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# Tactile Switch B3W

# **Tactile Switch with Sealed Construction for Automatic Soldering**

- Available in two sizes:6 mm square and 12 mm square
- Dome-shaped contact mechanism assures short key stroke and a sharp click to confirm actuation
- Ground terminal available to protect against static electricity
- Ideal for applications such as audio, office and communications equipment, measuring instruments, industrial robots, VCRs, TVs, and vending machines
- · Stick packaging style available
- Sealed for CFC (Freon) cleaning
- RoHS Compliant



# **Ordering Information**

	Plunger		Operating force	Part number			
i		Switch		Without ground terminal		With ground terminal	
Туре		height x pitch		Bags	Sticks*	Bags	Sticks*
Standard 6x6 mm	Flat	4.3 x 6.5 mm	General-purpose: 160 g	B3W-1000	B3W-1000S	B3W-1100	B3W-1100S
			High-force: 230 g	B3W-1002	B3W-1002S	B3W-1102	B3W-1102S
	Projected	7.3 x 6.5 mm	General-purpose: 160 g	B3W-1050	B3W-1050S	B3W-1150	B3W-1150S
			High-force: 230 g	B3W-1052	B3W-1052S	B3W-1152	B3W-1152S
Standard 12x12mm	Flat	4.3 x 6.5 mm	General-purpose: 200 g	B3W-4000	B3W-4000S	B3W-4100	B3W-4100S
			High-force: 350 g	B3W-4005	B3W-4005S	B3W-4105	B3W-4105S
	Projected	7.3 x 6.5 mm	General-purpose: 200 g	B3W-4050	B3W-4050S	B3W-4150	B3W-4150S
			High-force: 350 g	B3W-4055	B3W-4055S	B3W-4155	B3W-4155S

\* Number of switches per stick:

6 x 6 mm

Without ground terminal....80/stick

With ground terminal......75/stick

12 x 12 mm

Without ground terminal....45/stick

With ground terminal......40/stick

Important Note: Switches cannot be water-washed.

#### **■** Accessories

See "B32" Tactile Switch Key Top data sheet for keycaps that fit projected plunger B3W models.

#### **Plunger Identification Table**

Use this table to determine keyswitch type by plunger color.

Plunger color	Operating force	Туре
White	160 g	B3W-1000, 1050, 1100, 1150
White	200 g	B3W-4000, 4050, 4100, 4150
Yellow	230 g	B3W-1002, 1052, 1102, 1152
Yellow	350 g	B3W-4005, 4055, 4105, 4155

# **Specifications**

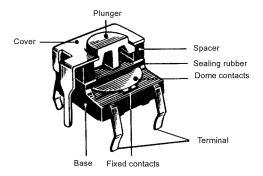
#### **■** Characteristics

Switching capacity		50 mA 24 VDC (resistive load)			
Contact form		SPST-NO			
Permissible load		1 mA 5 VDC min. (resistive load)			
Contact resistance		100 MΩ max.			
Insulation resistance		100 MΩ min. (at 250 VDC)			
Dielectric strength		500 VAC, 50/60 Hz for 1 minute			
Bounce time		5 ms max.			
Vibration	Malfunction durability	10 to 55 Hz, 1.5-mm double amplitude			
Shock Destruction durabi		1,000 m/s <sup>2</sup> (approx. 100 G)			
	Malfunction durability	100 m/s <sup>2</sup> (approx. 10 G)			
Ambient temperature		-25° to 70°C			
Humidity		35% to 85% RH			
Service life	General-purpose type	B3W-1 : 1,000,000 operations min.	B3W-4□□□: 3,000,000 operations min.		
[mechanical/electrical]	High-load type	300,000 operations min.	1,000,000 operations min.		
Weight		B3W-1□□□: Approx. 0.30 g	B3W-4□□□ : Approx. 1.00 g		

# **■** Operating Characteristics

	Part number	Part number				
	B3W-1□□□	B3W-1□□□				
Characteristics	General-purpose	High-force	General-purpose	High-force		
Operating force (OF) max.	160 g	230 g	200 g	350 g		
Release force (RF) min.	20 g	50 g	30 g	50 g		
Pretravel (PT)	0.25 <sup>+0.2</sup> / <sub>-0.1</sub> mm	0.25 <sup>+0.2</sup> / <sub>-0.1</sub> mm	0.3 <sup>+0.2</sup> / <sub>-0.1</sub> mm	0.3 <sup>+0.2</sup> / <sub>-0.1</sub> mm		

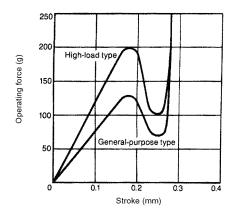
#### **■** Construction



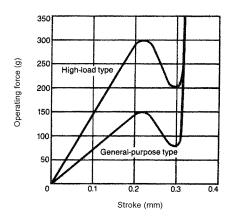
# **Engineering Data**

# ■ Operating Force vs. Stroke (Typical Example)

B3W-1□□□ series



B3W-4□□□ series

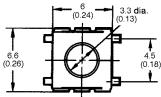


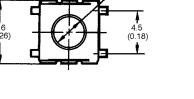
## **Dimensions**

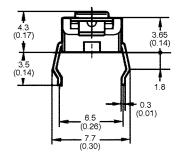
Unit: mm (inch)

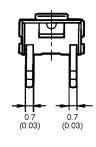
#### ■ 6 mm Square Types

B3W-1000, B3W-1002

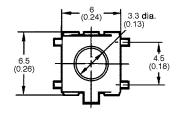


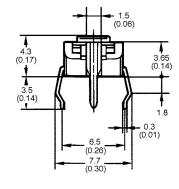


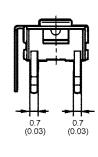


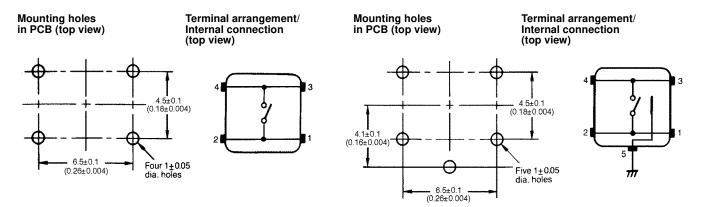


#### B3W-1100, B3W-1102







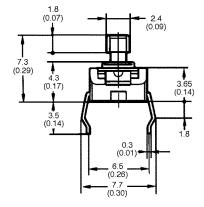


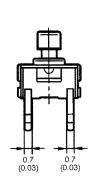
**Note:** Unless otherwise specified, a tolerance of  $\pm$  0.2 mm applies to all dimensions.

#### ■ 6 mm Square Types

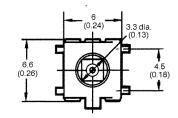
B3W-1050, B3W-1052

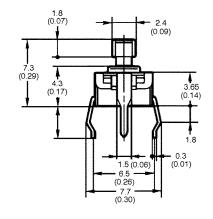
#### 6 (0.24) 3.3 dia. 6.6 (0.26) 4.5 (0.18)

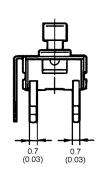


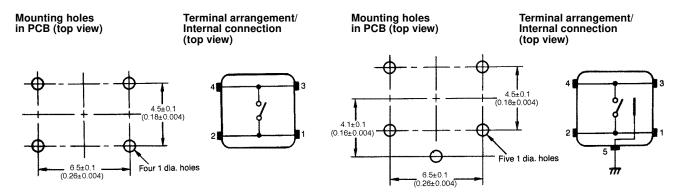


#### B3W-1150, B3W-1152





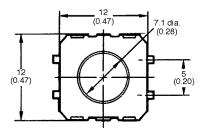




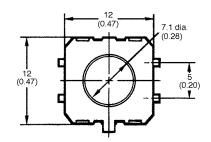
**Note:** Unless otherwise specified, a tolerance of  $\pm\,0.2$  mm applies to all dimensions.

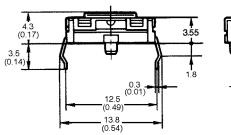
## ■ 12 mm Square Types

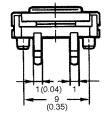
B3W-4000, B3W-4005

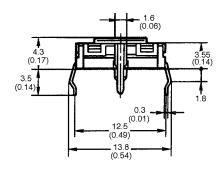


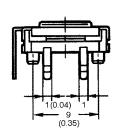
B3W-4100, B3W-4105

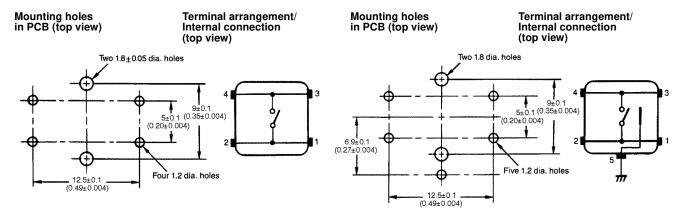










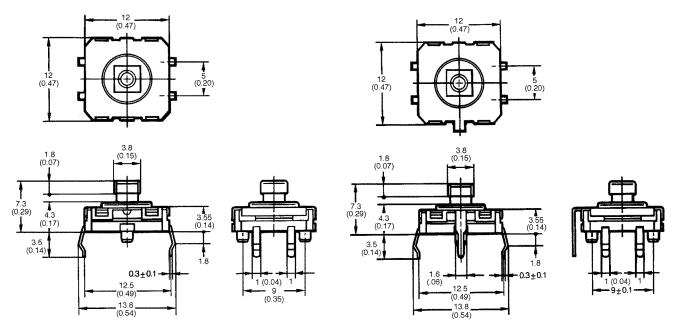


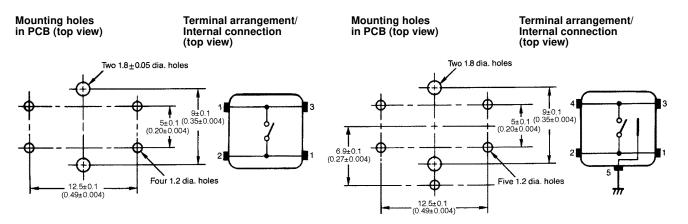
**Note:** Unless otherwise specified, a tolerance of  $\pm$  0.2 mm applies to all dimensions.

## ■ 12 mm Square Types

B3W-4050, B3W-4055

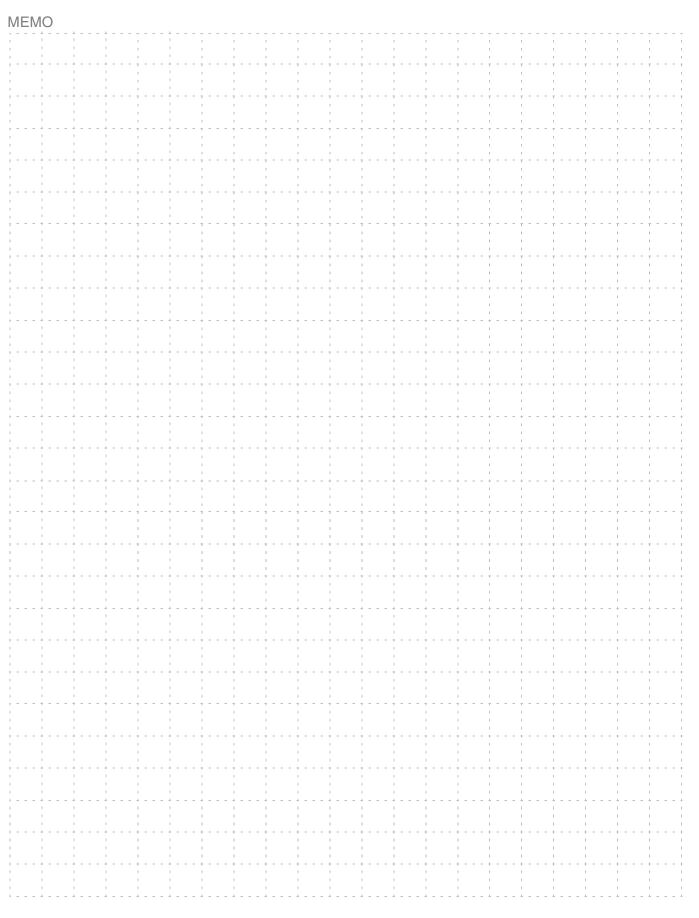
#### B3W-4150, B3W-4155





Note: Unless otherwise specified, a tolerance of  $\pm\,0.2$  mm applies to all dimensions.





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  Currencies. If the prices quoted herein are in a currency other than U.S. dol-
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  1. Shipments shall be by a carrier selected by Seller;

  2. Such carrier shall act as the agent of Buyer and delivery to such carrier.
- - Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
  - 3. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Products shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Products until the full purchase price is paid by Buver:
- paid by Buyer;

  4. Delivery and shipping dates are estimates only.

  5. Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.

  11. Claims. Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products from Seller in the condition claimed.

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(iii)Use in consumer products or any use in significant quantities. (iv)Systems, machines and equipment that could present a risk to life or property. Please know and observe all prohibitions of use applicable to this

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  Errors and Omissions. The information in this publication has been carefully benefits and in believed to be consistent to be unconsistent and consistent to be consistent to be unconsistent to the product.

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RoHS Compliance. Where indicated, our products currently comply, to the bes

of our knowledge as of the date of this publication, with the requirements of the European Union's Directive on the Restriction of certain Hazardous Sub stances ("RoHS"), although the requirements of RoHS do not take effect unti July 2006. These requirements may be subject to change. Please consult ou website for current information.

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To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

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