

MaxPak Plus

ACCESSORY

INSTRUCTION MANUAL D-3871-

METER FILTER KIT

For Regenerative Controllers
Model Number 23C330
Assembly Drawing 705392-11

The equipment described below should be installed only by qualified electrical personnel familiar with the construction and operation of the equipment and the hazards involved.

DESCRIPTION

The meter filter kit provides a passive buffering network allowing the use of isolated signals generated within the regenerative MaxPak Plus controller to drive remotely mounted meters for indication of armature current (load) and/or armature voltage. This single model number kit is suitable for use with all MaxPak Plus controllers regardless of horsepower or voltage. There are no adjustments within the circuitry of this kit. Any required calibration adjustments must be made part of the indicating meter assembly.

CAUTION

Meters driven from the meter filter **MUST** be isolated from ground. Do **NOT** ground the output leads from the meter filter. Grounding the meter could lead to incorrect meter readings or ground paths which could lead to improper drive operation.

Zero Center Meter Type	Used With	Model Number	
		Without Enclosure	With Enclosure
Load	All Drives	23C161	23C162
Voltage	240 Volt Armature	23C171	23C172
Voltage	600 Volt Armature	23C181	23C182
Voltage	600 Volt Armature	23C191	23C192



CONNECTING PINS

Figure 1

ACCESSORY METERS

Zero-Center load indicating meters, calibrated from 200% to +200% full load current and a selection of zero-center armature voltmeters designed to accept the output from the meter filter are available from Reliance stock under the following model number designation. They are all described in instruction manual D-3830.

SPECIFICATIONS

METER FILTER CARD VOLTAGE OUTPUT (1119): Assuming infinite load impedance, $\pm 100\%$ terminal voltage produces ± 4 meter output volts at 1119. Output impedance, 9.4k ohms $\pm 10\%$. Output is a function of meter loading. See figure 2 for meter loading curve.

METER FILTER CARD CURRENT OUTPUT (1219): Assuming infinite load impedance, and standard current limit scaling (100% continuous, 150% for 1-minute), 100% load current produces ± 2.7 meter volts at 1219. Output impedance, 9.4K ohms $\pm 10\%$. Output is a function of meter loading. See figure 2 for meter loading curve.

Note:

The meter filter card must be used with meters intended to indicate regulator signals. Due to the resistor filter network of this card, signal attenuation is realized from input to output as a function of current drawn by the meter itself. Use only Reliance calibrated meters as listed above. General purpose meters are not necessarily compatible with the meter filter circuitry and may give incorrect reading. See figure 2 for meter loading curve.

INSTALLATION

(Refer to assembly drawing 705392-11)

DANGER
BEFORE ATTEMPTING TO INSTALL THIS MAXPAK PLUS MODIFICATION KIT, DISCONNECT AND LOCK OUT ALL SOURCES OF INCOMING POWER TO THE CONTROLLER CABINET.

1. Connect the input plug from the meter interface card to the rectangular copper pins with terminals 1136, 1137, 56, 71, 119, 57 and 219 as shown in figure 1.

CAUTION

To disconnect this plug, grasp it firmly by the connector and pull it straight off of the pins. The locking connector used will release from the pins only when removed in this manner. Any attempt to remove this connector by pulling on the wires may damage the connector or the wires themselves.

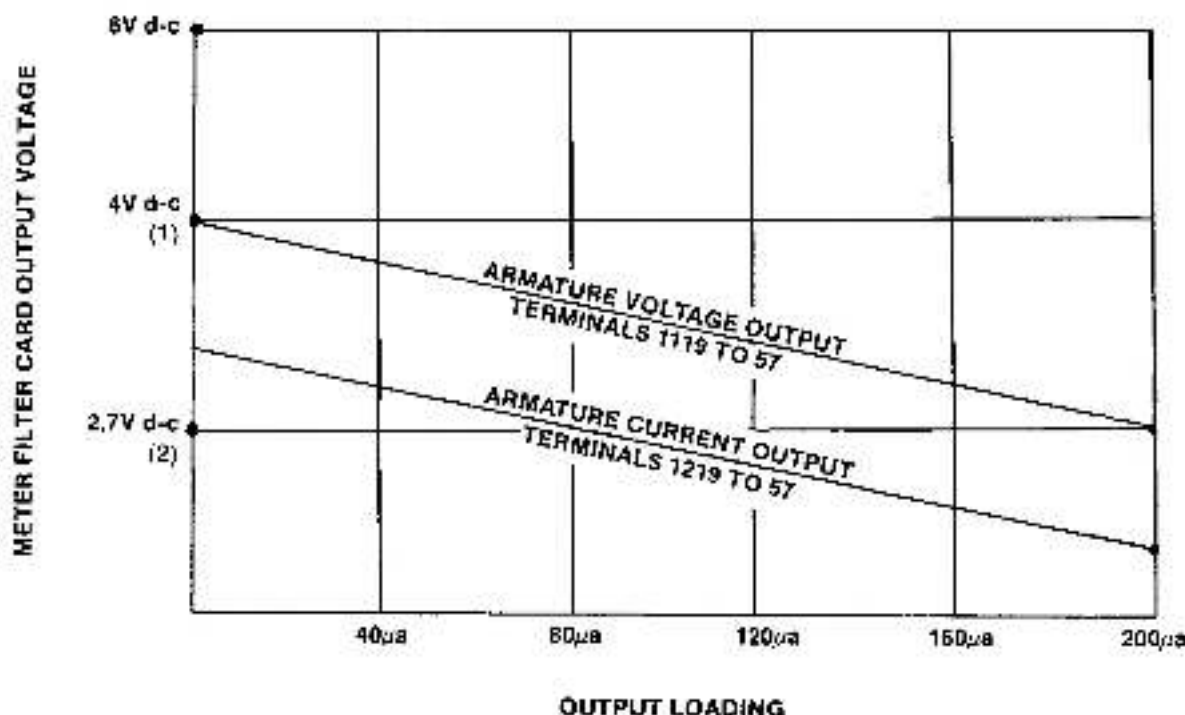
2. Locate the four prepunched holes in the right side sheet metal of the regulator rack which are spaced to accept the feet of the meter filter board. Press the meter filter board feet into these holes, one at a time, until they snap in place. No mounting hardware is required.
3. Connect the meter filter board outputs to the motor(s) to be driven using the four screw terminals provided. This wiring must be done with twisted pair cable with at least two twists per inch (Reliance part 413329-S or equivalent). This cabling must be run in a magnetic conduit and, although it can be run in the same conduit as speed potentiometer and tachometer feedback signal wiring, it cannot be run in conduit containing 115 volt a-c control, a-c power or d-c power wires. Meters and wiring to the meter(s) must remain ungrounded.

REPAIR PARTS

A complete parts list is provided on assembly drawing 705392-11 packed with this kit.

Figure 2

Meter Filter Card $E_{out} = E_{in} - 9.4KI$



(1) 4.0V d-c at 100% armature voltage.

(2) 2.7V d-c at 100% load with standard current scaling.

(100% continuous load, 150% current for 1-minute) Note: 150% current yields $2.7 \text{ V d-c} \times 1.5 = 4.05 \text{ V d-c}$.

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