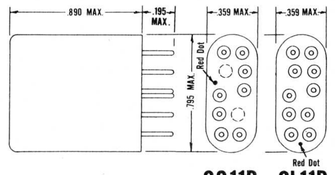
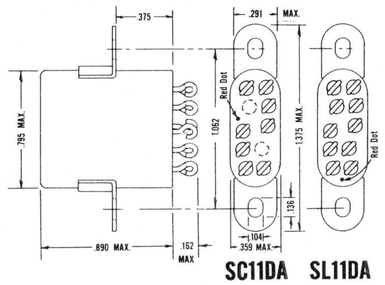
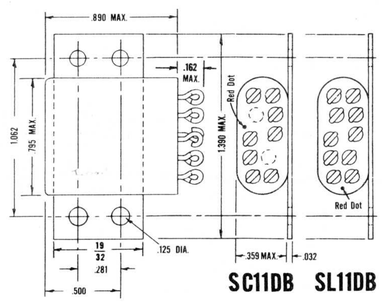
SC-SL MOUNTINGS



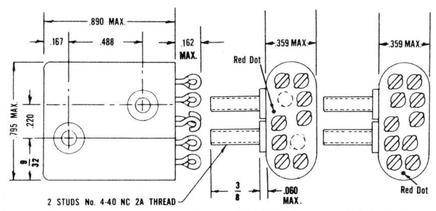
SC11D SL11D



SC11DA SL11DA



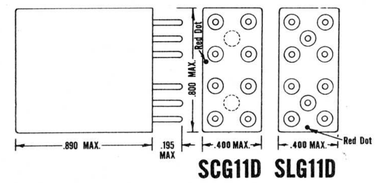
SC11DB SL11DB



SC11DC SL11DC

SCG-SLG MOUNTINGS

"G" designates 0.2" spaced grid terminals



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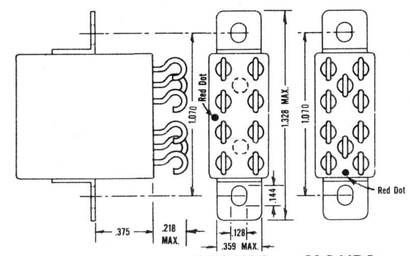
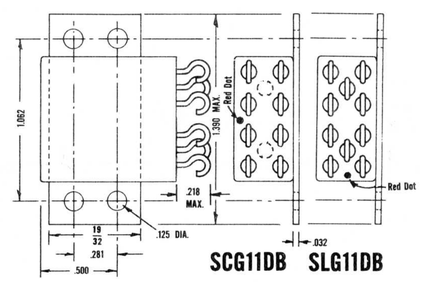
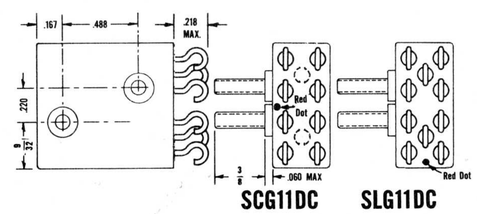


SCG11DA SLG11DA



SCG11DB SLG11DB



SCG11DC SLG11DC

TOLERANCES: Unless otherwise specified FRACTIONS ±1/64 DECIMALS ±.005

MOUNTING	PLAIN CASE	SHOULDER BRACKETS .375" FROM BASE	SHOULDER BRACKETS EVEN WITH BASE	FLAT MOUNTING PLATE WITH 4 HOLES	STUDS ON SIDE OF CASE	SHOULDER BRACKETS WITH OFFSET HOLES .125" FROM BASE
PLUG-IN HEADER	D	DF			DG	DP
HOOK-END SOLDER	DD	DA	DE	DB	DC	
3" FLEXIBLE LEADS	DL	DQ		DN	DM	

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY—PRINCETON, INDIANA

FORM NO. 13C098 8-61

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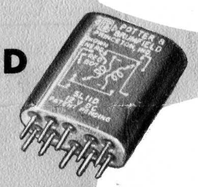
SC

POTTER & BRUMFIELD



MICRO-MINIATURE RELAYS

SL

SC-SCG

micro-miniature permanent magnet relay

SC SHOWN ACTUAL SIZE SCG

FOR RESISTANCE TO HIGH SHOCK, HIGH VIBRATION AND HIGH AMBIENT TEMPERATURE

ENGINEERING DATA

SC micro-miniature relays utilize a permanent magnet to generate holding forces necessary to operate under 100g shocks and 30g vibrations to 2000 cps. A polarized configuration produces a push-pull action that snaps the balanced armature to its sealed position when the coil is energized. The snap-action produces exceptionally fast transfer times of approximately 0.5 milliseconds. SC terminal connections conform to standard relay circuitry in all but one respect; the exception—polarized coil connections to take advantage of the unique magnetic circuit configuration. Polarity is indicated on the relay header by a red dot at the positive terminal.

If SC relays are stacked tightly together their operative points will be altered somewhat. This effect may be minimized by adequate spacing or by magnetic shielding if units are jammed together.

The ability of the SC to operate in rugged environs, its fast acting switch capabilities, its low power requirement (only 260 milliwatts to pull-in at 25°C.) and the closely controlled processes used to manufacture it make the SC suitable for any application that requires a rugged, reliable micro-miniature relay.

The SC meets applicable sections of Mil-R-25018 (MS24250), Mil-R-5757C and ABMA-PD-R-187.

The SC is available with a wide range of mounting and terminal types (see back page). The plug-in versions fit the following sockets:

MANUFACTURER	SC (OVAL)	SCG (GRID)
ARMEL ELECTRONICS INC.	HRK-1 * HRKA-35 (9 PIN)	HRT-13 HRC-1 HRT-7 *
AUGAT BROTHERS	8024-1G1	8021-1G1
BURNDY CORPORATION		MT9R-2 †
CINCH	54A20730 †	
CONTINENTAL CONNECTOR CORP.	145-8	
PRECISION CONNECTORS INC.	3030-85 *	3130-85
VIKING	VB8/3DV4	VB8/3DA4
WINCHESTER ELECTRONICS	RL8S-1B	RLA8S-2

* WITH POLARIZING PIN † WITH OR WITHOUT POLARIZING PIN

GENERAL:

Insulating Material: Teflon, Kel-F and glass.

Insulation Resistance: 10,000 megohms min. between contacts and between switching circuits @ +25°C. and between contacts and case.

Breakdown Voltage @ Sea Level: 1000 volts rms 60 cps between coil and case; between contacts and case; between contact sets. 500 volts rms 60 cps between open members of same contact set.

No contact openings in either armature position.

Shock: 100g for 11 milliseconds.

Linear Acceleration: 400g minimum.

Vibration: .195″ max. excursions from 10 to 55 cps. 30g from 55 to 2000 cps.

Internal Capacitance: Any contact to contact, or contact to case, less than 3.0 μμf.

Temperature Range: −65°C. to +125°C.

Coil rise at max. continuous voltage @ +125°C.: Approximately 40°C.

Weight: .5 ozs. without mounting bracket.

Pull-In: Approximately 260 milliwatts @ +25°C.

Operate time: 3 milliseconds max. @ nominal voltage @ +25°C.

Drop Out: 2.5 milliseconds max. @ nominal voltage @ +25°C.

Transfer Time: Approximately 0.5 milliseconds.

Terminals: Hook end solder, 3″ flexible, or plug-in pins. Available hermetically sealed only.

CONTACTS:

Arrangements: DPDT.

Rated Load: 2 amps @ 30 volts DC; 1 amp @ 115 volts 60 cycle resistive. 100,000 operations minimum.

Contact Resistance: 50 milliohms before use; 100 milliohms, max. after 100,000 operations.

Dry Circuit: Life expectancy of no misses in excess of 1 million operations with a contact load of 1 microamp @ 1 milliwatt and 300 ohm rejection level (data will be furnished on request).

COILS:

Resistance: 20,000 ohms maximum.

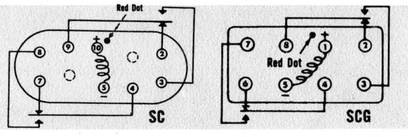
Power: Nominal @ +25°C.; approximately 1 watt.

Duty: Continuous.

SC Coil Data

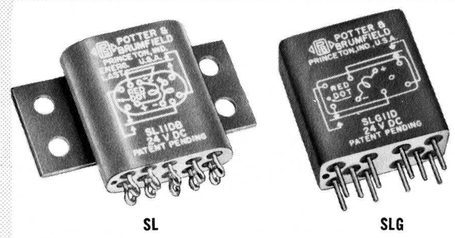
Nominal Coil Voltage, DC	6V	12V	24V	36V
Coil Resistance in Ohms ±10% @ +25°C.	35	135	550	1250

Relay Circuit Diagram as viewed from terminal end.



SL-SLG

micro-miniature magnetic latching relay



SL SLG

ENGINEERING DATA

The SL is a dual coil magnetic latching relay operated by:

(1) pulsing each coil alternately observing coil polarity or

(2) connecting the coils in series and operating from a reversing (polarized) power source.

Its ability to remain firmly latched in either armature position without applied coil power can significantly reduce power supply drains of equipment using relays with long "on" times. The SL requires only 230 milliwatts to pull-in at 25°C, and will operate on a 3 millisecond pulse at nominal voltage @ 25°C.

SL coils will carry continuous current if a pulsing source is not available but when this mode of operation is used, some means must be provided to de-energize one coil before energizing the other. For polar operation, this provision is not necessary.

Like the SC, the SL is manufactured using closely controlled processes to insure highest quality and maximum reliability. It operates normally in severe missile environments and meets all applicable sections of Mil-R-25018, Mil-R-5757C and ABMA-PD-R-187.

The SL is available with a wide range of mounting and terminal type (see back page). The plug-in versions fit the following sockets:

MANUFACTURER	SL (OVAL)	SLG (GRID)
ARMEL ELECTRONICS INC.	HRKB-5	HRT-1
AUGAT BROTHERS	8025-1G1	8022-1G1
BURNDY CORPORATION	MT10R-2	
VIKING	VB10/3DV4	
WINCHESTER ELECTRONICS	RL10S-1B	RLA8S-1

GENERAL:

Insulating Material: Teflon, Kel-F and glass.

Insulation Resistance: 10,000 megohms min. between contacts and between switching circuits @ +25°C. and between contacts and case.

Internal Capacitance: Any contact to contact, or contact to case, less than 3.0 μμf.

Breakdown Voltage @ Sea Level: 1000 volts rms 60 cps between coil and case; between contacts and case; between contact sets. 500 volts rms 60 cps between open members of same contact set.

No contact openings in either armature position.

Shock: 100g for 11 milliseconds.

Linear Acceleration: 400g minimum.

Vibration: .195″ max. excursions from 10 to 55 cps. 30g from 55 to 2000 cps.

Temperature Range: −65°C. to +125°C.

Coil rise at max. continuous voltage @ +125°C.: Approximately 40°C.

Weight: .5 ozs. without mounting bracket.

Pull-In: Approximately 230 milliwatts @ [illegible]

Operate time: 3 milliseconds max. @ nominal voltage @ +25°C.

Transfer Time: Approximately 0.5 milliseconds.

Terminals: Hook end solder, 3″ flexible, or plug-in pins. Available hermetically sealed only.

CONTACTS:

Arrangements: DPDT.

Rated Load: 2 amps @ 30 volts DC; 1 amp @ 115 volts 60 cycle resistive. 100,000 operations minimum.

Contact Resistance: 50 milliohms before use; 100 milliohms after 100,000 operations.

Dry Circuit: Life expectancy of no misses in excess of 1 million operations with a contact load of 1 microamp @ 1 milliwatt and 300 ohm rejection level (data will be furnished on request).

COILS:

Resistance: 10,000 ohms per coil maximum.

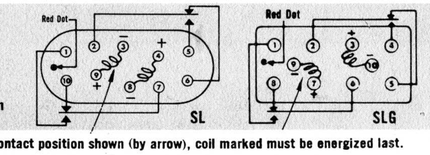
Power: Nominal @ +25°C.; approximately 1 watt.

Duty: Continuous or intermittent.

SL Coil Data

Nominal Coil Voltage, DC	6V	12V	24V	36V
Coil Resistance in ohms ±10% @ +25°C.	40	160	630	1400

Relay Circuit Diagram * as viewed from terminal end.



* To obtain contact position shown (by arrow), coil marked must be energized last.