

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

* Component - Magnetic Motor Controllers, Models JS, followed by 3 through 60, may be followed by M, may be followed by E or N, may be followed by K, may be followed by T, may be followed by three digits 501 through 600.

GENERAL:

These devices are single-pole, double-throw, magnetic motor controllers with DC operating coils and with normally open or normally closed contacts. These devices are provided with terminals for direct printed circuit mounting. They are intended for use in industrial control equipment or temperature indicating and regulating equipment. Relay Type JS is constructed of a Class 130(B) Insulation System.

RATINGS:

<u>Model</u>	<u>Contacts</u>	<u>Coil</u>
JS ()-K	1/4 hp, 125 V/250 V ac - 30 K 1/3 hp, 125 V ac 1/2 hp, 250 V ac 10 A, 250 V ac, Resistive 10 A, 30 V dc, Resistive 8 A, 250 V ac, Resistive - 100 K 8 A, 24 V dc, Resistive - 100 K Pilot duty, Code C150 Pilot duty, Code B300 Pilot duty, Code Q300	3 through 60 V dc
JS () E-K	1/4 hp, 125 V/250 V ac -30 K	
JS () MN-T	1/3 hp, 125 V ac	
JS () MN-KT	1/2 hp, 250 V ac 10 A, 250 V ac, Resistive 10 A, 30 V dc, Resistive 8 A, 250 V ac, Resistive - 100 K 8 A, 24 V dc, Resistive - 100 K Pilot duty, Code C150 Pilot duty, Code B300 Pilot duty, Code Q300	

RATINGS: (Cont'd)

<u>Model</u>	<u>Contacts</u>	<u>Coil</u>
JS ()-K with suffix "N"	1/4 hp, 125 V/250 V ac - 30 K 1/3 hp, 125 V ac 1/2 hp, 250 V ac 10 A, 250 V ac, Resistive 10 A, 30 V dc, Resistive 8 A, 250 V ac, Resistive - 100 K 8 A, 24 V dc, Resistive - 100 K Pilot duty, Code C150 Pilot duty, Code B300 Pilot duty, 0.27A, 250 V ac, NO, NC	3 through 60 V dc

For Use In Temperature-Indicating and Regulating Applications:

JS()-K/JS()E-K:

JS()MN-T/JS()MN-KT:

1/4 hp, 125 V/250 V ac	30K
8 A, 250 V ac resistive	100K
8 A, 24 V dc resistive	100K

NOMENCLATURE:

Part No.	<u>JS</u>	<u>24</u>	<u>M</u>	<u>E</u>	<u>-K</u>	<u>T</u>	<u>-501</u>
	1	2	3	4	5	5a	6

1. Indicates relay type.
2. Indicates coil rated voltage.
3. Indicates contact configuration.

None - 1 form C -

M - 1 form A -

4. Indicates contact material.

None - Silver Cadmium Oxide overlaid with gold.

E - Silver Cadmium Oxide, one side may be overlaid with gold.

N - Silver Tin Oxide, overlaid with gold.

5. Indicates relay construction.

None - Flux Free Type (for suffix T only).

-K - Sealed type.

5a. Indicates relay construction. (See ILL. 4).

None - Wiring diagram Type 1.

T - Wiring diagram Type 2.

6. Indicates minor construction variation.

-501 through -600 - Additional three digits used for
special variation of construction
as noted 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 operation time or
release time.

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

Use - For use only in complete equipment or 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 34.1, and the Standard for Temperature-Indicating and Regulating Equipment, UL 873, Table 32.1, 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. These devices should be mounted in enclosures having adequate strength and thickness in the intended manner and with acceptable spacings being provided.
3. The printed wiring board terminals are to be factory wired only and the suitability of the connection (including spacings between factory connectors) shall be determined.

CONSTRUCTION DETAILS:

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

* Spacings - Spacings under UL 508, are minimum 1.6 mm through-air and 3.2 mm over surface of insulating material (including printed wiring boards) for potential of 51-300 V are maintained between any uninsulated live parts, except between coil terminals.

* General spacing under UL 873 are minimum 3.2 mm through-air and 6.4 mm over-surface of insulating material for potential of 0-300 V.

Tolerances - Unless specified otherwise, all indicated dimensions are nominal.

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

Marking - Recognized company name and catalog printed on each device. May include electrical rating.

RELAY CAT. NO. JS SERIES - FIG. 1 (92-03381)

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

1. Dust Cover - R/C (QMFZ2). May be any of the manufacturers with type designation as specified below. Dimensions, 28.8 by 9.9 by 12.3 mm overall, 0.32 mm minimum thickness. Secured to Base, Item 2, by snap-fit and epoxy.

Alternate - Same as above, except dimensions 28.3 by 9.1 by 11.6 mm, 0.40 mm thick.

<u>Manufacturer</u>	<u>Type</u>
Teijin Ltd.	CRN7030
Mitsubishi Engineering - Plastics, Corp.	5010GN6-30
Polyplastics Co., Ltd.	330EP
Nan Ya Plastics Corp.	1403G6
Polyplastics Co., Ltd.	3316

- * Alternate - Same as above, except Polyplastics Co., Ltd., Type 3316&. (See Test Record No. 8.)

2. Base Block - Same material as Item 1, except dimensions approximately 28.3 by 9.1 by 11.6 mm, 0.32 mm thick. Includes integrally molded slots and grooves for complete assembly.

Alternate - Same as above, except dimensions 28.3 by 9.1 by 11.6 mm, 0.40 mm thick.

3. Actuator - Same material as Item 1, except dimensions approximately 25.3 by 8.3 by 1.7 mm, minimum 0.32 mm thick. Secured by fit to base block and contact arms.

Alternate - Same as above, except dimensions 24.1 by 1.7 mm, minimum 0.32 mm thick.

4. Armature - Cold-rolled steel welded to copper-alloy. L-shaped. Dimensions approximately 9.6 by 10.6 mm. Maximum width 6.4 mm.

5. Bobbin - Same material as Item 1, except dimensions 9.8 by 17.9 by 8.8 by 0.32 mm thick.

Alternate - Same as above, except dimensions 9.8 by 17.0 by 8.8 mm.

Alternate - Same as above, except 0.25 mm thick, type and manufacturer as specified below.

<u>Manufacturer</u>	<u>Type</u>
Teijin Ltd.	CRN7030
Polyplastics Co. Ltd.	330EP
Teijin Ltd.	1403G6

6. Core - Carbon steel. Cap 6.0 mm diameter, 0.8 mm thick 15.3 mm long. Secured by rivet to Base at Yoke, Item 7, below.

Alternate - Same as above, except 6.0 mm diameter on one side and 3 mm diameter on other, 14.4 mm long.

7. Yoke - Cold-rolled steel. L-shaped, one leg 16.5 by 8.0 mm; second leg 7.8 by 6.5 mm. Each leg minimum 1.5 mm thick. Secured by fit.

Alternate - Same as above, except one leg is 15.6 mm long by 8.1 mm; second leg is 7.9 by 6.5 mm. Each leg minimum 1.4 mm thick.

8. * Coil - Random wound polyurethane coated copper wire.

9. Moveable Contact Arm - Copper or copper-alloy. See ILL. 1 for dimensions. Secured to Base by fit into integral slot.

Alternate - Same as above, except dimensions. See ILL. 5.

10. Moveable Contact - Silver Cadmium Oxide (86.5% Ag, 13.5% Cd0) over laid with gold or copper base over-laid with silver Cadmium Oxide which is further over-laid with gold. For Suffix "E" Models, gold overlay is optional.

Alternate - Same, except silver tin oxide (88% Ag, 12% Sn02) overlaid with gold as denoted by suffix "N".

11. Stationary Contact Arm - Copper or copper-alloy. See ILL. 2 for dimensions. Secured to Base by fit into integral slot.

12. Stationary Contact - Copper base over-laid with silver cadmium oxide, (86.5% Ag, 13.5% Cd0) which is further over-laid with gold. For Suffix "E" Models, gold over-lay is optional.

Alternate - Same, except silver tin oxide (88% Ag, 12% Sn02) overlaid with gold as denoted by suffix "N".

13. Spacer - Optional. Not shown. Same material as Item 1. Dimensions 7.8 by 3.7 by 4 mm, approximately 1 mm thick. Located between yoke and base block.

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Issued: 09-08-92

Revised: 08-14-98

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Issued: 09-08-92

Revised: 08-14-98

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