

DESCRIPTION

PRODUCT COVERED:

Component - Magnetic, Motor Controllers, Type F4, with or without Prefix FTR-, followed by A, followed by K, followed by 005 through 048, followed by T, may or may not be followed by -01 through -99.

GENERAL:

The devices are enclosed type magnetically operated, double-pole, single-throw, normally open contacts with DC operating coil . These devices are provided with terminals for direct printed circuit mounting. They are intended for use in industrial control equipment.

RATINGS:

Contact -

5 A, 277 V ac, Resistive, 6,000 cycles.
1/4 hp, 277 V ac, 6,000 cycles.
1/6 hp, 125 V ac, 6,000 cycles.
Pilot Duty, Code C300, 6,000 cycles.

Coil -

5-48 V dc.

NOMENCLATURE:

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

<u>FTR-F4</u>	<u>A</u>	<u>K</u>	<u>005</u>	<u>T</u>	<u>-01</u>
I	II	III	IV	V	VI

- I. Basic Designation - Indicates type number, with or without prefix FTR.
- II. Contact configuration.
 - A - 2 Form A
- III. Coil Sensibility.
 - K - General
- IV. Coil rated voltage.
 - 005 through 048 - 5 through 48 V dc
- V. Contact rating.
 - T - General
- IV. Minor construction variation.
 - 01 - 99 - Additional two digits used for special variation of construction as below, may be without marking -01 through -99.
 - A) Variation of coil resistance.
 - B) Variation of pickup voltage, non-pick up voltage, dropout voltage or hold voltage.
 - C) Variation of operate or release time.
 - D) Variation of dielectric strength.

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

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

Conditions of Acceptability -

1. The contact terminals are not suitable for field wiring.
2. Relays should be mounted in appropriate enclosures.

CONSTRUCTION DETAILS:

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

Spacings - Spacings of not less than 1/16 in. 1.6 mm through-air and 1/8 in. 3.2 mm measured over-surface of insulating material, including printed wiring boards, are maintained between any uninsulated live-part and an uninsulated live-part 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 - Ink-stamped label, Recognized trade name and model number.

TYPE FTR-F4AK012T, MAGNETIC, MOTOR CONTROLLER, RELAYS - FIG. 1 (S99-03545)

General - The general design, shape, and arrangement shall be as illustrated, except where variations are specifically described. One Type FTR-F4AK012T represents all FTR-F4 Series, except for enclosure color, and where specifically described below.

1. Base - R/C (QMFZ2). May be one of the following:

Poly Plastics Co., Ltd., PBTP, Type 330EP, rated 94V-0.
Teijin Ltd., PBTP, Glass Reinforced, Type CRN7030, rated 94V-0.
Nan Ya Corp., Type 1403G6.
E. I. DuPont Corp., Type SK665FR.

Dimensions - minimum 0.4 mm thickness 24 mm long by 12 mm wide by 24 mm high overall. Base Block serves as coil Bobbin, riveted to Frame.

2. Cover - R/C (QMFZ2), may be one of the following:

Poly Plastics Co., Ltd., PBTP, Types 330EP, rated 94V-0.
Teijin Ltd., PBTP Glass Reinforced, Type CRN7030, rated 94V-0.
Nan Ya Corp., PBTP, Type 1403G6, rated 94V-0, .
E. I. DuPont de Nemours & Co., Inc., Crastin, Type SK66SFR, rated 94V-0,

Dimensions - 0.45 mm thick, 24 mm long by 12 mm wide by 24 mm high, overall. Cover secured to base by tabs.

3. Coil Terminal - Copper-alloy, 0.5 mm diameter by 11 mm overall height. Encapsulated by base.
4. Frame (Yoke) - Shaped as shown. Carbon Steel, 1.2 mm thick, 20 by 7.5 minimum width by 10 mm in its bent position overall.
5. Coil - Polyurethane coated copper wire. Type UEWBU, or UEWU by Daiichi Denko Co., Ltd. or R/C (OBMW2), conforming to ANSI MW75-C.
6. Core - Carbon steel. 4 mm diameter (1 by 5 mm at head) by 20 mm long. Inserted through bobbin/Base and riveted to Frame.
7. Actuator Card - R/C, (QMFZ2). May be one of the following:

Poly Plastics Co., Ltd., PBTP, Types 330EP, rated 94V-0.
Teijin Ltd., PBTP Glass Reinforced, Type CRN7030, rated 94V-0.
Nan Ya Corp., PBTP, Type 1403G6, rated 94V-0.
E. I. DuPont de Nemours & Co., Inc., Crastin, Type SK66SFR, rated 94V-0.

Dimensions - 9.5 mm long by 9.4 mm wide by 6.4 mm high, overall, minimum 0.76 mm thick. Secured by Armature(s) slots and Movable Contact Arms.

8. Armature - One provided, carbon steel. Minimum 1 mm thickness, 11 long by 10.5 by approximately 7.2 wide mm overall, inserted into slots on card, and into slot on Frame, and Spring.
9. Moveable Contact Arm (Spring) - Two provided, copper-alloy, 0.15 mm thick, 3.8 W by 25.7 L mm, overall. Contact arm and terminal are one piece.
10. Moveable and Stationary Contact - Silver-alloy 88% Ag, 12% SnO, copper base overlaid 0.3 mm, may be gold clad. Contact and copper base overall 0.9 mm thick, 2.2 mm diameter, riveted to arm.
11. Stationary Contact Arm - Two provided. Copper-alloy (brass), 0.4 mm thick, 25.7 by 3.9 mm, overall. Contact arm and terminal are one piece.
12. Hinge Spring - Copper-alloy 0.10 mm thick, approximately 14.0 mm in length. Riveted to Frame.

File E63614
Project 99SC52169

October 4, 1999

REPORT

ON

COMPONENT - MOTOR CONTROLLERS, MAGNETIC

Fujitsu Takamisawa Component Ltd.
Tokyo, Japan

Copyright © 1999 Underwriters Laboratories Inc.

Underwriters Laboratories Inc. authorizes the above-named company to reproduce this Report provided it is reproduced in its entirety.

Underwriters Laboratories Inc. authorizes the above-named company to reproduce that portion of this Report consisting of this Cover Page through Page 3.