

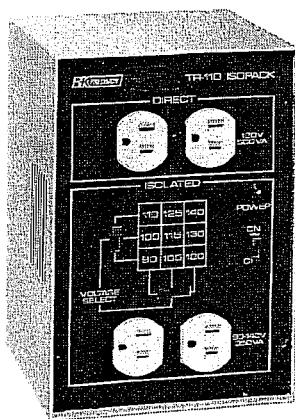
INSTRUCTION FOLDER

 **BK PRECISION**®

MODEL TR-110

ISOPACK

Direct/Isolation Transformer



APPLICATIONS

An isolation transformer is essential for servicing any "hot chassis" (transformerless) AC-powered equipment. Without an isolation transformer, a dangerous electrical shock hazard exists between the chassis of such equipment and earth ground. There is also a high probability of damage to any AC-powered test equipment used to service such equipment. The B & K-PRECISION Model TR-110 ISOPACK Direct/Isolation Transformer provides the necessary safety factor, allowing the chassis to be grounded. The ISOPACK also operates as a variable voltage source, providing AC output in nine steps from 90 to 140 volts. This feature is useful for testing both "hot chassis" and transformer-powered equipment. Variable voltage testing is valuable for uncovering a voltage sensitive condition in "problem" radio receivers, television sets, audio equipment, etc. Dual outlets for the isolated output, and dual outlets for the direct (non-isolated) output provide a convenient center for connecting both the equipment to be serviced and the associated test equipment. An on-off switch with pilot lamp is provided for the isolated output, which has a power rating of 350 VA continuous, and up to 500 VA intermittent—more than adequate for most requirements.

 **BK PRECISION**®

HOW TO USE THE "ISOPACK"

AS AN ISOLATION TRANSFORMER (See Fig. 1)

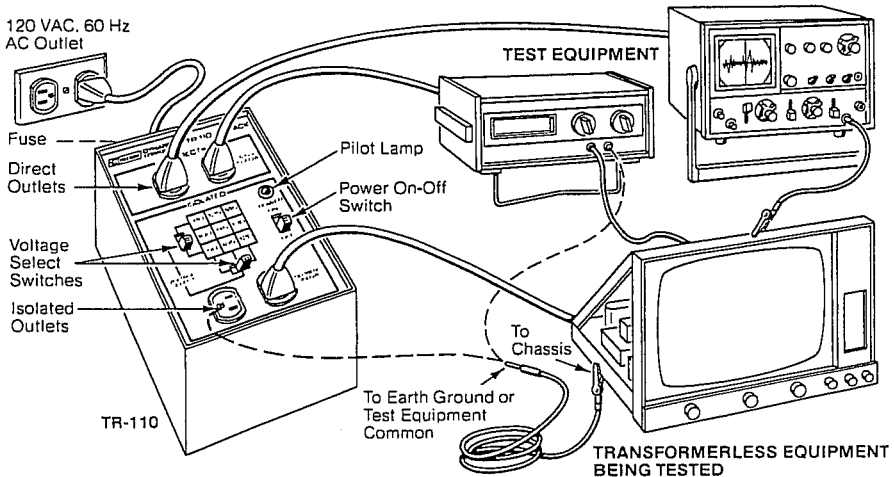


Fig. 1. Typical use of ISOPACK.

1. With POWER switch OFF, connect the power cord of the ISOPACK to a 120 volt, 60 Hz outlet. The POWER switch gives on-off control to the ISOLATED outlets only; the DIRECT outlets are always "hot" whenever the ISOPACK is plugged into a live outlet.
2. Connect the power plug of the transformerless equipment to one of the ISOLATED outlets.
3. Select the desired output voltage as explained in Step 3 of the "AS A VARIABLE VOLTAGE TRANSFORMER" procedure below.
4. The chassis of the transformerless equipment may now be grounded, if desired, by connecting a test lead between the chassis and the case of the ISOPACK or the ground pin of one of the outlets. Also see Step 7.
5. Set the POWER switch to ON. The pilot lamp will light and power will be applied to the transformerless equipment.
6. Auxiliary equipment, such as test instruments, may be connected to the DIRECT outlets. Line voltage, which is unaffected by either the VOLTAGE SELECT switches or the POWER ON-OFF switch, is available here.
7. The chassis of the transformerless equipment may be grounded or tied to a test equipment common, through connection to the test equipment instead of the ISOPACK.

- The total load on the ISOLATED outlets should not exceed 350 VA continuous. A load up to 500 VA may be powered for 5 minutes maximum if followed by an off period of 5 minutes or longer for cooling. Avoid using the ISOPACK in a confined area, since this could allow heat build-up to accumulate.
- The total load of the DIRECT outlets should not exceed 500 VA, continuous or intermittent. However, both the DIRECT and ISOLATED outputs can be operated simultaneously at up to full rated load capacity.

AS A VARIABLE VOLTAGE TRANSFORMER

- Repeat Step 1 of the "AS AN ISOLATION TRANSFORMER" procedure above.
- Connect the equipment to be powered to one of the ISOLATED outlets. The equipment may be transformerless or transformer-powered.

- Select the desired voltage with the VOLTAGE SELECT switches. The two 3-position switches are connected in a matrix arrangement as shown on the front panel of the ISOPACK, and in Fig. 2. The 3 x 3 matrix provides nine possible combinations, each producing a different output voltage. For example, if both switches are in the center position, a 115-volt output results. With the "ROW" switch selecting the top row and the "COLUMN" switch selecting the left column, a 110-volt output results, etc.

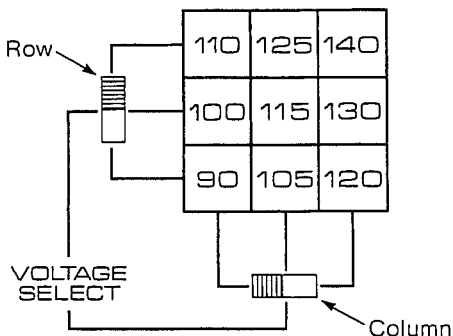


Fig. 2. Voltage select matrix.

- Repeat Steps 4 thru 9 of the "AS AN ISOLATION TRANSFORMER" procedure above. (For transformer-powered equipment, Steps 4 and 7 are not applicable.)
- To vary the output voltage, change the combination of VOLTAGE SELECT switch positions to obtain each desired value. For maximum switch life, it is good practice to turn OFF the POWER switch before changing the VOLTAGE SELECT switches.
- The voltages shown on the matrix (Fig. 2) are approximate, depending upon the load and the input voltage's variance from 120 volts. To determine the specific voltage, connect a precision multimeter such as the B & K-PRECISION Model 2810 or 2830 Digital Multimeter to measure the AC voltage at the ISOLATED output.

MAINTENANCE

A 3A fuse protects the unit from excessive overload on the ISOLATED outlets. If the pilot lamp will not light and there is no output from the ISOLATED outlets, check the fuse. It is located on the side of the unit adjacent to the power cord. Replace only with a 3A, slow-blow type 3AG fuse. Correct the overload condition before re-applying power.

The TR-110 fuse does not affect the DIRECT outlets. If there is no output from either the ISOLATED or DIRECT outlets, check the fuse or circuit breaker panel of your building for the outlet being used to power the ISOPACK. Correct any overload condition.

SPECIFICATIONS

Input Requirements	105-130 VAC, 60 Hz.
Output Power Rating	
Direct	500 VA.
Isolated	350 VA continuous, 500 VA intermittent.*
Connections	
Direct	Duplex outlet (3-conductor).
Isolated	Duplex outlet (3-conductor).
Output Selection	
Direct	Convenience duplex outlet provides line voltage for auxiliary equipment up to 500 VA.
Isolated	Two 3-position slide switches provide 9 combinations of voltage selection from 90 to 140 volts**, up to 350 VA continuous or 500 VA intermittent*. Self-contained power switch with pilot lamp.
Regulation	No load to full load (350 VA), voltage change is less than 4%.
Isolation	Typical leakage current, primary to secondary, 0.1 mA.
Size (WxHxD)	5-1/2 x 5-1/8 x 8".
Weight	11 lbs.

*Intermittent usage: 5 minutes ON followed by 5 minutes or longer OFF.

**Output voltages rated with input at 120 volts.

PARTS LIST

SCHMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NO.
S1	Power Switch, SPDT	084-070-9-001
S2, S3	Voltage Select Switch, DPTT	084-071-9-001
T1	Transformer, Isolation	065-146-9-001
PL1	Pilot Lamp, Neon with 100K	401-001-9-002

PARTS ORDERING INFORMATION

There is a minimum charge for each invoice. Orders will be shipped C.O.D. unless previous open account arrangements have been made or remittance accompanies order. Advance remittance must cover handling, postage, or express charges. Specify model and serial number when ordering replacement parts.

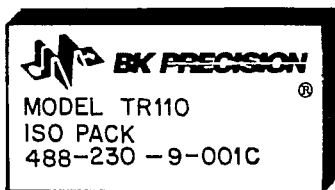
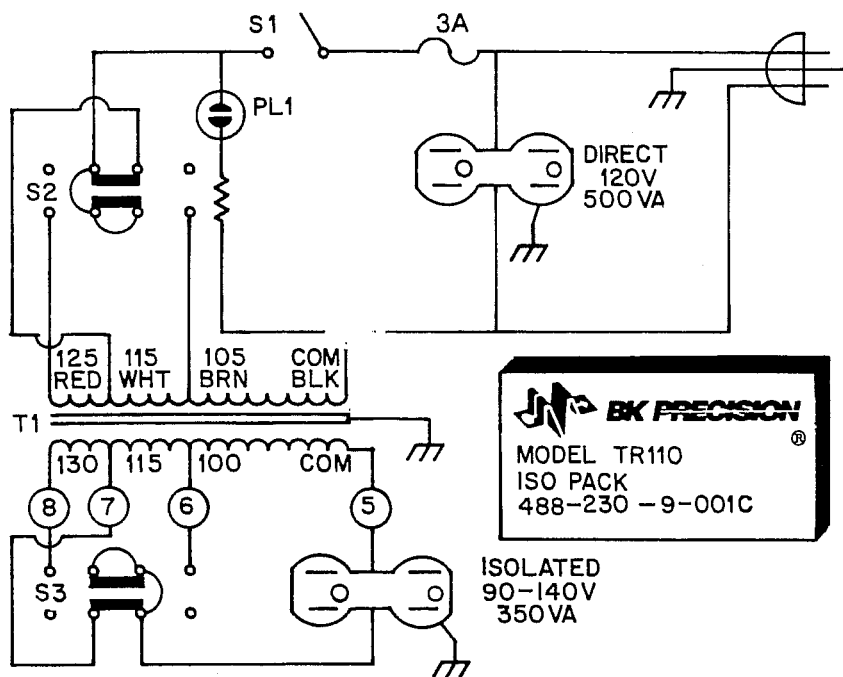


Fig. 3. ISOPACK schematic diagram.

WARRANTY SERVICE INSTRUCTIONS (For U.S.A. and its Overseas Territories)

1. Refer to the MAINTENANCE section of your B & K-Precision instruction manual for adjustments that may be applicable.
2. If the above-mentioned does not correct the problem you are experiencing with your unit, pack it securely (preferably in the original carton or double-packed). Enclose a letter describing the problem and include your name and address. Deliver to, or ship PREPAID (UPS preferred in U.S.A.) to the nearest B & K-Precision authorized service agency (see list enclosed with unit).