

ELECTRICAL-ELECTRONICS

ELEVATE YOUR VEHICLE'S FUNCTIONALITY

Through our range of Switches and
Sensors for seamless operations.



PERFORM@CHANGE



VERSATILE. ENHANCED.
SEAMLESS.

INTRODUCING
OUR RANGE OF
SWITCHES AND
SENSORS

Our comprehensive range of switches and sensors are meticulously designed to enhance functionality and convenience in 2-wheeler and 3-wheeler vehicles. Experience seamless control and streamlined operations with our innovative products. These are crafted keeping user convenience, precision and ease of use in center and enhances user experience and optimized performance, ensuring a smoother and more enjoyable ride every time.



ILLUMINATED CONTROL SWITCH



Improved engine efficiency



PRODUCT DESCRIPTION

Equipped with intuitive user interface (UI) functionality and enhanced visibility, this switch illuminates your controls, offering seamless operation and enhanced user experience in any environment.

FEATURES

Silicon membrane based light guide used for UI illumination

TECHNICAL SPECIFICATIONS

Supply current: 10mA for UI module
Rated voltage: 12V
Illumination color: White
Switch with crisp operating feeling
Handlebar Mounted Control Switch LH & RH
Function: UI module with haptic feeling
Rubber membrane contact pill technology

VERTICAL MOUNTED AIR FILTER



Tactile operating feeling with IP67



PRODUCT DESCRIPTION

Designed for tactile feedback, this switch offers a responsive feel, allowing for effortless control over your vehicle's start, stop and handle lock features.

FEATURES

Tactile operating feeling
Piano / glossy finish knob.
Switch meeting IP67 class requirements

TECHNICAL SPECIFICATIONS

Supply current: 5mA
Rated voltage: 5V
Tact switch based concept
Illumination: (Package protected)
Satin chrome bezel



MODULAR SWITCHES



Meet 50000 life cycle with smooth operation



PRODUCT DESCRIPTION

Crafted for adaptability, our switches boast a dimmer coupled with a pass switch, seamlessly integrating the Hi-Lo-Pass function. Additionally, they include a compact, covered blinker switch with a sliding knob mechanism, offering water and dust protection for dependable performance in all conditions. Furthermore, they feature a butt-type contact for the horn and E-kill functions combined with the start switch, ensuring comprehensive functionality.

FEATURES

Dimmer with pass switch: Hi-Lo-Pass function integrated, water & dust protection

Blinker switch: Compact covered switch, sliding knob mechanism with water & dust protection Butt-type contact integrated for horn, E-kill, and start functions within the switch

TECHNICAL SPECIFICATIONS

Supply current: 5mA to 5A

Rated voltage: 12V

Dimmer switch - Sealed type (Ingress protected)

Blinker switch - Sliding mechanism

SWITCH WITH HIGH-LOW PASS & ABS FEATURES WITH LOW CURRENT



Low current high, low & pass beam switch with compact packaging



PRODUCT DESCRIPTION

Designed for tactile feedback, this switch offers a responsive feel, allowing for effortless control over your vehicle's start, stop and handle lock features.

FEATURES

Tactile operating feeling

Piano / glossy finish knob.

Switch meeting IP67 class requirements

TECHNICAL SPECIFICATIONS

Supply current: 5mA

Rated voltage: 5V

Tact switch based concept

Illumination: (Package protected)

Satin chrome bezel



PANEL TYPE SWITCH



Meet 200000 life cycle with smooth operation



Compact packaging



PRODUCT DESCRIPTION

Offering tactile feedback and illumination, this switch ensures easy and intuitive operation, enhancing visibility and control in any driving condition.

FEATURES

- Tactile operating feeling
- Piano / glossy finish knobs
- Switch meeting IP67 class requirements

TECHNICAL SPECIFICATIONS

- Supply current: 20mA
- Rated voltage: 12V
- Tact switch based concept
- Illumination: White
- Varroc patented concept

PANEL TYPE SWITCH WITH NAVIGATION FEATURE



Meet 200000 life cycle with smooth operation



Compact packaging



PRODUCT DESCRIPTION

Seamlessly integrating tactile illumination with navigation functionality, this switch offers intuitive control and enhanced convenience for your driving experience.

FEATURES

- Tactile operating feeling
- Tactile Illuminated switch with navigation feature
- Piano / glossy finish knobs
- Switch meeting IP67 class requirements

TECHNICAL SPECIFICATIONS

- Supply current: 20mA
- Rated voltage: 12V
- Tact switch based concept
- Illumination: White
- Varroc patented concept



HANDLEBAR SWITCH INTEGRATED WITH TPS



Meet 100000 life cycle with smooth operation



PRODUCT DESCRIPTION

Engineered with integrated TPS functionality, these switches offer seamless control and precise throttle response, enhancing your riding experience with effortless operation.

FEATURES

LH Switch - Blinker, Horn and Hi-Lo-Pass for low current module

RH Switch integrated with - Hazard, Info & engine Kill & mode module Mechanical throttle fitment

TECHNICAL SPECIFICATIONS

Supply current: 30mA (Max without interface circuit)

Linearity & Hysteresis: $\pm 2.5\%$

Supply voltage: $5 \pm 0.5V$

Forward rotational angle: 0° to $60^\circ C$

HANDLE BAR SWITCH WITH ROTARY FUNCTION



High current switch with Rotary function



PRODUCT DESCRIPTION

Seamlessly control your vehicle's lighting with the LH switch, featuring high beam, low beam, pass with auto return conveniently integrated into the rotary switch. On the RH switch, the E-kill with start auto return function adds an extra layer of control, making it easy to manage your vehicle's power with precision.

FEATURES

LH Switch - Blinker, Horn, Info and Rotary Hi-Lo-Pass module

RH Switch - Hazard and Rotary Start-Run-Kill module

Mechanical throttle fitment

TECHNICAL SPECIFICATIONS

Rated load 6Amps with 12V

Rotary switch function for the Hi-Lo-Pass and Start-Run-Kill

Crisp operating filling

Horn function with the steep detent feeling

Glossy knobs

Varroc's patent granted



GRIP INTEGRATED ILLUMINATED SWITCHES



Meet 100000 life cycle with smooth operation



PRODUCT DESCRIPTION

Seamlessly merging functionality with comfort, these switches are integrated directly into the grip for ergonomic convenience, ensuring effortless control and enhanced user experience.

FEATURES

High reliable with illuminated tact switch based technology

TECHNICAL SPECIFICATIONS

Supply current: 5mA
Rated voltage: 5V
Tact switch based concept
Switches are configurable based on vehicle function
Package protected - illumination
Varroc's patented concept
Ergo-nominally design grip for user comfort
IP67 packaging

THROTTLE POSITION SENSOR



Meet one million life cycle with smooth operation



Small packaged standalone size



Meet ASIL - B requirements



PRODUCT DESCRIPTION

This essential component precisely detects the throttle position, ensuring optimal engine performance and responsiveness for a smooth and efficient driving experience with redundant features with redundant features.

The throttle position sensor meets ASIL-B compliance standards.

FEATURES

Hall sensor-based ride by wire technology
TPS with reserve rotation (Can be accommodated by vehicle architecture)
Meet EMI / EMC requirements

TECHNICAL SPECIFICATIONS

Supply current: 23mA
Linearity & Hysteresis: $\pm 2\%$
Supply voltage: $5 \pm 0.5V$
Rotational angle: 0° to 85°
Varroc patented concept in mass production



THROTTLE POSITION SENSOR WITH REVERSE ROTATION



Meet 1 million life cycle with smooth operation



Small package integrated switches with TPS



Meet ASIL - B requirements



PRODUCT DESCRIPTION

Engineered with both forward and reverse rotation capabilities, this TPS offers versatile compatibility for different engine configurations with redundant features. Its integrated switch adds functionality, providing seamless operation and precise throttle control for enhanced performance. TPS meet ASIL-B compliance.

FEATURES

Hall sensor-based ride by wire technology
Compact in packaging
TPS integrated with low current switches (IP67)
Switch with advance cruise & SOS function
TPS with boost mode feature with haptic feeling
Meet EMI / EMC requirements

TECHNICAL SPECIFICATIONS

Supply current: 23mA
Linearity & Hysteresis: $\pm 2\%$
Supply voltage: $5 \pm 0.5V$
Forward rotational angle: 0° to $75^\circ C$ (With Boost mode)
Reverse rotational angle: 0° to $15^\circ C$
Varroc patented concept in mass production

USB CHARGER



USB connector type:
Type A / C



PRODUCT DESCRIPTION

Engineered with a separate controller, this charger ensures efficient power management and reliable charging for your devices while on the road. Stay connected and powered up with ease on your motorcycle journeys.

FEATURES

Charger with separate controller
USB connector type: Type A/C
Compatible with all USB protocol
Auto detection feature

TECHNICAL SPECIFICATIONS

Constant 5V output
Up to 2.5A continuous current
Standby mode current $< 5mA$
Over current protection above 3A
Configurable UVLO (Under voltage lockout)
Thermal shutdown above $160^\circ C$



SIDE STAND SENSOR



Meet life cycle:
300000



PRODUCT DESCRIPTION

Utilizing advanced Hall IC technology, this sensor offers precise detection and reliable operation, enhancing safety and convenience for 2W bike riders.

FEATURES

Hall IC based sensor
Single mounting based concept
Meet EMI / EMC requirements

TECHNICAL SPECIFICATIONS

Non-contact type Hall IC based Side Stand Position Sensor
Supply current: 10 mA max
Output current: 25 mA
Supply voltage: 5 V DC (Regulated supply)
Rotational angle: 0° to 105°C
Sensor active zone: 0°- 46°±4°C
Life: 300000



JOYSTICK SWITCH FOR TFT APPLICATION



Compact outer packaging



Dust ingress protected



PRODUCT DESCRIPTION

Designed with a compact outer packaging, this switch offers ergonomic control and seamless integration, enhancing the user experience for TFT applications on motorcycles.

FEATURES

Smooth operating feeling
Compact outer packaging
Dust ingress protected

TECHNICAL SPECIFICATIONS

Supply current: 10mA
Rated voltage: 5V DC
Contact resistance: 1 Ohm Max
Operating direction: 8
Operating angle: 10°C



CAPABILITIES



Product Design and Development based on engine boundary conditions



Sodium Filled Valves manufacturing facilities



Engine head rig testing facilities and Engine test bed with Dyno



Design and Development of Thermometric Sodium Filled Valves



Well equipped Metallography lab with SEM to analyze tested and failed parts



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