VTK-SCAP

SuperCap BBU for In-Vehicle/Railway Application

VTK-SCAP-AR-M

VTK-SCAP-S

VTK-SCAP-M

Main Features

- SuperCap BBU for in-vehicle/Railway application
- High power density EDLC (Electric Double Layer Capacitor) technology
- Over 500,000 cycle life (charging/discharging)
- Operating Temperature: -35~80°C
- SDK for software development
- RS232 for communication
- Max. expansion 1 x master + 3 x slave

Product Overview

The VTK-SCAP is a high-performance rechargeable BBU designed for NEXCOM vehicle and railway computers. It offers uninterrupted power and a sophisticated power management system. With enhanced charge/discharge efficiency and an RS232 interface for status monitoring, VTK-SCAP provides reliable backup power. It can deliver a maximum output power of 200W. In expansion mode (1 x VTK-SCAP-M + 3 x VTK-SCAP-S), VTK-SCAP can support a 60W system for up to 6 minutes. Leveraging supercapacitor technology, VTK-SCAP is suitable for extreme environments, operating reliably from -35°C to 80°C.

Specifications

Power Input

- 9~60VDC

Power Output

- 24VDC

Composition

- 3.0V, 500F supercapacitor

Capacity

- Approx. 90 seconds endurance for 60W @ 55°C, Approx. 36 seconds endurance for 60W @ 80°C
- Maximum output power of 200W

SuperCap BBU Status Information

- Input voltage
- BBU health (Good/Error)
- BBU status (Full/Charging/Discharging)
- BBU temperature
- BBU capacity
- Ignition status/Ignition delay on timer

I/O Interface-Front

- VTK-SCAP-M (In-vehicle)
  - 8-LEDs for power source, slave power, temp, power in
  - RS232 for UART
  - 1 x 5-pin terminal block DC input
  - 1 x 6-pin terminal block DC output
- VTK-SCAP-AR-M (Railway)
  - 8-LEDs for power source, slave power, temp, power in
  - RS232 for UART
  - 1 x 2-pin terminal block for IGN
  - 1 x M12 K-code male DC input
  - 1 x M12 A-code female DC output

I/O Interface-Rear

- VTK-SCAP-M (In-vehicle) & VTK-SCAP-AR-M (Railway)
  - 3 x [2 x 5 pin] connector for backup power expansion (slave power box)
- VTK-SCAP-S (Slave for expansion)
  - 1 x [2 x 5 pin] connector to link to master power box

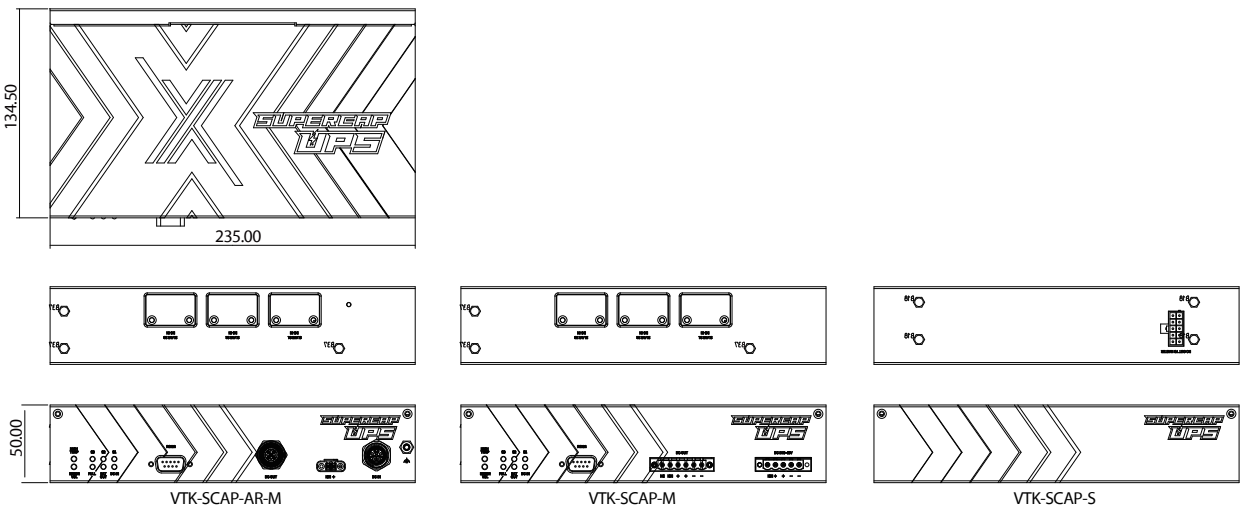
Dimensions & Weight

- VTK-SCAP-M, VTK-SCAP-AR-M, 235mm (W) x 134.5mm (D) x 50mm (H)
- VTK-SCAP-S, 235mm (W) x 134.5mm (D) x 50mm (H)
- VTK-SCAP-M: 1.7kg, VTK-SCAP-AR-M: 1.7kg, VTK-SCAP-S: 1.35kg

Environment

- Operation temperature:
  - Charging: -35~80°C
  - Discharging: -35~80°C (max. 60W), -35~70°C (max. 200W)
- Storage temperature
  - -40~85°C
- Vibration
  - IEC 60068-2-64, 2G
  - Operating: MIL-STD-810H, 514.8C Procedure 1, Category 4

Dimension Drawing



- Storage: MIL-STD-810H, 514.8E Procedure 1, Category 24
- Shock
  - MIL-STD-810H, 516.8 Procedure I, trucks and semi-trailers=40g
  - Non-operating: MIL-STD-810H, Method 516.8, Procedure V, crash hazard shock test=75g

Dimensions & Weight

- VTK-SCAP-M, VTK-SCAP-AR-M, 235mm (W) x 134.5mm (D) x 50mm (H)
- VTK-SCAP-S, 235mm (W) x 134.5mm (D) x 50mm (H)
- VTK-SCAP-M: 1.7kg, VTK-SCAP-AR-M: 1.7kg, VTK-SCAP-S: 1.35kg

Certifications

- CE/FCC class A (VTK-SCAP-M, VTK-SCAP-AR-M, VTK-SCAP-S)
- E13 mark (VTK-SCAP-M & VTK-SCAP-S)
- EN50155 (VTK-SCAP-AR-M & VTK-SCAP-S)

BBU Capability Table

Power Consumption / DC Output 24V	60W	100W	200W
1 x master	1m25s	53s	25s
1 x master + 1 x slave	2m55s	1m46s	56s
1 x master + 2 x slave	4m25s	2m45s	1m27s
1 x master + 3 x slave	6m04s	3m44s	1m49s

*(Test temperature: 25°C)

Recommended Charging Current

System PowerConsumption Recommended min. current (Amp)	60W	100W	200W
DC 12V charging	9.95A	14.12A	24.54A
DC 24V charging	5.12A	7.21A	12.42A

Ordering Information

- **VTK-SCAP-M (PN: 10VK0SCAP00X0)**
  SuperCap BBU for in-vehicle, master
- **VTK- SCAP-AR-M (PN: 10VK0SCAP01X0)**
  SuperCap BBU for railway, master
- **VTK- SCAP-S (PN: 10VK0SCAP02X0)**
  SuperCap BBU for expansion, slave