

D E S C R I P T I O NPRODUCT COVERED:

\* Component - Magnetic, Motor Controllers, Type NY followed by 4.5, through 24 followed by W followed by K, may be followed by three digits 500 through 699, or 700 through 799.

GENERAL:

The devices are open type magnetically operated, single-pole, single-throw, relays with normally open contacts.

RATINGS:

\* Contact - 5 A, 30 V dc/250 V ac, Resistive; 0.2 A, 125 V dc, Resistive; 50 W, 120 V ac, Tungsten Lamp; 1/8 hp, 125 V ac/250 V ac; 1/10 hp, 125/250 V ac; 3 A, 30 V dc/250 V ac, Resistive.

Pilot Duty - D150, C300, 2 A, 120 V ac

Coil - 4.5 through 24 V dc.

Alternate Ratings - (700 series suffix)

Contact - 5 A, 30 V dc/250 V ac, Resistive; 1/10 hp, 125 V ac/250 V ac.

\* Pilot Duty - D300, C300.

NOMENCLATURE:

The significance of the alphanumeric marking system is explained as follows:

<u>NY</u>	<u>24</u>	<u>W</u>	<u>-K</u>	<u>-500</u>
<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>

Note: Part No. on one line or may be split and appear on two lines.

I. Relay Type -

NY Series - For Direct Printed Circuit Mounting.  
NYP Series - For Printed Circuit Mounting with a socket.

II. Coil Voltage -

4.5 through 24 V dc.

III. Contact Rating -

- \* W - 5 A, 30 V dc/250 V ac, Resistive
- \* 3 A, 30 V dc/250 V ac, Resistive
- 0.2 A, 125 V dc
- 50 W, 120 V ac
- 1/8 hp, 125/250 V ac
- \* 1/10 hp, 125/250 V ac
- Pilot Duty - 2 A, 120 V ac
- Pilot Duty - D150, C300  
(Bifurcated type)
  
- \* Alternate - 5 A, 30 V dc/250 V ac, Resistive
- 1/10 hp, 125 V ac/250 V ac
- Pilot Duty D300, C300  
(700 series suffix)

IV. Relay Construction -

K - Sealed construction

V. Constructive Variation -

-500 through -699 - additional three digits used  
for special variation of construction as below.

- A) Variations of coil resistance.
  - B) Variations of pick-up voltage, non-pick-up voltage, drop out voltage, or hold voltage.
  - C) Variations of operating time or release time.
  - D) Variations of coil voltage rated within 4.5 through 24 V dc.
- 700 through -799, same as (A) through (D) above with alternate ratings as per Item III above.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

This component has been judged on the basis of the required spacings in the Standard for Industrial Control Equipment (UL 508), Paragraph 48.1 Fifteenth Edition, which would cover the component itself if submitted for unrestricted Listing.

Conditions of Acceptability -

1. These devices should be used within their Recognized ratings as specified above.
2. Open type devices should be mounted in enclosures having adequate strength and thickness and in the intended manner and with acceptable spacings being provided.
3. The terminals are not suitable for field wiring.
4. The spacings from the exposed live metal parts to the enclosure walls shall be in accordance with the requirements of the overall equipment.

CONSTRUCTION DETAILS:

Spacings - Spacings of not less than 1.6 mm through-air and 3.2 mm measure over surface of insulating material are maintained between any uninsulated live part and an uninsulated live parts of opposite polarity, uninsulated grounded part other than the enclosure, or exposed metal part.

Corrosion Protection - All parts are of corrosion resistant material or are plated or painted.

Marking - Recognized Company name, or trademark and type designation.

## TYPE NY SERIES RELAYS - FIG. 1 (S91-11320)

General - The general design, shape, and arrangement shall be as illustrated, except where variations are specifically described. Model NY9W-K represents entire NY Series, except where specifically described below.

1. Base - Recognized Component - Plastic (QMFZ2). May be one of the following:

Amoco Performance, Type GF-230.  
Mitsubishi Rayon Co., Ltd., Type G2930S.  
Teijin Ltd., Type CRN7030.

- \* Teijin Amoco Engineering Plastics Ltd., Type GF-230.  
Dimensions - 2 mm thick, 19 by 8 by 4 mm, overall.

Cover - Recognized Component Plastic (QMFZ2). May be one of the following:

GE Plastics, Japan Ltd., Type 420-SEO.  
Toray Industries Inc., Type 1184G-30.  
Dainippon Ink & Chemicals Inc., Types BT-2230, BT-2230-26, or BT-2235-26.  
Teijin Ltd, Type CRN-7030.  
Mitsubishi Rayon Co., Ltd., Type G2930S.  
E.I. DuPont de Nemours & Co., Inc., Type HTI668FR.

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Dimensions - 0.28 mm thick, 20 by 5 by 16 mm overall. Cover secured to Base by epoxy.

2. Coil Terminal - Two provided, copper-alloy with optional tin plating. 0.2 mm thick, 20 by 0.5 mm overall. Encapsulated by base.
3. Stationary Contact Arm - Copper-alloy. "L" shaped. Overall, 10 by 6 by 0.35 mm thick. Encapsulated by base.

4. Stationary Contact - Copper-alloy base, overlaid with (90% Ag-Ni 10%) silver nickel, 0.2 mm, overlaid with gold, 0.003 mm thick. Overall, 0.4 mm thick, by 3.2 by 1.4 mm. Spot welded to Stationary Contact Arm. See ILL. 1 for details.

Alternate - Same as above, except overlaid with gold 0.001 mm thick.

Alternate - Copper-alloy base, overlaid with Ag SnO<sub>2</sub> (Ag: 87%, SnO<sub>2</sub>: 13%), 0.2 mm, overlaid with gold, 0.001 mm thick. Overall, 0.4 mm thick, by 3.2 by 1.4 mm.

Alternate - Copper-alloy base, overlaid with Ag SnO<sub>2</sub>InzO<sub>3</sub> (Ag: 87.5%, SnO<sub>2</sub>InzO<sub>3</sub>: 12.5%), 0.2 mm, overlaid with gold, 0.001 mm thick. Overall, 0.4 mm thick, by 3.2 by 1.4 mm. For models with suffix -700 through -799.

5. Moveable Contact Arm - Copper-alloy. Overall 0.1 mm thick by 13 by 3 mm. Spot-welded to copper-alloy terminal measuring 0.35 mm thick by 10.5 by 0.8 mm, encapsulated by base.

6. Moveable Contact - Two provided. Copper-alloy base, overlaid with (90% Ag-Ni 10%) silver-nickel, 0.2 mm. Overall, 0.4 mm thick by 2.4 by 1.2 mm each. Welded to Moveable Contact Arm. See ILL. 1 for details.

Alternate - Same as above, except overlaid in gold, 0.003 mm thick.

Alternate - Same as above, except overlaid with gold, 0.001 mm thick.

Alternate - Two provided. Copper alloy base, overlaid with Ag SnO<sub>2</sub> (Ag: 87%, SnO<sub>2</sub>: 13%), 0.2 mm thick. Overall, 0.4 mm thick, by 2.4 by 1.2 mm each.

Alternate - Two provided. Copper alloy base, overlaid with Ag SnO<sub>2</sub>InzO<sub>3</sub> (Ag: 87.5%, SnO<sub>2</sub>InzO<sub>3</sub>: 12.5%), 0.2 mm thick. Overall, 0.4 mm thick, by 2.4 by 1.2 mm each. For models with suffix -700 through -799.

7. Stud - Recognized Component Plastics (QMFZ2). May be one of the following:

ICI Advanced Materials, Type 3601GL20 or 4101GL30. Teijin Ltd., Type CRN7030. Amoco Performance Products Inc., Type AG-320. Sumitomo Chemical Co., Type 3601GL20 or 4101GL30. Mitsubishi Rayon Co. Ltd., Type G2930S.

- \* Overall, 0.3 mm thick by 10.8 by 6 by 3.6 mm. Molded around Armature.

- 8.\* Armature - Magnetic iron or cold rolled steel. Overall, 0.62 mm thick, by 17 by 10.6 mm. Fits into bobbin.
9. Coil - Polyurethane enameled copper wire.
10. Core - Magnetic iron or cold rolled steel. Overall, 1.0 mm thick by 18 by 12.5 mm. Secured to integral-fit by base.
11. Bobbin - Recognized Component - Plastics (QMFZ2), Dainippon Ink & Chemicals Inc., Type BT2215.

Overall, minimum 0.22 mm thick by 16 by 6 by 4 mm. Molded around core.

Alternate - Same as above, except Type CRN-7030, manufactured by Teijin Ltd.; or Type 1184G-15, manufactured by Toray Industries; Type G2930S, manufactured by Mitsubishi Rayon Co., Ltd.