



Department of consumer and corporate affairs / Ministère de la consommation et des corporations



STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL

E-90-1

OTTAWA May 5, 1971

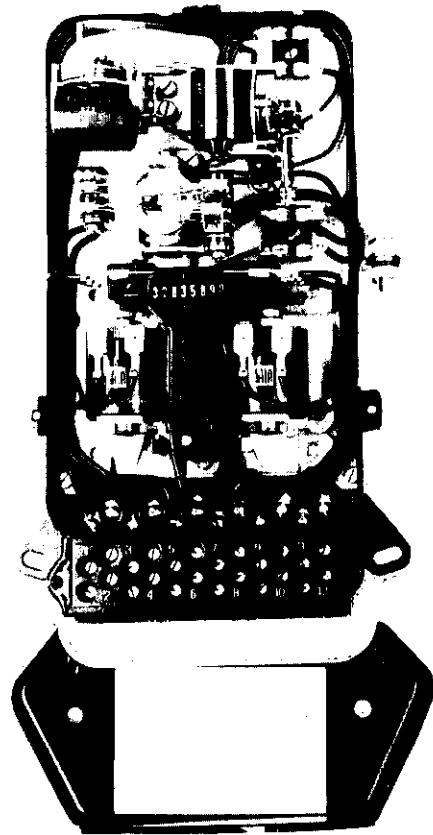
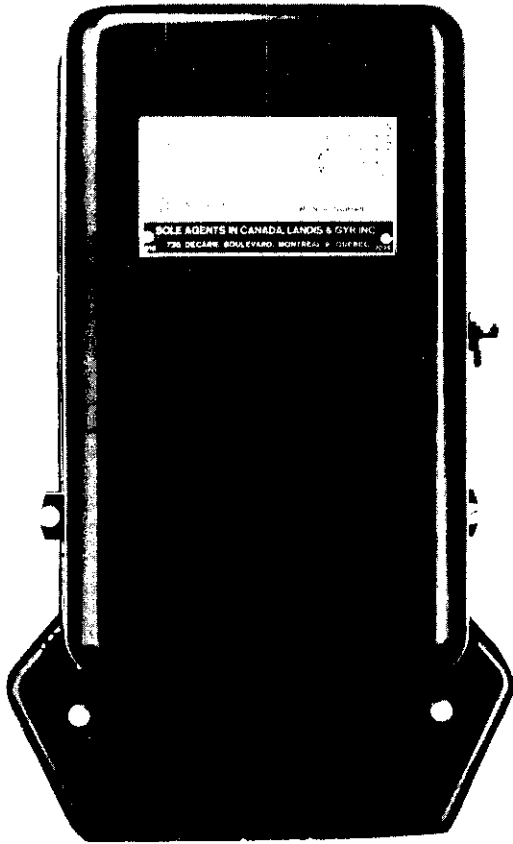
LANDIS & GYR TYPES "SBRU/R1", "SBRU/R3" and "SBRU/R3Y" VOLTAGE SELECTOR RELAYS

Relay Operating Voltages	115 volts nominal break 80V $\pm 3\%$, make 93V $\pm 3\%$
Frequency	60 Hz
Switching Capacity	120 volts 1 ampere inductive load, type SBRU
Number of Switched Poles	3
Supervision	
Single Phase	Type SBRU/R1
Three Phase Three Wire	Type SBRU/R3
Three Phase Four Wire Y	Type SBRU/R3Y
Burden at 120V 60Hz	
SBRU relay coil	5.8W 5.7rva
RGlw5a/spez relay coil	2.0w 2.5rva
RGlau2 relay coil	2.2w 2.8rva
Approved for use with	Any metering device requiring a continuous source of power to perform one of its functions, e.g. timing, maximum demand indicating, etc.

Description

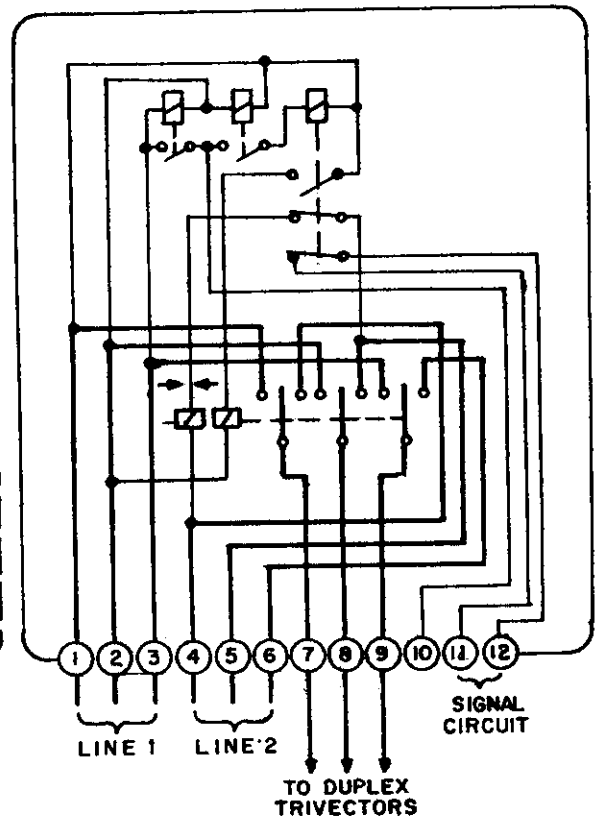
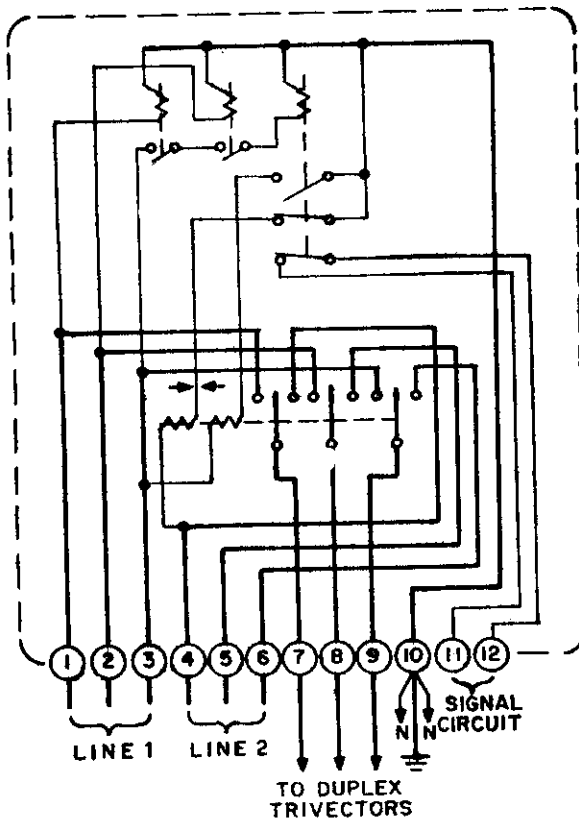
These voltage selector relays are used for switching an electrical apparatus from one 3-phase supply A to another 3-phase supply B in the event of a failure of supply A. As soon as the voltage is restored to supply A the relay returns to its original position. If the voltage is also absent from supply B, the relay takes up a neutral position.

The relays are all three-pole double-throw and all the contacts are connected to the terminal block even when the apparatus being switched does not require 3-phase connections.



3-PHASE 4-WIRE Y
SBRU / R3Y

3-PHASE 3-WIRE
SBRU / R3



The voltage selector relay comprises, (1) a triple-pole solenoid-operated double-throw relay, (2) an auxiliary relay with pivotted armature type RGlau2, (3) 1 or 2 supervisory relays type RGlw5a/spez; 1 is used if the supervision is single-phase, 2 are used if the supervision is 3-phase.

The 3 pole relay has two opposing coils with plunger cores, and the relay tilts to one side or the other depending upon which coil is energized. If neither coil is energized the relay takes up a neutral position.

The auxiliary and supervisory relays have pivotted armatures, and the voltages at which they operate can be changed by an adjustment to the control springs.

The type SBRU/R1 contains a triple-pole double-throw relay, an auxiliary relay and 1 supervisory relay and the types SBRU/R3 and SBRU/R3Y contain a triple-pole double-throw relay, an auxiliary relay and 2 supervisory relays.

All of these relays are approved for use with any approved metering device requiring a continuous source of power to perform the function of timing, demand measurement etc.

An example of the use of either of these relays is in connection with an installation using one or more Duplex Trivectors.

A Duplex Trivector requires a 115 volt 60 hz single phase source of power to operate the timing motor and the maximum demand indicators, so failure of this power stops the timing motor and permits the maximum demand pointer pushers to return to zero.

If the line from which this power is being taken has an outage, the maximum demand of the line that is still operating is not being recorded.

The supervisory relays sense an outage or a drop in voltage of the line from which the Duplex Trivector draws its power and automatically transfers it to the other line that is still in operation.

Transfer is normally so fast that neither the timing motor nor the maximum demand are affected.

Power to the Duplex Trivector is transferred back to the original line upon restoration of its voltage.

Power to operate the various relays is usually drawn from the voltage transformers feeding the meter elements of the Duplex Trivector.

In calculating the total burdens on the voltage transformers, the load of the voltage selector relay must be taken into account. One of the voltage transformers will be supplying 1 SBRU relay, 1 RGlau2 relay and 1 RGlw5a/spez relay for a total of 10 watts, 11 reactive voltamperes.

The other voltage transformer will be supplying a single RGlw5a/spez relay with a burden of 2.0 watts, 2.5 reactive voltamperes.

As the changeover to the other line would usually be temporary, the additional burden of the relays would not normally be taken into account.

Schematic wiring diagrams of types SBRU/R3 and SBRU/R3Y voltage selector relays are shown on page 2. Because of consideration of the number of available terminals, the application of the type SBRU/R3Y relay is limited to stations having the neutrals on a common ground. This also eliminates one signal contact. The schematic diagram for the type SBRU/R1 is similar to the type SBRU/R3 except for the omission of the RGlw5a/spez relay between lines B and C

Any of these relays may be used in cascade with other relays if it is desired to have a multi-source selection of power.

These relays may be sealed with a wire and a lead seal.

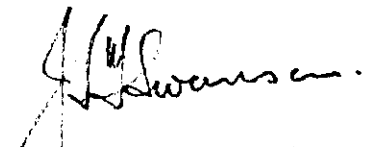
This circular is for the purpose of acquainting the field staff with these devices.

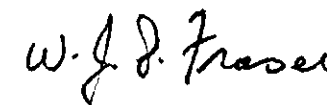
They are not measuring devices and are concerned only indirectly with measurement and so are not to be verified except to ascertain that when they are used, they are connected correctly and perform their functions as intended.

This is a reissue of circular E-90 to add the type SBRU/R3Y relay which is for use on 3-phase 4-wire Y circuits.

Approval granted to:

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