

Product Specification

**NACS DC Charging Cable Assembly-J3400
100A/150A/200A/250A/300A/
350A/375A/400A 1000V DC**

JUL 17, 2024

PROPRIETARY DOCUMENT

The purpose of this specification is to define the scope of supply offered by SINBON. This document may not, in whole or in part, be duplicated or disclosed without the written permission of the SINBON Product Specification author.

Table of Contents

Part 1: Manufacturer Overview

1. SINBON Group Introduction

Part 2: NACS DC Charging Cable Assembly

1. Product Overview
2. Applicable Standard
3. Product Feature
4. Technical Data

Part 1: Manufacturer Overview

1. SINBON Group Introduction



SINBON Electronics, founded in 1989, is a leading solution provider of electronic component integration design and manufacturing, offering an extensive range of value-added services to our customers in medical health, automotive, green energy, industrial applications and communications.

Our global presence in Taiwan, China, Japan, the U.K. and the United States enables us to process individual orders faster, condense both large and small product order-to-delivery timelines, accelerate production deadlines, reduce design and development costs and provide clients immediate service and support.

From material sourcing, product inquiries, sampling and manufacturing to after-sales service, SINBON ensures that customers are given the best service as well as the best environment for cooperation. We guarantee our customers will be delighted as their inspired ideas are turned into superior products.

Part 2: NACS DC Charging Cable Assembly

1. Product Overview

DC charging cable with vehicle charging connector and free cable end for fast charging of electric vehicles (EV) with direct current (DC) via NACS vehicle charging inlets, for installation at charging stations for e-mobility (EVSE)



2. Applicable Standard

SAE J3400:2023	NACS Electric Vehicle Coupler
UL 2251:2017	UL Standard for Safety for Plugs, Receptacles, and Couplers for Electric Vehicles

3. Product Feature

- ✓ Entire specifications of NACS covered.
- ✓ IP67 (unplugged); TYPE 3R (Plugged in).
- ✓ Silver-plated contacts, low contact resistance.

- ✓ Ergonomic handle.
- ✓ TPE+PA layer insulation material with smaller OD, excellent fatigue resistance and temperature resistance.
- ✓ Cable diameter of 21 mm for 100A; 21 mm for 150A; 28.5mm for 200A; 28.5 mm for 250A; 36.5mm for 300A; 36.5mm for 350A; 36.5mm for 400A.
- ✓ PT 1000 temperature sensors embedded on both DC contacts.
- ✓ Customized length and cable end preparation.
- ✓ If needed, the branding label can be customized in accordance with that of charging station company.
- ✓ Fast charging without cooling technology.

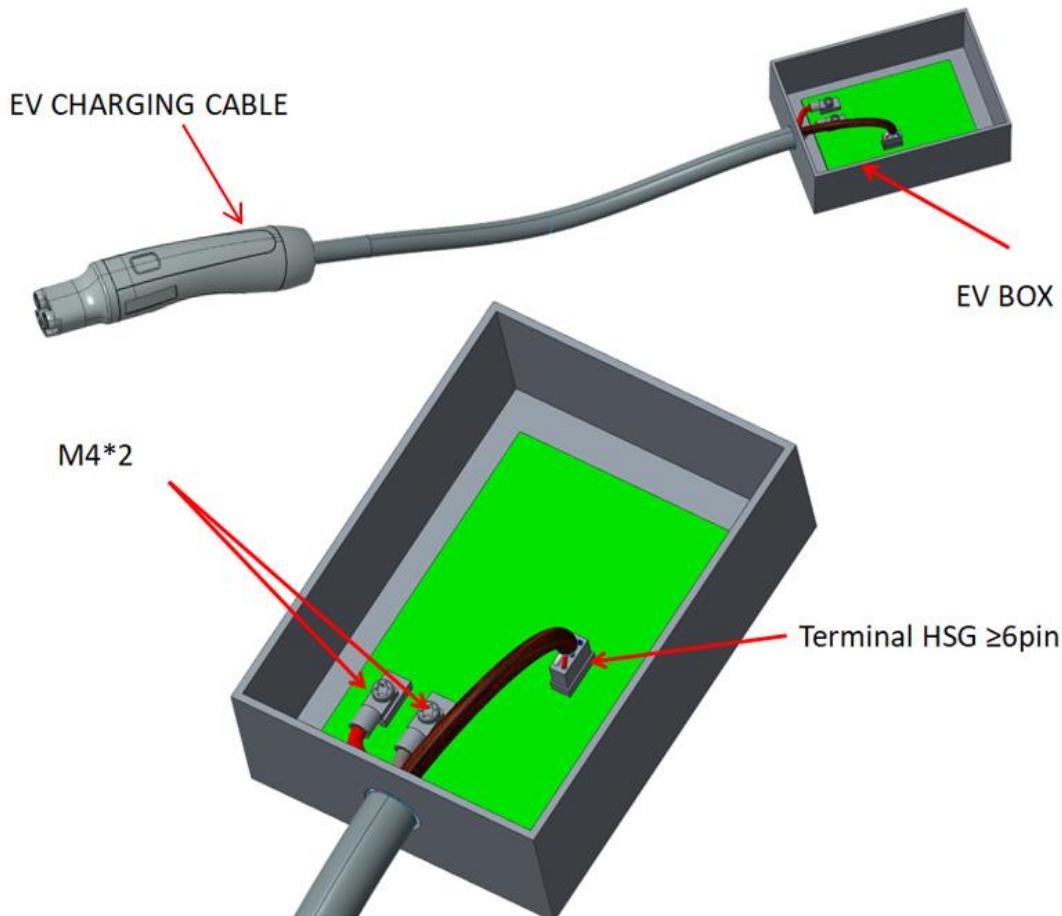
4. Technical Data

Product Type	NACS DC Charging 100A/150A	NACS DC Charging 200A/250A	NACS DC Charging 300A/350A/375A
Product Definition			
SINBON P/N; UL model	A9604972/A9604973	A9604974/A9604975	A9604976/A9604977/A9604978
Charging mode/ Connection Mode	Mode 4/ Case C	Mode 4/ Case C	Mode 4/ Case C
Environment			
Working Temp.	-40~+50°C	-40~+50°C	-40~+50°C
Storage Temp.	-40~+85°C	-40~+85°C	-40~+85°C
Altitude	<4000m	<4000m	<4000m
Humidity	90%@50°C non-condensing	90%@50°C non-condensing	90%@50°C non-condensing
Electrical properties			
Rated Current	100A/150A	200A/250A	300A/350A/375A
Rated Voltage	1000V DC	1000V DC	1000V DC
Insulation Resistance	>500MΩ (1000V DC)	>500MΩ (1000V DC)	>500MΩ (1000V DC)
Withstand voltage	<10mA(3500V AC)	<10mA(3500V AC)	<10mA(3500V AC)
Temperature monitoring	2x Pt 1000(DC+/DC-)	2x Pt 1000(DC+/DC-)	2x Pt 1000(DC+/DC-)
Mechanical properties			
Mechanical Life	10000 cycles(No Load)	10000 cycles(No Load)	10000 cycles(No Load)
Pull Out Force	<90N	<90N	<90N
Degree Of Protection	IP67(Unplugged) TYPE 3R (Plugged in)	IP67(Unplugged) TYPE 3R (Plugged in)	IP67(Unplugged) TYPE 3R (Plugged in)
Flammability	UL94 V-0	UL94 V-0	UL94 V-0
Plug			
Plug Color	Black	Black	Black
Terminal			
Terminal Material	Cu-Ni alloy + Silver plated	Cu-Ni alloy + Silver plated	Cu-Ni alloy + Silver plated
Terminal Temp. Rise	<50K(after 10K cycles)	<50K(after 10K cycles)	<50K(after 10K cycles)
Num. Of Terminals	3 (PE, DC+, DC-) 2 (CP, PP)	3 (PE, DC+, DC-) 2 (CP, PP)	3 (PE, DC+, DC-) 2 (CP, PP)
Cable			
Outer Sheath Material	TPE	TPE	TPE
Insulation Material	TPE+Nylon	TPE+Nylon	TPE+Nylon
Cable Structure	2×4AWG+1×14AWG +6×18AWG+2×18AWG(S)	4×3AWG+1×14AWG +6×18AWG+2×18AWG(S)	4×1/0AWG+1×14AWG +6×18AWG+2×18AWG(S)
Cable Weight	0.87 Kg/m	1.67 Kg/m	2.93 Kg/m
Outer Diameter	21±1.0mm	28.5±1.0mm	36.5±1.0mm

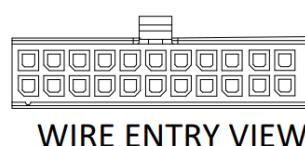
Product Type	NACS DC Charging 400A
Product Definition	
SINBON P/N; UL model	A9604979
Charging mode/ Connection Mode	Mode 4/ Case C
Environment	
Working Temp.	-40~+45°C
Storage Temp.	-40~+85°C
Altitude	<4000m
Humidity	90%@50°C non-condensing
Electrical properties	
Rated Current	400A
Rated Voltage	1000V DC
Insulation Resistance	>500MΩ (1000V DC)
Withstand voltage	<10mA(3500V AC)
Temperature monitoring	2x Pt 1000(DC+/DC-)
Mechanical properties	
Mechanical Life	10000 cycles(No Load)
Pull Out Force	<90N
Degree Of Protection	IP67(Unplugged) TYPE 3R (Plugged in)
Flammability	UL94 V-0
Plug	
Plug Color	Black
Terminal	
Terminal Material	Cu-Ni alloy + Silver plated
Terminal Temp. Rise	<50K(after 10K cycles)
Num. Of Terminals	3 (PE, DC+, DC-) 2 (CP, PP)
Cable	
Outer Sheath Material	TPE
Insulation Material	TPE+Nylon
Cable Structure	4×1/0AWG+1×14AWG +6×18AWG+2×18AWG(S)
Cable Weight	2.93 Kg/m
Outer Diameter	36.5±1.0mm



INSTALLATION INSTRUCTION



AWG	CAVITY	COLOR	DESCRIP
18AWG	-	YELLOW	CP
18AWG	-	BLACK	PT1000 T1+
18AWG	-	ORANGE	PT1000 T1-
18AWG	-	RED	PT1000 T2+
18AWG	-	WHITE	PT1000 T2-
18AWG	-	BROWN	VCC
18AWG	-	GRAY	Switch
18AWG	-	BLUE	PP



WIRE ENTRY VIEW

FCC Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

ISED RSS Warning:

This device complies with Innovation, Science and Economic Development Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note : This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device has been assessed to be in compliance with SAR and/or RF field strength limits. The device can be used in the exposure condition without restriction.

ISED RF exposure statement:

This equipment complies with ISED radiation exposure limits set forth for used on the car. The device has been evaluated to meet general RF exposure requirement.

Le matériel est conforme aux limites de dose d'exposition aux rayonnements énoncés pour un autre environnement. Ce dispositif a été évalué à satisfaire l'exigence générale de l'exposition aux rf.

On a évalué que ce dispositif était conforme aux limites d'intensité du das et/ou du champ RF. L'appareil peut être utilisé dans les conditions d'exposition sans restriction.