

# Touch Switches

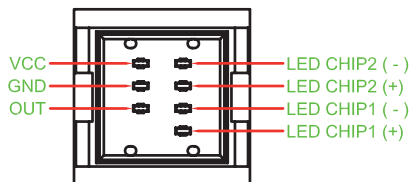
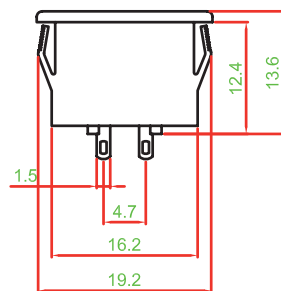
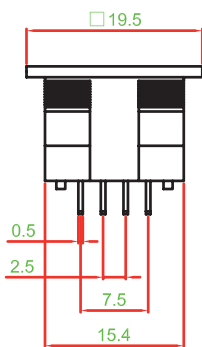
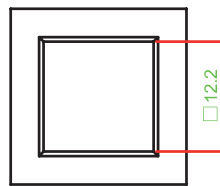
## Touch-Sensitive Switch with LED Illumination

## BR20 Series

### DIMENSIONS (Unit: MM)



BR20DSW...SATNNSGSG



### SWITCH SPECIFICATIONS

Poles and Positions: One channel  
 Protection: Water-proof and dust-tight  
 Circuit: Capacitive analog signal  
 Operating Temperature: -20°C to +70°C

Electrical Characteristics						
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V <sub>CC</sub>	Operating Voltage		2.0	3.0	5.5	V
F	System Oscillator	V <sub>CC</sub> = 3V		16		KHz
F <sub>SEN</sub>	Sensor Oscillator	V <sub>CC</sub> = 3V, Output no load		1M		Hz
V <sub>IH</sub>	Input Ports	V <sub>CC</sub> = 3V, Output no load		1.5	3.0	μA
V <sub>IL</sub>	Input Ports	Input low Voltage	0		0.2	V
I <sub>OP</sub>	Operating Current	Input high Voltage	0.8		1.0	V
I <sub>OL</sub>	Output Port Sink Current	V <sub>CC</sub> = 3V, V <sub>OL</sub> = 0.6V		8		mA
I <sub>OH</sub>	Output Port Source Current	V <sub>CC</sub> = 3V, V <sub>OH</sub> = 2.4V		-4		mA
T <sub>R</sub>	Output Response Time	V <sub>CC</sub> = 3V			220	ms
R <sub>PH</sub>	Input Pin Pull-High Resistor	V <sub>CC</sub> = 3V		35K		Ω
R <sub>PL</sub>	Input Pin Pull-Low Resistor	V <sub>CC</sub> = 3V		28K		Ω

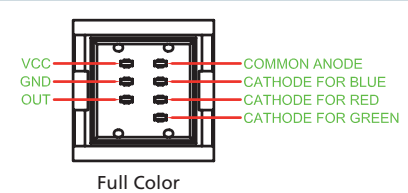
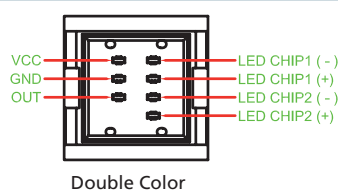
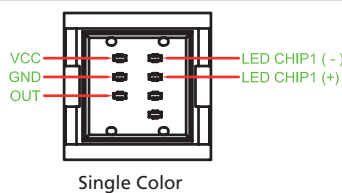
### LED SPECIFICATIONS

	Unit	Value / LED Color		
		Green	Yellow	Red
Forward Current	I <sub>f</sub> mA	20	20	20
Reverse Voltage	V <sub>r</sub> V	5.0	5.0	5.0
Reverse Current	I <sub>r</sub> μA	10	10	10
Forward Voltage @ 20mA	V <sub>f</sub> V	2.1 to 2.5	2.0 to 2.5	2.0 to 2.5
Luminous Intensity @ 20mA	I <sub>v</sub> mcd	60	120	150

### PANEL CUTOUT

Panel Thick	W
0.75 - 1.25	17.6 - 17.8
1.25 - 2.0	17.8 - 18.0
2.0 - 3.0	18.0 - 18.2

### SCHEMATIC



### How to order:

BR20

#### 1 OPERATING TYPE

D Direct Mode (Standard)  
 T Toggle Mode

#### 2 POLE:

S Single Pole (Standard)

#### 3 TERMINATION:

W Wire Type

#### 4 ACTIVITY:

H High Active (Standard)  
 L Low Active

#### 5 FRAME:

S Standard Type

#### 6 HOUSING COLOR:

A Black (Standard)

#### 7 CAP COLOR:

T Transparent (Standard)  
 S Silver

#### 8 CAP SYMBOL:

N Without Symbol  
 ... Please refer to appendix in page 2 for example:



#### 9 CAP SYMBOL TYPE:

N Without Symbol  
 P Printed Symbol  
 L Laser Carved Symbol

#### 10 BRIGHTNESS LED 1:

N Without LED  
 S Ultra Bright (Standard)  
 F Full Color

#### 11 COLOR LED 1:

N Without LED  
 G Blue  
 C Green  
 R Red  
 B White  
 E Yellow  
 V RGB (Full Color)

#### 12 BRIGHTNESS LED 2:

N Without LED  
 S Ultra Bright (Standard)  
 No Code (When Full Color)

#### 13 COLOR LED 2:

N Without LED  
 G Blue  
 C Green  
 R Red  
 B White  
 E Yellow  
 No Code (When Full Color)

# Touch Switches

## Touch-Sensitive Switch with LED Illumination

BR20 Series

	0	1	2	3	4	5	6	7	8	9
A	0	1	2	3	4	5	6	7	8	9
B	A	B	C	D	E	F	G	H	I	J
C	K	L	M	N	O	P	Q	R	S	T
D	U	V	W	X	Y	Z	POWER	<b>ON</b> <b>OFF</b>	ON	OFF
E	OK		Auto	Enter	Start	STOP	OPEN	CLOSE	Exit	Move
F	SET	Reset	Light	Alarm	Menu	Next	Back	Delete	Motor	Save
G	Up	Down	Right	Left	Test	End	Insert	Lock	Print	+/-
H	ESC	BC.	HOME	Health	D-LED 2	OC GENE	VIDEO INPUT	clr CMOS	Green Power	<b>Save</b> <b>OK</b>
I	<b>B/R</b> +	<b>Undo</b> Cancel	<b>T/L</b> -	F1	F2	F3	F4	F5	F6	F7
J	F8	F9	F10	F11	F12	F13	F14	IN 1	IN 2	IN 3
K	IN 4	IN 5	IN 6							
L	<b>+</b>	<b>-</b>	<b>x</b>	<b>÷</b>	<b>=</b>					
M										
N										
O										
P							Config.	TIME LINE	ME1	ME2
Q	ME3	ME4	BGND 3D DVE1	BGND 3D DVE2	BUS COLOR	ME BUTTON LINK	*	INSERT	WIPE	
R		ALL		VP		COPY		RECORD MODE		
S			MUTE		<b>Multi BIOS</b>					
T		hold	group	m1	m2	m3	m4	m5	t1	t2
U	s1	s2	chair	undo	redo	touch	store	recall	e1	e2
V	e3	e4	OC							
W										