



# NESSCAP® Ultracapacitor Products 16V MODULE

## Features

- Rated 16V with capacitance of 108F
- Highest power performance with ultra-low internal resistance
- Integrated UMU (Ultracapacitor Management Unit) for:
  - Individual cell balancing
  - Voltage and temperature diagnosis by logic output
  - Optional CAN or RS communication interface
- Rugged design for harsh environments
- Typical applications:
  - Transportation and automotive
  - Industrial UPS and DVR



## Specifications

Rated Capacitance (F)	Internal Resistance (mΩ)		Max Current <sup>1</sup> (A)	Leakage Current (mA)	Stored Energy (Wh)	Specific Energy (Wh/kg)	Nominal Weight (kg)	Part Number
	Discharge with constant current at 25°C	AC (100Hz)						
108	< 3.6	< 4.3	580	< 1.5	3.9	1.30	3.0	EMHSR-0108C0-016R0V

Rated Voltage, $V_R$		16.2V DC	
Surge Voltage		17.1V DC	
Capacitance Tolerance		0% / +20%	
Operating Temperature Range		-40 ~ 65°C	$ \Delta CAP  < 5\%$ and $\Delta ESR < 150\%$ of initial value measured at 25°C
Storage Temperature Range		-40 ~ 70°C	
Lifetime	Endurance	1,500 hours at $V_R$ and 65°C	$ \Delta CAP  < 20\%$ and $\Delta ESR < 60\%$ of specified value
	At Room Temperature	10 years <sup>2</sup> at $V_R$	$ \Delta CAP  < 30\%$ and $\Delta ESR < 150\%$ of specified value
Cycle Life		1,000,000 cycles between $V_R$ and $1/2V_R$ using constant current charge and discharge at 25°C	$ \Delta CAP  < 30\%$ and $\Delta ESR < 150\%$ of specified value
Electronics (Ultracapacitor Management Unit)	Balancing	Active Balancing	
	Monitoring	Over Voltage : High and Low signal Temperature : NTC	Requires external 5V DC input, configurable to user specific requirements
	Communications	High/Low Logic signal Optional CAN 2.0B, J1939 or RS485 interface	
	Signal Output	4 pin connector	
Output Terminals	M8 screw holes		
Enclosure	Insulation Coordination	Rated insulation voltage : 1kV DC Or 2.8kV AC (50Hz, 10sec) Rated impulse withstand voltage : 6kV DC	IEC 61287-1 (Cat. : OV II)
	Protection Degree	IP 65 (Dust-tight and protected against water jets)	IEC 60529
	Vibration & Shock Resistance	SAE J2380 : Vibration SAE J2464 : Shock	
	Mounting	4 locations, M8 holes on bottom covers	

1 – Warning: this value should not be used as continuous current

2 – Lifetime at room temperature is a provisional value

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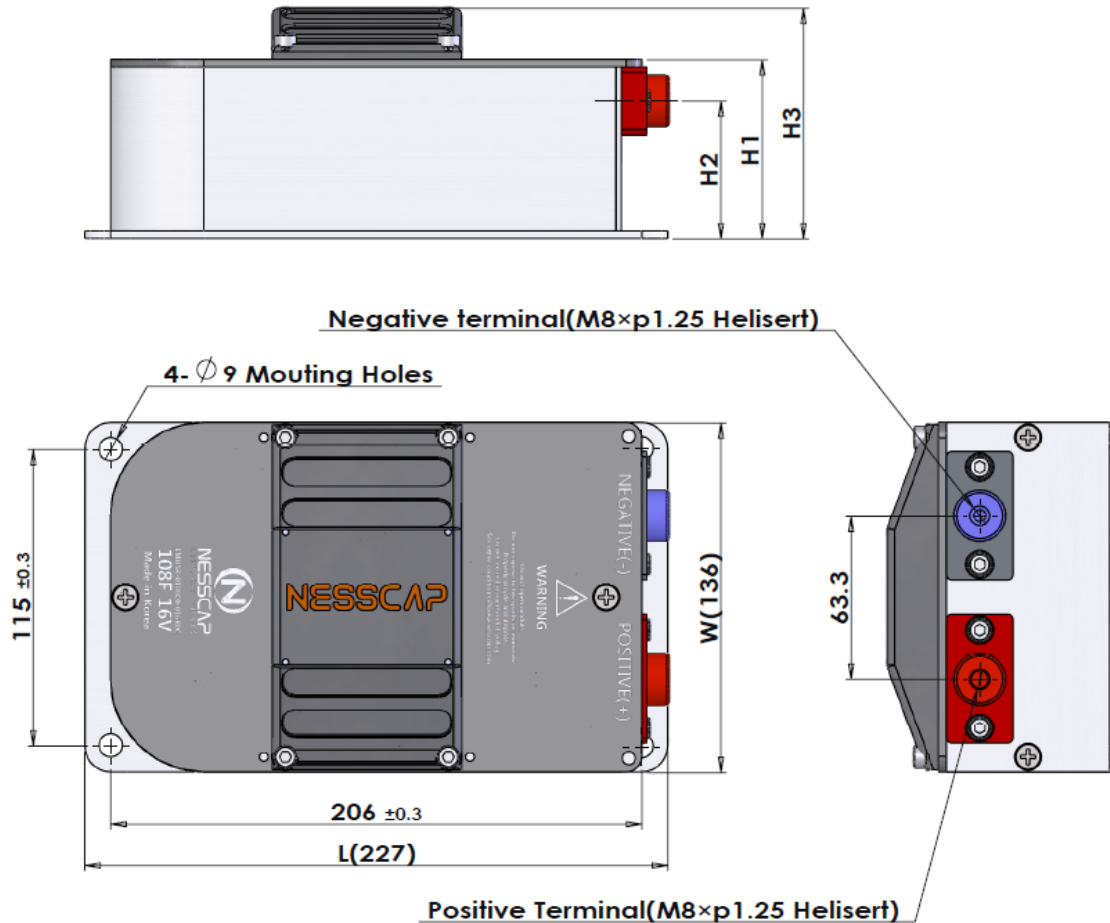
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ISO 9001, 14001, and TS 16949 certified



# NESSCAP® Ultracapacitor Products 16V MODULE

## Dimensions



Part Number	Capacitance (F)	Dimensions (mm)				
		L(±1.0)	W(±1.0)	H1(Max)	H2(Max)	H3(Max)
EMHSR-0108C0-016R0V	108	227	136	70	54	90

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