

# FLEXI22

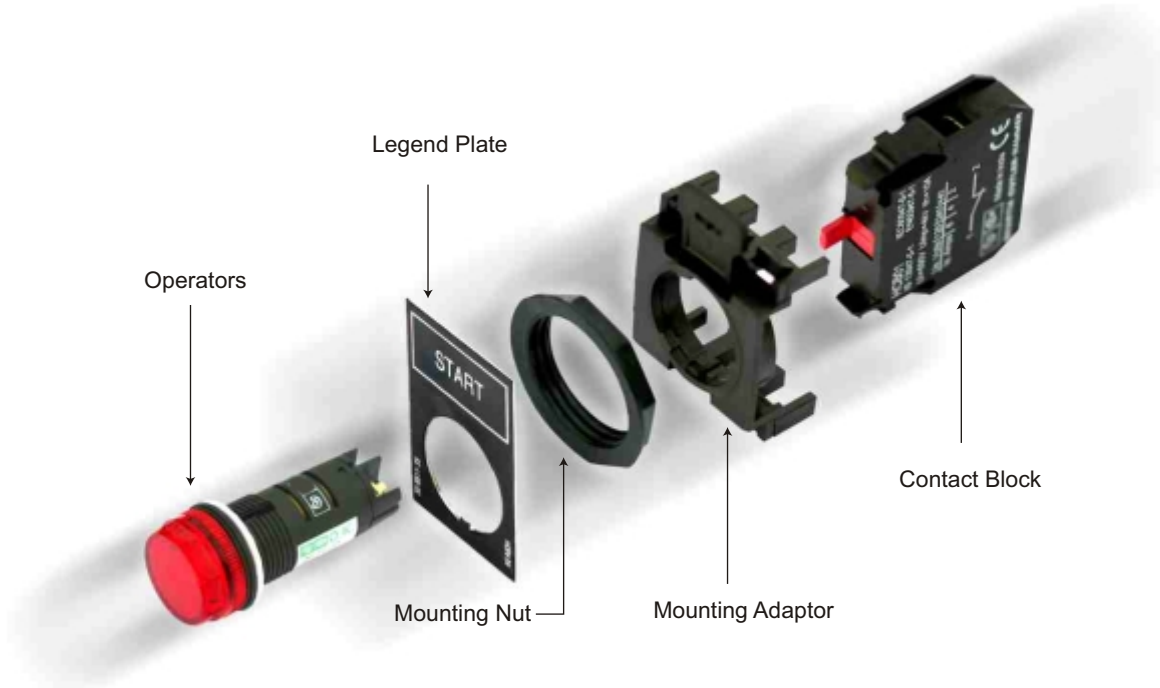


## PUSH BUTTONS & INDICATING LIGHTS



BCH ELECTRIC LIMITED

## Push Buttons & Indicating lights



**EXPLODED VIEW OF PUSH BUTTONS**

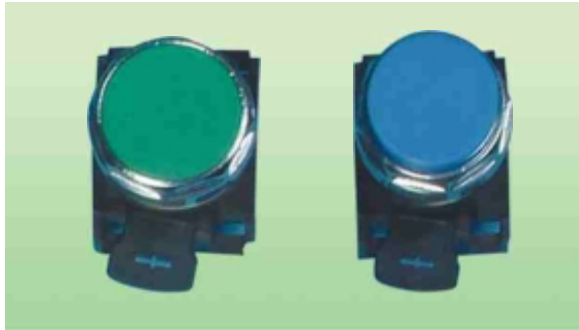
BCH Flexi-22 range of push buttons and indicating lights operate reliably in any environment. They are oil tight, watertight and corrosion-resistant. This guarantees panel builders and designers built-in product reliability. Their space-saving design and modular construction makes on-the-job assembly fast, simplifying the stocking of both components and complete devices.

### Features

- Conforms to IS - 13947 - 5 - 1/ IEC 60947 - 5 - 1
- IP 65 degree of protection
- Operating Temp. -20 to +60°C
- Chrome plated metal bezel
- Modular screwless construction
- Serrated contacts ensures reliable signal transmission
- Modular assembly - saves time



## Push Button - Opaque



Flush

Extended



Momentary

Twist to release

Stay down Latch in key

COLOUR	CAT. NO.	
	Flush	Extended
Red	HEA11RM	HEA12RM
Yellow	HEA11YM	HEA12YM
Blue	HEA11LM	HEA12LM
Green	HEA11GM	HEA12GM
White	HEA11WM	HEA12WM
Black	HEA11BM	HEA12BM
	28mm	40mm
Red	HEA21RM	HEA22RM
Black	HEA21BM	HEA22BM
Red	HEA23RM	HEA24RM
Black	HEA23BM	HEA24BM
Red	HEA25RM	HEA26RM
Black	HEA25BM	HEA26BM

## Push Button - Illuminated



Flush

Extended

COLOUR	CAT. NO.	
	Flush	Extended
Red	HEB11RM	HEB12RM
Yellow	HEB11YM	HEB12YM
Blue	HEB11LM	HEB12LM
Green	HEB11GM	HEB12GM
Amber	HEB11AM	HEB12AM
Clear	HEB11CM	HEB12CM

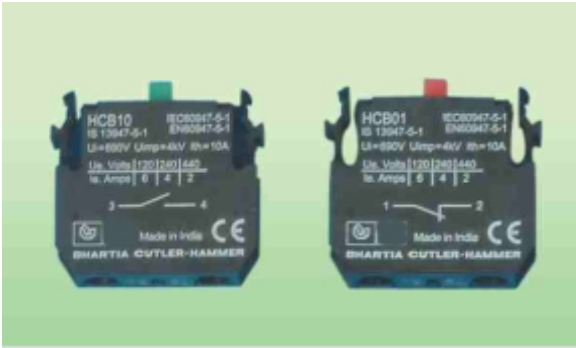
## Indicating Lamp Holder



Indicating Lamps

COLOUR	CAT. NO.
Red	HPL22R
Yellow	HPL22Y
Blue	HPL22L
Green	HPL22G
Amber	HPL22A
Clear	HPL22C

## Contact Block



TYPE	CARRIER COLOUR	CAT. NO.
1NO	Green	HCB10
1NC	Red	HCB01
1NO early break	Black	HCB10EM
1NC late break	Black	HCB01LB
1NO+1NC	White	HCB11
2NO	Green	HCB20

Example : Push button - Flush type red colour with 2NO contact blocks (HEA11RM + HCB20)

## Light Source Units



TYPE	VOLT	CAT. No.
Direct Type AC/DC	6V	HLSUDP4
	12V	HLSUDS4
	24V	HLSUDU4
	48V	HLSUDW4
	60V	HLSUDY4
Resistance Type AC	110V	HLSURA
	240V	HLSURK
Transformer Type AC	110/6V	HLSUTAP
	110/24V	HLSUTAU
	240/6V	HLSUTKP
	240/24V	HLSUTKU
	415/6V	HLSUTMP
	415/24V	HLSUTMU



## Technical Specification

### General

Mounting	: Plug in on Mounting adaptor
Cable size	: 1.5sq.mm
Tightening torque	: 0.8 N-m
Termination	: Plus/Minus captive screw
IP category	: IP20
Pollution degree	: 3
Vibration	: 5g/0.7mm P-P, 10 Sweeps, 10-500Hz
Shock	: 30g, 18ms
Bump	: 25g, 6ms for 1000 cycles

### Actuators

Mech. life- Std push button	: 10 million operations
Key / Twist to release	: 0.3 million operations

### Light Source Unit

Lamp type	: BA9 lamp (6 to 120V) 6V-0.9W, 120V-2.4W other lamps 1.2W
Lamp life	: 1500hrs for 6V 100 hrs for others

### Contact Block

Operating voltage (Ue) V	: 660V
Frequency	: 50 to 60 Hz
Rated thermal current (I th)	: 10A
Rated current Ie	: Refer table

AC 50 Hz	AC15	DC	DC13
240V	4A	24V	2A
440V	2A	110V	1A
660V	1.5A	220V	0.2A
		600V	0.1A

Rated Insulation voltage	: 690V
Rated Impulse voltage	: 4kV
Electrical life	: 1million oprns
Conditional S.C current	: 1000A
Mech. life	: 3million oprns
Operating frequency	: 1200 oper/hr.

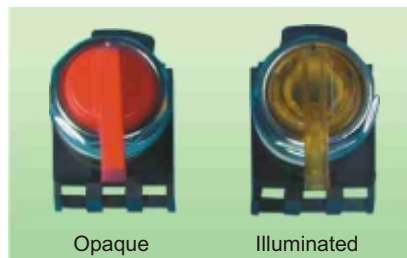
## Selector Operator



Opaque

Illuminated

**KNOB**



Opaque

Illuminated

**LEVER**



**KEY**

### ORDERING SEQUENCE FOR SELECTION OPERATION

H	E				M
		A - Opaque	Type	Operation	Color
		B - Illuminated	Table - 1	Table - 2	Table - 3

**TABLE 1 - ACTUATOR TYPE**

**TABLE 2 - OPERATION TYPE**

**TABLE 3 - COLOR**

Type of Actuator	Code	Operation Type	Code	Color	Code
Sel. Lever 2 pos	8L	Maintained in all positions	D	Red	R
Sel. Key 2 pos	8Y	Spring return left to centre	T	Yellow	Y
Sel. Knob 2 pos	8K	Spring return right to centre	R	Green	G
Sel. Lever 3 pos Cam 1	6L	Spring return left & right to centre	S	Blue	L
Sel. Key 3 pos Cam 1	6Y			Black#	B
Sel. Knob 3 pos Cam 1	6K			Amber*	A
Sel. Lever 3 pos Cam 2	7L			White#	W
Sel. Key 3 pos Cam 2	7Y				
Sel. Knob 3 pos Cam 2	7K			Clear*	C

# for opaque type only \* for illuminated type only

## Technical Specifications : Selector Operator

Mech. life	: 0.5 million operations	Pollution degree	: 3
Operating frequency (Opr./hr.):	3000	Vibration	: 5g/0.7mm P-P, 10 sweeps, 10-500Hz
Operating angle	: 90° for 3 position 45° for 2 position	Shock	: 30g, 18ms
		Bump	: 25g, 6ms for 1000 cycles

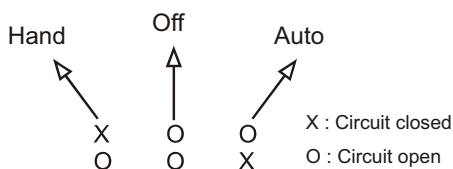
## Circuit Configurations Viewed From Front Of Panel

 CAM II 2 POSITION								 CAM I 3 POSITION								 CAM II 3 POSITION								CONTACT BLOCK MOUNTING POSITION VIEWED FROM REAR OF PANEL				
LEFT		CENTRE		RIGHT		CONTACT ARRANGEMENT		CATALOGUE NUMBER		LEFT		CENTRE		RIGHT		CONTACT ARRANGEMENT		CATALOGUE NUMBER										
1	3	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2	1	3	2									
0	X	X	O	O	X	O	X	YES	NO	NO	14		13	HCB 10														
X	O	O	X	X	O	X	O	YES	NO	NO	12		11	HCB 01														
O	X	X	O	O	X	O	X	YES	NO	NO	14		13	HCB 11														
X	O	O	X	X	O	X	O				12		11															
O	X	X	O	O	X	O	X	YES	NO	NO	14		13	HCB 20														
O	X	X	O	O	X	O	X				14A		13A															
O	X	O	O	X	O	O	X	NO	NO	YES	24		23	HCB 10														
X	O	X	X	O	X	X	O	NO	NO	YES	22		21	HCB 01														
O	X	O	O	X	O	O	X	NO	NO	YES	24		23	HCB 11														
X	O	X	X	O	X	X	O				22		21															
O	X	O	O	X	O	O	X	NO	NO	YES	24		23	HCB 20														
O	X	O	O	X	O	O	X				24A		23A															

### Explanation of how to use selector switch contact block selection chart

1. Determine the "X" & "O" sequence you require for your application.

Example :



2. Locate the first sequence "X O O" under column marked CAM I or CAM II, then identify which CAM and contact is used and what position it is assembled.

Example : "X O O" used CAM I, HCB 10, mounting position 1 (left)

3. Repeat for second sequence "O O X" do not mix sequences from CAM 1 and CAM II.

Example : "O O X" uses CAM I, HCB 10, mounting position 2 (right)

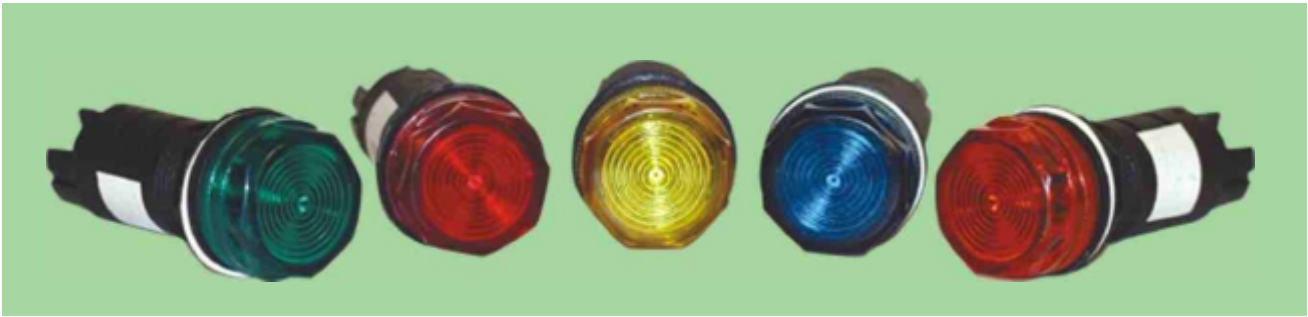
4. Assemble contact block (S) to adaptor in the mounting position selected (two contact blocks per switch), using the selector switch with the appropriate CAM and switch positions. CAM II has two peaks, viewed from the rear.

Terminal numbers these identify the contact block position and contact function.

Example : 14 13

The "1" indicates mounting position number 1 (left), "3 & 4" indicates the circuit is normally open.

## Led Indicator



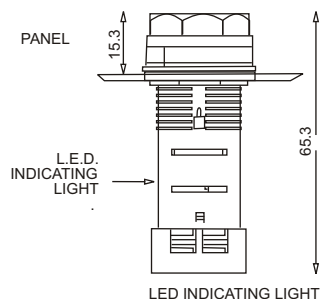
### Features & Specifications

Colours	: Red(R), Green(G), Blue(B), Yellow(Y), Amber(A), Clear(C)	Resistance to fast transients 1.5kV, IEC 61000-4-4
Operating temp limits	:-25 to +55 <sup>o</sup> C	Rated insulation voltage (Ui) V690
Range	:Standard With Surge protection With low Voltage Glow Protection With Surge & LVGP	Electromagnetic emission : Class B, EN 55011 Resistance to electrostatic discharge : 3kV, IEC 61000-4-4 Rated impulse voltage (Uimp) kV : 2kV (1.2/50 micro sec)
EMC compliance	: IEC 1000-4-4	Service life : 100,000 hrs
Surge protection	: 1kV, IEC 61000-4-5	IP Category : IP 20

VOLTAGE	STANDARD	WITH SURGE	WITH LVGP	WITH SURGE & LVGP
6V AC/DC	HFB2X*P4	HFB2S*P4		
12V AC/DC	HFB2X*S4	HFB2S*S4		
24V AC/DC	HFB2X*U4	HFB2S*U4		
48V AC/DC	HFB2X*W4	HFB2S*W4		
60V AC/DC	HFB2X*Y4	HFB2S*Y4		
110/120V AC	HFB2X*E	HFB2S*E		
110/120V DC	HFB2X*E1	HFB2S*E1		HFB2SP*E1
220/240V AC	HFB2X*H	HFB2S*H	HFB2P*H	HFB2SP*H
220/240DC	HFB2X*H1	HFB2S*H1		
415V AC	HFB2X*M	HFB2S*M		

\* Replace with color code

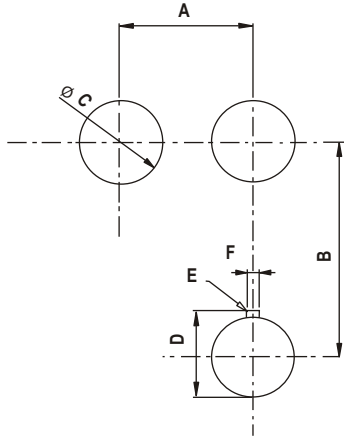
### Dimensions (mm)



### Spares & Accessories

Flamient Bulb, Lens for Illuminated Push Button & Selector Operator are available as spares. Range also includes accessories like Legend Plate, Rubber Boot for IP 67 Protection, Bulb Holder etc. For Cat. Ref. & details refer to price list or branch office.

## Panel Spacing Mounting Dimensions



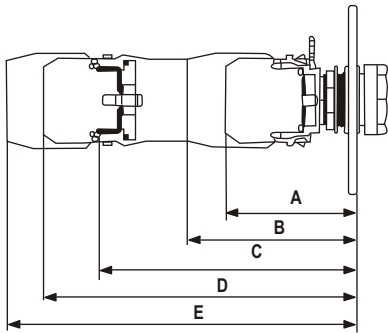
### Panel Spacing Mounting Dimensions

Minimum Spacings	mm (Inches)	
Size / Type of operator	A	B
All types except those listed below	30 (1.18)	50 (1.97)
Lever selector switches and 40mm DIA operators	45 (1.77)	50 (1.97)
40mm DIA operators	45 (1.77)	45 (1.77)
Operators fitted with 70mm DIA visual and plate	75 (2.95)	75 (2.95)
Operators fitted with rubber boots or padlockable cover	35(1.38)	50(.197)

### Panel Drilling

Millimeters		mm (Inches)	
Dimensions	Tolerances	Dimensions	Tolerances
C	22.5 +0.4 -0	0.89	+0.016 -0
D	24.3 +0.4 -0	0.96	+0.016 -0
E	R0.8 =	R0.03	=
F	3.5 +0.2 -0	0.14	+0.008 -0

## Rear of Panel Extension



### Dimension

A	B	C	D	E
Single circuit block-full voltage and resistor unit	Dual circuit contact block	Transformer light unit	Trans light unit and single circuit contact block	Trans light unit and dual circuit contact block

### Push buttons All Types mm (Inches)

51 (2.0)	66(2.6)	80 (3.15)	99 (3.7)	110 (4.3)
----------	---------	-----------	----------	-----------

### Push buttons All Types mm (Inches)

57 (2.22)	72(2.83)	80 (3.15)	99 (3.9)	115 (4.5)
-----------	----------	-----------	----------	-----------

## BCH ELECTRIC LIMITED

Visit us at : [www.bchindia.com](http://www.bchindia.com)

**Corporate Office :** 1105, New Delhi House, 27, Barakhamba Road, New Delhi-110 001 Tel. : 91-11-23316029/3610/6539/43673100 Fax : 91-11-23715247 E-mail : [marketing@bchindia.com](mailto:marketing@bchindia.com)

**Registered Office :** Block 1E, 216, Acharya Jagadish Chandra Bose Road, Kolkata - 700 017 CIN : U31103WB1965PLC026427

**Works 1 :** 20/4, Mathura Road, Faridabad -121 006 (Haryana) Tel. : 0129-4063000/4293000 Fax : 0129-2304016

**Works 2 :** 64-68, Sector-7, IIE, Pant Nagar, Rudrapur, Udham Singh Nagar - 263 153 (Uttarakhand) Tel. : 05944-250214/16 Fax : 05944-250215

### Sales Offices :

**Ahmedabad**  
1-8-303/48/13/102, Arya One,  
Near Swastik Char Rasta,  
C.G. Road, Navrangpura,  
Ahmedabad- 380 009  
Tel. : 079-26565719/40074482  
Fax : 079-28565719  
E-mail : [ahmedabad@bchindia.com](mailto:ahmedabad@bchindia.com)

**Bangalore**  
B.M.H. Complex, 2nd Floor,  
No. 22, Kengal Hanumanthiah Road,  
Bangalore - 560 027  
Tel. : 080-22273478/41144878/41144879  
Fax : 080-22236759  
E-mail : [bangalore@bchindia.com](mailto:bangalore@bchindia.com)

**Chandigarh**  
SC02 121-22-23, 1st Floor,  
Sector 34-A, Chandigarh - 160 022  
Tel. : 0172-5078957/2666122  
Fax : 0172-5049905  
E-mail : [chandigarh@bchindia.com](mailto:chandigarh@bchindia.com)

**Chennai**  
Flat No. 3A, 3rd Floor,  
Sree Apartments,  
No.508, TTK Road,  
Alwarpet, Chennai 600 018  
Tel. : 044-24337046, 24337047  
Fax : 044-24337047  
E-mail : [chennai@bchindia.com](mailto:chennai@bchindia.com)

**Coimbatore**  
87, Dr. Nanjappa Road,  
Coimbatore - 641 018  
Tel. : 0422-2305311  
Fax : 0422-2302599  
E-mail : [coimbatore@bchindia.com](mailto:coimbatore@bchindia.com)

**Faridabad**  
20/4, Mathura Road,  
Faridabad - 121 006 (Haryana)  
Tel. : 0129-2304016  
E-mail : [faridabad@bchindia.com](mailto:faridabad@bchindia.com)

**Hyderabad**  
1-8-303/48/13/102, Arya One,  
2nd Floor, P. G. Road,  
Secunderabad - 500 003  
Tel. : 040-66206263/27890306  
Fax : 040-66207273  
E-mail : [hyderabad@bchindia.com](mailto:hyderabad@bchindia.com)

**Indore**  
330-331, Indraprastha Tower,  
3rd Floor, 6, M.G. Road,  
Indore - 452 001  
Tel. : 0731-2510011  
Fax : 0731-2510012  
E-mail : [indore@bchindia.com](mailto:indore@bchindia.com)

**Jaipur**  
25, Hathroi, Gopalbari,  
Jaipur - 302 001  
Tel. : 0141-5104521  
Fax : 0141-2363521  
E-mail : [jaipur@bchindia.com](mailto:jaipur@bchindia.com)

**Jamshedpur**  
3rd Floor, Aastha Trade Centre,  
'O' Road, Bistupur,  
Jamshedpur - 831 001  
Tel. : 0657-2756171/2756157  
E-mail : [jamshedpur@bchindia.com](mailto:jamshedpur@bchindia.com)

**Kolkata**  
1st Floor, Block 1E,  
216, A.J.C. Bose Road,  
Kolkata - 700 017  
Tel. : 033-22800888-22871728  
E-mail : [kolkata@bchindia.com](mailto:kolkata@bchindia.com)

**Lucknow**  
Madan Plaza, 3rd Floor,  
14, Station Road,  
Lucknow - 226 001  
Tel. : 0522-4025597/4025997  
Fax : 0522-4025697  
E-mail : [lucknow@bchindia.com](mailto:lucknow@bchindia.com)

**Ludhiana**  
S.C.O.- 18, 2nd Floor,  
Feroze Gandhi Market,  
Ludhiana - 140 001  
Tel. : 0161-5021807/5022808  
Fax : 0161-5021807  
E-mail : [ludhiana@bchindia.com](mailto:ludhiana@bchindia.com)

**Mumbai**  
A-151, Mittal Tower,  
Nariman Point,  
Mumbai - 400 021  
Tel. : 022-2222947/22826039  
Fax : 022-22228258  
E-mail : [mumbai@bchindia.com](mailto:mumbai@bchindia.com)

**New Delhi**  
801, Akash Deep Building,  
26A, Barakhamba Road,  
New Delhi - 110 001  
Tel. : 011-23313878/66307065  
Fax : 011-23739230  
E-mail : [delhi@bchindia.com](mailto:delhi@bchindia.com)

**Pune**  
8, Sarosh Bhavan,  
16-B/1, Dr. Ambedkar Road,  
Pune - 411 001  
Tel. : 020-26052590  
Telefax : 020-26135224  
E-mail : [pune@bchindia.com](mailto:pune@bchindia.com)

**Raipur**  
2nd Floor, Building No. B-234,  
Indira Gandhi Vyavasayik Parisar,  
Pandri, Raipur - 492 004  
Tel. : 0771-4020213  
Fax : 0771-2582680  
E-mail : [raipur@bchindia.com](mailto:raipur@bchindia.com)

**Trichy**  
Kingstone Park, 2nd Floor,  
19/1, Puthur High Road,  
Ramalinga Nagar,  
Trichy - 620 017  
Tel. : 0431-4040497  
E-mail : [trichy@bchindia.com](mailto:trichy@bchindia.com)

**Vadodara**  
301, Third Floor, "Florence Classic",  
10, Ashapuri Co-Op. Hsg. Soc. Ltd., Opp. VUDA Housing,  
Near Cow Circle, Akota, Vadodara - 390 020  
Tel. : +91-265-6548444/2345068/2345069  
Telefax : 0265-2345068,  
E-mail : [vadodara@bchindia.com](mailto:vadodara@bchindia.com)

### Other Branch Locations

**Bhubaneswar :** [bhubaneswar@bchindia.com](mailto:bhubaneswar@bchindia.com), **Cochin :** [cochin@bchindia.com](mailto:cochin@bchindia.com), **Dehradun :** [dehradun@bchindia.com](mailto:dehradun@bchindia.com), **Gurgaon :** [gurgaon@bchindia.com](mailto:gurgaon@bchindia.com), **Guwahati :** [guwahati@bchindia.com](mailto:guwahati@bchindia.com), **Hospet :** [hospet@bchindia.com](mailto:hospet@bchindia.com), **Hubli :** [hubli@bchindia.com](mailto:hubli@bchindia.com), **Madurai :** [madurai@bchindia.com](mailto:madurai@bchindia.com), **Vishakapatnam :** [vizag@bchindia.com](mailto:vizag@bchindia.com)

### Resident Engineer Locations

Baddi	Gurgaon	Madurai	Salem
Bardhaman	Haridwar	Muzaffarnagar	Udaipur
Bhilai	Hubli	Nashik	Vapi
Bhubaneswar	Hospet	Patna	Vishakhapatnam
Cochin	Jodhpur	Puducherry	Warangal

Since product improvement is a continuous process, the data furnished in this brochure may undergo revision without prior notice.