CONSTRUCTION MACHINERY

CREATING GLOBAL HMI SOLUTIONS
APEM offers high-reliability Human Machine Interface (HMI) products for special vehicles. With vertically integrated manufacturing, APEM guarantees an uncompromised reliability through its custom product development, manufacturing excellence and outstanding service. APEM offers a very broad range of HMI components designed for the off-highway vehicles, including joysticks, switches and keypads.
BUILD YOUR CUSTOM JOYSTICK
WITH QUALIFIED, OFF-THE-SHELF COMPONENTS

THE WIDEST RANGE OF HMI COMPONENTS

XD SERIES
Shallow mounting depth < 60 mm
Extremely robust, resists high axial load
(1780 N - 400 lbf)

FNR SERIES
Robust and reliable

HR SERIES
Versatile range

CW SERIES
Compact

TS SERIES
Miniature hall effect joysticks

IM SERIES
Exceptional tactile feedback

NV SERIES
“push to validate” switch based joystick

IX SERIES
Compact and illuminated

IA SERIES
Field proven reliability
OUR PRODUCTS

WHETHER IT’S A STANDARD PRODUCT OFFERING OR A CUSTOMIZED SOLUTION, LET APEM’S DECADES OF EXPERIENCE WORK FOR YOU

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www.apem.com
XD SERIES

HALL EFFECT ROBUST JOYSTICK

DESIGNED FOR CONSTRUCTION

- 10M cycles
- Extreme robustness
- Standard or custom handle
- Available with CAN bus J1939-71
- Shallow mounting depth
- IP67 above panel
- Up to 1780 N - 400 lbf horizontal load (depending on handle)
- SIL2 / Pid capable

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<thead>
<tr>
<th>SERIES</th>
<th>MECHANICAL LIFECYCLES</th>
<th>AXIS</th>
<th>TECHNOLOGY</th>
<th>OUTPUT OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>ABOVE PANEL SEALING</th>
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</thead>
<tbody>
<tr>
<td>XD</td>
<td>10 million</td>
<td>1 to 2 axis</td>
<td>Hall effect</td>
<td>Single</td>
<td>Dual</td>
<td>Analog</td>
</tr>
</tbody>
</table>

TOP APP: LOADER, EXCAVATOR, TELEHANDLER, MINING
HEAVY DUTY AND FIELD PROVEN

- 5M cycles
- Standard or custom handle
- CAN options available
- Up to IP69K
- Up to 180 Nm horizontal load (depending on handle)
- SIL2 / Pld capable

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<th>SERIES</th>
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<th>AXIS</th>
<th>TECHNOLOGY</th>
<th>OUTPUT OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>ABOVE PANEL SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>HJ</td>
<td>5 million</td>
<td>1, 2, 3</td>
<td>Hall effect</td>
<td>Single: X, Dual: X, Analog: X, PWM: X, USB: X, CAN bus: X</td>
<td>Drop-in or rear mounting</td>
<td>IP69K</td>
</tr>
</tbody>
</table>

TOP APP: LOADER, DUMP TRUCK
**HF SERIES**

**SMALL HALL EFFECT JOYSTICK**

- AVAILABLE WITH CAN BUS
  - 5M cycles
  - Many outputs available, including CAN bus J1939
  - Available with 1, 2 or 3 axis
  - Very compact
  - SIL2 / Pld capable
  - Up to IP67 above panel sealing

<table>
<thead>
<tr>
<th>SERIES</th>
<th>MECHANICAL LIFECYCLES</th>
<th>AXIS</th>
<th>TECHNOLOGY</th>
<th>OUTPUT OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF</td>
<td>5 million</td>
<td>1, 2, 3</td>
<td>Hall effect</td>
<td>X X X</td>
<td>X X Drop-in or rear mounting</td>
<td>IP67</td>
</tr>
</tbody>
</table>

**TOP APP: COMPACT VEHICLES, ROAD CONSTRUCTION, MINING**

www.apem.com
3000 SERIES

EXTENDED LIFE CYCLES

- 10M cycles
- Available with 1, 2 or 3 axis
- Very compact
- SIL2 / Pld capable

<table>
<thead>
<tr>
<th>SERIES</th>
<th>MECHANICAL LIFECYCLE</th>
<th>AXIS</th>
<th>TECHNOLOGY</th>
<th>SINGLE</th>
<th>DUAL</th>
<th>ANALOG</th>
<th>PWM</th>
<th>USB</th>
<th>CANBus</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000</td>
<td>10 million</td>
<td>1, 2, 3</td>
<td>Hall effect</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>Drop-in or rear mounting</td>
<td>Up to IP65</td>
</tr>
</tbody>
</table>

TOP APP: LOADER, ROAD CONSTRUCTION
**HR SERIES**

**PROPORTIONAL THUMBWHEEL**

**BROAD RANGE**

- Up to 5M cycles
- Electronics sealed up to IP68
- Available with detents, friction, latching and 360° infinite wheel
- 7 colors and 4 shapes in standard
- Illumination of the body in option
- SIL2 / Pld capable

<table>
<thead>
<tr>
<th>SERIES</th>
<th>MECHANICAL LIFECYCLES</th>
<th>AXIS</th>
<th>TECHNOLOGY</th>
<th>OUTPUT OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>5 million</td>
<td>1</td>
<td>Hall effect</td>
<td>X X X</td>
<td>Rear mounting</td>
<td>IP68</td>
</tr>
</tbody>
</table>

**TOP APP:** EXCAVATOR, TELEHANDLER, SKID STEER
CW SERIES

MINIATURE PROPORTIONAL THUMBWHEEL

MINIATURE

- Up to 3M cycles
- Snap-in mounting
- Custom actuator on request
- Spring to center

<table>
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<tr>
<th>SERIES</th>
<th>MECHANICAL LIFECYCLES</th>
<th>AXIS</th>
<th>TECHNOLOGY</th>
<th>OUTPUT OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW</td>
<td>3 million</td>
<td>Single</td>
<td>Hall effect</td>
<td>X</td>
<td>X</td>
<td>Snap-in</td>
</tr>
</tbody>
</table>

TOP APP: EXCAVATOR, TELEHANDLER, LOADER

www.apem.com
**TS SERIES**

**PROPORTIONAL MINI JOYSTICK**

**FIELD PROVEN**

**BROAD RANGE**

- Hall effect sensing
- 1M cycle
- Similar in size and operation to "gamepad" controls, but in a rugged industrial package
- Wide range with multiple options available, including pushbutton function
- Easy to install
- SIL2/Pld capable
- IP67/IP69K above panel sealing

<table>
<thead>
<tr>
<th>SERIES</th>
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<th>AXIS</th>
<th>TECHNOLOGY</th>
<th>OUTPUT OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>1 million</td>
<td>1, 2</td>
<td>Hall effect</td>
<td>Single: X, Dual: X, Analog: X, PWM: X, USB: X</td>
<td>Drop-in or rear mounting</td>
<td>IP67/IP69K</td>
</tr>
</tbody>
</table>

**TOP APP**: TELEHANDLER, EXCAVATOR, LOADER
**USE IT AS DISPLAY CONTROLLER**

- Compact momentary micro switching thumbstick
- Available with “push to validate” option, ideal for navigation in display menu
- Enhanced tactile feedback
- Easy integration in joystick handle
- Sealed up to IP69K

<table>
<thead>
<tr>
<th>SERIES</th>
<th>MECHANICAL LIFECYCLES</th>
<th>AXIS</th>
<th>BUSHING DIMENSIONS</th>
<th>TECHNOLOGY</th>
<th>TERMINAL OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>NV</td>
<td>1 million</td>
<td>1.2</td>
<td>Ø16.2 mm (0.637 in)</td>
<td>Switching</td>
<td>Wire leads or connector</td>
<td>Panel</td>
<td>IP69K</td>
</tr>
</tbody>
</table>

**TOP APP**: ROAD CONSTRUCTION, TELEHANDLER
BH/BL SERIES

PROPORTIONAL PADDLE

STYLISH AND ROBUST

- Available in 2 heights
- Soft touch sculpted grip
- 5 color options
- Sealed up to IP67
- Custom actuator on request
- SIL2 / PLd capable

<table>
<thead>
<tr>
<th>SERIES</th>
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<th>TECHNOLOGY</th>
<th>OUTPUT OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>BH/BL</td>
<td>10 million</td>
<td>Single</td>
<td>Hall effect</td>
<td>Single</td>
<td>Dual</td>
<td>Analog</td>
</tr>
</tbody>
</table>

TOP APP: DUMP TRUCK, ROAD CONSTRUCTION

www.apem.com
FNR SERIES

FNR ROCKER SWITCH

FOR SAFETY CRITICAL FUNCTION

• 2 or 3 positions, momentary or maintained
• Sealed up to IP67
• 1 NO/NC in each direction
• Illumination with marking
• SIL2 / Pld capable

<table>
<thead>
<tr>
<th>SERIES</th>
<th>POLES</th>
<th>MAXIMUM RATINGS</th>
<th>BUSHING DIMENSIONS</th>
<th>TERMINAL OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNR</td>
<td>1 NO/NC</td>
<td>1A/24V</td>
<td>Ø20 mm (.787 in)</td>
<td>Flying leads, solder lugs</td>
<td>Panel</td>
<td>IP67</td>
</tr>
</tbody>
</table>

TOP APP: EXCAVATOR, LOADER, TELEHANDLER

www.apem.com
THE REFERENCE IN THE CONSTRUCTION INDUSTRY

• Dustproof: Membrane on top with no gap between actuator and panel
• Frost, sand and hydrocarbon resistant
• Flush on panel
• Sealed up to IP67
• SIL2/Pld capable

<table>
<thead>
<tr>
<th>SERIES</th>
<th>POLES</th>
<th>MAXIMUM RATINGS</th>
<th>BUSHING DIMENSIONS</th>
<th>TERMINAL OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>1 NO/NC</td>
<td>2A 24VDC</td>
<td>Ø 16 mm (.629 in)</td>
<td>Flying leads</td>
<td>Panel</td>
<td>IP67</td>
</tr>
</tbody>
</table>

TOP APP: EXCAVATOR, LOADER, TELEHANDLER
**IX SERIES**

**COMPACT PUSHBUTTON SWITCH**

THE NEXT STANDARD

- Compact
- Available with backlit marking
- Dustproof: Membrane on top with no gap between actuator and panel
- Frost, sand and hydrocarbon resistant
- Flush on panel
- Sealed up to IP67/IP69K
- SIL2/Pld capable

<table>
<thead>
<tr>
<th>SERIES</th>
<th>POLES</th>
<th>MAXIMUM RATINGS</th>
<th>BUSHING DIMENSIONS</th>
<th>TERMINAL OPTIONS</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>IX</td>
<td>2</td>
<td>2A 28VDC</td>
<td>Ø 12 mm (.472 in)</td>
<td>Solder lugs</td>
<td>Panel</td>
<td>IP67/IP69K</td>
</tr>
</tbody>
</table>

**TOP APP: EXCAVATOR, LOADER, TELEHANDLER**
## IM / IP / IS SERIES

### COMPREHENSIVE PUSHBUTTON RANGE

**EXTENSIVE COMPACT RANGE**

- Compact
- Available with illumination
- Available with snap action and audible tactile feedback (IM)
- Marking in option
- Sealed up to IP67
- Momentary or latching
- Up to SIL2/Pld capable

### Specifications

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<th>MAXIMUM RATING</th>
<th>ILLUMINATED</th>
<th>BUSHING DIMENSIONS</th>
<th>MOUNTING OPTIONS</th>
<th>TERMINAL OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>IM</td>
<td>1</td>
<td>(2A 250VAC)*</td>
<td>x</td>
<td>Ø 12 mm (.472 in)</td>
<td>Panel</td>
<td>PCB</td>
<td>IP67</td>
</tr>
<tr>
<td>IP</td>
<td>1</td>
<td>(2A 250VAC)*</td>
<td>x</td>
<td>Ø 12 mm (.472 in)</td>
<td>Panel</td>
<td>PCB</td>
<td>IP67</td>
</tr>
<tr>
<td>IS</td>
<td>1</td>
<td>(2A 250VAC)*</td>
<td>x</td>
<td>Ø 12 mm (.472 in)</td>
<td>Panel</td>
<td>PCB</td>
<td>IP67</td>
</tr>
</tbody>
</table>

* See applicable approvals

**TOP APP:** SKID STEER LOADER, GRADER, TELEHANDLER
HALL EFFECT TECHNOLOGY

- Long life: 5M cycles
- Hall effect technology
- Momentary (IHS) or proportional (IHL)
- Sealed up to IP67

IHS / IHL SERIES

HALL EFFECT PUSHBUTTON RANGE

<table>
<thead>
<tr>
<th>SERIES</th>
<th>MAXIMUM RATINGS</th>
<th>BUSHING DIMENSIONS</th>
<th>MOUNTING OPTIONS</th>
<th>TERMINAL OPTIONS</th>
<th>SEALING</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHS</td>
<td>5mA 24VDC</td>
<td>Ø 12 mm (.472 in)</td>
<td>Panel</td>
<td>Flying leads</td>
<td>IP67</td>
</tr>
<tr>
<td>IHL</td>
<td>1.25mA 4.5VDC</td>
<td>Ø 12 mm (.472 in)</td>
<td>Panel</td>
<td>Flying leads</td>
<td>IP67</td>
</tr>
</tbody>
</table>

TOP APP: BACKHOE LOADER, EXCAVATOR
### KH / KL / KR SERIES

#### ROCKER SWITCH

**STRONG LOCKING MECHANISM**
- Protected against accidental actuation (KH)
- Patented locking system for safety application (KL)
- Customised laser etched legends
- Illuminated versions
- Up to IP68/IP69K

### TABLE

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<th>BUSHING DIMENSIONS</th>
<th>MOUNTING OPTIONS</th>
<th>TERMINAL OPTIONS</th>
<th>SEALING</th>
<th>ILLUMINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>KR</td>
<td>1, 2</td>
<td>20A 12VDC</td>
<td>36.8 x 21.08 mm</td>
<td>Panel</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>KL</td>
<td>1, 2</td>
<td>10A 24VDC</td>
<td>36.8 x 21.08 mm</td>
<td>Panel</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>KH</td>
<td>1, 2</td>
<td>10A 24VDC</td>
<td>36.8 x 21.08 mm</td>
<td>Panel</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

**TOP APP: DUMP TRUCK, LOADER**

www.apem.com
3500 / CT SERIES

HIGH PERFORMANCE TOGGLE SWITCH

MARKET LEADER

- High current rating
- Very broad range: 5 finishes, 6 levers styles, 3 types of locking, 3 types of terminals...
- Sealed up to IP67/IP69K
- Available accessories: guard and boot

<table>
<thead>
<tr>
<th>SERIES</th>
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<th>POLES</th>
<th>MAXIMUM RATINGS</th>
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<th>TERMINAL OPTIONS</th>
<th>SEALING</th>
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</thead>
<tbody>
<tr>
<td>3500</td>
<td>CECC</td>
<td>1.2</td>
<td>15A 28VDC</td>
<td>Ø12.2 mm (0.48in)</td>
<td>Panel</td>
<td>X X X</td>
<td>IP67/IP69K</td>
</tr>
<tr>
<td>CT</td>
<td>UL</td>
<td>1.2</td>
<td>10A 125/250 VAC</td>
<td>Ø12.2 mm (0.48in)</td>
<td>Panel</td>
<td>X X X</td>
<td>IP67</td>
</tr>
</tbody>
</table>

TOP APP: PAVER, LOADER, MINING
CW SERIES
MODULAR AND STYLISH PUSHBUTTON

NEW INDUSTRIAL STYLE

- Stylish design
- Sealed up to IP67 with rubber boot option
- Illumination in option
- Selector switch available

<table>
<thead>
<tr>
<th>SERIES</th>
<th>APPROVALS</th>
<th>POLES</th>
<th>SEALING</th>
<th>PANEL CUT OUT</th>
<th>TERMINAL</th>
<th>CONTACT TYPE</th>
<th>RATINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CW</td>
<td>UL, CE, CCC</td>
<td>Up to 6</td>
<td>IP55, up to IP67</td>
<td>Ø 22 mm (0.866 in)</td>
<td>Screw</td>
<td>Modular product</td>
<td>Heavy duty (up to 10 Amps)</td>
</tr>
</tbody>
</table>

TOP APP: ROLLER, GRADER, PAVER
MW SERIES
FOR DEMANDING ENVIRONMENTS

DUSTPROOF

- Dustproof: no gap between actuator and panel
- Sealed up to IP66
- Selector switch available

<table>
<thead>
<tr>
<th>SERIES</th>
<th>APPROVALS</th>
<th>POLES</th>
<th>SEALING</th>
<th>PANEL CUT OUT</th>
<th>TERMINAL</th>
<th>CONTACT TYPE</th>
<th>RATINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW</td>
<td>CE, CCC</td>
<td>Up to 2</td>
<td>IP65 IP66</td>
<td>Ø 22 mm (0.866 in)</td>
<td>Solder/tab or screw</td>
<td>Monobloc</td>
<td>Heavy duty (up to 10 Amps)</td>
</tr>
</tbody>
</table>

TOP APP: ROLLER, GRADER, PAVER
## Metal Safety Switch

- Sealed up to IP65, IP67 & IP69K
- Compact body
- Complies with EN60947-5-1
- Impact resistant to IK10

### Specifications

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<th>Bushing Dimensions</th>
<th>Terminal Options</th>
<th>Mounting Options</th>
<th>Sealing</th>
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<tbody>
<tr>
<td>ES</td>
<td>2, 3</td>
<td>1A 24VDC</td>
<td>Ø22.28 mm (0.877 in)</td>
<td>X</td>
<td>Panel</td>
<td>IP65, IP67 &amp; IP69K</td>
</tr>
</tbody>
</table>

**TOP APP: ROAD CONSTRUCTION**

www.apem.com
"SAFE BREAK ACTION" TECHNOLOGY

- Exclusive safety technology ensuring that the machinery is stopped if actuator is broken
- Sealed up to IP67
- Compact behind panel
- Available with illumination
- Twist or pull to release

<table>
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<th>SERIES</th>
<th>SAFE BREAK TECHNOLOGY</th>
<th>PANEL CUT OUT</th>
<th>OPERATOR SIZES</th>
<th>NUMBER OF CONTACTS</th>
<th>TERMINAL CONNECTION</th>
<th>OPERATION</th>
<th>ILLUMINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>XA</td>
<td>X</td>
<td>16 mm</td>
<td>Ø29 mm (1.141 in)</td>
<td>Up to 4</td>
<td>Solder, PCB</td>
<td>Push to lock, pull or turn to reset</td>
<td>Option</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ø40 mm (1.574 in)</td>
<td>NC : 1,2,3,4 / NO : 0,1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>XW</td>
<td>X</td>
<td>22 mm</td>
<td>Ø38 mm (1.496 in)</td>
<td>Up to 4</td>
<td>Screw, solder, PCB</td>
<td>Push to lock, pull or turn to reset</td>
<td>Option</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ø40 mm (1.574 in)</td>
<td>NC : 1,2,3,4 / NO : 0,1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Ø80 mm (2.362 in)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOP APP: ROAD CONSTRUCTION

www.apem.com
LIMIT SWITCH

DESIGNED FOR HEAVY DUTY

- High life time
- Dustproof
- Super robust
- NO/NC
- Long travel

LIMIT SWITCH

- Total sealing
- Shock and vibration resistant
- Design on request

TOP APP: EXCAVATOR, ROAD CONSTRUCTION
MULTIMEC 5 SERIES
TACTILE PCB SWITCH

LARGE SELECTION OF STANDARD ACCESSORIES
• 10 million activations
• Front panel sealing to IP67 depending on cap solutions
• Different haptic options
• Wide range of cap options

<table>
<thead>
<tr>
<th>SERIES</th>
<th>POLES</th>
<th>MAXIMUM RATING</th>
<th>MOUNTING OPTIONS</th>
<th>SEALING</th>
<th>MECHANICAL LIFE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multimec 5 series - 5E &amp; 5G</td>
<td>Single pole / momentary</td>
<td>50mA - 24VDC</td>
<td>Trough hole or SMT mounting</td>
<td>IP67</td>
<td>10,000,000 operations</td>
</tr>
</tbody>
</table>

TOP APP: LOADER, TELEHANDLER

www.apem.com
Q SERIES

TOP APP: ROAD CONSTRUCTION, LOADER

- Sealed up to IP67
- Many sizes, colors, brightness, bezel types and finish
- Available with marking options
- Illumination with "Secret until lit" legend option

BROADEST RANGE IN THE MARKET

<table>
<thead>
<tr>
<th>SERIES</th>
<th>PANEL CUT-OUTS</th>
<th>MAXIMUM RATINGS</th>
<th>BEZEL STYLES</th>
<th>BEZEL FINISHES</th>
<th>TERMINAL OPTIONS</th>
<th>TYPE OF ILLUMINATION</th>
<th>LED COLORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>Ø6, 8, 12, 14, 16, 19, 22</td>
<td>2VDC – 220VAC</td>
<td>Prominent, recessed &amp; flushed</td>
<td>Bright, satin &amp; black chrome</td>
<td>Solder lugs</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

www.apem.com
CAN BUS KEYPAD WITH 6 CUSTOMIZABLE KEYS

- 1 million cycles
- Flush to panel
- Customizable keys
- Backlit pictograms
- SIL2/Plld capable

<table>
<thead>
<tr>
<th>SERIES</th>
<th>Customization</th>
<th>Sealing</th>
<th>LIFE CYCLES</th>
<th>ELECTRONIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN bus Keyboard</td>
<td>Logo, color backlight, color LEDs</td>
<td>IP65</td>
<td>1 million</td>
<td>CAN bus J1939</td>
</tr>
</tbody>
</table>

TOP APP: LOADER, GRADER, EXCAVATOR
CUSTOM KEYBOARD

TOP APP: TELEHANDLER, LOADER

CUSTOMIZATION OPTIONS

• Rear or front panel mounting
• Backlighting
• IP67/IP69K sealing
• Up to SIL2/Pld capable

METAL AND RUBBER KEYBOARDS

CUSTOM KEYBOARD
Integration possible of all APEM products
Design for outdoor and dusty environment
APEM Available Communication Protocols as a standard: CAN bus, RS485/422, USB
APEM offers a large selection of part numbers consisting of switches, indicators, joysticks and keypads in different colors, markings, finishes, shapes and dimensions... creating an unlimited combination of possibilities.

APEM develops complete interface solutions combining components (switches, keypads, indicators, joysticks), standard electronic boards and programming.

An APEM team professional is happy to assist you in the development of these complete turnkey solutions meeting your specific requirements, with responsiveness and flexibility.
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