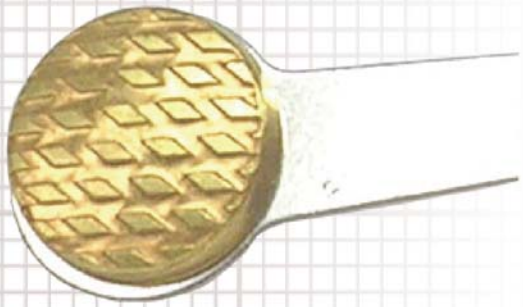
STRUTHERS-DUNN

LEADERS IN RELAYS & CONTROLS • SINCE 1923

The Solution

For switching **both** Tungsten and LED Lamps

The 21 Series Relay has a proven industry record of reliability. The recent changes in traffic signal lighting techniques from incandescent to LED has created the need for a relay to handle low currents associated with LED lamps, while still handling the requirements of high current Tungsten lamps. We have responded to those market requirements by redesigning our proven 21 series to switch both Tungsten and LED lamps interchangeably within the same relay.



New Contact Design

- Gold diffused (not plated) into Silver/Alloy
  - Lower contact resistance
  - Higher resistance to oxidation
- "Multipoint" contact surface for low current LED lamps
- Robust Silver/Alloy contact for high current Tungsten lamps
- One part number to interchangeably switch Tungsten and LED lamps
  - Test Sequence: 100,000 cycles @ 10mA,
    100,000 cycles @ 15A,
    repeat 100,000 cycles @ 10mA

New Coil LED Feature

- Confirms coil voltage applied
- Simplifies field maintenance trouble-shooting
- Decreased field service time
- Super bright LED is visible in sun light

RoHS

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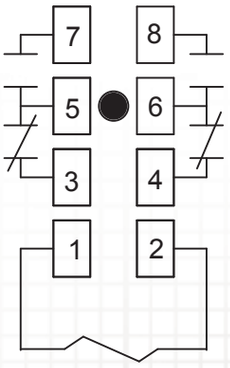
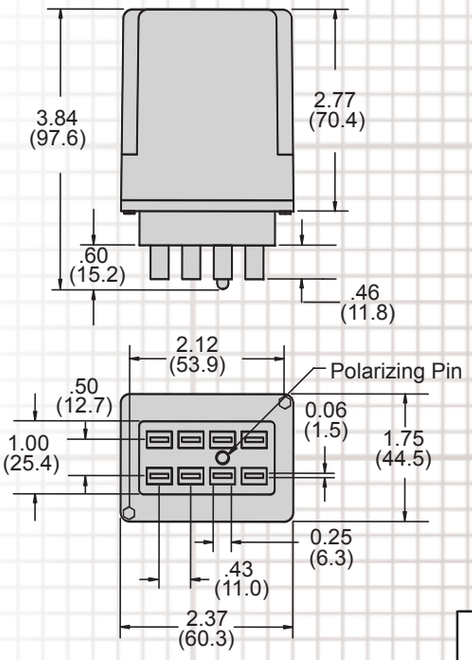
Wire Diagram



Outline Dimensions

Dimensions shown in inches & (millimeters)



General Specifications (@ 25° C)

Contacts	
Contact Configuration	DPDT
Contact Material	Silver Alloy
Contact Rating	
120 / 240VAC Resistive	30 Amp
28VDC Resistive	20 Amp
Motor 120VAC 1 Phase	1-1/2Hp
Motor 240VAC 3 Phase	2Hp
120VAC Tungsten	20 Amp
Contact Resistance, Initial	100 milliohms max @ 6VDC
Coil	
Coils Available	AC and DC
Nominal Coil Power	2.4VA
Input Voltage Tolerance - AC	75% to 110% of nominal
Input Voltage Tolerance - DC	70% to 110% of nominal
Drop-Out Voltage	10% of nominal
Duty	Continuous
Timing	
Operate Time (max)	20 mS
Release Time (max)	20 mS
Dielectric Strength	
Across Open Contacts	500Vrms
Between Mutually Insulated Points	1500Vrms
Insulation Resistance	1,000 Mohms min @ 500VDC
Temperature	
Operating	-34 to 74°C (-30 to 165°F)
Storage	-40 to 105°C (-40 to 221°F)
Life Expectancy	
Electrical (full load operations)	200,000
Mechanical (no load operations)	5,000,000
Miscellaneous	
Mounting Position	Any
Enclosure	Clear Polycarbonate
Weight	7.2oz (205 grams)

Ordering Code

21 XBX P 33 -120VAC

- Series
- Contact Arrangement
  XBX - (2 form C - DPDT)
- Polycarbonate Cover
- Optional Features
  LED for coil voltage indicator - Code L
  Gold diffused, serrated contacts - Code 33
- Coil Voltage
  AC: 120, 240, (Add VAC)
  DC: 12, 24 (Add VDC)

21 Series Relay	Rectified Coil	Coil Voltage Indication	Gold Diffused Contacts		Coil Voltage
21CPX-2					12VDC
21CPX-3					24VDC
21ACPX-2	X				120VAC
21ACPX-8	X				240VAC
21XBXP33-120VDC				X	12VDC
21XBXP33-24VDC				X	24VDC
21XBXP33-120VAC	X			X	120VAC
21XBXP33-240VAC	X			X	240VAC
21XBXPL-12VDC		X			12VDC
21XBXPL-24VDC		X			24VDC
21XBXPL-120VAC	X	X			120VAC
21XBXPL-240VAC	X	X			240VAC
21XBXPL33-12VDC		X		X	12VDC
21XBXPL33-24VDC		X		X	24VDC
21XBXPL33-120VAC	X	X		X	120VAC
21XBXPL33-240VAC	X	X		X	240VAC

Mating Sockets

Solder Terminals	
SK-TRF6-BFW	6 Pin Flange Mount
SK-TRF8-BFW	8 Pin Flange Mount
SK-TRF12-BFW	12 Pin Flange Mount