



> Flush Surface Touch Panels.

Excellent clarity, design and light operability (with clear film v2) Stability and reliability in line with universal design

A flush-surface touch panel offers a completely level interface, eliminating any step between the housing and the panel. This streamlined design gives devices a sleek, modern appearance.

FCL Component's flush surface touch panels employ resistive technology, which responds to physical pressure and delivers dependable performance—even when operated with gloves, wet fingers, or under other demanding conditions.

> Flush Surface Touch Panel Features

- 4-/5-wire resistive, glass-film construction
- Input load: 0.02N Min. (Light input type)
- Selectable cover film

Clear film v2: Excellent clarity, visibility and smooth touch

Non-glare: Reducing reflections and glare, light touch operation

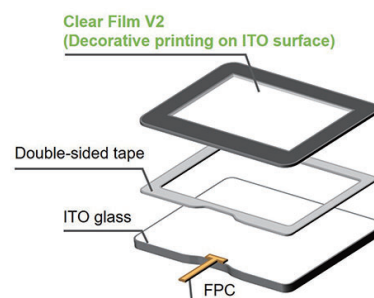
- Option: Logo printing, special glass shapes, frame switches



Flush surface touch panel with clear film v2

> Major Applications

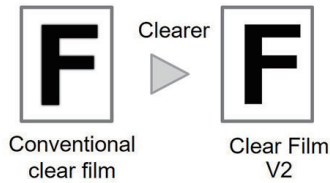
- Multifunctional peripherals (MFP), copier
- POS/ECR
- Car navigation system, car audio
- Factory automation (machine tools, measuring equipment, inspection machines)
- Medical (operation panel for portable medical devices and large medical equipment)



Touch panel layer structure (example of flush surface)

Clear Film V2

A film with excellent clarity, visibility and smooth touch.



Flat appearance

Flat design comparable to projected capacitive technology, with the functional benefits of resistive technology.



Logo & special shape

Logo or icon printing, special shape processing such as round glass shape and hole drilling on frame area.



Frame switch

Our unique wiring technology enables placement of switches on the frame. (Patent pending)



> Specifications

Type			4-/5-wire resistive
Mechanical	Input method		Pen and finger
	Construction		Film-glass
	hardness		Pencil hardness min. 2H
	Operating force		0.02N to 0.78N
	Input life		1,000,000 times min. (4-wire) 10,000,000 times min. (5-wire)
Optical	Surface		Clear film v2 or non-glare
	Transmittance		82% typ. or more
	Haze	Clear film v2	2% typ.
		Non-glare	6% typ.
Electrical	Rated voltage		5VDC
	Current consumption		12mA typ. (With FCL Components' control IC FID-1860-013)
	Insulation resistance		10MΩ min. (with FCL Components' control IC FID-1860-013)
Environmental	Operating temperature/humidity		-5°C to +60°C, 20%RH to 90%RH *
	Storage temperature/humidity		-30°C to +70°C, 20%RH to 90%RH *

* Wet bulb temperature 38°C max., no condensation

FCL Components Touch Panels

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