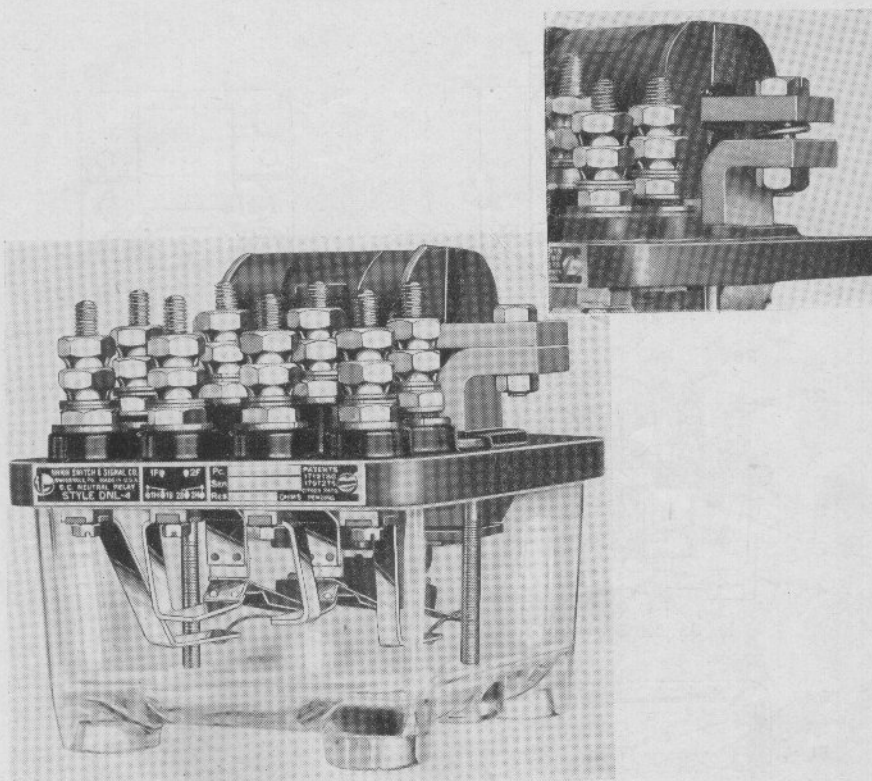


UNION SWITCH & SIGNAL CO.



WIDTH 4½", DEPTH 5", HEIGHT 4¾"

STYLE "DNL-4" RELAY (ONE AND TWO POINT)
TRACK AND LINE

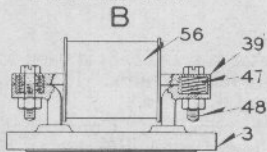
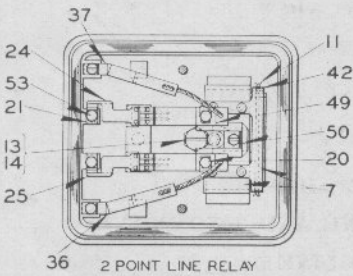
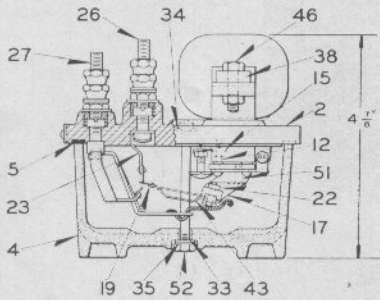
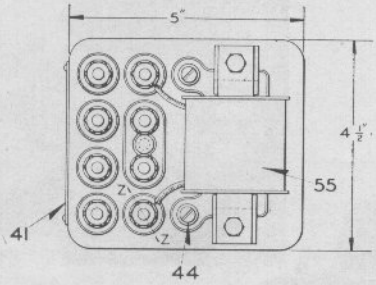
The Style DNL-4 Relay, like its predecessor the DNL-3, is used to close a local circuit for signal lighting upon the approach of trains. It effects a considerable saving in battery with no extra runs of line wire.

This relay is furnished for track or line application. Convenient adjustment of the backstrap provides for proper calibration for different track circuit conditions. Line relays are furnished with coils of the correct resistance for connection in series with a control relay for the signal in the rear.

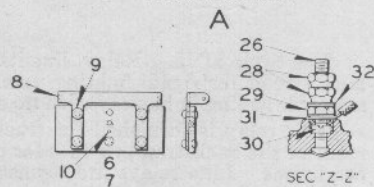
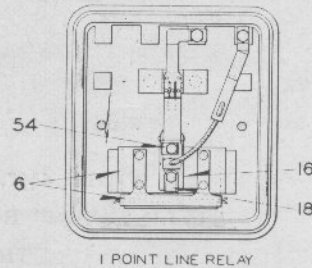
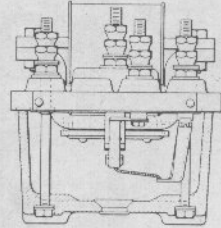
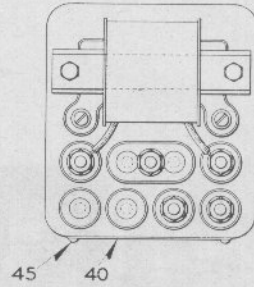
It is equipped with one or two substantial non-independent front and back contacts. The Style DNL-4 Relay may be sealed and conforms with A.R.A. (Signal Section) practice in regard to pivots, contacts and electrical clearances.

Aside from the resistance of the coils the track relay is distinguished from the line type in that it employs an adjustable back strap as shown in the insert above. Complete assemblies and detail ordering references are given in Plate E-5076.

UNION SWITCH & SIGNAL CO.



VIEW X.
SHOWING BACK STRAP
ADJUSTMENT FOR TRACK
APPLICATIONS.



STYLE "DNL-4" ONE AND TWO POINT RELAYS
TRACK AND LINE

UNION SWITCH & SIGNAL CO.

STYLE "DNL-4" ONE AND TWO POINT RELAYS
TRACK AND LINE

When ordering complete DNL-4 Line Relays, specify the resistance and type of line relay with which they are to be connected in series; also specify line resistance, type and number of cells of battery. Track relays will be wound with 0.14 Ohm coils unless otherwise specified. If wall mounting is required order shock absorber and bracket Ref. 57a, Plate E-5076.

Order by Plate, Piece, Reference and Abbreviated Description Given in
Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	Style DNL-4 Line Relay Complete as shown with one front and one back non-independent contacts....	C-9393-3
	Aa	Style DNL-4 Track Relay Complete with adjustable back strap (View "X") with one front and one back non-independent contacts.....	C-9393-3
	B	Style DNL-4 Line Relay Complete as shown with two front and two back non-independent contacts.....	C-9393-3
	Ba	Style DNL-4 Track Relay Complete with adjustable back strap (View "X") with two front and two back non-independent contacts.....	C-9393-3
179434	2	Top Plate, for Line Relays.....	9968-1085
179449	3	Top Plate, for Track Relays.....	9968-1085
179436	4	Glass Case Complete with Ventilator.....	8163-213
157612	4a	Ventilator for Ref. 4.....	7318-78
179431	5	Gasket, used between Top Plate and Case.....	8078-1545
182779	6	Armature Complete, with Bracket, Rivets and Pin (Inc. 1-7a, 1-8, 5-9 and 1-10) for One Point Relay...	8157-399
179438	7	Armature Complete, with Bracket and Rivet (without Pin Ref. 10) (Inc. 1-7a, 1-8 and 5-9) for Two Point Relay.....	8157-399
179437	7a	Armature only, for Refs. 6 and 7.....	8157-399
179439	8	Armature Bracket for Refs. 6 and 7.....	8303-117
54920	9	Rivet, for Refs. 6 and 7.....	10301-1
47013	10	Pin, for Ref. 6.....	8097-593

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PLATE E-5076

UNION SWITCH & SIGNAL CO.

STYLE "DNL-4" ONE AND TWO POINT RELAYS

TRACK AND LINE

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
179440	11	Trunnion Pin.....	8097-852
179820	12	Armature Stop Pin.....	8114-677
183245	13	Back Stop Screw.....	8098-1099
1506	14	Nut, for Ref. 13.....	8109-12
179443	15	Nut Lock, for Ref. 14.....	8486-399
141189	16	Contact Spring Support for One Point Relay.....	9968-702
150113	17	Contact Spring Support, for Two Point Relay.....	9968-849
155340	18	Nut Lock.....	8486-368
180974	19	Contact Spring Complete, with Flexible Connector...	8385-2336
150166	20	Screw.....	8098-550
134516	21	Nut Lock, for Refs. 20 and 53.....	8486-368
151836	22	Nut, for Ref. 20.....	8109-445
179442	23	Front Post Complete, with Tip.....	8094-2307
179827	24	R. H. Back Post Complete, with Tip, for one Point Relay.....	8094-2309
179456	24a	R. H. Back Post Complete, with Tip, for two Point Relay.....	8094-2308
179455	25	L. H. Back Post Complete, with Tip.....	8094-2308
	26	Terminal Post with Nuts and Washers (Inc. 1-26a, 2-28, 1-29, 1-30, 1-31 and 2-32).....	12451-
130593	26a	Terminal Post only, for Ref. 26.....	8094-1192

UNION SWITCH & SIGNAL CO.

STYLE "DNL-4" ONE AND TWO POINT RELAYS

TRACK AND LINE

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	27	Terminal Post with Nuts and Washers (Inc. 1-27a, 2-28, 1-29, 1-30, 1-31 and 2-32)	12451-
179821	27a	Terminal Post only, for Ref. 27	8094-2125
29101	28	Nut	8109-193
29103	29	Nut	8109-194
72948	30	Nut	8109-383
69705	31	Washer	7828-287
29102	32	Washer	7828-139
176217	33	Washer, for Ref. 44	8078-1407
15577	34	Washer, for Ref. 44	7828-67
83	35	Washer, for Ref. 44	7828-3
179819	36	Terminal Connector (L. H.) Complete, with Flexible Connector	8064-741
179823	37	Terminal Connector (R. H.) Complete with Flexible Connector	8064-741
179432	38	Back Strap, for Line Relays	8162-245
179450	39	Back Strap, for Track Relays	8162-245
180192	40	Name Plate, for One Point Relays	8225-416
180191	41	Name Plate, for Two Point Relays	8225-415
180944	42	Washer	7828-368
180975	43	Stop Spring	8735-769

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PLATE E-5076

UNION SWITCH & SIGNAL CO.

STYLE "DNL-4" ONE AND TWO POINT RELAYS TRACK AND LINE (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in
Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	44	Machine Screw No. 10-30x2 $\frac{5}{8}$ " Fil. Hd. Br. (N. P.).	
	45	Drive Screw No. 4x1 $\frac{1}{4}$ " Rd. Hd. (N. P.).	
162175	46	Screw with Nut Ref. 46a, for line relay.....	8098-921
63866	46a	Nut for Ref. 46.....	8265-100
179452	47	Spring.....	8124-218
179825	48	Screw with Nut Ref. 48a, for track relay.....	8190-361
112139	48a	Nut for Ref. 48.....	8109-70
150140	49	Lock Washer, for Ref. 20.....	8486-367
149339	50	Lock Washer for Ref. 51.....	8486-368
142673	51	Screw.....	8098-1300
26545	52	Nut, for Ref. 44.....	8109-181
131239	53	Screw.....	8098-845
131258	54	Lock Washer.....	8486-367
179447	55	Coil Complete with Leads (78-ohms) for Line Relays..	8133-423
179446	56	Coil Complete with Leads (0.14-ohms) for Track Re- lays.....	8133-423
182823	57	Shelf Type Shock Absorber Base Complete For Style "DNL-4" Relay (Not shown) (Similar to Ref. E, Plate E-5030, dimensions W-2 $\frac{7}{8}$ ", X-3 $\frac{3}{8}$ ", Y-4 $\frac{7}{8}$ ", Z-5 $\frac{3}{8}$ ").....	12404-27
182822	57a	Wall Type Shock Absorber Base Complete For Style "DNL-4" Relay (Not shown) (Similar to Ref. F, Plate E-5030 except that the 6 $\frac{1}{2}$ " dimension is 4 $\frac{1}{2}$ " and dimension V-2 $\frac{7}{8}$ ").....	12404-28