

D E S C R I P T I O N

PRODUCT COVERED:

Component - Magnetic Motor Controllers for industrial application. Part No. JZ or JY followed by 4.5 through 48 , \*may be followed by H, or W, may be followed by E or L, may \*be followed by -K, may be followed by -500 through -999. Part No. JY 101-K

GENERAL:

This device is a SPST, normally open magnetic Motor Controller for use in industrial applications.

RATINGS:

<u>Models</u>	<u>Coil</u>	<u>Contact</u>
JY101-K	23.5 V DC	5 A, 30 V DC, 250 V AC resistive 1/8 HP, 125 V AC/ 250 V AC
JZ Series	4.5 through 48 V DC	See Note
JY Series	4.5 through 48 V DC	See Note

NOTE: See Nomenclature for Contact Rating of JZ and JY Series.

NOMENCLATURE:

<u>JZ</u>	<u>24</u>	<u>H</u>	<u>E</u>	<u>-K</u>	<u>-500</u>
I	II	III	IV	V	VI

NOTE: Part No. may be split and appear on two lines.

I. Relay Type

JZ Series - Standard Coil power Consumption Type

JY Series - Sensitive Coil Power Consumption Type

## II. Coil Voltage

"JZ" Series - 4.5 through 48 V dc.

"JY" Series - 4.5 through 48 V dc.

## III. Contact Rating

None	3A, 30 V dc/250 V ac Resistive (Rivet Contact) 1/10 HP, 125 V ac/250 V ac D150 pilot duty
H	5A, 30 V dc/250 V ac Resistive (Rivet Contact) 1/8 HP, 125 V ac/250 V ac C150 pilot duty C300 pilot duty
*	
A	5A, 30 V dc/125 V ac Resistive (Welded Contact) 1/8 hp, 125 V ac/ 250 V ac 5A/250 V ac, Resistive C150 pilot duty
W	3A 30 V dc/250 V ac Resistive (Bifurcated contacts) 1/10 Hp, 125 ac/250 V ac D150 pilot duty
W(L)	1 A 24 V dc Resistive (Bifurcated contacts), 0.5 A 125 V ac Resistive (Bifurcated contacts)

## IV. Indicates Contact Material

None	Silver or Silver alloy. May be Gold Plated.
E	Silver or Silver alloy.
L	Silver-paladium contact maybe overlaid with gold.

## V. Relay Construction

-K Indicates sealed construction.

VI. Indicates minor constructive variation -500 through -999: 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.

Special Part No. JY101-K does not conform with Items II, III and IV of above nomenclature.

B. Special Part No. JY 101-K

- 1. Relay type JY
- 2. Coil voltage 23.5VDC
- 3. Contact rating 5A
- 4. Contact material Ag or Ag alloy contact  
may be overlaid with Gold
- 5. Relay construction Sealed construction

ENGINEERING CONSIDERATIONS (NOT FOR INSPECTOR USE):

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

This component has been judged on the basis of the required spacings from the Standard for Industrial Control Equipment (UL 508) Fourteenth Edition, Paragraph 47.1, which would cover the product if submitted for Unrestricted Listing.

Conditions of Acceptability -

1. These devices should be used within Recognized ratings as specified above.
2. These devices should be mounted in the intended manner and in an enclosure having adequate strength and thickness and with acceptable spacings being provided.
3. The terminals are to be factory wired only and the suitability of the connection (including spacings between factory connectors) shall be determined.
4. The spacings from exposed live-metal parts in the enclosure walls shall be in accordance with the requirements of the overall equipment.

CONSTRUCTION DETAILS:

The product shall be constructed in accordance with the following description.

Corrosion Protection - All parts are corrosion resistive material or are plated or painted for corrosion protection.

Markings - Recognized Company Name or Trademark and Model number. May also be marked with electrical rating.

Spacings - Spacings of not less than 1.6 mm through-air and 3.2 mm over-surface of insulating material (including printed wiring boards) are maintained between any uninsulated live part and and uninsulated live part of opposite polarity, uninsulated ground other than the enclosure, or exposed metal part.

RELAY, PART NO. JZ24H-K - FIG. 1 (S85-7877)

General - The general design, shape, and arrangement shall be as illustrated, except where variations are specifically described.

1. Cover - R/C (QMFZ2). Dimensions 19.4 by 9 by 12 mm, 0.5 mm thick. Manufactured by one of the following:
  - A. G.E. Plastics Japan Ltd., Type 420-SEO
  - B. Dainippon Ink & Chemicals, Inc., Type BT-2230
  - C. Mitsubishi Engineering-Plastics Corp., Type GSN2020R2, GSV2020R2, GS-2030M or GS-2020M, or Type S-3000.
  - D. General Electric Co., Type 3413 or 3412.
  - E. Teijin Chemicals, Ltd., Type G-3130 or G3120.
  - F. Idemitsu Petro Chemical Co., Ltd., Type G-2530 or G-2520.
  - G. Toray Industries Inc., Type 1184G-30.
  - H. Union Carbide Corp., Type B-322.
  - I. Teijin Ltd., Type CRN7030, minimum 0.32 mm thick.
  
2. Base Plate - R/C (QMFZ2). Overall dimensions 19 by 9 mm, 0.3 mm thick. Alternate overall dimensions 19.4 by 9.3, 0.3 mm thick. Molded to fit inside cover. Manufactured by one of the following:
  - A. Dainippon Ink & Chemicals Inc., Type BT-2230.
  - B. Mitsubishi Engineering-Plastics Corp., Type GSN2020R2, GSV2020R2, GS-2020. MR2 or GS-2030M or GS-2020M or S-3000.
  - C. General Electric Co., Types 3413 or 3412.
  - D. Teijin Chemicals, Ltd., Type G-3130 or G-3120.
  - E. Idemitsu Petrochemicals, Type G-2530 or G-2520.
  - F. G.E. Plastics Japan Ltd., Type 420-SEO.
  - G. Toray Industries Inc., Type 1184G-30.
  - H. Teijin Ltd., Type CRN7030, minimum 0.32 mm thick.

- 3.\* Base Mold - R/C (QMFZ2), Mitsubishi Engineering Plastics Corp., Type GSN2020R2, GSV2020R2, GS-2020 MR2; or Mitsubishi Gas Chemical Co., Inc., Type GS-2030M; General Electric Co., Type 3412 or 3413; Teisin Chemicals, Ltd., Type G-3120 or G3130; or Idemitsu Petrochemical Co., Ltd., Type G-2520 or G2530. Overall dimensions 18 by 8.6 by 6.4 mm, 0.32 mm thick. Molded with opening and projections for parts. Alternate overall dimensions 18.5 by 8.8 by 4.6 mm, 0.35 mm thick.
4. Coil Terminals - Copper/zinc/tin alloy or copper/nickel alloy. 15 mm long, 0.32 mm thick. Inserted through base mold, secured by fit.
5. Actuator Card - R/C (QMFZ2), Imperial Chemical Industries, Ltd., Type 520P; or Unitika, Ltd., Type UG-100YY. Approximate overall dimensions 6.5 by 4 by 0.81 mm thick. Secured by fit over Armature.  
Alternate - Polyarlite, Type LG-1003-10, Unitika Ltd. Same dimensions as above.
6. Armature - Soft iron or steel. Length, 16 mm by 3.5 mm, minimum 0.91 mm thick. Inserted in bobbin, secured by fit.
7. Hinge Spring - Copper/nickel alloy. Rivet to armature. Approximate dimensions 14 mm long, 3 mm wide 0.13 mm thick. Riveted to magnet frame.
8. Magnet Frame and Core - Two-piece construction. Soft iron or steel. Inserted in bobbin, secured by fit. Frame dimensions 11 by 6 by 4 mm, 0.5 mm thick. Molded to overlap pole piece 5.8 mm. Pole piece dimensions 11 by 7 by 4 mm, 0.52 mm thick. Molded to overlap magnet frame 5 mm.
9. Stationary Arm - Beryllium/copper or copper/tin alloy or copper alloy. Shaped as shown. Overall dimensions, 13 by 5 mm, 0.15 mm thick. Secured to insulating block by fit into integrally molded shelf.  
Alternate - For suffix "A" contacts, see ILL. 1 for details, 0.15 mm thick, 12.2 by 7.8 mm, overall. Contact portion 5.4 mm wide.

10. Contacts - Silver alloy 0.2 mm thick, gold 0.001 mm thick, copper alloy base 0.2 mm thick. Diameter 2 mm. Models with "E" suffix, silver alloy 0.2 mm thick, copper base.

Special Part No. JY 101-K - Copper base overlaid with silver alloy 0.2 mm thick and gold 0.001 mm thick.

Alternate Contact - Silver alloy 0.38 mm thick, gold-plated 0.001 mm thick, 2 mm diameter. Models with "E" suffix, silver alloy 0.38 mm thick.

Alternate Contacts - Welding type, suffix "A" in nomenclature. Silver alloy 0.2 mm thick, may be cold clad, copper-nickel alloy base. Contacts 0.41 mm thick, 2.2 by 2.4 mm, overall. Welded to contact arms. See ILL. 3 for details.

Alternate Contact (Type JZ and JY, 3 A rating only) - Silver 0.38 mm thick, gold-plate 0.001 mm thick, 2 mm diameter. Models with "E" suffix, silver 0.38 mm thick.

11. Moveable Arm - Beryllium/copper or copper/tin alloy or copper alloy. Shaped as shown. Overall dimensions 17.9 by 3.6 mm. 0.15 mm thick. Secured to insulating block by fit into integrally molded shelf.

Alternate - For suffix "A" contacts, see ILL. 2 for details, 0.15 mm thick, 6.1 by 17.9 mm, overall contact portion 3.6 mm wide.

- 12.\* Bobbin - Recognized Component - Plastics (QMFZ2), Mitsubishi Engineering Plastics Corp., Type GSN2020R2, GSV2020R2, or GS-2020 MR2. Overall dimensions 19 by 8.7 mm. Alternate overall dimensions 17 by 8 mm.

- a) Idemitsu Petrochemical Co., Ltd., Type G-2520.
- b) GE Plastics Japan Ltd., Type 3412, 3412R.
- c) Teijin Chemicals Ltd., Type G-3120.

13. Coil - Not shown. Polyurethane enameled copper wire.