



LS Cable & System

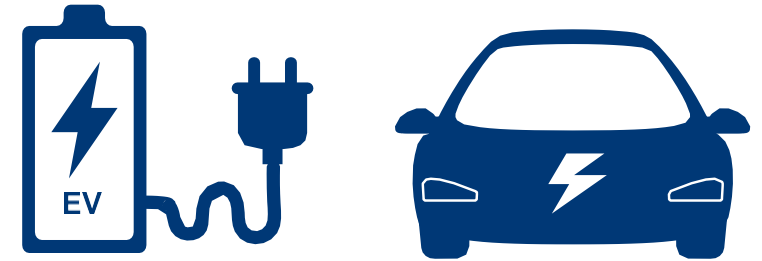
LS EV Korea

FLEXEN EV CHARGING SOLUTION

Edition 2024/01



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Product Overview
Key Features
Technical Description
Electrical Schematic



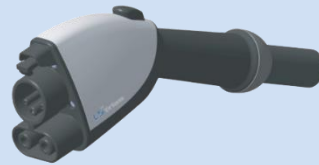
Product Portfolio

EV Vehicle Charging Solutions



Ultra Fast Charging

Liquid Cooling



[CCS1]



[NACS]

DC Fast Charging

Air Cooling



[CCS1]



[CCS1]

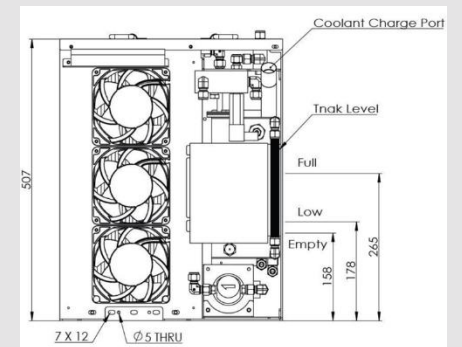
[CCS2]

150A VERTICAL USE

Chiller for Ultra Fast Charging



[CCS1 / NACS]





ULTRA FAST CHARGING SYSTEM



Overview

LS Ultra Fast Charging System allows the use of smaller, lighter cables compared to regular air-cooling system.

Equipped with the capability to handle elevated continuous currents, reaching up to 500A at 1000 volts through its advanced cooling cable system.

This system is meticulously crafted for both convenient and secure operation, showcasing an ergonomic connector.



Liquid
Cooling



Ultra Fast Charging System

KEY FEATURES



CCS1



Enable Charging up to 500A at 1,000V



Minimized cable diameter and weight



IP67



UL2251, IEC62196-3



Easy to Install & Replace



Color variation based on request

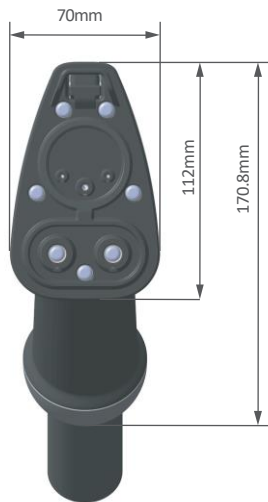


>10,000 Insertion /Withdrawal Cycle

KEY FEATURES | ULTRA FAST CHARGING SYSTEM



Ultra Fast Charging System

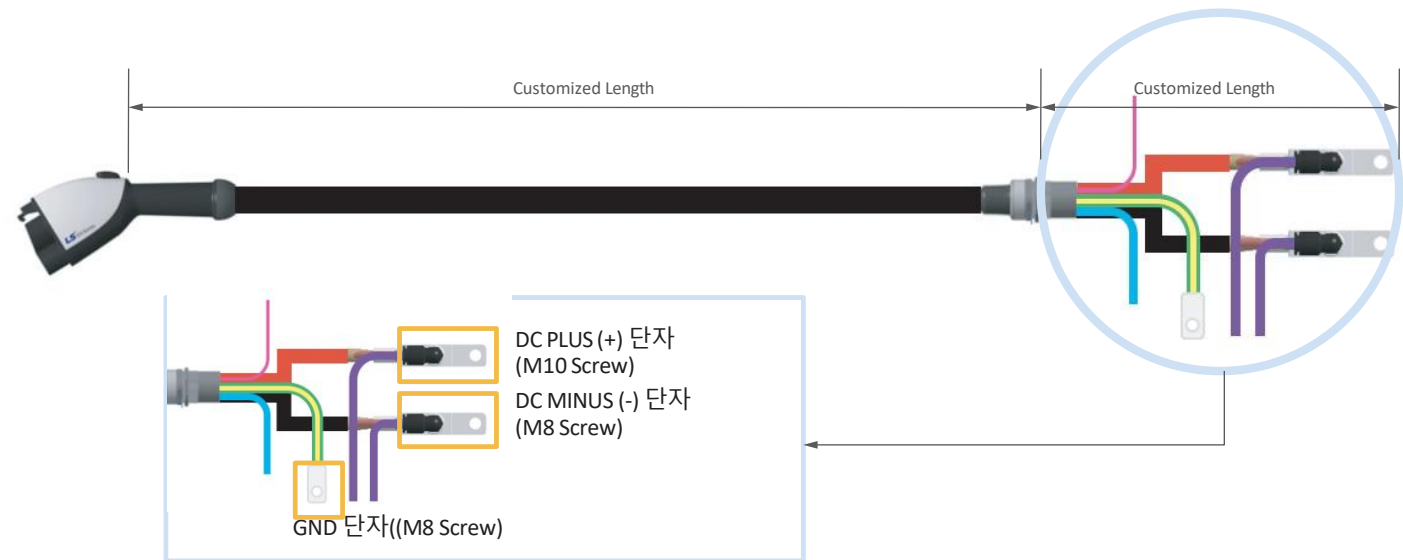


Material : - Housing : Polyamide (PA6) glass fiber reinforced
 - Interface : Polyamide (PA6) glass fiber reinforced
 - Cover : SI-PC

| Product | Item | CCS1 UFC Liquid Cooling Charging System |
|-----------------------------|-----------------------------------|---|
| | | 500A |
| General | Design Guideline | IEC 62196-3 (or) UL2251 |
| | Ambient Temperature (Operation) | -35°C ~ 50°C |
| | Ambient Temperature (Storage) | -40°C ~ 80°C |
| | Voltage Rating | 1000V DC |
| | Current Rating | 500A |
| | Power Contact | DC+, DC-, PE |
| | Signal Contact | CP, CS |
| Cable | Temperature Sensors | 2x PT1000 / 1mA (1V at 0°C) |
| | Weight - Cable | 1.5kg/m (IEC) , 1.7kg/m (UL) |
| | - Connector | 0.9kg |
| | Max Conductor Temperature | 90°C |
| | Overall Diameter | 30±0.5mm (IEC) / 35±0.5mm (UL) |
| | Length | Max. 8m |
| | Bending Radius (Fixed) | 150mm |
| | Bending Radius (Free Move) | 300mm |
| | UV Resistance | UL 1581 |
| | Jacket Color | Black |
| Connector | Signal (CP, CS) Voltage | 30V AC |
| | Signal (CP, CS) Current | 2A |
| | IP Rating (Housing) | IP67 |
| | Fire Grade (Housing Flammability) | V0 |
| | Temperature Monitoring | 2x PT1000 |
| | Insertion/Withdrawal Cycles | > 10,000 |
| | Insertion/Withdrawal Force | < 100 N |
| DC Contacts & Locking Latch | Possible to replace | |

Ultra Fast Charging System

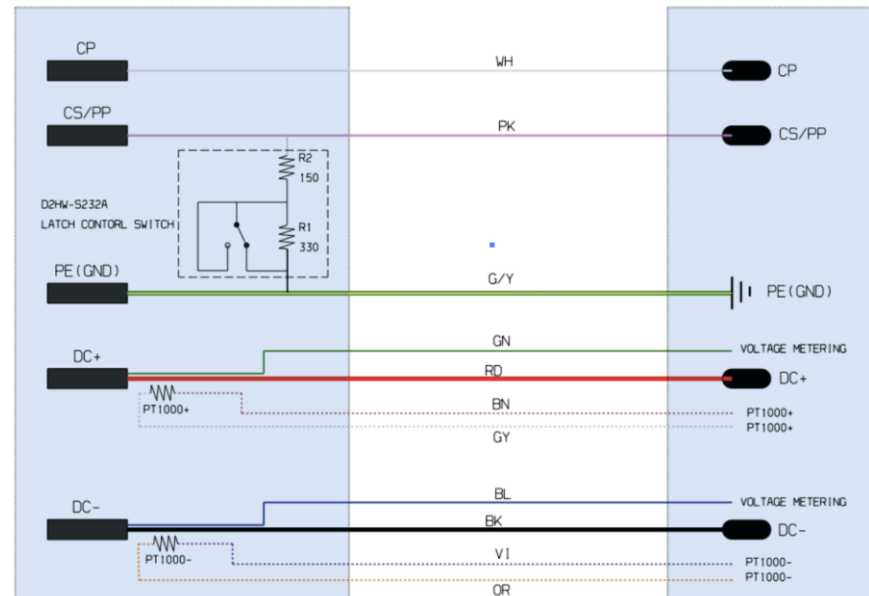
Function to Power Supply & Ground Conductor



Ultra Fast Charging System

[CCSI CONNECTOR]

[DISPENSER]



| Signal Core | Signal 정보 |
|-------------|----------------------|
| GN | DC+ Voltage metering |
| BL | DC- Voltage metering |
| OR | DC- Temp Sensor |
| VI | DC- Temp Sensor |
| GY | DC+ Temp Sensor |
| BN | DC+ Temp Sensor |
| PK | CS/PP |
| WH | CP |



DC FAST CHARGING SYSTEM



Overview

LS DC Fast Charging System is capable of managing high continuous currents ranging from 150A to 250A at 1000 volts.

It is engineered for ease of use and safety, featuring an appealing aesthetic and ergonomic design.

The outer cover of the connector is interchangeable allowing customization



DC Fast Charging System

KEY FEATURES



Standard: CCS1



200A/250A
at 1,000V



Minimized cable diameter
and weight



IP67



UL2251, IEC62196-3



Easy to Install & Replace



Color variation based
on request



>10,000 Insertion
/Withdrawal Cycle

KEY FEATURES | DC FAST CHARGING SYSTEM



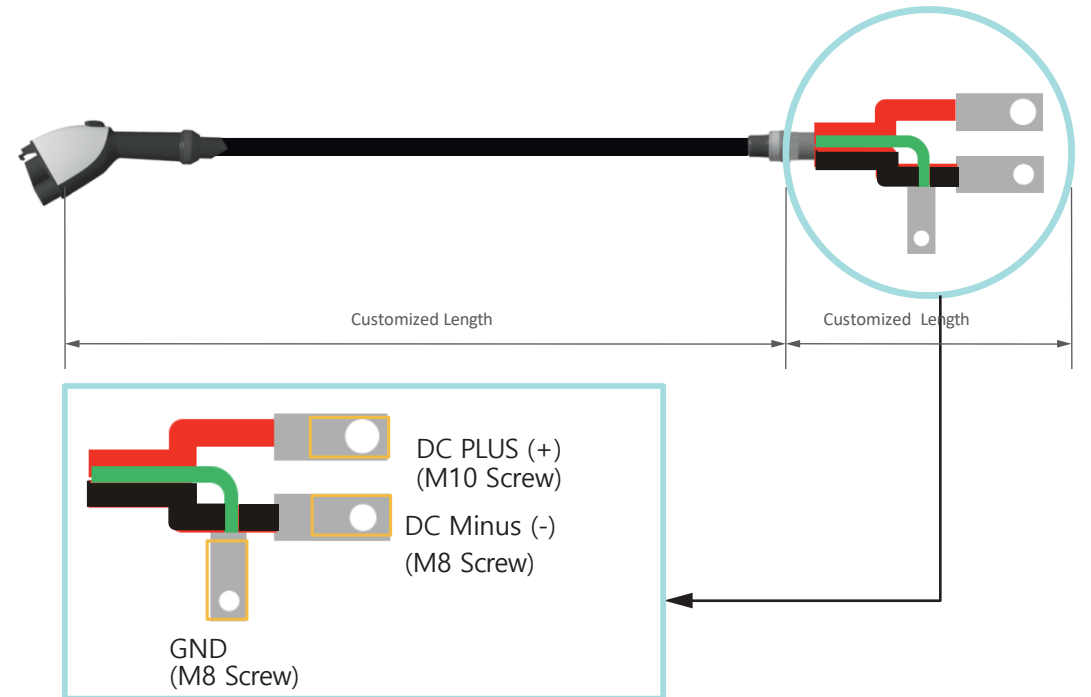
| Product | Item | CCS1 DCFC Air Cooling Charging System | |
|-----------|-----------------------------------|---------------------------------------|-----------------------------|
| | | 200A | 250A |
| General | Design Guideline | UL 62, UL 2263, IEC 62893 | UL 62, UL 2263, IEC 62893 |
| | Ambient Temperature (Operation) | -35°C ~ 50°C | -35°C ~ 50°C |
| | Ambient Temperature (Storage) | -40°C ~ 80°C | -40°C ~ 80°C |
| | Voltage Rating | 1000V DC | 1000V DC |
| | Current Rating | 200A | 250A |
| | Power Contact | DC+, DC-, PE | DC+, DC-, PE |
| | Signal Contact | CP, CS | CP, CS |
| | Temperature Sensors | 2x PT1000 1mA (1V at 0°C) | 2x PT1000 1mA (1V at 0°C) |
| | Weight - Cable - Connector | 1.5kg/m (±0.1kg/m) 0.9kg | 1.9kg/m (±0.1kg/m) 0.9kg |
| Cable | Max Conductor Temperature | 90°C | 90°C |
| | Overall Diameter | 30.0mm±0.5mm | 33.5mm±0.5mm |
| | Bending Radius (Fixed) | 150mm | 168mm |
| | Bending Radius (Free Move) | 300mm | 335mm |
| | UV Resistance | UL 1581 | UL 1581 |
| | Jacket Color | Black | Black |
| | Signal (CP, CS) Voltage | 30V AC | 30V AC |
| | Signal (CP, CS) Current | 2A | 2A |
| Connector | IP Rating (Housing) | IP67 | IP67 |
| | Fire Grade (Housing Flammability) | V0 | V0 |
| | Insertion/Withdrawal Cycles | > 10,000 | > 10,000 |
| | Insertion/Withdrawal Force | < 100 N | < 100 N |
| | DC Contacts & Locking Latch | Possible to replace | Possible to replace |

DC Fast Charging System



Material : - Housing : Polyamide (PA6) glass fiber reinforced
 - Interface : Polyamide (PA6) glass fiber reinforced
 - Cover : SI-PC

Function to Power Supply & Ground Conductor

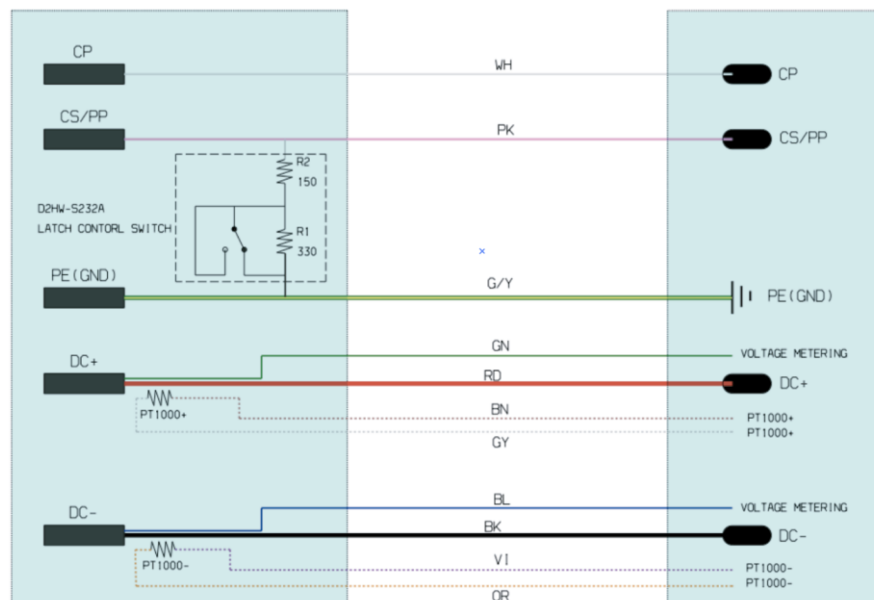


Air Cooling

DC Fast Charging System

[CCSI CONNECTOR]

[DISPENSER]



| Signal Core | Signal 정보 |
|-------------|----------------------|
| GN | DC+ Voltage metering |
| BL | DC- Voltage metering |
| OR | DC- Temp Sensor |
| VI | DC- Temp Sensor |
| GY | DC+ Temp Sensor |
| BN | DC+ Temp Sensor |
| PK | CS/PP |
| WH | CP |



Ultra Fast Charging System (NACS)

Key Features



Standard : NACS



SAE J3400



Enable Charging up to
500A at 1,000V



Easy to Install & Replace



Minimized Cable
Diameter and Weight



Color Variation based
on Request



IP67



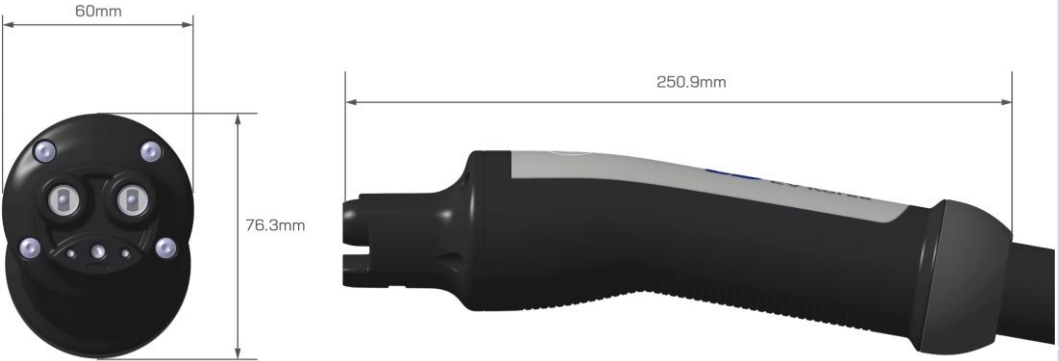
>10,000 Insertion
/Withdrawal Cycle

KEY FEATURES | ULTRA FAST CHARGING SYSTEM (NACS)





Ultra Fast Charging System (NACS)



Material : - Case Body : Polyamide (PA6) glass fiber reinforced
 - Interface : Polyamide (PA6) glass fiber reinforced
 - Cover Sticker : Polycarbonate

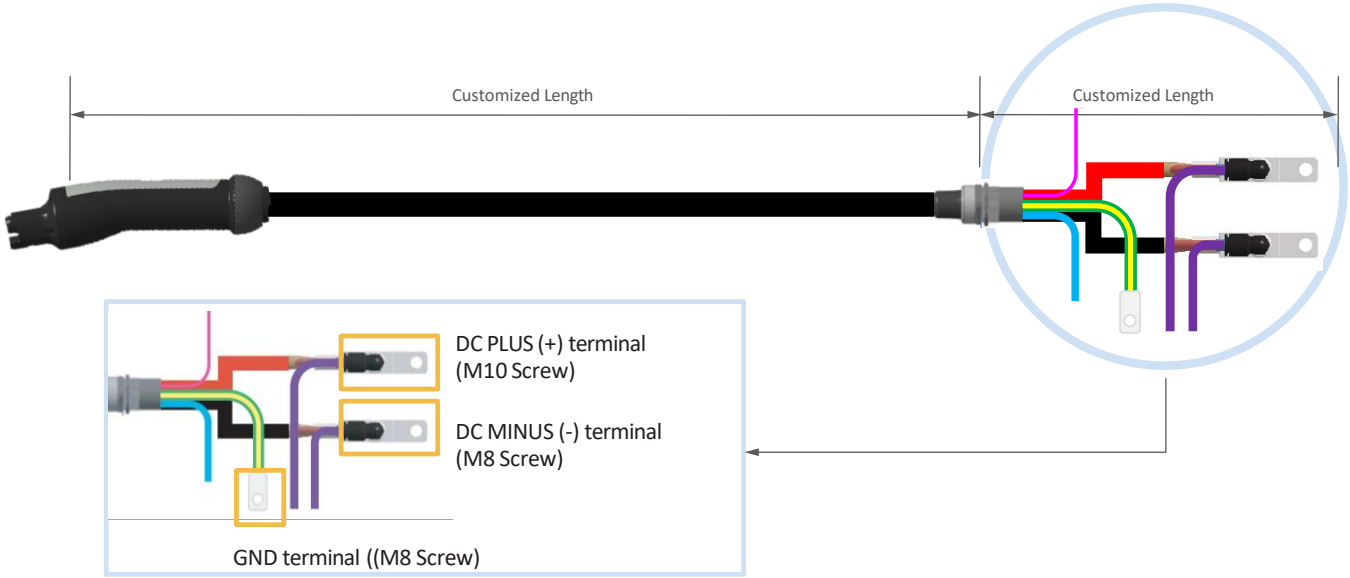
| Product | Item | NACS UFC Liquid Cooled Charging System |
|-----------------------------------|---------------------------------|--|
| | | 500A |
| General | Design Guideline | SAE J3400 |
| | Ambient Temperature (Operation) | -35°C ~ 50°C |
| | Ambient Temperature (Storage) | -40°C ~ 80°C |
| | Voltage Rating | 1000V DC |
| | Current Rating | 500A |
| | Power Contact | DC+, DC-, PE |
| | Signal Contact | CP, CS |
| | Temperature Sensors | 2x PT1000 / 1mA (1V at 0°C) |
| Cable | Max Conductor Temperature | 90°C |
| | Overall Diameter | 30±0.5mm (IEC) / 35±0.5mm (UL) |
| | Length | Max. 8m |
| | Bending Radius (Fixed) | 200mm |
| | Bending Radius (Free Move) | 300mm |
| | UV Resistance | UL 1581 |
| | Jacket Color | Black |
| | Signal (CP, CS) Voltage | 30V AC |
| | Signal (CP, CS) Current | 2A |
| | Connector | IP Rating (Housing) |
| Fire Grade (Housing Flammability) | | V0 |
| Temperature Monitoring | | 2x PT1000 |
| Insertion/Withdrawal Cycles | | > 10,000 |
| Insertion/Withdrawal Force | | < 100 N |
| DC Contacts & Locking Latch | | Possible to replace |

Liquid Cooled



Ultra Fast Charging System (NACS)

Function to Power Supply & Ground Conductor



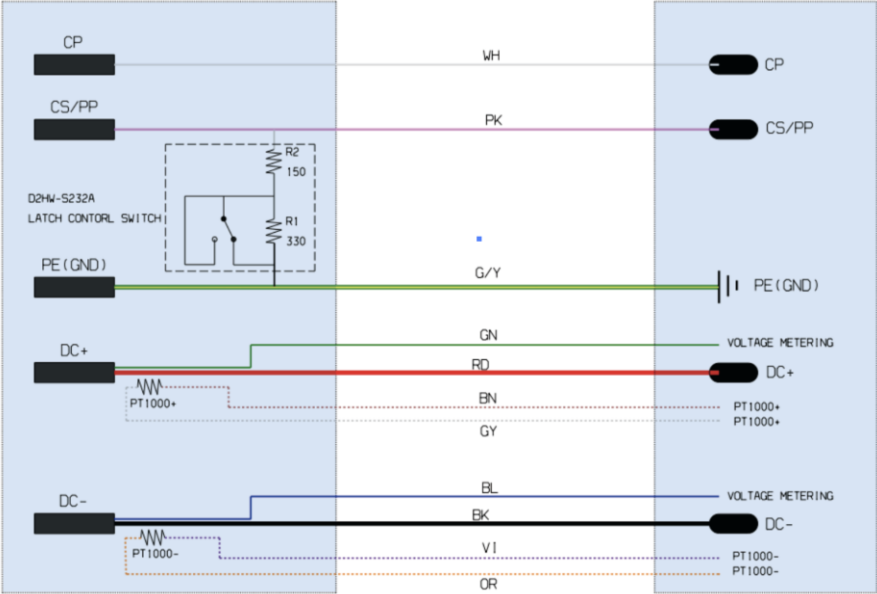
Liquid Cooled



Ultra Fast Charging System (NACS)

[NACS CONNECTOR]

[DISPENSER]



| Signal Core | Signal 정보 |
|-------------|----------------------|
| GN | DC+ Voltage metering |
| BL | DC- Voltage metering |
| OR | DC- Temp Sensor |
| VI | DC- Temp Sensor |
| GY | DC+ Temp Sensor |
| BN | DC+ Temp Sensor |
| PK | CS/PP |
| WH | CP |

Liquid Cooled



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