

HANDLEBAR SWITCHES

Model: 1 - Handlebar Switch

KEY FEATURES:

- 1 Good Ergonomically Deign
- 2 Durability life
- 3 Ingress Protection- 65
- 4 Vibration Level - 20G
- 5 Low Current Switch
- 6 Mechanical Contact



TECHNICAL SPECIFICATIONS:

A	PASS	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.8 Kgf.±30%
B	HAZARD	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.95 Kgf.±30%
C	DIMMER	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.8 Kgf.±30% RATED LOAD:- 12V@20mA

D	WINKER	OPERATING FORCE:- 0.9 Kgf.±30% :- 1.5 Kgf.±30%
E	HORN	RATED LOAD:- 12V@6A OPERATING FORCE:- 0.8 Kgf.±30%
F	ENGINE KILL & START	RATED LOAD:- 12V@4mA OPERATING FORCE:- 0.9 Kgf.±30%

Model: 2 - Handlebar Switch

TECHNICAL SPECIFICATIONS:

A	PASS	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.8 Kgf.±30%
B	HAZARD	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.95 Kgf.±30%
C	DIMMER	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.8 Kgf.±30%
D	HORN	RATED LOAD:- 12V@6A OPERATING FORCE:- 0.8 Kgf.±30%
E	ENGINE KILL & START	RATED LOAD:- 12V@4mA OPERATING FORCE:- 0.9 Kgf.±30%



INSTALLATION:

- 1 Screw Mounting arrangement
- 2 Vertical fitment on handlebar(Ø22.2)

Model: 3 - Handlebar Switch

KEY FEATURES:

- ① Good Ergonomically Deign
- ② Durability life
- ③ Ingress Protection- 65
- ④ Vibration Level - 20G
- ⑤ Low Current Switch
- ⑥ Mechanical Contact



INSTALLATION:

- ① Screw Mounting arrangement
- ② Vertical fitment on handlebar(Ø22.2)

TECHNICAL SPECIFICATIONS:

A	PASS	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.8 Kgf.±30%
B	DIMMER	RATEDLOAD:-12V@20mA OPERATING FORCE:-0.8Kgf.±30%
C	WINKER	RATEDLOAD:-12V@20mA OPERATING FORCE:-0.9Kgf.±30% :-1.5Kgf.±30%

D	HORN	RATED LOAD:- 12V@6A OPERATING FORCE:- 0.8 Kgf.±30%
E	i3s	RATED LOAD:- 5V@4A OPERATING FORCE:- 0.8 Kgf.±30%
F	START	RATED LOAD:- 5V@4mA OPERATING FORCE:- 0.8 Kgf.±30%

Model: 4 - Switch Assembly I3S & Start

KEY FEATURES:

- ① Good Ergonomically Deign
- ② Durability life
- ③ Ingress Protection- 67
- ④ Vibration Level - 20G
- ⑤ Low Current Switch
- ⑥ Mechanical Contact



TECHNICAL SPECIFICATIONS:

A	START MODULE	RATED LOAD:- 12V@20mA OPERATING FORCE:- 0.8 Kgf.±30%
B	I3S SWITCH	RATEDLOAD:-12V@20mA OPERATING FORCE:-0.8Kgf.±30%

INSTALLATION:

- ① Screw Mounting arrangement
- ② Horizontal fitment on handlebar(Ø22.2)

Model: 5 - Switch Assembly Start

KEY FEATURES:

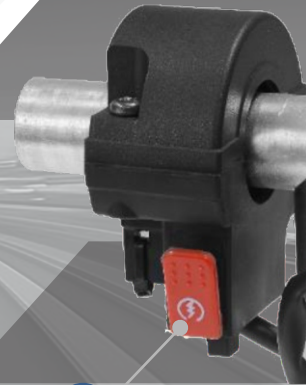
- 1 Good Ergonomically Deign
- 2 Durability life
- 3 Ingress Protection- 67
- 4 Vibration Level - 20G
- 5 Low Current Switch
- 6 Mechanical Contact Contact

TECHNICAL SPECIFICATIONS:

A	START MODULE	RATED LOAD:- 5V@4mA FUNCTIONAL FORCE:9N ± 2n
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INSTALLATION:

- 1 Screw Mounting arrangement
- 2 Vertical fitment on handlebar(Ø22.2)



A

Model: 6 - Handlebar Switch - LH

KEY FEATURES:

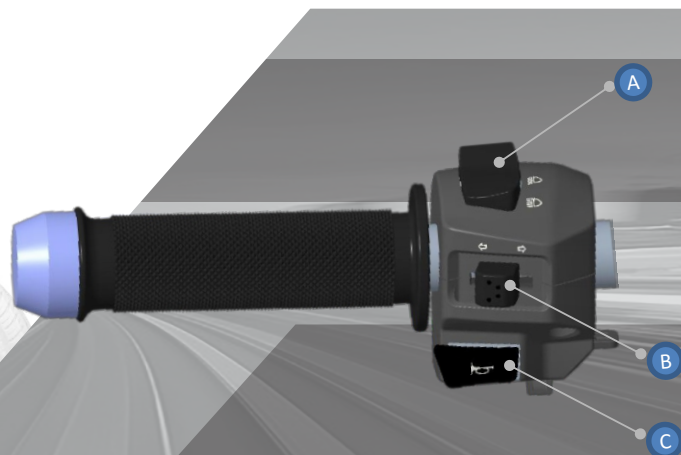
- 1 Good Ergonomically Deign
- 2 High Durability life
- 3 Water And Dust Protected
- 4 Vibration Level - 10G
- 5 High Currrent Sustainability
- 6 IP Rating - 54

TECHNICAL SPECIFICATIONS:

A	HI/LO/PASS SWITCH -Auto Return	RATED LOAD:- 12V@ 3Amp FUNCTIONAL FORCE:-8N±3N
B	TURN INDICATOR	RATED LOAD:- 5V @ 3 Amp LEFT/RIGHT:-8N±3N PUSH CANCEL :- 1.5±0.8N
C	HORN SWITCH	RATED LOAD:- 12V @ 5 Amp FUNCTIONAL FORCE:- 7N±3N

INSTALLATION:

- 1 Screw Mounting arrangement
- 2 Horizontal fitment on handlebar(Ø22.2)



A

B

C

Model: 7 - Heavy Duty Handlebar Switch

KEY FEATURES:

- ① Good Ergonomically Deign
- ② High Durability life
- ③ Water And Dust Protected
- ④ Vibration Level -20G
- ⑤ High Current Sustainability
- ⑥ IP Rating - 54



TECHNICAL SPECIFICATIONS:

A	DIMMER WITH PASS SWITCH-Auto return	RATED LOAD:- 12V@ 12Amp FUNCTIONAL FORCE:- 12N±3N
B	TURN SWITCH	RATED LOAD:- 12V @ 5 Amp FUNCTIONAL FORCE:- 8N±2N
C	HORN SWITCH	RATED LOAD:- 12V @ 12 Amp FUNCTIONAL FORCE:- 8N±2N
D	INFO SWITCH	RATED LOAD:- 12V @ 25 mAmp FUNCTIONAL FORCE:- 8N±2N
E	ENGINE KILL WITH START	RATED LOAD:- 12V@5A FUNCTIONAL FORCE:- 8N±3N
F	HAZARD MODULE	RATED LOAD:-12V@5Amp FUNCTIONAL FORCE:-8N±3N

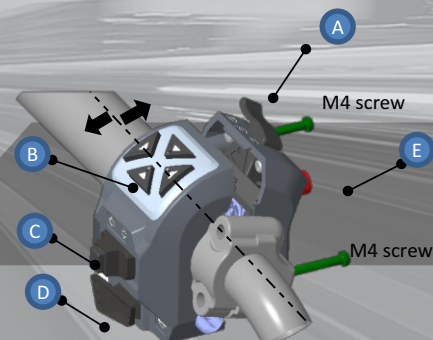
INSTALLATION:

- ① Screw Mounting arrangement
- ② Horizontal fitment on handlebar(Ø22.2)

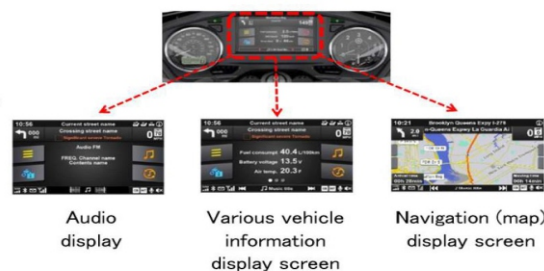
Model: 8 - Illuminated User Interface Switch

KEY FEATURES:

- ① Good Ergonomically Deign
- ② High Durability life
- ③ Water And Dust Protected
- ④ Vibration Level -10G
- ⑤ High & Low Current Sustainability
- ⑥ IP Rating - 65
- ⑦ Integrated LED Controller



Installation method



TECHNICAL SPECIFICATIONS:

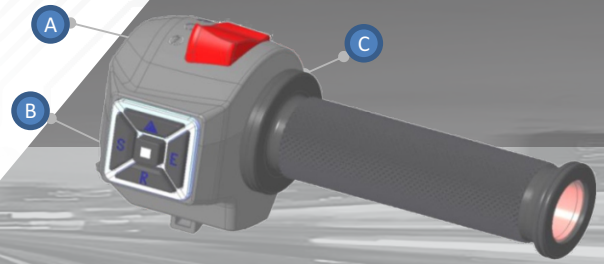
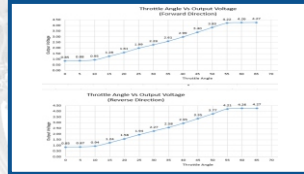
A	HI/LO/PASS SWITCH-Auto return	RATED LOAD:- 12V@20mAmp FUNCTIONAL FORCE:- 8N±3N
B	USER INTERFACE MODULE	RATED LOAD:- 5V @ 25 mAmp FUNCTIONAL FORCE:- 4N±2N
C	TURN SWITCH	RATED LOAD:- 12V @ 20 mAmp FUNCTIONAL FORCE:- LEFT/RIGHT:-8N±3N PUSH CANCEL :- 1.5±0.8N
D	HORN MODULE	RATED LOAD:- 12V@6A FUNCTIONAL FORCE:- 8N±3N
E	HAZARD MODULE	RATED LOAD:-12V@20 mAmp FUNCTIONAL FORCE:-2N±3N
F	ENGINE KILL/START-Auto Return	RATED LOAD:- 12V@20mAmps FUNCTIONAL FORCE:- 8N±3N

Electronic Throttle

Model: 1 - Integrated Electronic Throttle-RH

KEY FEATURES:

- ① Good Ergonomically Deign
- ② High Durability life
- ③ Water And Dust Protected
- ④ Vibration Level - 10G
- ⑤ High & Low Current Sustainability
- ⑥ IP Rating - 54



TECHNICAL SPECIFICATIONS:

A	ENGINE KILL/START	RATED LOAD FUNCTIONAL FORCE	: 12V@ 3 A : 8N±3N
B	INTERFACE MODULE	HAZARD ECO MODE SPORTS MODE REVERSE MODE	: 5 V DC 15mA : 5V DC 15mA : 5V DC 15mA : 5V DC 15mA
C	E-THROTTLE SPECIFICATION	OPERATING TEMP. OPERATING VOLTAGE DIRECTION OF ROTATION SENSOR OUTPUT OPERATING ANGLE	: 20°/+85° : 5±0.5V (REGULATED) : ANTICLOCK WISE : AT ZERO 0.8V : AT FULL THROTTLE 4.8 V : 0 ~ 65°

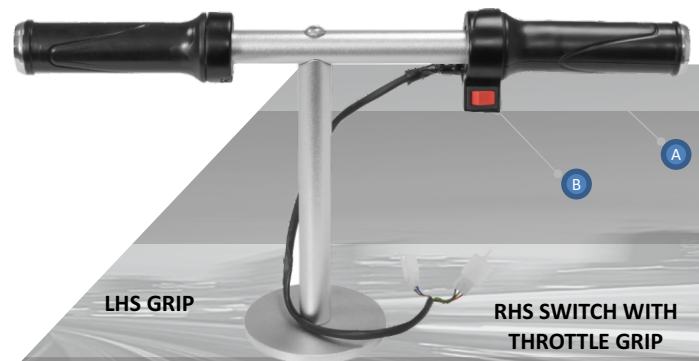
INSTALLATION:

- ① Screw Mounting arrangement
- ② Horizontal fitment on handlebar(Ø22.2)

Model: 2 - Electronic Throttle for EV (HALL sensor Based)

KEY FEATURES:

- ① Good Ergonomically Deign
- ② High Durability life
- ③ Single Die Transistor Type IC Used.
- ④ Vibration Level - 10G
- ⑤ High Voltage Sustainability
- ⑥ IP Rating - 54



TECHNICAL SPECIFICATIONS:

A	E-THROTTLE SPECIFICATION	1. OPERATING ANGLE 2. OPERATING VOLTAGE 3. SENSOR OUTPUT 4. OPERATING TEMP 5. STORAGE TEMP 6. OPERATING TORQUE 7. DIRECTION OF ROTATION 8. HALL IC TYPE	: 0 ~ 65° : 5±0.5V (REGULATED) : AT ZERO 0.8V : AT FULL THROTTLE 4.8 V : -20°/+80° : -30 ~ 85 ° : 6.0 Kgf.cm. : ANTICLOCK WISE : TRANSISTOR TYPE SINGLE DIE
B	E& S SWITCH	1. E (ECO MODE) 2. S (SPORTS MODE) 3. FUNCTIONAL FORCE	: 5 V DC @ 2A : 5V DC @ 2A : 6N±2N

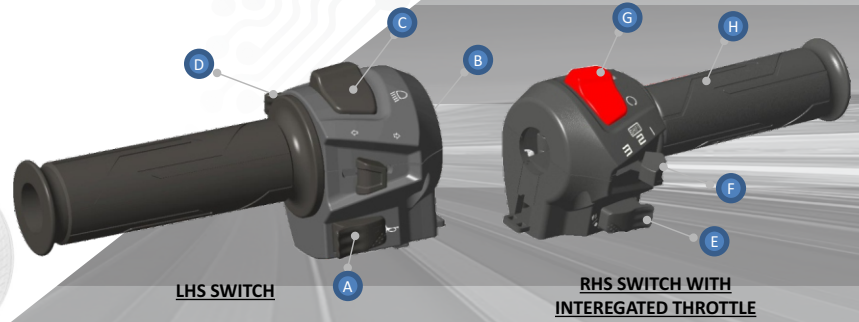
INSTALLATION:

- ① Screw Mounting arrangement
- ② Horizontal fitment on handlebar(Ø22.2)

Model: 3 - Handlebar Switch LH-RH Integrated Throttle For E-Vehicle

LHS Switch Specifications:

A	Dimmer Module	Rated Load : 13V@ 4Amp Operating Force : 9±3N
B	Turn Module	Rated Load : 13V@ 4Amp Operating Force : DX-SX:-12N±3N RESET:- 12N±3N
C	Horn Module	Rated Load : 13V@ 5Amp Operating Force : 9±3N
D	Pass Module	Rated Load : 13V@ 5Amp Operating Force : 9±3N



LHS Switch Specifications:

A	Parking Module	Rated Load : 13V@ 4Amp Operating Force : 9±3N
B	Shift Module	Rated Load : 13V@ 4Amp Operating Force : POSITION 1-2 :12N±3N POSITION 2-3 :12N±3N
C	Sound Module	Rated Load : 13V@ 4Amp Operating Force : 9±3N

E-Throttle Specifications:

1. Dual die output sensor used.
2. Maximum Out Put Voltage : 0.8~ 4.7 V
3. Throttle operation angle : 0° ~ 63°
4. Air gap 1.5 mm
5. Operating torque of throttle: 6.0 Kgf.cm.
6. Electronics Hall IC gives Analogue signal to ECU.
7. Programmable dual die Hall IC used.
8. EMI/EMC Protected.
9. ESD protected.

Model: 4 - Handlebar Switch For E- Vehicle

LH Switch Specifications:

A	PASS SWITCH	RATED LOAD : 12V@ 20 mA FUNCTIONAL FORCE : 8N± 2 N
B	WINKER SWITCH	RATED LOAD : 12V@2A FUNCTIONAL FORCE : NORMAL -LEFT 9N±3N NORMAL- RIGHT 9N±3N PUSH CANCEL 15N±3N
C	HORN SWITCH	RATED LOAD : 12V@3A FUNCTIONAL FORCE : 8N±2N
D	DIMMERSWITCH	RATED LOAD : 12V@2A FUNCTIONAL FORCE : LO-HI:-8N±2N HI-LO:-8N±2N
E	HAZARD SWITCH	RATED LOAD : 12V@20mA FUNCTIONAL FORCE : ON- OFF 10 N ± 3N OFF- ON 10 N ± 3N



RH Switch Specifications:

A	LIGHT MODULE	RATED LOAD : 12V@2A FUNCTIONAL FORCE : NORMAL -LEFT 9N±3N NORMAL- RIGHT 9N±3N
B	DIAGNOSIS SWITCH	RATED LOAD : 5V@ 20 mA FUNCTIONAL FORCE : ON-OFF-9N±3N OFF-ON-9N±3N
C	ENGINE START	RATED LOAD : 12V@ 20 mA FUNCTIONAL FORCE : ENGINE ON 9N±3N
D	DIAGNOSIS SWITCH	RATED LOAD : 12V@2A FUNCTIONAL FORCE : NORMAL -LEFT 9N±3N NORMAL- RIGHT 9N±3N
E	MODE SWITCH	RATED LOAD : 5V@20mA FUNCTIONAL FORCE : NORMAL -LEFT 9N±3N NORMAL- RIGHT 9N±3N

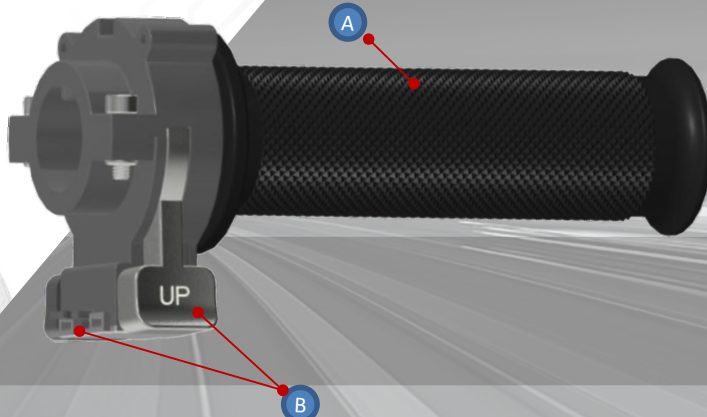
E-Throttle Specifications:

1. Dual die output sensor used.
2. Maximum Out Put Voltage : 0.8~ 4.7 V
3. Throttle operation angle : 0° ~ 63°
4. Air gap 1.5 mm
5. Operating torque of throttle: 6.0 Kgf.cm.
6. Electronics Hall IC gives Analogue signal to ECU.
7. Programmable dual die Hall IC used.
8. EMI/EMC Protected.
9. ESD protected.

Model: 5 - Mode Switch With Integrated TPS

KEY FEATURES:

- ① Good Ergonomically Deign
- ② High Durability life
- ③ Water And Dust Protected
- ④ Vibration Level -10G
- ⑤ High & Low Current Sustainability
- ⑥ EMI / EMC / ESD Protected
- ⑦ Low Current Consumption
- ⑧ Mode Function (UP / DOWN)
- ⑨ Dual Out-Put Sensor



TECHNICAL SPECIFICATIONS:

A	E-THROTTLE SPECIFICATION	1. OPERATING ANGLE : 0 ~ 65
		2. OPERATING VOLTAGE : 5±0.5V (REGULATED)
B	UP/Down Switch	3. SENSOR OUTPUT : AT ZERO 0.8V AT FULL THROTTLE 4.8 V
		4. OPERATING TEMP. : 20°/+80°
		5. STORAGE TEMP : 30 ~ 85 °
		6. OPERATING TORQUE : 6.0 Kgf.cm.
		7. DIRECTION OF ROTATION : ANTICLOCK WISE
		8. DUAL OUTPUT SENSOR :
		Current rating : 30 mA ~ 40mA @ 12V DC

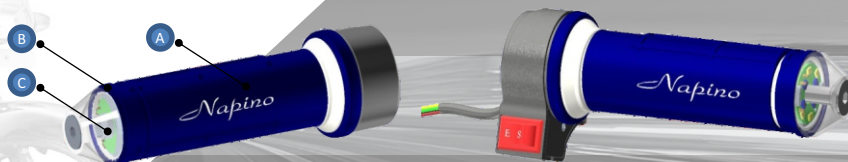
INSTALLATION:

- ① Screw Mounting arrangement
- ② Horizontal fitment on handlebar(Ø22.2)

Model: 6 - Illuminated Grip With Integrated TPS

PRODUCT FEATURES:

- ① Low Current Consumption
- ② Yellow LED Is For Indicator & Hazard
- ③ White LED Is For Branding Illumination
- ④ Indicator , Hazard & Grip Illuminated



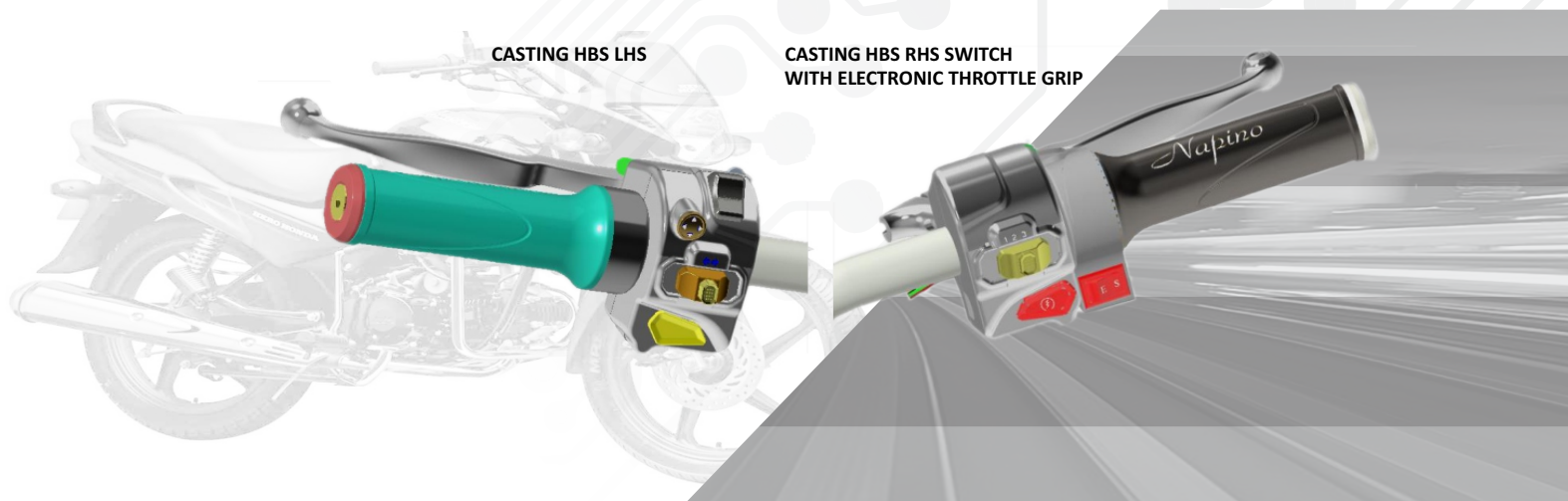
TECHNICAL SPECIFICATIONS:

A	E-THROTTLE SPECIFICATION	1. OPERATING ANGLE : 0 ~ 65
		2. OPERATING VOLTAGE : 5±0.5V (REGULATED)
B	E& S SWITCH	3. SENSOR OUTPUT : AT ZERO 0.8V AT FULL THROTTLE 4.8 V
		4. OPERATING TEMP. : 20°/+80°
C	ILLUMINATED GRIP	5. STORAGE TEMP : 30 ~ 85 °
		6. OPERATING TORQUE : 6.0 Kgf.cm.
D	TURN INDICATOR	7. DIRECTION OF ROTATION : ANTICLOCK WISE
		8. HALF IC TYPE : TRANSISTOR TYPE SINGLE DIE
E	HAZARD	1. E (ECO MODE) : 5 V DC @ 2A
		2. S (SPORTS MODE) : 5V DC @ 2A
		3. FUNCTIONAL FORCE : 6N±2N
		Current rating @ 12V DC : 30 mA ~ 40mA
		Current rating @ 12V DC : 30 mA ~ 40mA
		Current rating @ 12V DC : 30 mA ~ 40mA

INSTALLATION:

- ① Screw Mounting Arrangement At Handle Bar (Ø22.2)

Model 7 : Casting Handlebar Switch with Lever Fitment



TECHNICAL SPECIFICATIONS:

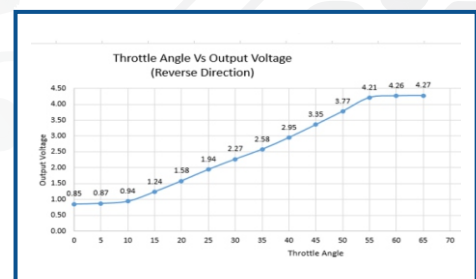
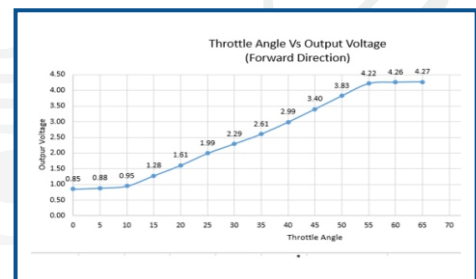
Throttle operation angle : $0^{\circ} \sim 63^{\circ}$
 Operating Temperature : $-20^{\circ} \sim +80^{\circ}\text{C}$
 Storage Temp. : $-30^{\circ} \sim +85^{\circ}\text{C}$
 Operating Voltage : $5 \pm 0.5\text{V}$
 Sensor Output: At Zero 0.8V ~ At full Throttle 4.3V
 Throttle Rotational Direction: Anti clock wise.
 Single output sensor.
 Type of Hall IC : Transistor type with Leaded
 Operating torque of throttle : 6.0 Kgf.cm.
 Electronics Hall IC gives Analogue signal to ECU.
 Programmable Infineon Hall IC used.

LHS Switch Specifications:

A	Dimmer Switch & Pass Switch	Rated Load : 12V@ 20mAmp
B	Winker Switch	Rated Load : 12V@ 20mA
C	Horn Module	Rated Load : 12V@ 5Amp
D	Joystick Switch	Rated Load : 5V @ 10Amp

RHS Switch Specifications:

A	Start Switch	Rated Load : 12V@ 20mAmp
B	Light Switch	Rated Load : 12V@ 20mA



Sensor Voltage output with respect to Throttle angular movement.

MODULAR SWITCHES

Modular Panel Switch

KEY FEATURES:

- ① Good Ergonomically Deign
- ② High Durability life
- ③ Water And Dust Protected
- ④ Vibration Level - 20G
- ⑤ High & Low Current Sustainability
- ⑥ IP Rating - 54

TECHNICAL SPECIFICATIONS:

A	HI/LO/PASS SWITCH	RATED LOAD : 12V@80W FUNCTIONAL FORCE : LO-HI:-8N±3N HI-LO:-8N±3N PASS:-8N±3N
B	TURN SWITCH	RATED LOAD : 12V@52W FUNCTIONAL FORCE : DX-SX:-2N±1N RESET:- 12N±3N
C	HORN SWITCH	RATED LOAD : 12V@5A FUNCTIONAL FORCE : 8N±3N
D	START SWITCH	RATED LOAD : 12V@3A FUNCTIONAL FORCE : 8N±3N RATED LOAD : 12V 30W & 130W
E	MODE SWITCH	FUNCTIONAL FORCE : 8N±3N
F	HAZARD	RATED LOAD : 12V@3A FUNCTIONAL FORCE : 8N±3N



INSTALLATION:

- ① Front Panel Snap Locking Fitment
- ② Screw Mounting Arrangement

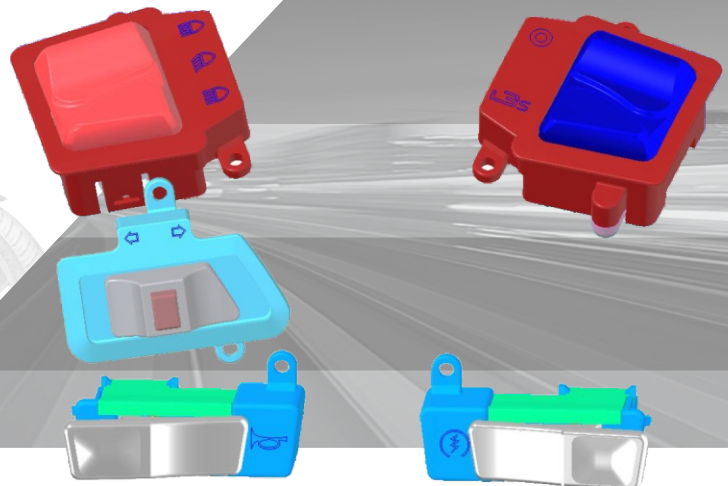
Illumination Modular Switches

LHS Switch Specifications:

A	Dimmer Switch & Pass Switch	Rated Load : 12V@ 20mAmp
B	Winker Switch	Rated Load : 12V@ 20mA
C	Horn Module	Rated Load : 12V@ 5Amp
D	I3S Switch	Rated Load : 5V @ 10Amp
E	Start Switch	Rated Load : 12V@ 20mAmp

LED Technical Specifications:

A	Dimmer Switch & Pass Switch	Rated Load : 9~16V@15~ 30mAmp.
B	Winker Switch	Rated Load : 9~16V@15~ 30mAmp.
C	Horn Module	Rated Load : 9~16V@15~ 30mAmp.
D	I3S Switch	Rated Load : 9~16V@15~ 30mAmp.



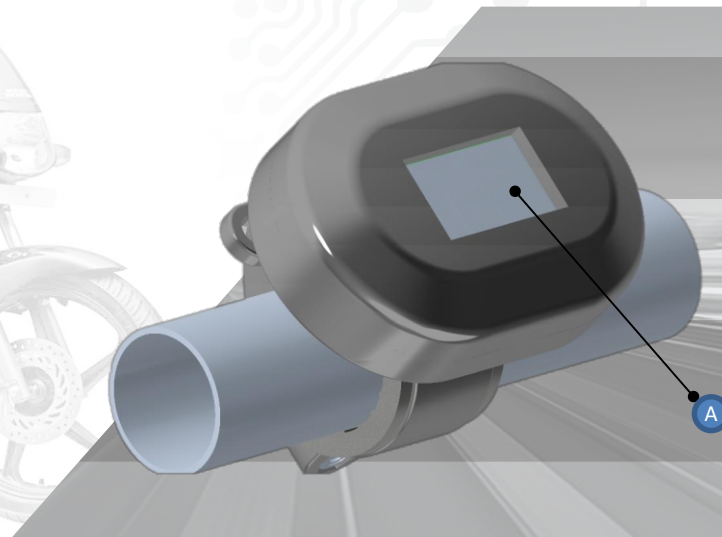
Illumination Modular Switches

OTHER SWITCHES

SOC Display (State of Charge)

KEY FEATURES:

- ① Use For Fuel & Battery Level Indicator
- ② Low Current Consumption
- ③ Water And Dust Protected
- ④ LCD Display Used In Design
- ⑤ Good Ergonomic Design
- ⑥ Dust & Water Protected



TECHNICAL SPECIFICATIONS:

A	LED Display	Current rating: -30 mA ~ 40mA @ 12V DC
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INSTALLATION:

- ① Screw Mounting arrangement
- ② Horizontal fitment on handlebar(Ø22.2)

Boot Light Switch

PRODUCT FEATURES:

- ① Low Current Consumption
- ② LED Used In Both Design
- ③ Mechanical Contact



Boot Light Switch AAW

Boot Light Switch AAL

TECHNICAL SPECIFICATIONS:

A	Current rating	30 mA ~ 40mA @ 12V DC
B	Operating force	ON~OFF : 650±150 gf. at Full Length : 1000±200 gf.
C	Voltage Drop	20mV Max. at Soldered Points.
D	Endurance cycle	75,000 Cycles.
E	Insulation Resistance:	10 M Ohm at 500V Megger.

INSTALLATION:

- ① Panel Screw Mounting Arrangement