

PushGate™ SWITCHES

Advantages

All the advantages of electro-mechanical and membrane switches plus:

Crisp, Consistent Tactile Feel

- Superior tactile feel does not degrade over time
- Differentiates your products from your competitors

Durability and Reliability

- Tested 500 MILLION actuations
- Able to tolerate extreme temperatures
- Increased overlay life

Can Be Environmentally Sealed

- Superior performance in harsh environments

Rapid Actuation Response

- Faster than dome switches

Removable Overlay Available

- Ease of interchange
- Multiple graphic options

Various Overlay Options

- Lends itself well to elastomerics, keycaps and embossed polyester

Full Key Illumination Capabilities

- Retains crisp tactile feel with backlighting
- Backlighting easily integrated
- Armature with hole allows target lighting

Integration

- Flex circuit or PCB compatible
- Easily integrated with other switch products including thiNcoder™ RT and MagnaMouse™

Customized Design

- Normally open or normally closed switch
- Multiple output available
- Shielding options available

Robust

- Inherently stable

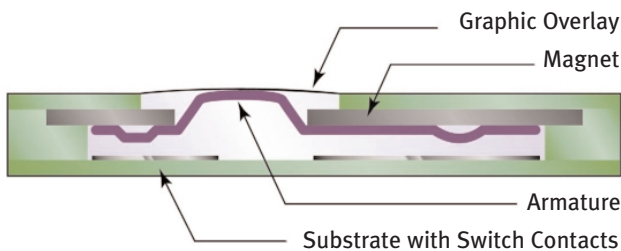
U.S. PAT. Nos. 5,523,730; 5,666,096; 5,867,082; 5,990,772;
6,023,213; 6,069,552; 6,069,545; 6,130,593; 6,137,387;
6,262,646

CHINESE PAT. No. ZL96110385.X

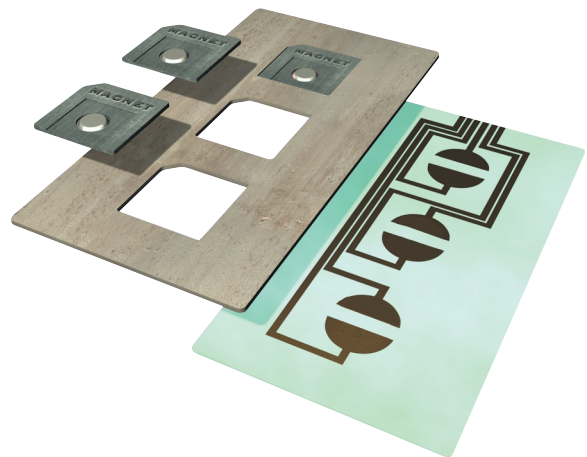
TAIWANESE PAT. No. NI090979

AUSTRALIAN PAT. No. 727962

PushGate (Cutaway View)



PushGate Island Assembly



**Nelson
Nameplate**

Nelson Nameplate Company

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PushGate™ SPECIFICATIONS

Mechanical	PCB Application	Flex Circuit Application
Thickness (Typical)	0.145" / 3.7mm	0.086" / 2.2mm
Size and Switch Armature Spacing	0.750" / 19.06mm Center Spacing	0.750" / 19.06mm Center Spacing
Backlighting	Capable	Capable
ESD/EMI/RFI Shielding	Capable	Capable
Magnetic Material	Bonded Ferrite	Bonded Ferrite
External Magnetic Field	No Effect	No Effect
Mounting and Packaging	Various Means Available	Various Means Available
Armature Material	Soft Steel -1008/1010 with Electronickel & Tin Plating	Soft Steel - 1008/1010 with Electronickel & Tin Plating
Life	Tested in Excess of 500 Million Actuations	20 Million Actuations Available
Typical Actuation Variance	Less Than Notable Difference	Less Than Notable Difference
Switch Travel	0.012" / 0.3mm	0.012" / 0.3mm
Contact Bounce	1ms Typical	1ms Typical
Actuation Force	10 oz / 285gm / 2.8nt	100z / 285gm / 2.8nt

Electrical

Voltage	3 - 50 VDC or AC Peak (Higher Contact Rating is Available)	3 - 30 VDC or AC Peak
Current	50mA (Higher Contact Rating is Available)	20mA (Higher Contact Rating is Available)
Power	2.5 Watts (Higher Contact Rating is Available)	0.6 Watts (Higher Contact Rating is Available)
Dielectric Withstand Voltage	500 VAC	250 VAC
Switch Resistance	Less Than 2 Ohms	Less than 100 Ohms
Capacitance Between Traces	25pf Max	40pf Max

Environment

Operation & Storage Temp.	-40°C to 85°C	-40°C to 85°C
Mechanical Shock	No Closures at 100 g's	No Closures at 100 g's
Altitude	No Closures During 5 Cycles from Sea Level to 12K ft.	No Closures During 5 Cycles from Sea Level to 12K ft.
Thermal Shock	-40°C to 85°C	-40°C to 85°C



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