



RODIX INC.
FEEDER CUBE®
FC-40 Plus Series
OPEN FRAME



MODEL FC-44 Plus
P/N 121-886
SUB PANEL MOUNT



Listed, File No. E183233

Input: 120 VAC
50/60 HZ.
Output: 0-120 VAC
Single Unit Fuse Size: 15 AMPS
80% Duty Cycle at Rated AMPS

Mount Open Frame controls within an enclosure.

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ADJUSTMENTS AND SET UP

1. SELECTING 60 OR 120 PULSE OPERATION

- A. For 60 pulse output - Set switch (S1) to 60 on "master control" P.C. card (No. 24-480).
- B. For 120 pulse output - Set switch (S1) to 120 on "master control" P.C. card.

Note: Readjust MAX pot after changing pulse switch setting.

2. LIMITING THE MAXIMUM OUTPUT OF CONTROL

Adjust the **MAX** Output trimpot so that the output to the feeder reaches its desired maximum level when the **MAIN CONTROL DIAL** is turned fully clockwise. The **MAX** Output trimpot should be adjusted to keep the vibratory feeder from hammering when the control is turned up to full power.

NOTE: Output to feeder must be connected and the control set for proper output frequency (60 or 120 pulse) setting. The Run Jumper must be connected as shown on the wiring diagram.

- A. Power input should be **OFF** or disconnected.
- B. Rotate **MAIN CONTROL DIAL** on front cover to 0 or its minimum setting.
- C. Open cover to allow access to printed circuit card.
- D. Using **CAUTION**, turn power **ON** (no output should be present).
- E. Rotate the **MAIN CONTROL DIAL** on front cover slowly to its highest setting.
- F. Adjust the **MAX** output trimpot so that the output to the feeder reaches its desired maximum level when the **MAIN CONTROL DIAL** is turned fully clockwise. Turning the **MAX** output trimpot clockwise increases the maximum output level.

3. SETTING THE MINIMUM OUTPUT LEVEL OF CONTROL

When the vibratory feeder is nearly empty, turn the **MAIN CONTROL DIAL** fully counter-clockwise and adjust the **MIN** trimpot to just below the slowest speed that provides the proper feed rate. This trimpot is only installed on Rev. D boards.

4. REMOTE OFF/ON CONTROL

A Run Jumper has been installed at the factory as shown on the enclosed wiring diagram.

Note: TB2 terminals 5-7 are connected to the line voltage circuit. Therefore any switch or contact must be isolated from other circuits.

Remote OFF/ON operation of the FC-40 Plus Series Feeder Cube® control can be configured to operate in one of the following ways.

- A. A low current switch such as a paddle switch can replace the factory-installed Run Jumper "J1." The "Run Contact" connects to terminals 6 and 7. The contact must be able to switch 5VDC and 2mA. The control will then run only when the contact is closed. Refer to Section A of the OFF/ON CONTROL GUIDE.
- B. Feeder Bowl/Hopper Interlock allows the Hopper control to operate only when the Bowl is running and the paddle switch contact is closed. The **interlock input** on terminals 11 and 12 of TB2 is controlled by the **interlock output** of a "Parts Sensing Feeder Bowl Control" such as an FC-90 Plus.

Remove jumper "J1" of this control from terminals 6 and 7. Connect the Hopper Paddle switch to alternate terminals 5 and 6. Connect TB2 terminals 11 and 12 of this control to the "Parts Sensing Control". Refer to Section B of the OFF/ON CONTROL GUIDE. Check specific instructions for the "Parts Sensing Control" wiring.

Note: Only use Bowl/Hopper Interlock with a FC-90 and FC-40 Series control. Two FC-40 Series controls will not interlock to each other since neither one has an **interlock output**.

C. Low Voltage DC can be used to turn the control **ON** and **OFF**. Move jumper "J1" from terminal 7, to terminal 5, (6 remains the same). Then connect the positive signal (+5 to 30VDC @ 10mA) to terminal 12 and the negative to terminal 11 of TB2. The control will now turn **ON** when the DC signal is present at terminals 11 and 12 of TB2. This input is optically isolated. Refer to Section C of the OFF/ON CONTROL GUIDE.

D. AC Voltage may be used to turn the control **ON** and **OFF**. This requires a 105-250VAC signal, with 2mA maximum off-state leakage. Set up the control by moving the jumper "J1" from terminal 7, to terminal 5, (6 remains the same). Connect the 105-250VAC Signal to terminal 12 (L1) and the common (L2) to terminal 10 of TB2. The FC-40 control will now turn **ON** whenever the AC signal is applied to terminals 10 and 12 of TB2. This input is optically isolated. Refer to Section D of the OFF/ON CONTROL GUIDE.

5. MAIN CONTROL DIAL

The output power is controlled by the **MAIN CONTROL DIAL**. A special logarithmic-tapered power-out curve (non-linear) spreads the power broadly across the **MAIN CONTROL DIAL** to help give maximum "Fine Control" over the output speed of the vibratory feeder. When very precise adjustment of the **MAIN CONTROL DIAL** is needed, increase the MIN trimpot setting and/or decrease the MAX trimpot setting. Use of an external analog signal in place of the control potentiometer is not recommended.

An optional 5-turn pot kit, P/N 123-191 allows work instructions to specify a precise operating range.

6. SETTING THE SOFT-START

The start-up of the control output can be adjusted to ramp up to the desired output level instead of starting abruptly. This keeps parts from falling off the tooling of a vibratory feeder when it turns on; it can reduce hammering during turn on; it can also simulate a paddle switch ON delay. Adjust the **SOFT** Start trimpot clockwise for the gentlest start (about a 10-second ramp up to full output). Turn the trimpot fully counter-clockwise for no soft start.

7. REMOTE SPEED CONTROL

Remote control of the output power level can be accomplished by using an optional **Step Up/Down Remote Speed Interface P/N 123-120**.

8. ADVANCED FEATURE PROGRAMS

Advanced features are available for specialized applications. These features can be enabled by the end user: 60 pulse waveform reversal; Main Control Dial follows a fixed curve; Control output turns off when the Main Control Dial is at 0; MIN pot disable, Power conservation mode; High speed/low speed/off operation; and Low pulse rates of 30, 20, 15, 10. For a full description of these features, please download the FC-40 Plus Advanced Application Note.

WARNING:

Fuses should be replaced with Littelfuse 3AB "Fast Acting" type or equivalent of manufacturer's original value.

Mounting this control on a vibrating surface will void the warranty.

WARRANTY

Rodix Control Products are Warranted to be free from defects in material and workmanship under normal use for a period of two years from date of shipment. For the full description of the warranty, terms, and software license, please contact the factory.

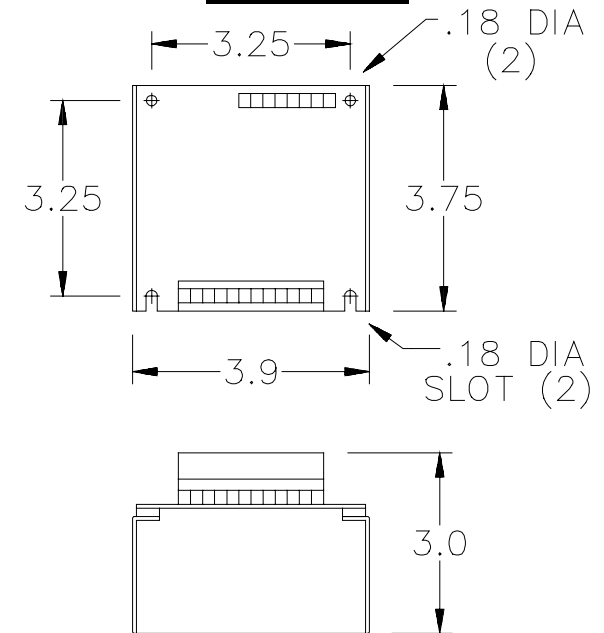
For assistance installing or operating your Rodix Control please call the factory or visit our web site. Technical help is available to answer your questions and Fax any needed information. To return a control for IN or OUT of Warranty Service, please ship it prepaid to:

Rodix Inc., ATTN: Repair Department

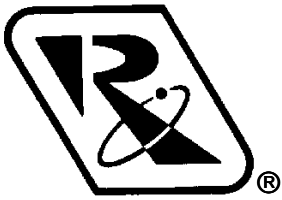
If under Warranty, Rodix will repair or replace your control at no charge; If out of Warranty, we will repair it and you will be billed for the repair charges (Time and Material) plus the return freight. Quotes for repairs are available upon request. A brief note describing the symptoms is appreciated by our Technicians.

Feeder Cube® is a registered TM of Rodix Inc.

DIMENSIONS



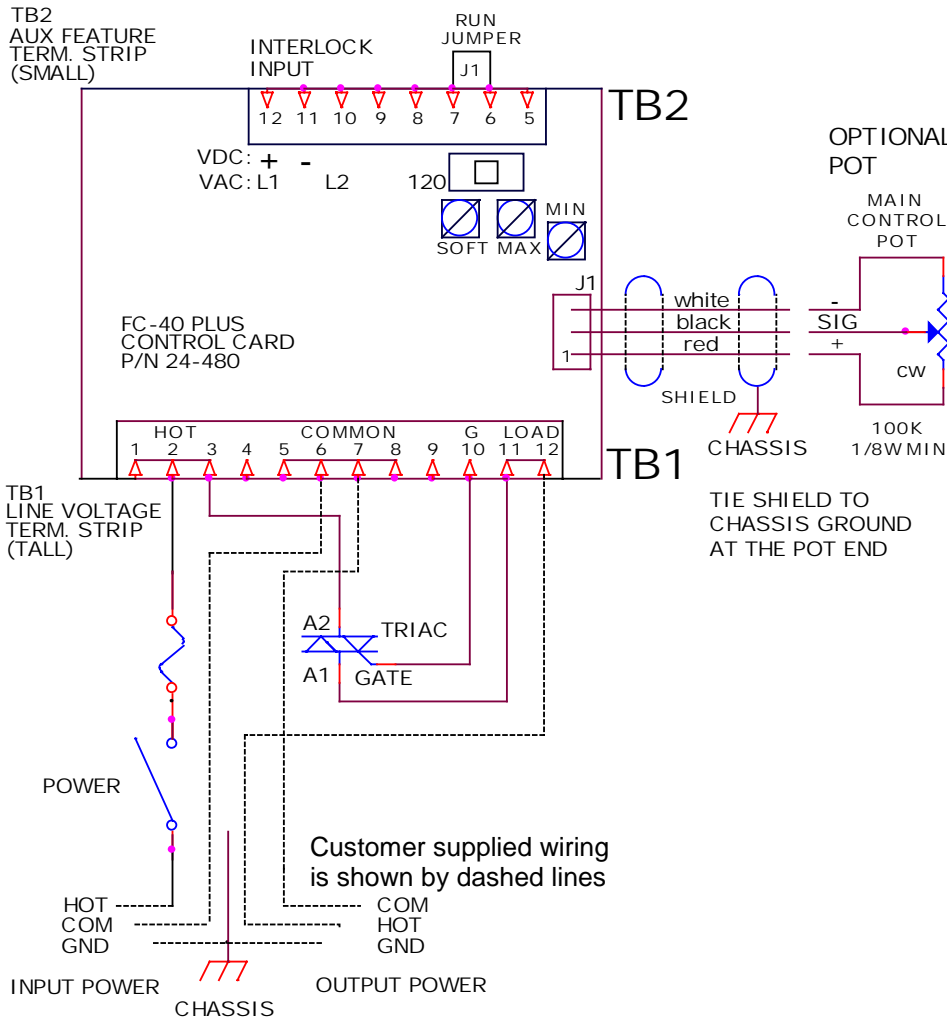
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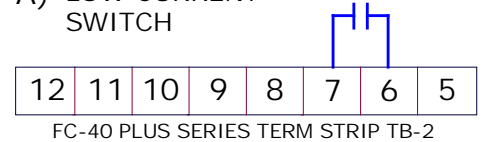
FEEDER CUBE® FC-44 Plus ALL PURPOSE OPEN FRAME MODEL IMPORTANT: APPLICATION NOTE



OFF/ON CONTROL GUIDE

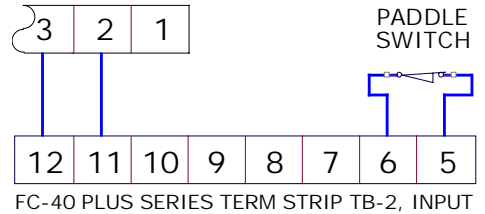
See section 4 of the Application Note for more details.

A) LOW CURRENT SWITCH



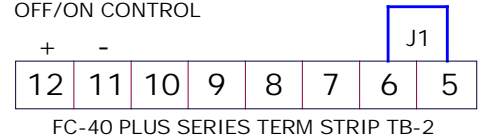
B) FEEDER BOWL/HOPPER INTERLOCK

FC-90 PLUS SERIES TERM STRIP TB-2, OUTPUT



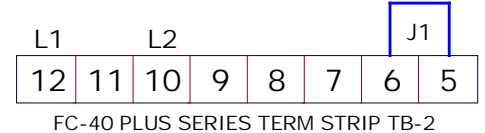
C) LOW VOLTAGE INPUT SWITCHING (DC Voltage from PLC or FC-90 Plus)

5-30 VDC INPUT VOLTAGE OFF/ON CONTROL

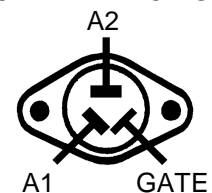


D) AC VOLTAGE INPUT SWITCHING

105-250 VAC INPUT VOLTAGE OFF/ON CONTROL



TRIAC REFERENCE GUIDE



MODEL	INPUT VAC	AMPS	OUTPUT
FC-44 PLUS	120VAC	15A	0-120