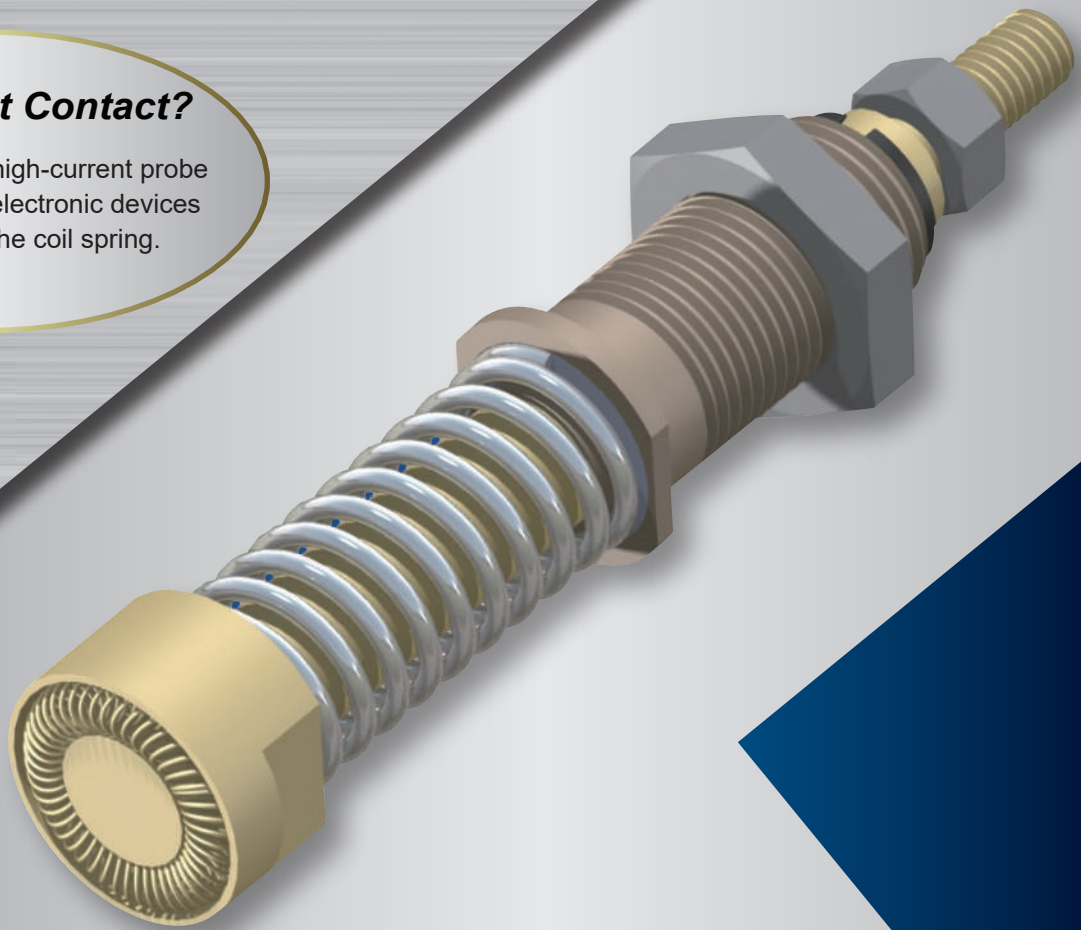


High Current Probe

Butt Contact BC Series

What is Butt Contact?

A Butt Contact is a high-current probe that can energized electronic devices by simply pressing the coil spring.



Canted coil spring

- *Stable energizing*
- *Reduces scratches to the products*
- *Running cost down*

Advantages of the Butt Contact

-It reduces defective products by using a stable energizing contact.

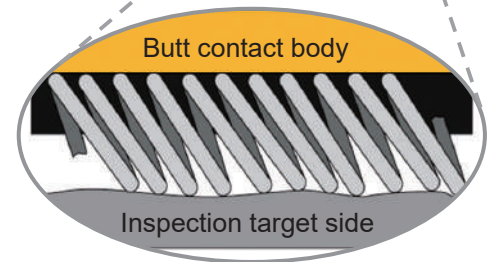
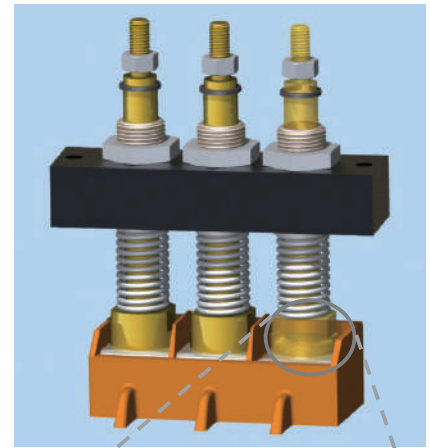
High contact reliability is achieved by ensuring that the coil spring is in contact with the touching surface therefore a stable contact is achieved.

-It reduces scratches to the products

The canted coil spring makes a soft contact with the inspection target with multiple points of contact.

-It keeps running costs down

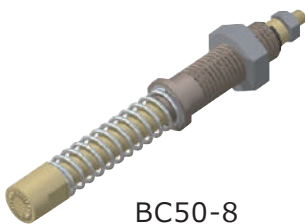
It has passed 1 million cycles in our in-house endurance test. Since it is highly durable, it reduces the frequency of maintenance and it last longer than other existing probes.



Each coil spring contact follows the roughness of the target surface.

Product line-up

There are 4 types of Butt Contact.



BC50-8



BC75-12



BC140-17

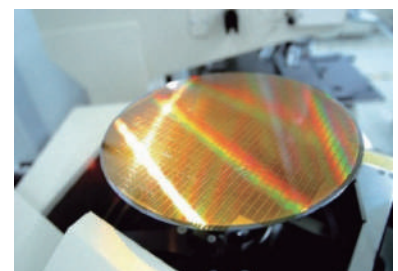


BC230-19

Model	Rated current	Tip diameter	Pressurizing spring force	Screw size
BC50-8	50A	φ8 mm	5N~9N	M3
BC75-12	75A	φ12 mm	16N ~ 28N	M4
BC140-17	140A	φ16.5 mm	16N ~ 28N	M5
BC230-19	230A	φ18.5 mm	16N ~ 29N	M6

Application examples

- For shipment inspection of power semiconductor modules and smart meters.
- For manufacturing inspection process for automobile parts.
- Used for power supply connection for Auto Guided Vehicles (AGV).
- For operation check in the production process of inverters, etc.
- Lithium-ion battery charging.

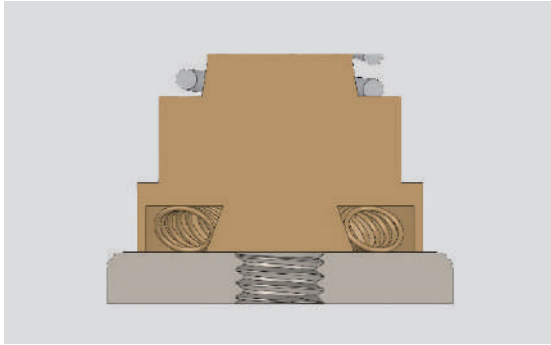


Current energization test method

Globetech shows the results of the rising of temperature by conducting an in-house energization test using the connection 2 tests below.
Please use it for your reference for current selection.

TEST 1

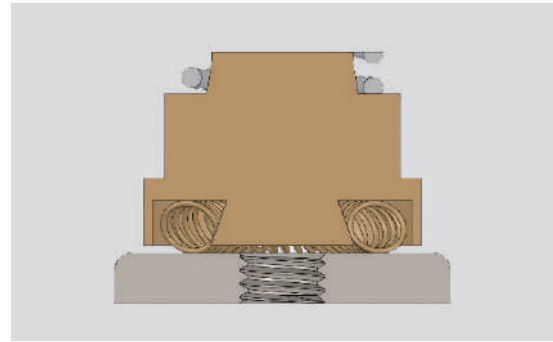
Energizing with **touching all surface**



This is the **best contact method** that maximum performance. Both the cantilevered coil spring and the conductor body are in contact with the test object.

TEST 2

Energizing with only **touching the cantilevered coil spring**



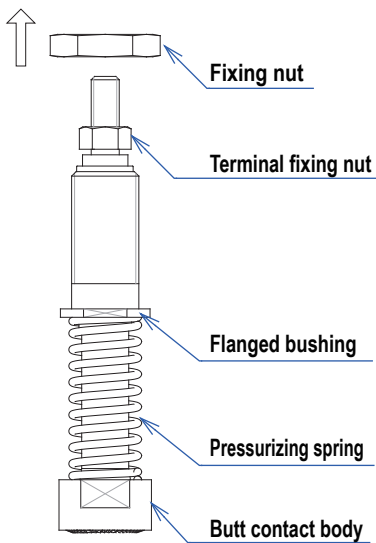
This is **minimum contact method** for use Butt Contact. Only the cantilevered coil spring is in contact with the test object.

- Overcurrent energization test

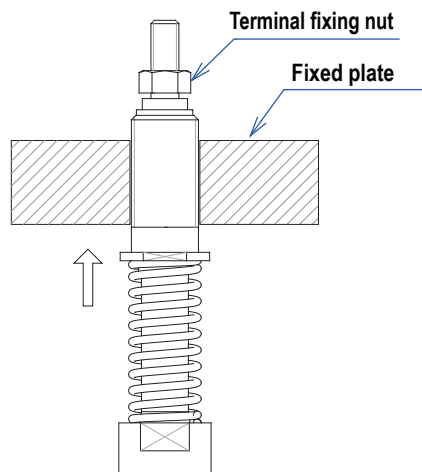
Data on temperature rise and natural cooling during short-time current exceeding the standard allowable current.
*The data is the temperature change when the coil spring and body are connected. (Test1)

How to mount

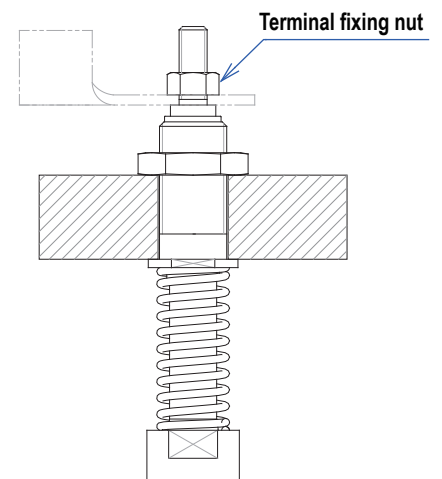
Procedure 1



Procedure 2



Procedure 3



*The Butt Contact is designed to rotate a maximum of 15 deg when pressed against the target object being inspected such as plate. Install the Butt Contact so that movement is not hindered by cable tension, etc.

1. Remove the fixing nut from the flanged bushing.

2. Insert the Butt Contact into the hole to be fixed.

3. Tighten the nut to fix the Butt Contact. Tighten it by crimping the terminal with a nut.

Butt Contact

BC Series

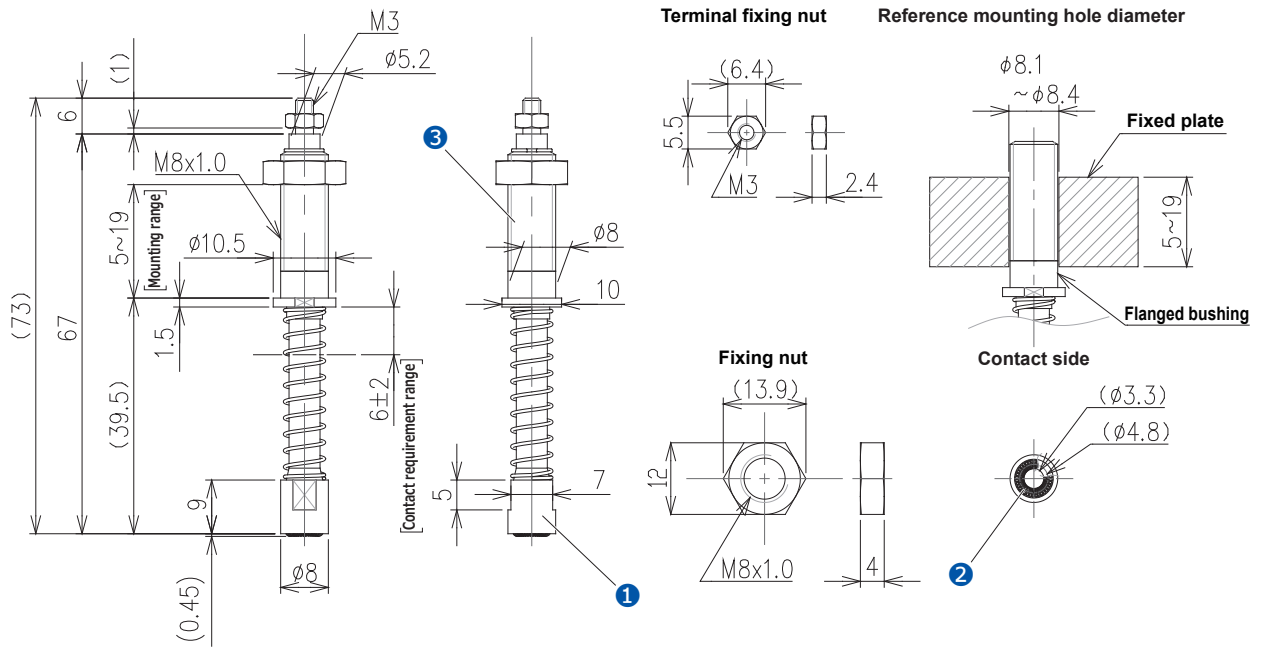
BC50-8



Specifications

Usable temperature	: -40°C to +140°C / -40°F to 284°F	* Including its own temperature rise value when energized.
Rated current	: 50A	
Contact resistance	: 1mΩ(ref. value) or less	*condition : Pure copper / silver plating
Voltage	: If the fixing plate is metal, please use it at less than 200VAC/DC	
Estimated durability	: 100,000 to 1,000,000 cycles	
Pressurizing spring force	: 5N - 9N	

External dimensions



1

Butt contact body
Copper + Gold plating

2

Canted coil spring
Copper + Gold plating

3

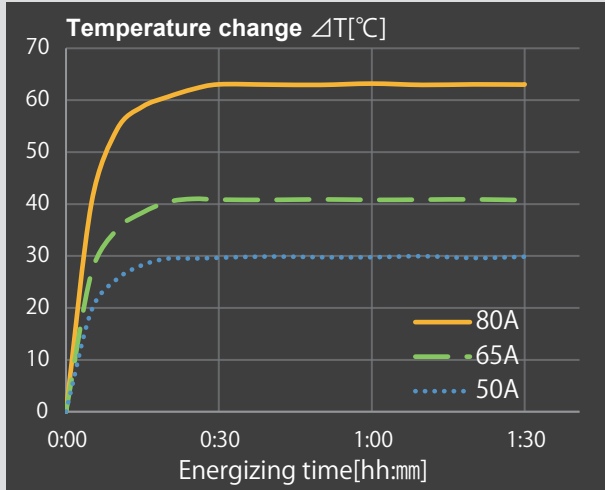
Flanged bushing
PEEK

Current energization test result

Refer to the page 3 about the test method.

TEST 1

Temperature change when energizing with **touching all surface**

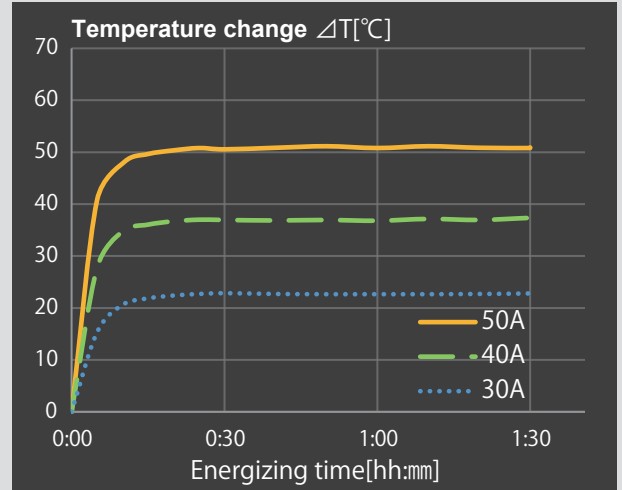


Current [A]	Temperature change ΔT [°C]			
	5min	10min	30min	60min
50	19.5	25.6	29.7	29.8
65	26.8	35.1	40.9	40.8
80	40.2	54.4	63.1	63.2

Cable size used in the test is 5.5sq

TEST 2

Temperature change when energizing with **only touching the canted coil spring**

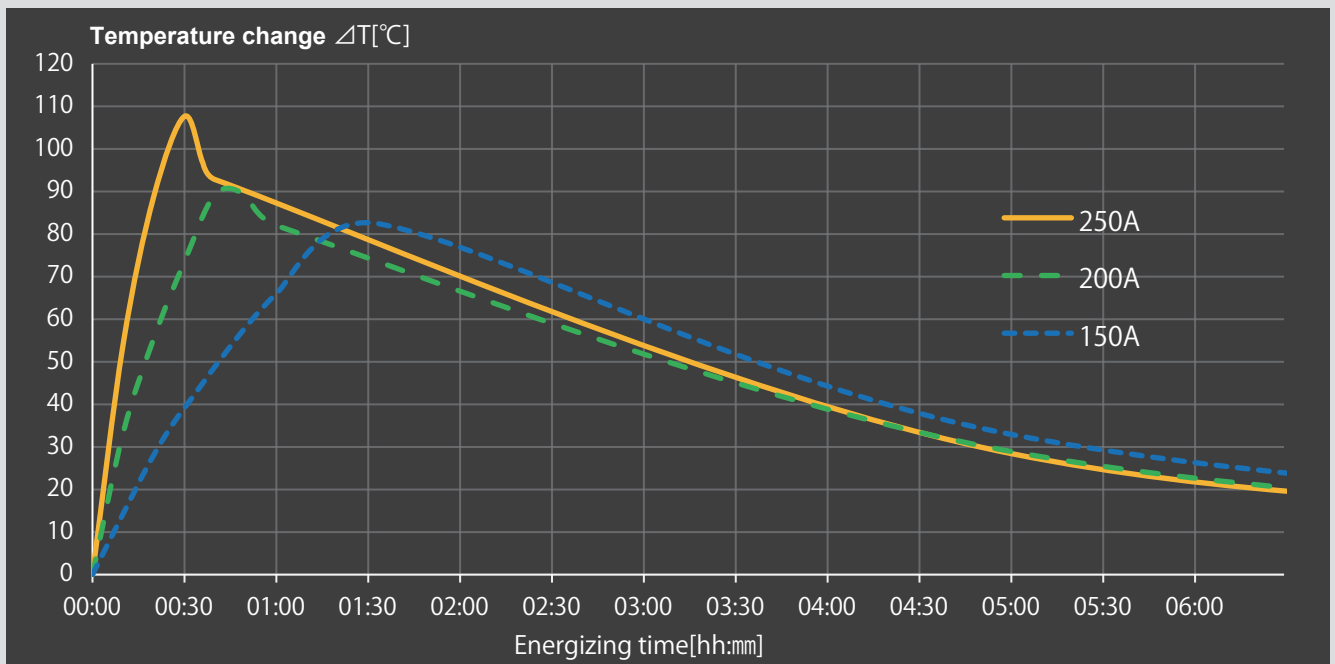


Current [A]	Temperature change ΔT [°C]			
	5min	10min	30min	60min
30	15.3	20.6	22.9	22.7
40	27.7	34.8	37.0	36.8
50	40.8	48.1	50.6	50.8

Cable size used in the test is 5.5sq

Overcurrent energization test

Temperature change during 150A/200A/250A short-time current test



Cable size used in the test is 5.5sq

Butt Contact

BC Series

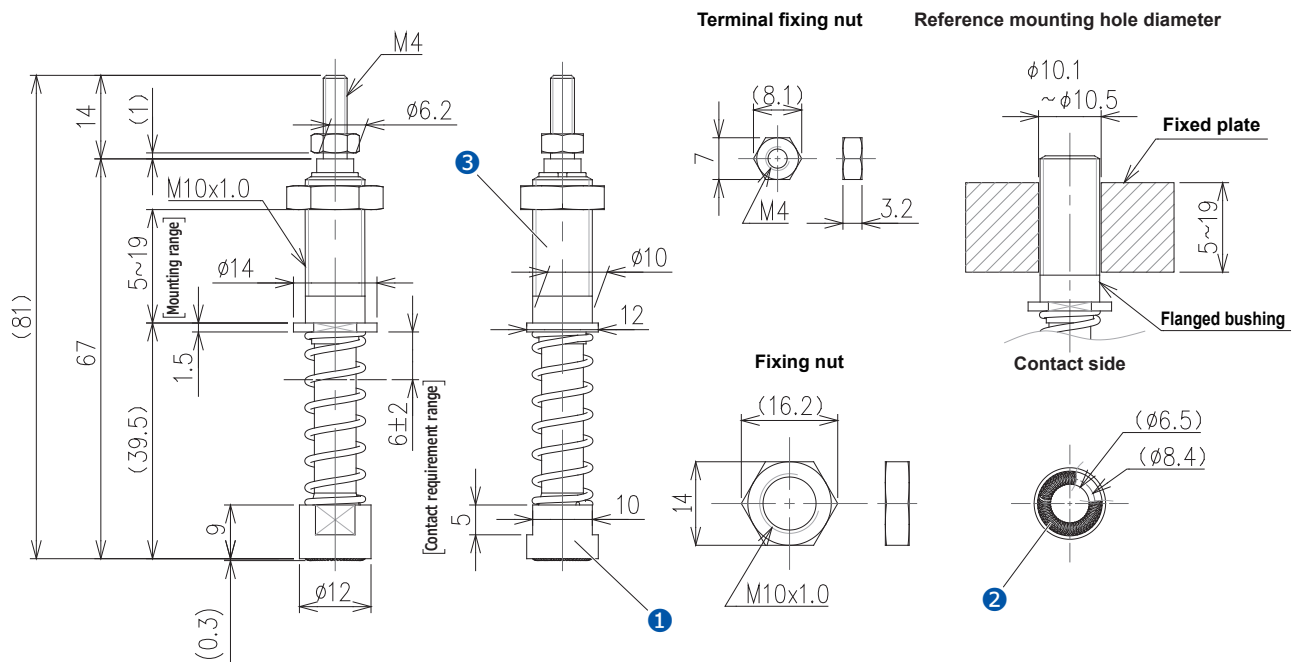
BC75-12



Specifications

Usable temperature : -40°C to +140°C / -40°F to 284°F * Including its own temperature rise value when energized.
 Rated current : 75A
 Contact resistance : 1mΩ(ref. value) or less *condition : Pure copper / silver plating
 Voltage : If the fixing plate is metal, please use it at less than 200VAC/DC
 Estimated durability : 100,000 to 1,000,000 cycles
 Pressurizing spring force: 16N - 28N

External dimensions



1
Butt contact body
Copper + Gold plating

2
Canted coil spring
Copper + Gold plating

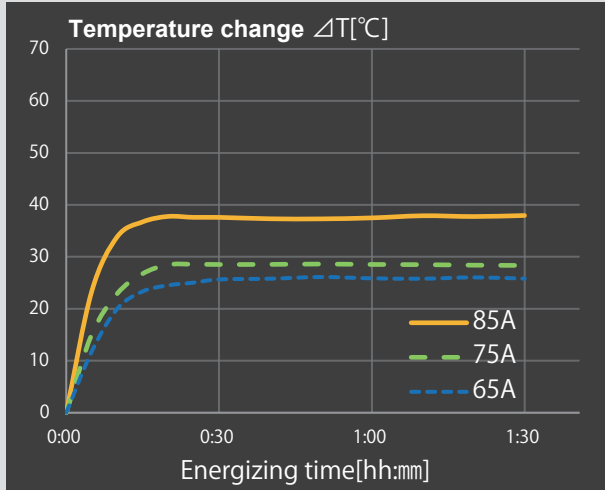
3
Flanged bushing
PEEK

Current energization test method

Refer to the page 3 about the test method.

TEST 1

Temperature change when energizing with **touching all surface**

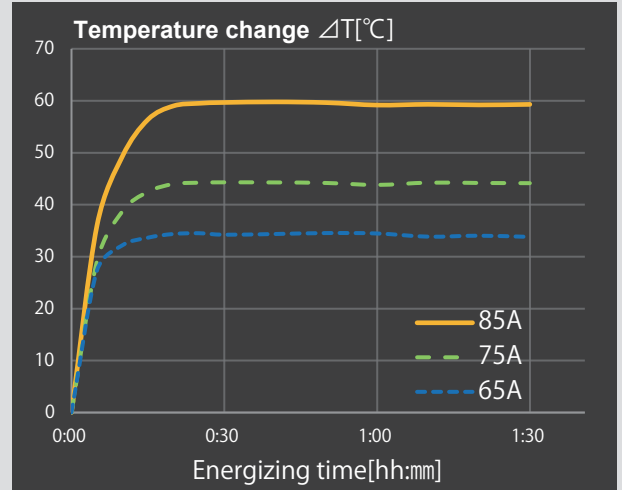


Current [A]	Temperature change ΔT [°C]			
	5min	10min	30min	60min
65	11.8	20.0	25.7	25.9
75	15.1	22.9	28.5	28.5
85	23.3	33.8	37.6	37.5

Cable size used in the test is 8sq

TEST 2

Temperature change when energizing with **only touching the canted coil spring**

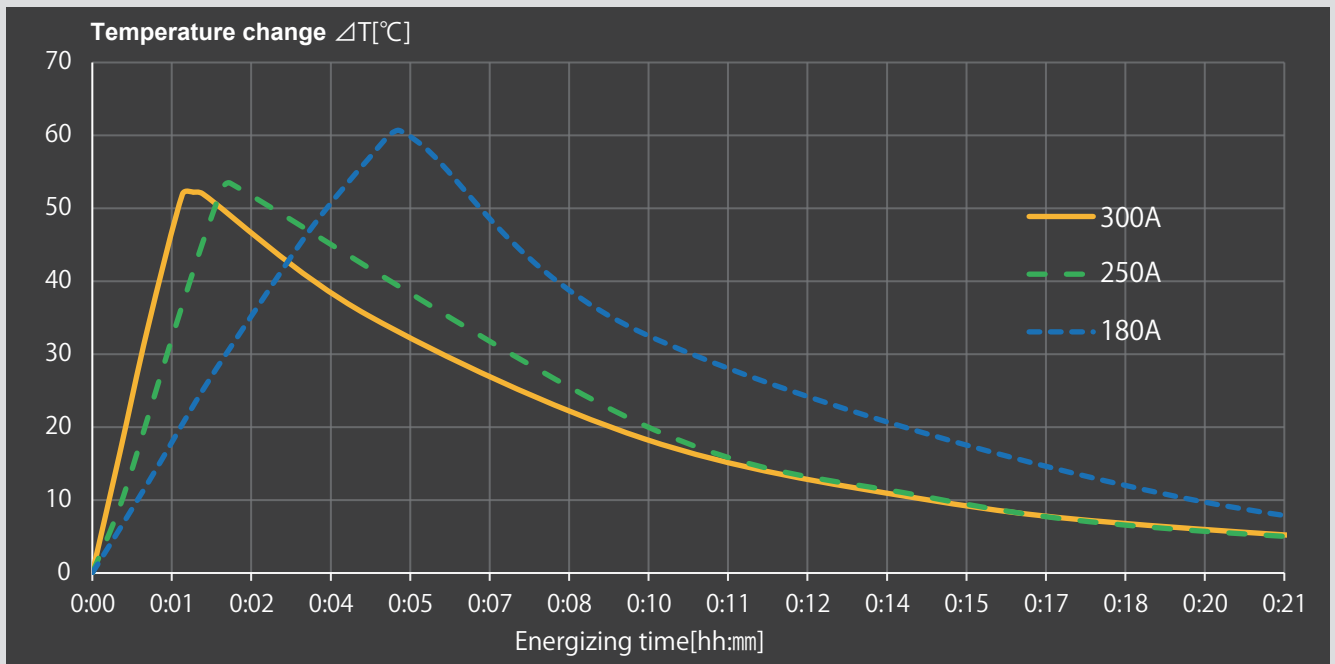


Current [A]	Temperature change ΔT [°C]			
	5min	10min	30min	60min
65	27.3	32.2	34.2	34.5
75	29.1	38.7	44.3	43.8
85	36.0	49.3	59.7	59.2

Cable size used in the test is 8sq

Overcurrent energization test

Temperature change during 180A/250A/300A short-time current test



Cable size used in the test is 14sq

Butt Contact

BC Series

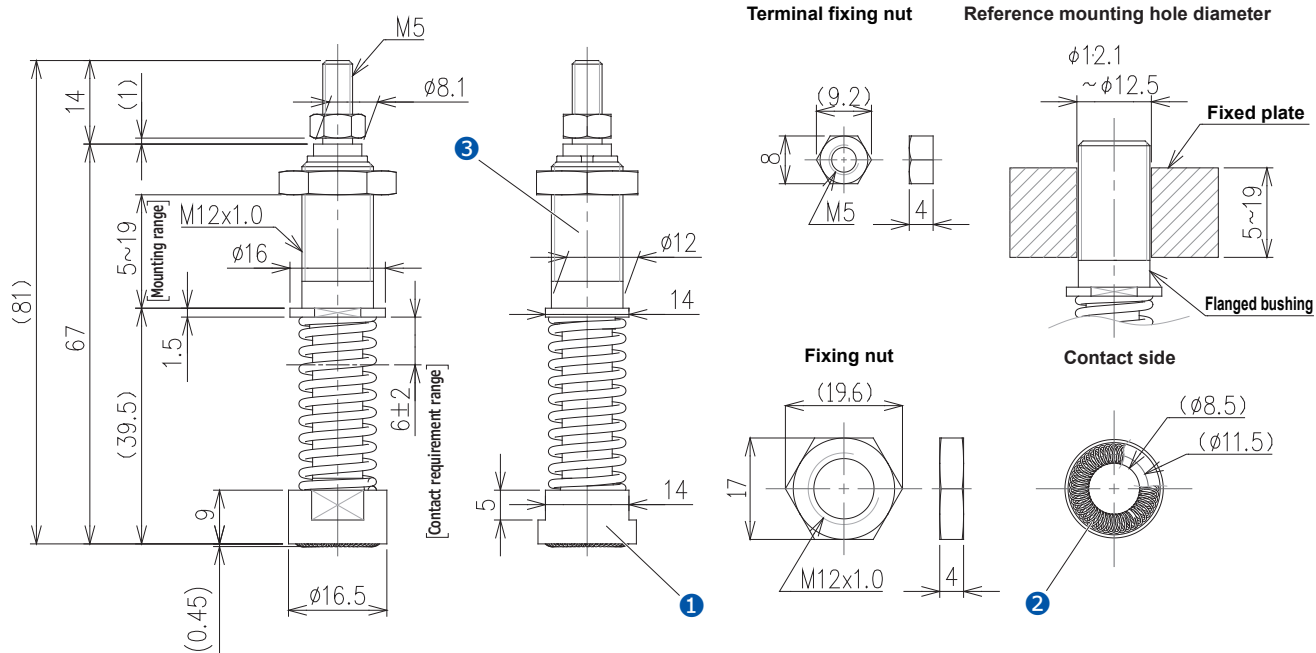
BC140-17



Specifications

Usable temperature : -40°C to +140°C / -40°F to 284°F * Including its own temperature rise value when energized.
 Rated current : 140A
 Contact resistance : 1mΩ(ref. value) or less *condition : Pure copper / silver plating
 Voltage : If the fixing plate is metal, please use it at less than 200VAC/DC
 Estimated durability : 100,000 to 1,000,000 cycles
 Pressurizing spring force : 16N - 28N

External dimensions



1
 Butt contact body
 Copper + Gold plating

2
 Canted coil spring
 Copper + Gold plating

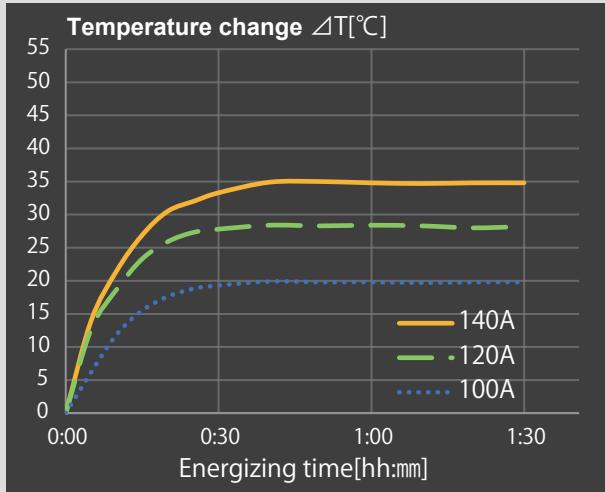
3
 Flanged bushing
 PEEK

Current energization test result

Refer to the page 3 about the test method.

TEST 1

Temperature change when energizing with **touching all surface**

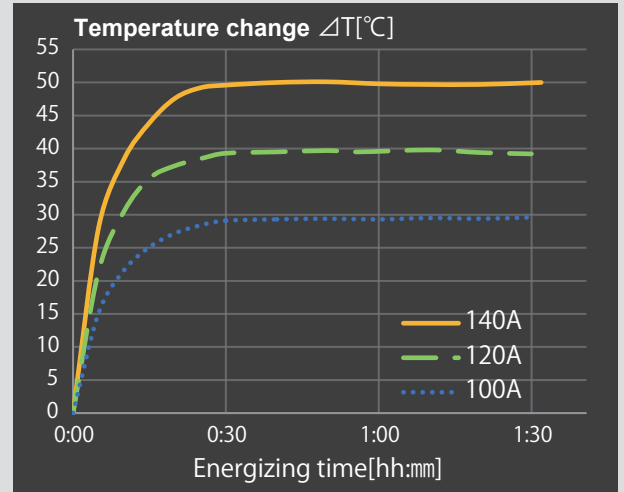


Current [A]	Temperature change ΔT [°C]			
	10sec	5min	30min	60min
100	0.4	6.2	19.3	19.8
120	0.5	11.5	27.8	27.8
140	0.7	14.0	33.3	34.8

Cable size used in the test is 38sq

TEST 2

Temperature change when energizing with only **touching the canted coil spring**

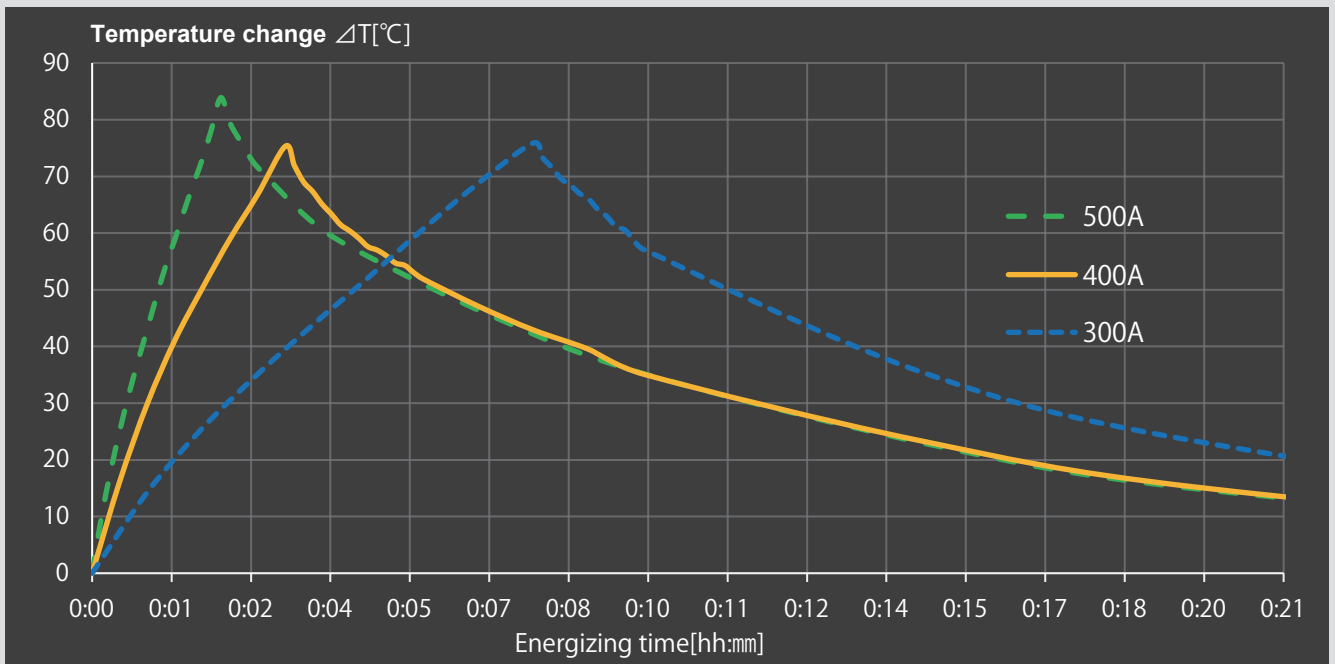


Current [A]	Temperature change ΔT [°C]			
	10sec	5min	30min	60min
100	0.7	15.1	27.8	28.2
120	0.9	21.4	39.3	39.8
140	1.1	28.1	48.4	48.5

Cable size used in the test is 38sq

Overcurrent energization test

Temperature change during 300A/400A/500A short-time current test

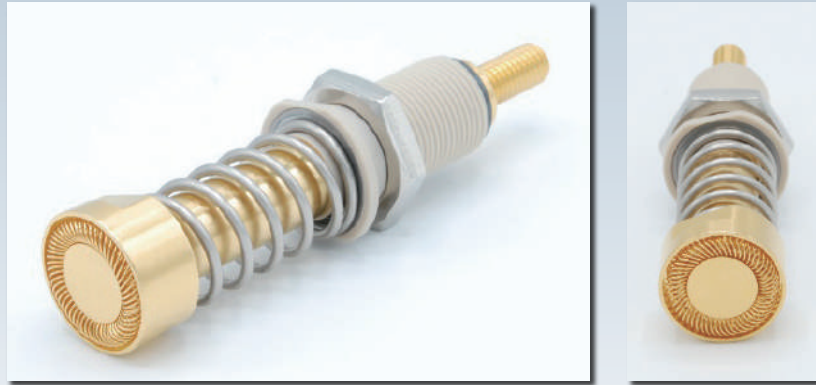


Cable size used in the test is 38sq

Butt Contact

BC Series

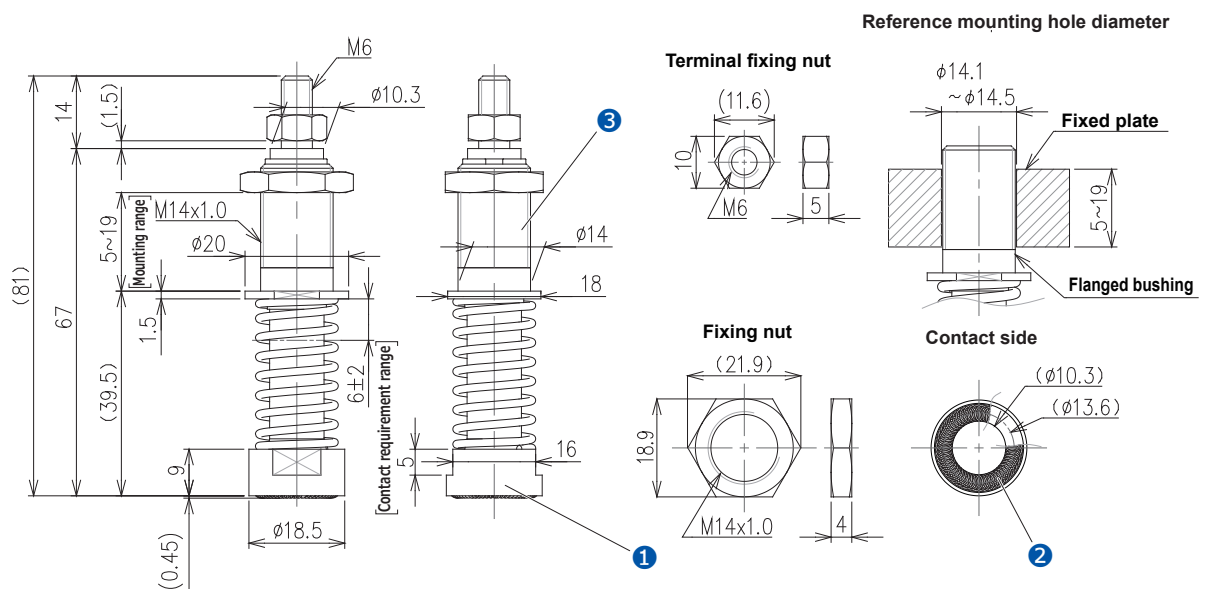
BC230-19



Specifications

Usable temperature	: -40°C to +140°C / -40°F to 284°F	* Including its own temperature rise value when energized.
Rated current	: 230A	
Contact resistance	: 1mΩ(ref. value) or less	*condition : Pure copper / silver plating
Voltage	: If the fixing plate is metal, please use it at less than 200VAC/DC	
Estimated durability	: 100,000 to 1,000,000 cycles	
Pressurizing spring force	: 16N - 29N	

External dimensions



①

Butt contact body
Copper + Gold plating

②

Canted coil spring
Copper + Gold plating

③

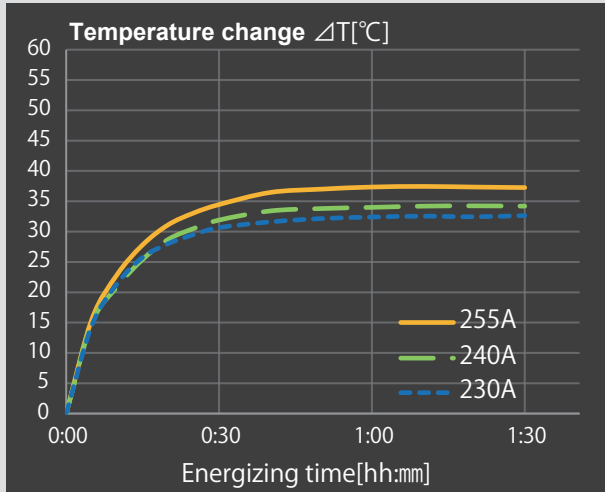
Flanged bushing
PEEK

Current energization test result

Refer to the page 3 about the test method.

TEST 1

Temperature change when energizing with **touching all surface**

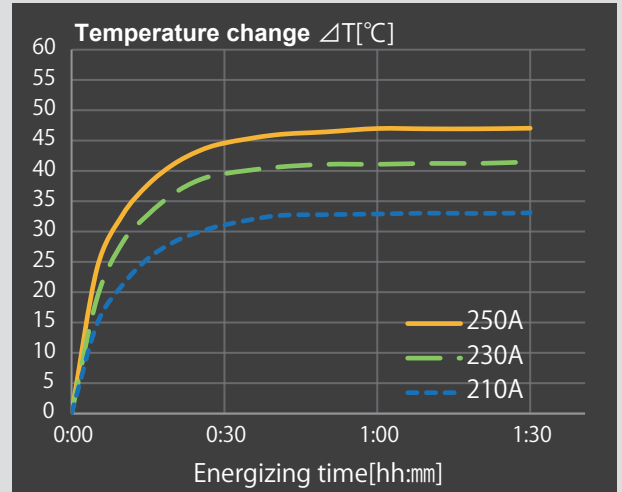


Current [A]	Temperature change ΔT [°C]			
	5min	10min	30min	60min
230	12.5	19.1	28.8	32.3
240	13.7	19.7	30.9	33.7
255	14.5	22.1	34.4	37.5

Cable size used in the test is 80sq

TEST 2

Temperature change when energizing with **only touching the canted coil spring**

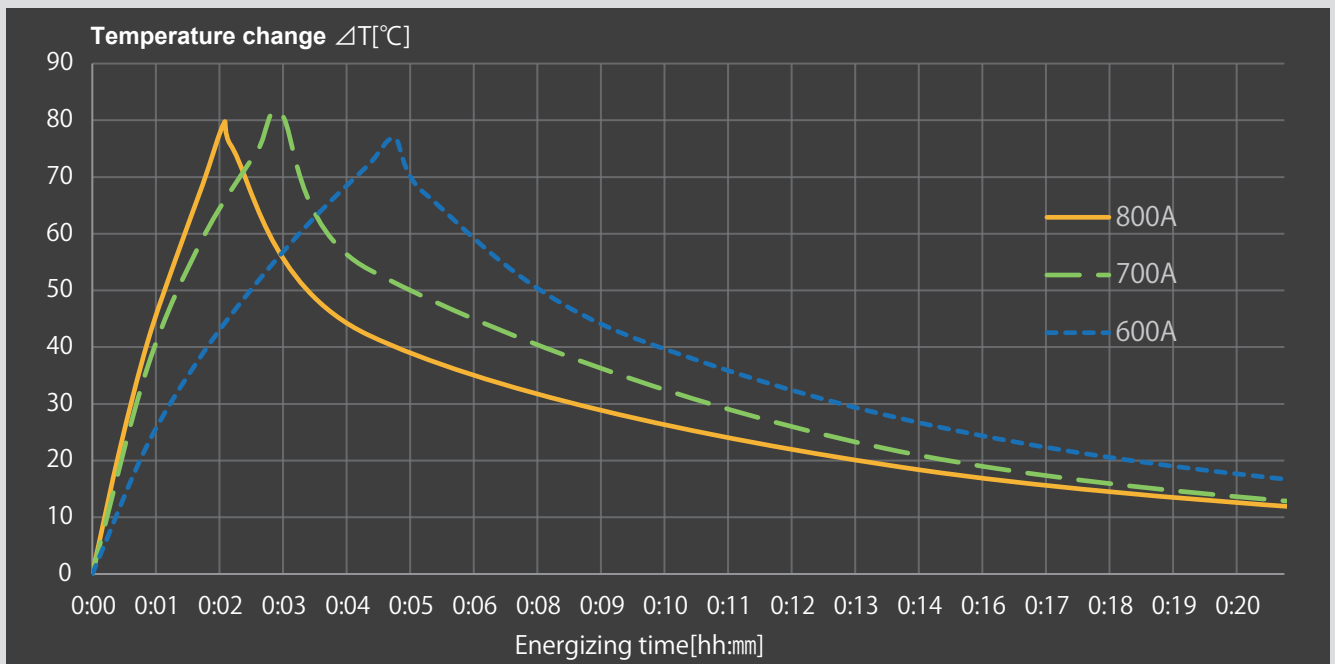


Current [A]	Temperature change ΔT [°C]			
	5min	10min	30min	60min
210	14.2	20.6	30.4	32.3
230	18.1	25.9	36.6	38.6
250	22.0	30.5	43.1	44.7

Cable size used in the test is 80sq

Overcurrent energization test

Temperature change during 600A/700A/800A short-time current test



Cable size used in the test is 80sq



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NOTICE:

- 1. All data in the catalog is test data obtained in our internal conditions and environment, and it does not guarantee performance in the customer's one. Be sure to evaluate the product in the customer's environment before use.*
- 2. When contacting to a fixed location, assemble so that the Butt Contact makes straight contact with the target object.*
- 3. The contact part is greatly affected by the other contact side such as material, surface finish, surface rough and shape. Be sure to check safety, such as for temperature rise, before use.*
- 4. One million cycles is listed based on data from in-house experiments.
The number of cycles will vary depending on the current value, work material, cable installation method, usable contact resistance standards, etc.*
- 5. There are possibilities that arcing, and heat generation occur due to wear of the coil spring. Please periodically confirming that no arcing or heat generation is occurring.*
- 6. Specifications are subject to change without prior notice.*