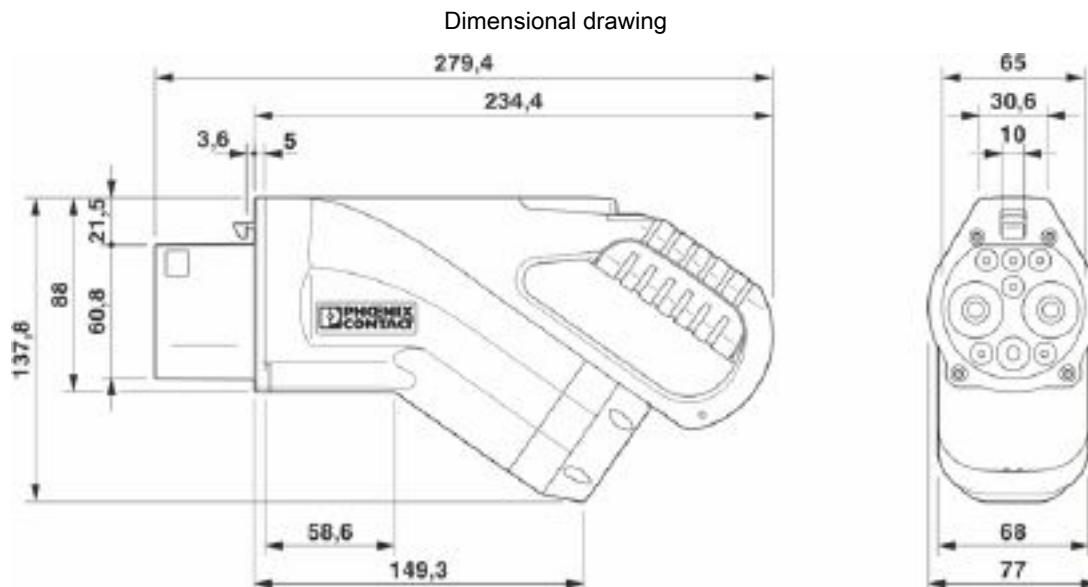
Block diagram



Block diagram GB/T DC



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Ensure that the vehicle connector is placed in an appropriate resting position that ensures a minimum protection rating of IP24 in accordance with IEC 61851-1 for the entire time between charging. Use the dimensions of the vehicle connector to create this type of resting position. Detailed specifications can also be found in the download area.

### Classifications

eCl@ss

eCl@ss 10.0.1	27144705
eCl@ss 9.0	27144705

ETIM

ETIM 6.0	EC002897
ETIM 7.0	EC002897

### Accessories

Accessories

Assembly tool

Tool - EV-GBDC-UNLOCK-TOOL - 1113273



Tool, Emergency unlocking tool for GB/T DC vehicle connectors, GB/T, GB/T 20234.3

Park position

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### Accessories

Park position - EV-GBDC-PARK-R - 1623496



Park position, Retainer for Vehicle Connector as parking position at charging stations (EVSE), GB/T, GB/T 20234.3, Front mounting

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Park position - EV-GBDC-PARK-SW - 1623497



Park position, Retainer for Vehicle Connector as parking position at charging stations (EVSE), GB/T, GB/T 20234.3, Front mounting

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Park position - EV-GBDC-PARK - 1623770



Park position, Retainer for Vehicle Connector as parking position at charging stations (EVSE), GB/T, GB/T 20234.3, Front mounting

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