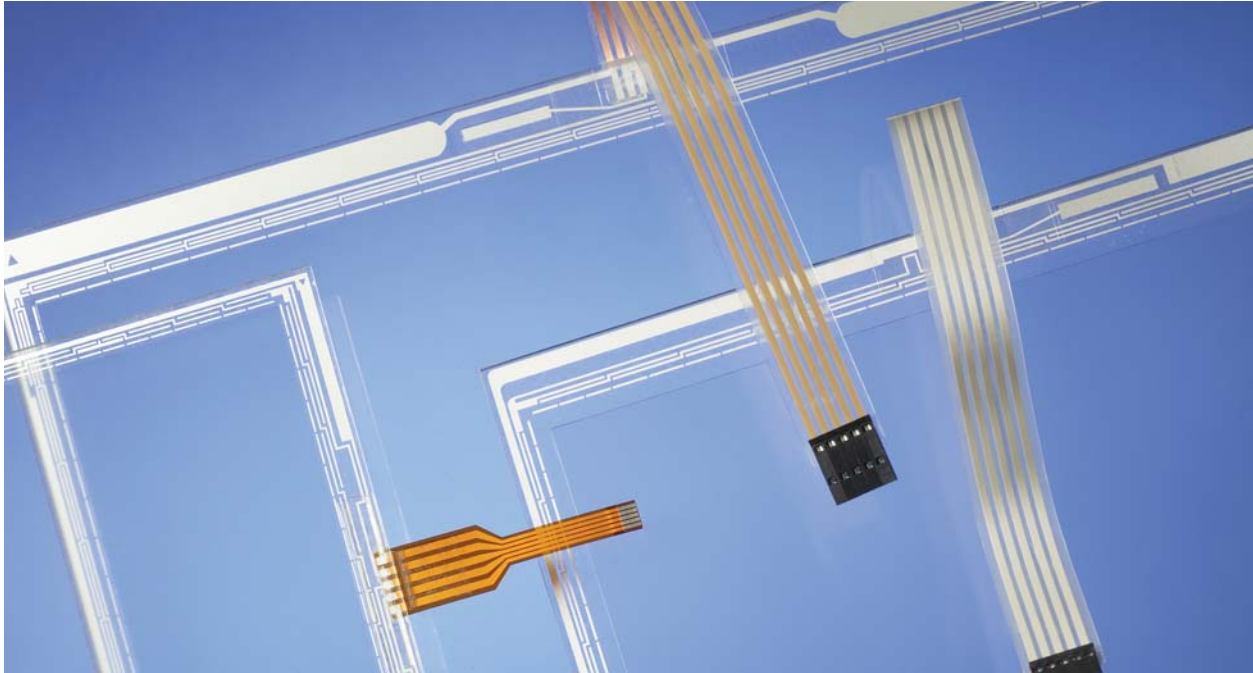


## Reliable Performance For Harsh Environment Applications.



### Benefits

- Durable, reliable performance for demanding, harsh-environment applications
- Rated at 35 million activations
- Highly resistant to scratches, abrasions and external contaminants
- Superior image clarity and brightness
- A wide variety of options available to match your design specifications

Bergquist 5-Wire resistive analog touch screens are ideally suited for durable, reliable performance in a wide variety of demanding physical and harsh-environment applications. Unlike other resistive technologies that must use two opposing layers to create X and Y-axis measurements, the Bergquist 5-Wire utilizes the stable substrate of glass for both X and Y-axis measurements.

Electrically, the 5-Wire operates by supplying five volts to ground and toggling in both directions, thus supplying the X and Y-axis measurements. The sense line, or fifth wire, is connected to the top film substrate. When the top layer is depressed, making contact with the base layer, it picks up the voltage data and carries it to the electronics. Because the top film is working only as a pick-up layer, it can tolerate resistance changes without impacting the reliability of the touch points' accuracy from the base layer.

It is for this reason the 5-Wire is able to withstand temperature, humidity and mechanical stresses. As a result, 5-Wire touch screens are specified at 35 million activations versus a typical specification of 1 million activations for other types of resistive technologies.

Bergquist 5-Wire Touch Screen Specifications		
	Commercial / Industrial	Automotive / Military
Linearity	≤1.5%_1% available upon request	≤1.5%_1% available upon request
Insulation Resistance	≥20MΩ/25V(DC)	≥20MΩ/25V(DC)
Life Time <sup>(1)</sup>	35 million touches	35 million touches
Operation Temperature	-10°C to +70°C	-30°C to +85°C
Storage Temperature	-40°C to +80°C	-40°C to +90°C
Constant Temperature/Humidity	70°C / 80%RH / 500 hrs	85°C / 85%RH / 1000 hrs
High Temperature	70°C / 500 hrs	85°C / 1000 hrs
Low Temperature	-40°C / 500 hrs	-40°C / 1000 hrs
Thermal Cycle	-40°C ~80°C (60min./cycle) 100cycles	-40°C ~90°C (60min./cycle) 100cycles
Connection Tail	FFC / FPC	FFC
Surface Hardness <sup>(2)</sup>	3H	3H
Activation Force	≤50g Stylus	≤50g Stylus
Structure	Film / Glass	Film / Glass
Transparency <sup>(3)</sup>	80% to 88%	80% to 88%
Haze	Clear Finish ≤1% or Antiglare Finish 9.5%±2%	Clear Finish ≤1% or Antiglare Finish 9.5%±2%

1) Life expectancy will vary depending on adjustments made to actuator type, dot pattern, durometer size and force. Test conditions based on 0.375" spherical radius silicone finger with a 350g load at 2 touches per second. 2) Surface hardness per ASTM D3363-92. 3) All values gained using BYK Gardner hazegard plus. Selection of film will determine final values.