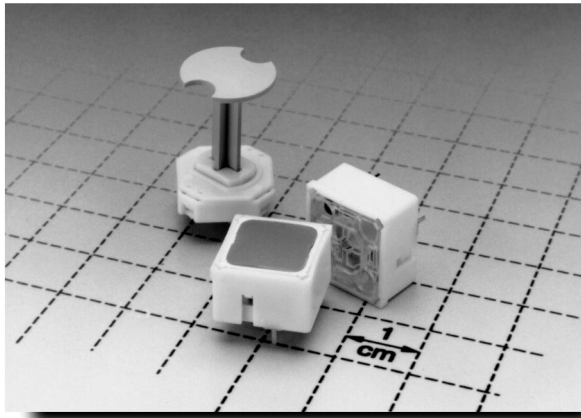


C&K RF 15 & 15 N Series Tactile Switches & Signal Indicators



Features/Benefits

- Long life—1,000,000 cycles
- Highly reliable contact design
- Illumination available
- Positive tactile feedback

Typical Applications

- Medical equipment
- Test instrumentation equipment
- Construction equipment

How To Order

To order RF 15, select switch/housing part number. To order RF 15 N, select switch part number and plunger part number in catalog section L. Other illuminated styles available, consult Customer Service Center.

Specifications

CONTACT RATING: 0.01 - 100 mA @ 0.02 - 42 V AC/DC (Au).
0.1 - 250 mA @ 3 - 50 V AC/DC (Ag).
RATED POWER: 2 W (Au), 12.5 W (Ag) resistive load.
CONTACT RESISTANCE: ≤ 100 milliohms when new.
SENSITIVITY TO ELECTROSTATIC CHARGES: (RF 15 N)
< 15 V if the keyswitches are covered by an overlay.
BOUNCE: ≤ 5 ms.
CONTACT SYSTEM: Snap-action contact.
CONTACT ARRANGEMENT: SPST NO.
ILLUMINATION: 1 or 2 LEDs, spot or full illumination.
FIXING: By soldering.
SOLDERING TEMPERATURE: 250°C.
SOLDERING TIME: 2.5 sec. max.
SWITCHING TRAVEL: 0.5 + 0.2 mm.
FULL TRAVEL: (RF 15 N) 0.5 + 0.2 mm.

OPERATING LIFE: 1,000,000 cycles min.
OPERATING FORCE: 2 - 3 N max.
AMBIENT OPERATING TEMPERATURE: -25°C to + 70°C;
-13°F to + 158°F.
AMBIENT STORAGE TEMPERATURE: -40°C to + 80°C;
-40°F to + 176°F.
PACKAGING: RF15: Tube packaging, 32 switches;
RF15N: Paper packaging, 25 switches.

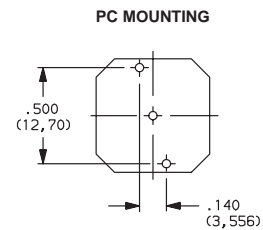
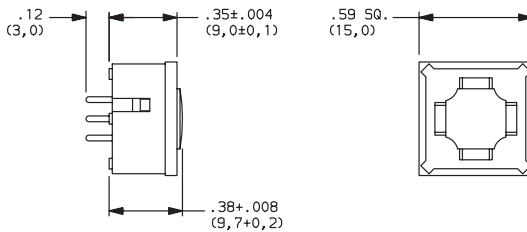
Materials

SWITCH HOUSING: Pocan B.
TRANSPARENT ACTUATOR: (RF 15) Makrolon.
KEYCAP: (RF 15) Novodur.
CONTACT MATERIAL: Au or Ag.
TERMINALS: Contact spring: Tin-plated. Stationary contact:
Au version tin-plated, Ag version silver-plated.
FLAMMABILITY OF PLASTIC MATERIALS: UL 94 HB.

RF 15 Non-illuminated Short Travel Tactile Switches

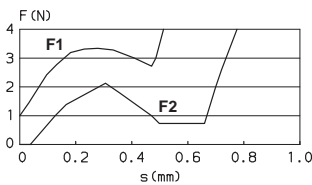


3.14100.0010000
SPST N.O.



View on component side.
All hole diameters: (1.1 ± 0.1 mm) .043 ± .004
PCB layout: 1/400" grid.

FORCE/TRAVEL DIAGRAM

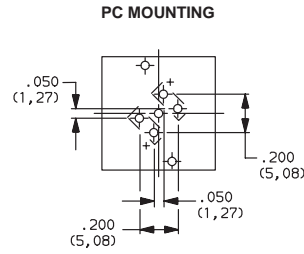
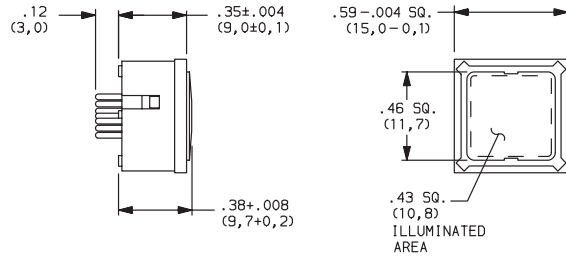


F1 = Max. operating force
F2 = Force at contact
F2 is max. 55% of F1.

SWITCH & HOUSING				KEYCAP ACCESSORY		SCHEMATIC
PART NUMBER	FUNCTION	CONTACT MATERIAL	ACTUATOR COLOR	PART NUMBER	DESCRIPTION	
3.14100.0010000	SPST N.O.	Au	Opaque White	5.46654.0590227	Beige Snap-in Keycap	
3.14100.0060000		Ag				

C&K RF 15 & 15 N Series Tactile Switches & Signal Indicators

RF 15 Illuminated Short Travel Tactile Switches

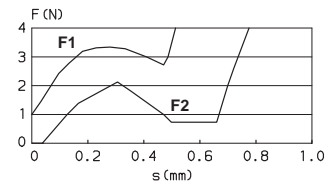


3.14200.0110000
SPST N.O.

View on component side.
All hole diameters: (1.1 ± 0.1 mm) .043 ± .004
PCB layout: 1/400" grid.

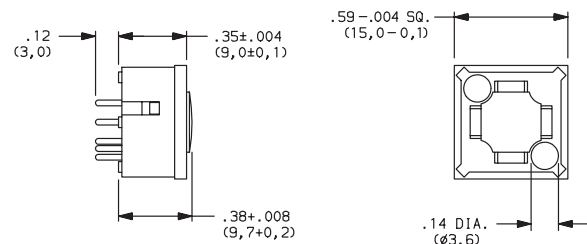
SWITCH & HOUSING				ILLUMINATION		SCHEMATIC
PART NUMBER	FUNCTION	CONTACT MATERIAL	ACTUATOR COLOR	STANDARD LEDs	LED COLOR	
3.14200.0110000	SPST N.O.	Au	Red	2 LEDs Fully Illuminated	Red	
3.14200.0120000			Green		Green	
3.14200.0130000			Yellow		Yellow	
3.14200.0210000		Ag	Red		Red	
3.14200.0220000			Green		Green	
3.14200.0230000			Yellow		Yellow	

FORCE/TRAVEL DIAGRAM

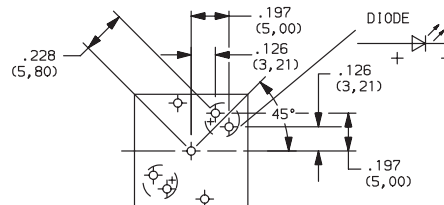


F1 = Max. operating force
F2 = Force at contact
F2 is max. 55% of F1.

RF 15 Illuminated Short Travel Tactile Switches



PC MOUNTING

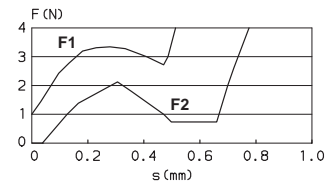


3.14100.0300000
SPST N.O.

View on component side.
All hole diameters: (1.1 ± 0.1 mm) .043 ± .004
PCB layout: 1/400" grid.
LED may be positioned on either left-hand or right-hand side.

SWITCH & HOUSING				ILLUMINATION		SCHEMATIC
PART NUMBER	FUNCTION	CONTACT MATERIAL	ACTUATOR COLOR	STANDARD LED	LED COLOR	
3.14100.0300000	SPST N.O.	Au	White	1 LED Spot Illuminated	Blue	
3.14100.0310000					Red	
3.14100.0320000					Green	
3.14100.0330000					Yellow	
3.14100.0400000		Ag			Blue	
3.14100.0410000					Red	
3.14100.0420000					Green	
3.14100.0430000					Yellow	

FORCE/TRAVEL DIAGRAM



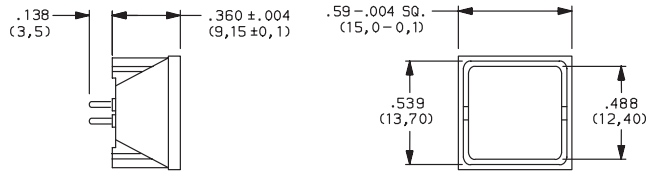
F1 = Max. operating force
F2 = Force at contact
F2 is max. 55% of F1.

C&K RF 15 & 15 N Series Tactile Switches & Signal Indicators

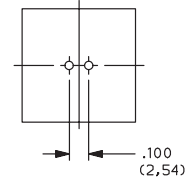
RF 15 Illuminated Signal Indicators



3.14200.0510000



PC MOUNTING



View on component side.
 All hole diameters: $(1.1 \pm 0.1 \text{ mm}) .043 \pm .004$
 PCB layout: 1/40" grid.

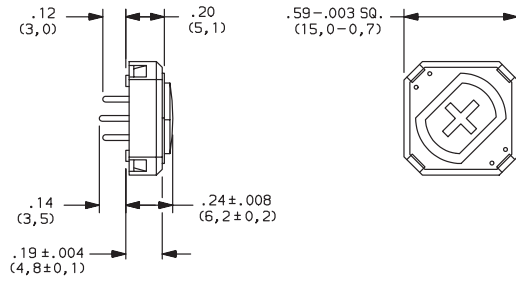
INDICATOR HOUSING		ILLUMINATION	
PART NUMBER	ACTUATOR COLOR	STANDARD LED	LED COLOR
3.14200.0510000	Red	1 LED Fully Illuminated	Red
3.14200.0520000	Green		Green
3.14200.0530000	Yellow		Yellow

LED SPECIFICATIONS FOR RF 15 FULLY ILLUMINATED TACTILE SWITCHES			
SPECIFICATIONS	RED LED	YELLOW LED	GREEN LED
Maximum admissible current I_F max.	30 mA	50 mA	30 mA
Current reduction from 50°C on	0.5 mA/°C	0.8 mA/°C	0.5 mA/°C
Luminous flux typical ϕ_V/I_F	—	250 mlm/20 mA	—
Wavelength typical λ_{PEAK}	637 nm	590 nm	569 nm
Forward voltage typical U_F/I_F	1.8 V/20 mA	1.9 V/20 mA	2.1 V/10 mA
Reverse voltage U_R/I_F	5 V/100 μ A min.	5 V/100 μ A min.	5 V/100 μ A min.
Ambient operating temperature	-55°C to +100°C -67°F to +212°F	-40°C to +100°C -40°F to +212°F	-40°C to +100°C -40°F to +212°F

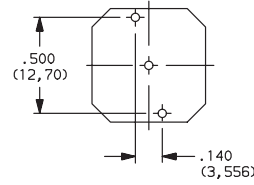
LED SPECIFICATIONS FOR RF 15 SPOT ILLUMINATED TACTILE SWITCHES				
SPECIFICATIONS	RED LED	YELLOW LED	GREEN LED	BLUE LED
Maximum admissible current I_F max.	30 mA.	20 mA	30 mA	20 mA
Current reduction from $T_0 = 50^\circ\text{C}$ (Approx.)	0.5 mA / °C	0.2 mA/°C	0.5 mA/°C	0.6 mA/°C
Wavelength typical λ_{PEAK}	635 nm	586 nm	565 nm	470 nm
Forward voltage typical U_F/I_F	2 V/10 mA	2 V/10 mA	2 V/10 mA	2.7 V/10 mA
Reverse voltage U_R/I_F	5 V/100 μ A min.	5 V/100 μ A min.	5 V/100 μ A min.	5 V/100 μ A min.
Ambient operating temperature	-20°C to +80°C -4°F to +176°F	-20°C to +80°C -4°F to +176°F	-20°C to +80°C -4°F to +176°F	-20°C to +80°C -4°F to +176°F

C&K RF 15 & 15 N Series Tactile Switches & Signal Indicators

RF 15 N Non-Illuminated Short Travel Tactile Switches



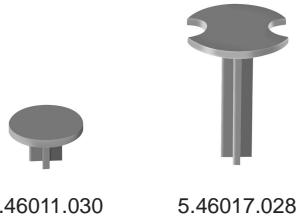
PC MOUNTING



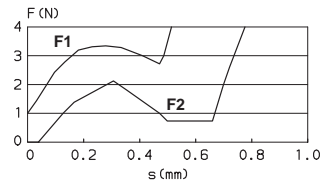
3.14100.6010000
SPST N.O.

View on component side.
 All hole diameters: (1.1 ± 0.1 mm) .043 ± .004
 PCB layout: 1/400" grid.

PLUNGERS



FORCE/TRAVEL DIAGRAM



F1 = Max. operating force
 F2 = Force at contact
 F2 is max. 55% of F1.

SWITCH				PLUNGER ACCESSORY		
PART NUMBER	FUNCTION	CONTACT MATERIAL	SCHEMATIC	PART NUMBER	DIAMETER	HEIGHT
3.14100.6010000	SPST N.O.	Au		5.46011.0360000	10 mm	9.0 mm
				5.46011.0300000	10 mm	9.7 mm
				5.46011.0370000	10 mm	12.5 mm
				5.46011.0380000	10 mm	13.0 mm
3.14100.6060000	SPST N.O.	Ag		5.46011.0280000	10 mm	22.5 mm
				5.46017.0360000	15 mm	9.0 mm
				5.46017.0300000	15 mm	9.7 mm
				5.46017.0370000	15 mm	12.5 mm
			5.46017.0380000	15 mm	13.0 mm	
			5.46017.0280000	15 mm	22.5 mm	



C

Tactile