# VTK-RELAY

Super Slim and Ruggedized Vehicle Relay Module

## Main Features

- 4 x Form C relay with 10A @12VDC/5A @24VDC
- 4 x Isolated digital inputs
- 4 x Isolated digital outputs
- 1 x Analog input and 1 x frequency input

- Various communication interface of RS-232 and USB 2.0
- Wide range DC input from 9~36V
- Wide operating temperature -40°C~70°C
- Compatible with CE, FCC class B

## Product Overview

VTK-RELAY is a super slim, ruggedized RELAY module. It is remotely controlled through an on-board MCU and transmitted via RS-232 or USB 2.0 communication. With 4 x relay outputs, 4 x DIs, 4 x DOs, 1 x analog input, and 1 x frequency input, it allows the customer to easily configure the vehicle system. The relay provides compliance with stringent MIL-STD-810G military standard requirements in a rugged, compact mechanism. Due to its super slim design, it is compatible even for vehicles with limited space without sacrificing any features. The VTK-RELAY contains no DIP switches, by merely issuing a command from the vehicle computer, you can change RELAY/DI/DO settings based on the needs of your application.

## Specifications

### Relay Output
- Channel: 4 channels
- Type: Form C
- Connector: 3 x plug-in terminal blocks
- Contact current rating: 10A @12VDC/5A @24VDC

### Digital Input
- Channel: 4 channels
- Sensor type: wet contact (default)/dry contact
- I/O mode: DI
- Wet contact: 9 to 36V, 12V @ 1.1mA/24V @ 2.2mA
- Dry contact: external 0 to 36V
- Wet or dry contact should be selected by SW utility

### Digital Output
- Channel: 4 channels
- Sensor type: wet contact (default)/dry contact
- I/O mode: DO
- Wet contact: 9 to 36V, 9V @13.2mA/12V @17.6mA/24V @25.29 mA/ 36V @52.7mA
- Dry contact: external 0 to 36V
- Wet or dry contact should be selected by SW utility

### Analog Input
- Channel: 1 channel
- Resolution: 10 bits
- I/O mode: voltage/current input
- Input range: 0 to 36V, 0 to 3A

### Frequency Input
- Channel: 1 channel
- I/O mode: frequency (PWM) input
- Input frequency range: 2Hz to 6KHz

### Power Requirements
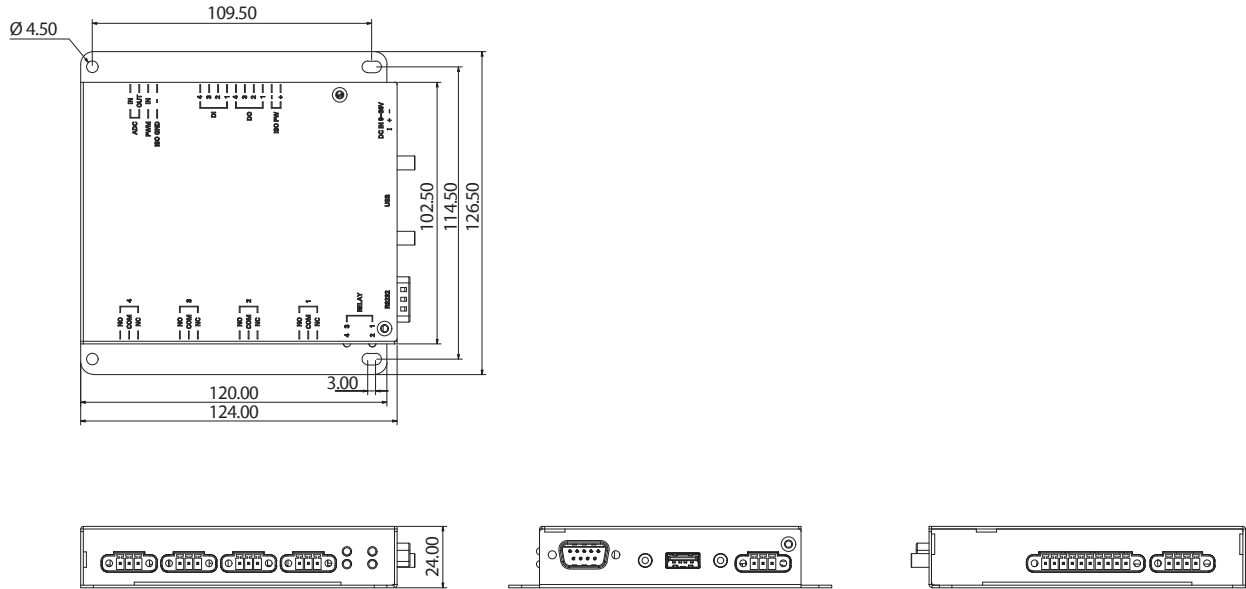- Input voltage: 9 to 36 VDC
- Input current: 70mA @12 VDC

### I/O Interface-Relay Side
- 4 x Relay's 3 plug-in terminal blocks for N.O./COM/N.C.
- 4 x LED indicator for activated relays 1 to 4

### I/O Interface-IO Side
- 1 x DB9 for RS-232
- 1 x Type A USB 2.0
- 1 x DC input 9~36V (3 plug-in terminal block for VIN/IGN/GND)

NEXCOM

## Dimension Drawing



### I/O Interface-COM/USB Side
- 1 x 10 plug-in terminal blocks for 4 x DI/4 x DO/ISO PW/ISO GND
- 1 x 4 plug-in terminal blocks for Analog Input/Frequency Input/ISO GND

### Operating System
- Windows driver
- Linux (by request)

### Dimensions
- 124mm (W) x 126mm (D) x 24mm (H) (4.88" x 4.96" x 0.94")
- Weight: 0.42kg (0.9lbs)

### Environment
- Temperature
  - Operating temperatures: -40°C to 85°C
  - Storage temperatures: -45°C to 85°C
  - Damp heat test per EN60068-2-30

- Humidity
  - IEC60068-2-3, damp heat steady state test, 40C, 95%, 48hrs
- Vibration
  - IEC 60068-2-64, 2G
  - Operating: MIL-STD-810G, 514.6C Procedure 1, Category 4
  - Storage: MIL-STD-810G, 514.6E Procedure 1, Category 24
- Shock
  - MIL-STD-810G, 516.6 Procedure I, trucks and semi-trailers=40g
  - Crash hazard: Procedure V, ground equipment=75g

### Certifications (compatible)
- CE
- FCC Class B

## Ordering Information
- **VTK-RELAY-01 (P/N: TBD)**