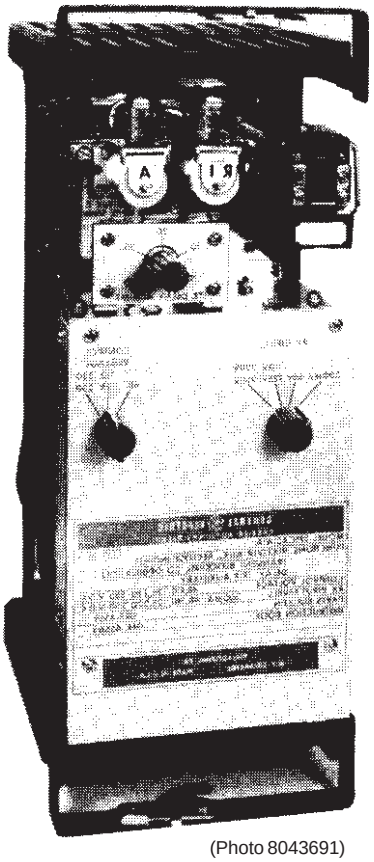
SCA51A
SCA52A
Carrier Auxiliary Relay

A solid state carrier auxiliary relay designed for use in directional comparison carrier blocking relay schemes.



(Photo 8043691)

DESCRIPTION

The Type SCA is a solid state carrier auxiliary relay designed for use in directional comparison carrier blocking relay schemes. It functions as the interface between the carrier pilot channel and the distance relays which control the carrier and trip the line terminals. The SCA relays include a variety of functions which are described as follows:

RX - *Carrier Receiver Auxiliary*
This unit is driven by the carrier receiver via either a 180 milliamp nominal output or by a high speed reed relay contact. An optical isolation interface is used between the carrier channel and the RX unit.

TTZ - *Tripping Coordination Delay Timer*
This unit provides the necessary timing to coordinate the blocking of tripping for faults external to the protected line.

RI - *Reclosing Initiating*
This unit initiates circuit breaker reclosing.

A - *Tripping Auxiliary*
This unit provides the contact capability to carry 30 amperes for circuit breaker tripping duty.

TB - *Transient Blocking*
This unit provides a transient blocking function to improve security against a relay misoperation during a fault current reversal.

MX - *Phase Relay Auxiliary*
This unit is energized by the operation of the phase MT to stop carrier blocking.

GX - *Ground Relay Auxiliary*
This unit is energized by the operation of the ground relay functions to stop carrier blocking.

Application

There are two basic models of the SCA relay:

- **SCA51A** model contains the RX, TTZ, RI, A and TB functions and is compatible with the static component relays
- **SCA52A** model contains the functions RX, TTZ, RI, A, MX and GX and is compatible with electro-mechanical relays.

The SCA carrier receiver function RX is directly compatible with the GE Type CS28A carrier receiver. This receiver provides a 180 milliamp nominal output (approximately 300 ma maximum).

As an optional alternative the CS28A carrier can be provided with a high speed contact as the interface. In addition, the RX circuit also provides a separate optical isolation interface.

The SCA relay can also be used with other carrier channels or with microwave equipment through the use of a contact interface between the receiver and the RX circuit.

The TTZ timer, with its wide adjustment range, will provide adequate coordination time delay as required by other channel operating speeds.

Front Panel Controls

- **Control Voltage Switch**
  Three Position: 48V, 110/125V, 220/250V.
- **RX Input Switch**
  Four Position: 300 ma, 48V, 110/125V, 220/250V.
- **TTZ Delay Pickup Adjustment**
  Continuously adjustable 3 to 40ms; calibration points at 3, 10, 20,30, 40 ms.

Operating Specifications

- All voltage operated units will pick up at 80% of nominal dc voltage rating determined by the Control Voltage Switch position.
- RX unit on the 300 ma position will pick up at 100 ma receiver current minimum and can remain continuously energized and picked up at 300 ma current.

Timing Specifications

RX For directional comparison carrier blocking; 1-2 ms pickup, 5 ms dropout, (select RX card jumpers). For other applications can be independently set for 1-2 ms or 5 ms pickup or dropout.

TTZ Pickup adjustable over range of 3 to 40 ms, dropout is less than 5 ms.

RI Pickup 1 cycle, dropout 6 to 10 cycles.

A Pickup 4 ms, dropout 2 to 3 cycles.

GX, MX, TB 1 to 3 ms pickup and dropout.

Unit Contact Ratings

RX, TTZ, TB, MX, GX, reed relays: 50 watts resistive maximum load, 300 volts dc maximum voltage, 3 amps dc make and carry current. Contacts for external use are surge protected.

RI, A; telephone relays: 3 amps, carry continuously; 30 amps, make and carry for breaker tripping. Standard telephone relay contact interrupting rating, contact gap 15 mils.

Selection Guide - SCA Carrier Auxiliary Relays

Device	Control Volts dc	Units Included	Target Seal-in, Amp	Type Carrier	Interface	Model Number	Case Size	Approximate Wt lb (Kg) Net	Ship
Type SCA51A - Use with Static Component Relays: SLY81A, SLYG81A									
85	48, 110/125, 220/250	RX, TTZ RI, A, TB	0.6/2	CS28A	Direct from carrier receiver or contact	12SCA51A11A	M-2	25(11.3)	31(14.1)
				Other	Contact only				
Type SCA52A - Use with Electro-Mechanical Relays: CEY52,CEYG51A, CLPG12C									
85	48, 110/125, 220/250	RX, TTZ, RI A, MX, GX	0.6/2	CS28A	Direct from carrier receiver or contact	12SCA52A11A	M-2	25(11.3)	31(14.1)
				Other	Contact only				

Simplified external connections SCA51A used with static component relays