

Zachary C. Gillihan 2008

UNION SWITCH & SIGNAL COMPANY

SECTION E

Plates E-4800 to E-5030 Inc.

MODEL 12 POLARIZED, MODEL 13 AND STYLE DN-11 NEUTRAL RELAYS

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GENERAL INFORMATION

D.C. RELAYS

Model 13 Neutral and Model 12 Polarized Relays

This group of relays represents the types that have been standard for a good many years to meet A.R.A. Specification.

One change recently made has been the rounding of all silver tips on contact springs. The catalog plates which follow show the standard rounded tips on all contact fingers. In the types of circuits that are being used today this type of contact has been found to be better suited for general use than the straight silver tip. Contact resistances with this combination are practically the same as heretofore.

The usual arrangements to make relays slow release or quick release are available as heretofore.

Many of these relays have been used with wall mounting and with shock absorbing springs, details of which appear in the catalog plates which follow.

Style DN-11 Neutral Relay

In the Union DN-11 relays for track and line use there are three outstanding features of merit—size, simplicity and calibration.

The four point relay is $6\frac{1}{4}$ " square by 8" in height. All sizes are designed for either wall or shelf mounting. All base structures are equipped with lugs which support the relay and also provide a means of attaching shock absorbing springs which, when applied, increases the height of the relay by approximately one half an inch. The standard arrangement for all relays is the shelf type, but for wall mounting a bracket may be attached to the top plate. This bracket serves as a spring member to minimize the effects of vibration and is furnished on separate order or attached to relay as specified. Shock absorbing springs for shelf mounting are furnished only when specified. Both wall mounting brackets and shock absorbing springs can be ordered at any time and applied to the relays in the field.

The terminal posts are designed so that the various rows are at different levels to facilitate the making of wire connections. All openings in the top plates are permanently sealed to prevent water from entering the relay.

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The graphite contact members are the new "V" type designed to provide uniform wear without pitting and to maintain low contact resistance. The contact fingers consist of the spring member only, a flat spring attached rigidly to a reliable bakelite support. The simplicity of this member eliminates the possibility of distortion. The standard combination is silver to graphite for low voltage front contacts and silver to silver for back contacts. Graphite to graphite for high voltage service is available, and articulated fingers with gauze contacts providing individual adjustment for each contact are also available.

The calibration for the 4 ohm four point track relay drop-away with and without spring pressure is maintained at 0.037 ampere and 0.015 ampere respectively, the same as provided for in A.R.A. specifications and practice for many years. The values for maximum pick-up working current have been brought together and are lower than the direct pick-up on previous relays.

Relays are furnished in the four, six, eight, and ten point sizes for all standard resistances as listed herein.

Slow releasing coils are available for all of these relays when specified and we are likewise able to furnish an arrangement for making the standard relays quick acting where requirements make it necessary. Where extremely quick shunting action is desirable for detector circuits, a special handling is necessary, which involves in addition to the use of the regular arrangement for quick acting, a probable change in connections of coils and the use of a series resistor. All arrangements for making relays quick acting bring about an increase in operating characteristics and it is suggested that problems of this nature be taken up with our Engineering Department who will be glad to analyze the particular problems involved.

CONTACT CARRYING CAPACITY

Contacts for Model 12 Polar and Model 13 and Style DN-11 Neutral Relays are designed for a continuous carrying capacity of 3 Amperes and intermittent capacity of 5 Amperes for 30 seconds.