

Backlit membrane switches

Engineering review and quotation note | Revision 2026-10-15

Custom illuminated membrane keypads with printed legends, switch layers and a flexible connection. Review the lighting zones, light path and available stack depth with your equipment drawing.

Define the day and night appearance, supply limits and driver ownership before sampling. Approve the keypad in its intended housing; light uniformity and leakage depend on the complete mounted stack.



Three keypad samples with flexible tails and indicator windows. This photograph does not establish illuminated uniformity or brightness.

Use this note with the current drawing and equipment requirements. It is not a fixed performance specification, test report or finished-equipment approval.

Construction and scope review

Item	Options / Description
Product Type	Backlit membrane switch, LED membrane keypad, LGF membrane switch, light guide keypad, backlit HMI panel
Overlay Material	PET, PC, PMMA or customized materials based on project requirements
Backlight Type	LED, LGF, EL, dead-front lighting or customized backlight structure
Lighting Effect	Single-color, multi-color, multi-zone, icon lighting, key area lighting, display window lighting
Circuit Type	Silver printed circuit, carbon printed circuit, FPC circuit, PCB integration or LED circuit design
Key Type	Tactile, non-tactile, metal dome, embossed key, flat key
Surface Finish	Matte, glossy, textured, anti-scratch, anti-glare, anti-fingerprint
Printing Process	Reverse screen printing, translucent printing, light-blocking ink, dead-front printing, multi-color printing
Adhesive	3M adhesive, industrial adhesive or customized adhesive solution
Waterproof Design	Review the assembled housing, exposure and test requirements; no blanket IP rating applies
Applications	Medical devices, industrial control, automotive electronics, outdoor equipment, instruments, security terminals
Certification Support	ISO 9001 and IATF 16949 company certificates; review their stated scope. Agree required material-compliance records for the project.

Final specifications depend on the customer's drawing, backlight area, brightness requirement, color requirement, product thickness, circuit design and operating environment.

Mounted-sample review

Most revision loops come from approving icon artwork before the optical stack and assembly limits are fully reviewed. For a faster engineering discussion, confirm these points before locking the sample:

- Daylight, low-light, night or mixed-light operating condition
- Whether the operator must read full legends or only find key zones
- Dead-front off-state appearance and on-state contrast
- Display-window border, lens reflection and adhesive clearance
- Brightness target and any dimming or color-zone requirement
- Tail routing, connector space and housing support behind the panel
- Glove use, viewing distance and icon size
- Sealing risk if the front panel also needs waterproof construction or frequent cleaning

If your project is already in sample review, send the drawing, lighting zones, housing section and any current readability complaint through the Request Quote form so the backlight method and assembly risks can be reviewed together.

Agree the scope of any inspection records, test conditions and acceptance criteria before sampling. A company certificate does not replace approval of the actual component in the intended equipment.

Prepare your quotation

To help us provide a faster and more accurate quotation, please send the following information if available:

- 2D drawing or 3D structure file
- Artwork file, icons, logo and color requirements
- Product size and thickness requirements
- Backlight area, lighting zones and operating light condition
- LED, LGF, EL or other backlight preference if any
- Brightness, color and multi-zone lighting requirements
- Available voltage, current limits, driver location and dimming ownership
- Circuit diagram or functional key layout
- Tactile or non-tactile key requirement
- Connector type and tail direction
- Housing section with ribs, bezel, gasket, adhesive land and available stack depth
- Waterproof or sealing requirement
- Application environment, cleaning exposure and outdoor or indoor use condition
- Estimated annual quantity
- Sample or existing product photos

If your design is still in the early stage, you can send us your application idea, artwork or sample photos. Our team can help review the membrane switch structure and backlight feasibility.

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