MULTRONICS®, INC.

90 ROAD
COL D 21045

PLEASE NOTE OUR NEW ADDRESS
EFFECTIVE APRIL 20, 1979
MULTRONICS, INC.
.730 WEST McNAB ROAD
FORT LAUDERDALE, FLA. 33309

AM PHASING SYSTEMS • INDUCTORS • CONTACTORS

SPECIFICATIONS

RF RATINGS:

	Model 145-101	Model 145-102
Voltage (KV Peak)	17 KV	17 KV
Amperage (RMS)	25 A	25 A
Action	SPDT	DPDT

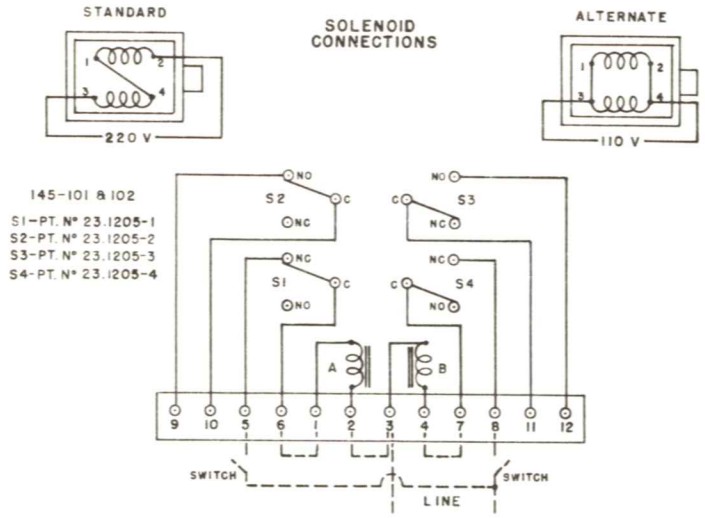
POWER REQUIREMENT:

50 - 60 Hz, 208 VAC WYE or 230 - 240 VAC DELTA, 8 AMP

WEIGHT	MOUNTING DIMENSIONS (inches)	OVERALL DIMENSIONS (inches)
10.5 pounds	5¼ x 5¼	7-15/16 long x 6-1/2 wide x 5-1/2 high

SPECIAL FEATURES

- Available for two AC voltages: Standard Models wired for 220 VAC @ 50 - 60 Hz
  Special Order wired for 110 VAC @ 50 - 60 Hz
- All limit switches contact rated at 15 amperes, @ 125 - 250 VAC
- Terminal Board has 12 screw-type terminals with numbered marker strip
- Extremely rugged construction, with high reliability parts and components
- Parts replacement simplified by symmetrical arrangement and easy accessibility
- The toggle action switching provides positive protection against recoil



Schematic of Models 145-101 and 145-102 RF Contactor

RF CONTACTOR
Models 145-101 & 145-102

MULTRONICS®, INC.

APPLICATION

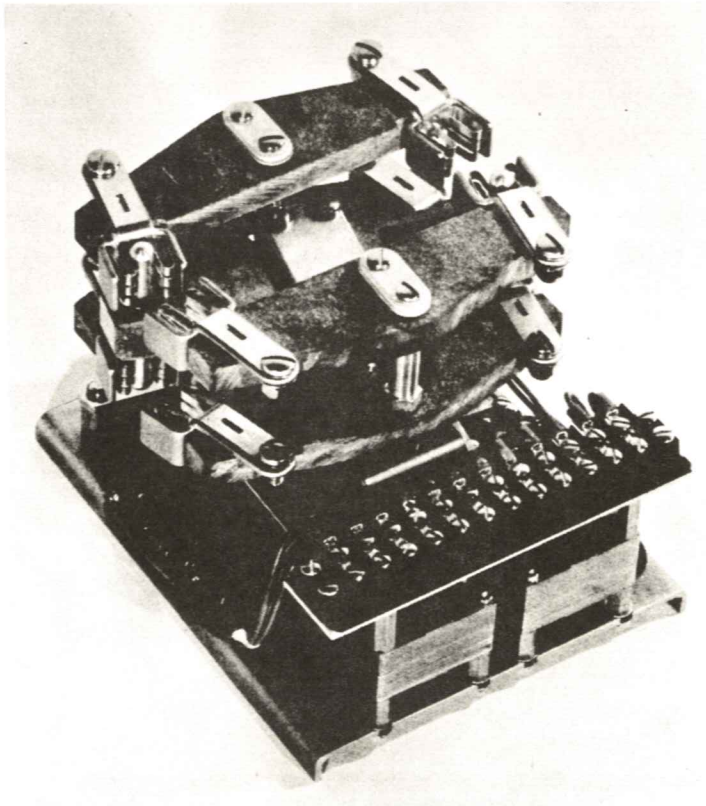
The Multronics' 145-101 and 145-102 RF Contactors are designed with Fit, Form, and Function to replace the E. F. Johnson 145-101 and 145-102 contactors and are primarily for RF switching applications at VLF, LF, MF, and HF. They are also ideally suited to DC voltage switching in high voltage rectifier circuits. Once switched, they require no "holding" voltage and are designed to operate with a momentary application of power.

DESCRIPTION

These contactors are available in either SPDT (145-101), or DPDT (145-102), configurations. All contactors are supplied with four auxiliary switches; two "normally closed" for control of the solenoid voltage and two "normally open" for operation of signal lamps or to perform other related functions. Stock contactors have solenoids wired for 220 volt 50-60 cycle operation, but may be factory wired for 110 volt 50-60 cycle operation on special order, or may be re-wired in the field.

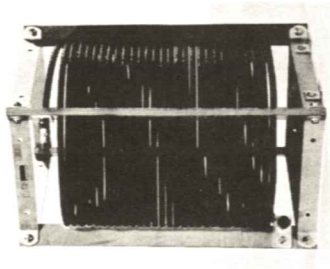
An outstanding feature of these contactors is small size and compactness wherein width and length have been minimized with no excess space occupied beyond that required for adequate insulation. The specially treated Glass Polyester, (NEMA GPO-3), used for the movable and stationary contact bars provide added strength and durability as well as high voltage handling capability and resistance to arcing. Servicing and parts replacement are simplified since basic parts are generally accessible without disassembly.

The solenoids are more than ample to assure a positive action with a momentary application of voltage. In normal use and service the applied solenoid voltage is automatically disconnected by the "normally closed" micro-switch at the time the movable contact arm completes its rotation. This automatic disconnect feature assures only momentary application of voltage, regardless of "on" time of the external control switch.



INDUCTORS AND ACCESSORIES / MULTRONICS, INC.

ISOLATION INDUCTORS

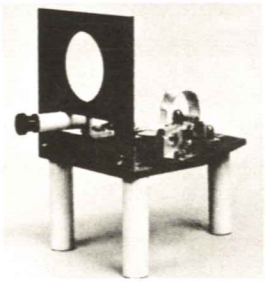


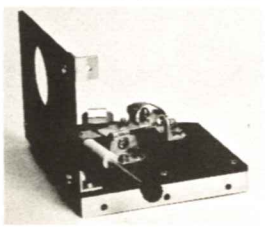
135 uh, Overall dimensions 26.5 x 13 x 13 inches

Cat. No.	Female Termination (attached)	Mates With (not furnished)	Cable Type
135-FHJ4-50	74N	74W	1/2" Foam-FHJ4-50
135-35422/8-50	74N	74W	1/2" Foam-Stabilized
150 uh, Overall dimensions 20 x 12.75 x 12.75 inches			
150-FHJ2-50	42U	42P	3/8" Foam-FHJ2-50
150-35422/3-50	42U	42P	3/8" Foam-Stabilized

Special Isolation Coils on Request

METER SWITCH ASSEMBLIES





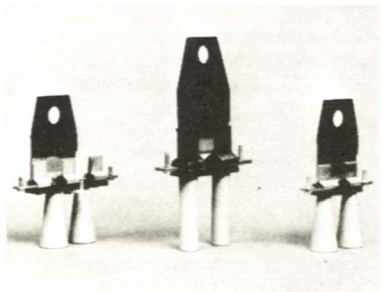
Vertical Mount 60 AMP SPDT with Mounting Insulators

Cat. No.	For Use With	Overall Dimensions (inches)
D0021-1	3 inch meters, Weston Model 308 or Westinghouse Model RT-351	6 x 6.25 x 7.75
D0021-2	4 inch Weston Model 743	6 x 7 x 7.75
D0021-3	4 inch Westinghouse Model RT-371	6 x 7 x 7.75

Horizontal Mount 60 AMP SPDT for Right Angle Operation

Cat. No.	For Use With	Overall Dimensions (inches)
D0022-1	3 inch meters, Weston Model 308 or Westinghouse Model RT-351	7.75 x 6.25 x 8
D0022-2	4 inch Weston Model 743	7.75 x 6.25 x 8
D0022-3	4 inch Westinghouse Model RT-371	7.75 x 6.25 x 8
D0023	Switch shelf assembly for converting horizontal to vertical mounts	

J-PLUGS AND PLUG-IN METER BOARDS



J-Plugs

Cat. No.	Current Rating (amps)	Type	Overall Dimensions (inches)
C0016-1	60	2-terminal	5 x 8
C0016-2	100	2-terminal	5.75 x 10.75
C0017	60	3-terminal	7 x 8

Plug-In Meter Boards

Cat. No.	For Use With	Overall Dimensions (inches)
C0024	3 inch meters, Weston Model 308, Westinghouse Model RT-351, Internal thermocouple	3.75 x 6.75

Plug-In Meter Boards (Cont.)

C0122	4 inch Weston Model 743, Internal thermocouple	4.5 x 9
C0048	4 inch Westinghouse Model RT-371, Internal thermocouple	4.5 x 8.25
C0045	3 inch meters. External thermocouple	5.25 x 10.25
C0047	4 inch Weston Model 743, External thermocouple	5.25 x 11
C0046	4 inch Westinghouse Model RT-371. External thermocouple	4.5 x 12

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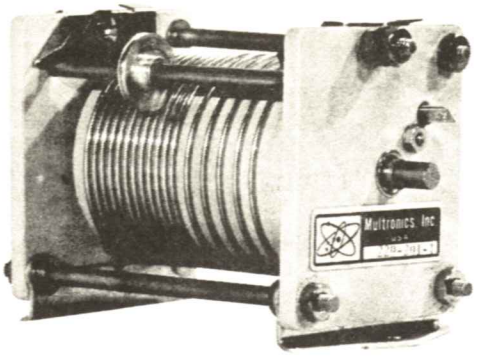
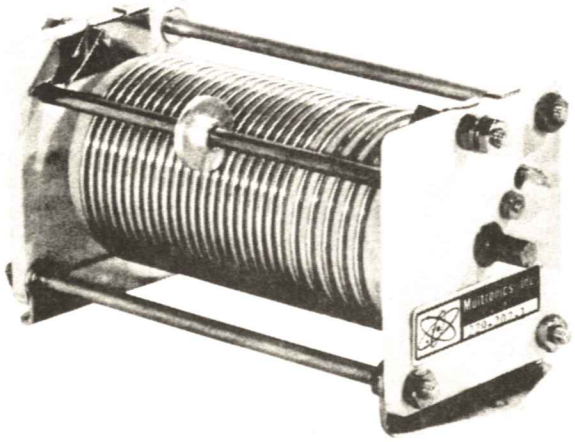
VARIABLE INDUCTORS

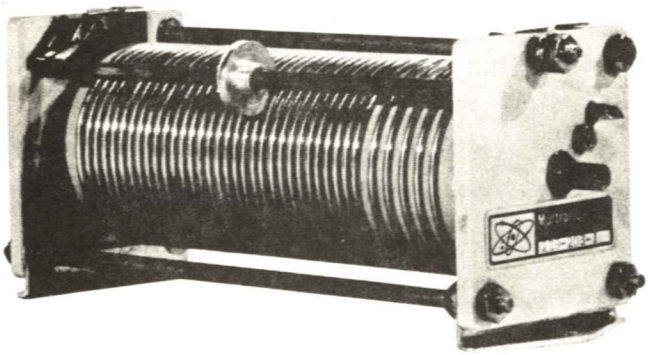
MULTRONICS®, INC.



Model 229-201 10μh, 3amps



Model 229-202 18μh, 5 amps



Model 229-203 28μh, 5 amps

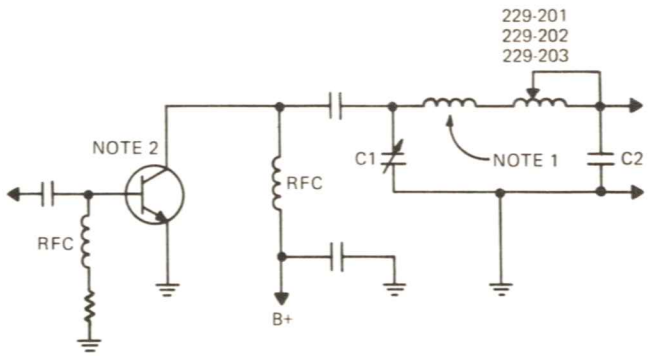
APPLICATION

The Multronics 229-201, 229-202 and 229-203 rotary inductors provide excellent flexibility in RF amplifier design. They may be used in single ended amplifiers to tune all frequencies from 1.5 thru 30.0 MHz. Used in antenna loading or phasing circuits, they will furnish a relatively large value of continuously variable inductance.

An amplifier such as the one shown below with pi-network output tuning and utilizing a Multronics 229-203 inductor, will couple into unbalanced loads from 50 to several hundred ohms throughout the range 1.5 to 30.0 MHz.

C1 may conveniently be a conventional air dielectric variable. C2 consists of fixed capacitors switched in parallel with a variable capacitor where a wide range of load impedances must be matched at frequencies lower than 10 MHz. At these frequencies, the capacity required of C2 exceeds the maximum value of available air dielectric capacitors.

Winding has variable pitch to insure smooth tuning and higher Q at low inductance values. May be applied with unused turns shorted or open, as desired. Positive rolling contact maintained by beryllium copper tension springs. The form and end plates are Steatite.



Cat. No.	Inductance	Mounting	Overall Dimensions L	W	H	Wire Size
229-201	10μh	3-15/16"	4-3/8"	2½"	2-31/32"	No. 14
229-202	18μh	5-15/32"	5-29/32"	2½"	2-31/32"	No. 12
229-203	28μh	6-23/32"	7-5/32"	2½"	2-31/32"	No. 12

Note 1: Auxiliary .6 microhenry series inductor consisting of 7½ turns number 12 wire, 1 inch diameter, self-supporting. Permanently connected in the circuit, it improves high frequency performance.

Note 2: Type NPN RF Power Transistor.

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FIXED TUBING INDUCTORS

202 SERIES

Large surface area copper tubing wound coils, silver-plated, provide low resistance and working temperatures for continuous high current applications. Simple, rugged "airwound" design with glass bonded mica or glass polyester support bars.

3/8" Tubing – 30 Amperes

EFJ Cat. No.	Mult. Type	Inductance	Mounting Dimensions (in.)	L	W	H
202-0201	MJ10-30T	10 uh	2-1/2 x 13-7/8	14-1/2	6-3/4	7-1/2
202-0502	MJ64-30T	64 uh	2-1/2 x 24-1/16	24-13/16	10-3/4	10-3/4
202-0504	MJ33-30T	33 uh	2-1/4 x 16-3/32	16-27/32	8-3/4	8-3/4
202-0505	MJ17-30T	17 uh	1-1/2 x 15-1/16	15-13/16	7-3/4	7-3/4
202-0507	MJ24-30T	24 uh	2-1/4 x 16-9/16	17-5/16	8-3/4	8-3/4
202-0509	MJ88-30T	88 uh	3 x 24-1/16	24-13/16	12-3/4	12-3/4
1/2" Tubing – 40 Amperes						
202-0601	MJ12-40T	12 uh	1-1/2 x 16-17/32	17-9/32	8	8
202-0602	MJ30-40T	30 uh	2-1/2 x 18-9/32	19-1/32	11	11
202-0604	MJ16-40T	16 uh	1-1/2 x 18-9/32	19-1/32	8	8
202-0605	MJ65-40T	65 uh	3 x 28	29	13	13

Other inductance values available on special order.

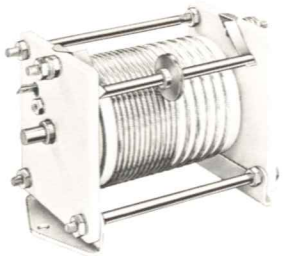
INDUCTOR CLIPS

Clips for 200, 202, and 232 Series Inductors

EFJ Cat. No.	Mult. Type	Fits Winding	Max Amps
235-0804	EW10	1/4" x .054"	10
235-0807	EW15	3/8" x .072"	15
235-0808	EW20	1/2" x .090"	20
235-0824	T10	1/4" tubing	10
235-0826	T30	3/8" tubing	30
235-0828	T40	1/2" tubing	40
235-0860	CC8	No. 20 to No. 12 Wire	8

T100-100 Amp Tubing (1 1/8") Clips available on special order

ROLLER INDUCTOR



229 SERIES

Efficient, all steatite insulated variable inductors for low power transmitting equipment. Variable pitch, tin plated copper wire windings on grooved steatite forms. 1/4" shafts extend 1/2" on both ends. Length dimension is over mounting feet.

EFJ Cat. No.	Mult. Type	Inductance	Current in Amps	Mounting Dimensions (in.)	Overall Dimensions (in.) L	H	W	Wire Size
229-0201	MJ10-3V	10 uh	3	3-15/16	4-3/8	2-1/2	2-31/32	No. 14
229-0202	MJ18-5V	18 uh	5	5-15/32	5-29/32	2-1/2	2-31/32	No. 12
229-0203	MJ28-5V	28 uh	5	6-23/32	7-5/32	2-1/2	2-31/32	No. 12
229-0207	MJ4.4-8V	4.4 uh	8	4-3/32	4-17/32	2-1/2	2-31/32	No. 8

FEED-THRU BOWL INSULATORS

Complete assembly includes heavy electrical glass feed-through bowls; cork gasket; steel mounting flange with six 3/16" mounting holes. Bowl is 6-15/16" maximum diameter and 4-3/8" high. Mounting flange: 7-3/4" diameter. Fittings include spun aluminum corona shield, 1/2" - 13 threaded stud except 135-15-4 which has 5/8" - 18 threaded stud (hollow), washers, and nuts.

Cat. No.	Description
135-15-1	One bowl and fittings, 10-1/4" stud
135-15-3	Two bowls and fittings, 16" stud for walls up to 4" thick
135-15-4	Two bowls and fittings, 24" hollow stud I.D. 7/16". For walls up to 12" thick
135-15-7	Two bowls and fittings, 24" stud for walls up to 12" thick
135-15-11	Glass bowl only, less fittings

INDUCTORS AND ACCESSORIES

MULTRONICS, INC.

®E. F. JOHNSON CO.

NOTICE

OUR NEW ADDRESS IS: 9005 Red Branch Road, Columbia, Maryland 21045 Tel: (301) 730-1122

FIXED "HI-Q" INDUCTORS

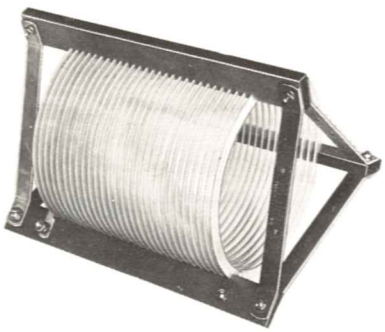
232 SERIES

1/4" x .054" Conductor — 7 Amps. Copper strip, cadmium-plated, airwound with slotted glass bonded mica or glass polyester support bars.

EFJ Cat. No.	Mult. Type	Inductance	Mounting Dimensions (in.)	Overall Dimensions (in.) L	W	H
232-0610	MJ31-7	31 uh	3-1/4 x 6	7-31/32	3-5/8	4-5/8
232-0620	MJ84-7	84 uh	3-3/4 x 7-1/8	9-3/32	4-1/2	6
232-0622	MJ41-7	41 uh	3-1/4 x 4-5/8	6-19/32	3-3/4	5-3/8
232-0624	MJ20-7	20 uh	3-1/4 x 4-1/4	6-7/32	3-3/4	5-3/8
232-0626	MJ10-7	10 uh	3-1/4 x 3	4-31/32	3-5/8	4-5/8

Other inductance values available on special order.

FIXED EDGEWOUND INDUCTORS



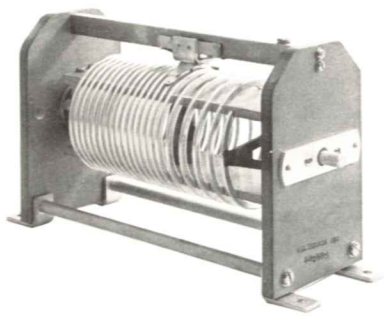
200 SERIES

Economical — compact, edgewise copper windings silver-plated airwound with slotted glass bonded mica or glass polyester support bars.

EFJ Cat. No.	Mult. Type	Inductance	Mounting Dimensions (in.)	Overall Dimensions (in.) L	W	H
1/4" x .054" Conductor — 10 Amperes						
200-0101	MJ26-10	26 uh	2 x 8-1/8	8-3/4	5-9/16	5-3/8
200-0105	MJ120-10	120 uh	2 x 11-1/16	11-11/16	5-9/16	5-9/16
200-0113	MJ15-10	15 uh	2 x 7-5/8	8-1/2	5-9/16	5-3/8
200-0114	MJ45-10	45 uh	2 x 7-7/8	8-1/2	5-9/16	5-3/8
200-0407	MJ200-10	200 uh	3 x 14-13/16	15-7/16	7-1/2	7-1/2
3/8" x .072" Conductor — 15 Amperes						
200-0203	MJ26-15	26 uh	2 x 8-1/8	8-3/4	5-11/16	5-9/16
200-0205	MJ15-15	15 uh	2 x 7-5/8	8-1/4	5-11/16	5-9/16
200-0206	MJ50-15	50 uh	2 x 9-3/8	10	6-7/8	6-11/16
200-0211	MJ73-15	73 uh	2-1/2 x 12-15/16	13-9/16	7-11/16	7-11/16
1/2" x .090" Conductor — 20 Amperes						
200-0301	MJ28-20	28 uh	2 x 10-5/8	11-3/8	7-1/8	7
200-0303	MJ50-20	50 uh	2 x 9-7/8	10-5/8	7-1/8	7
200-0306	MJ15-20	15 uh	2 x 8-1/8	8-7/8	6-5/16	6

Other inductance values available on special order.

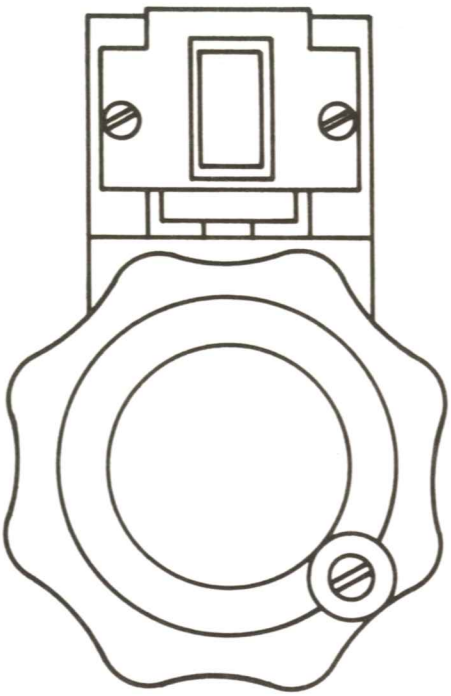
VARIABLE EDGEWOUND INDUCTORS

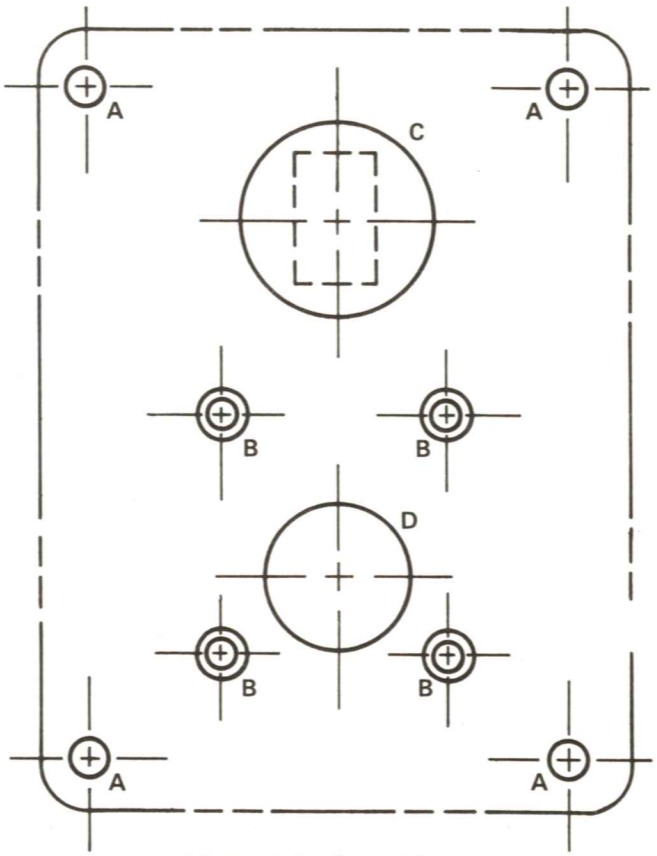


226 SERIES

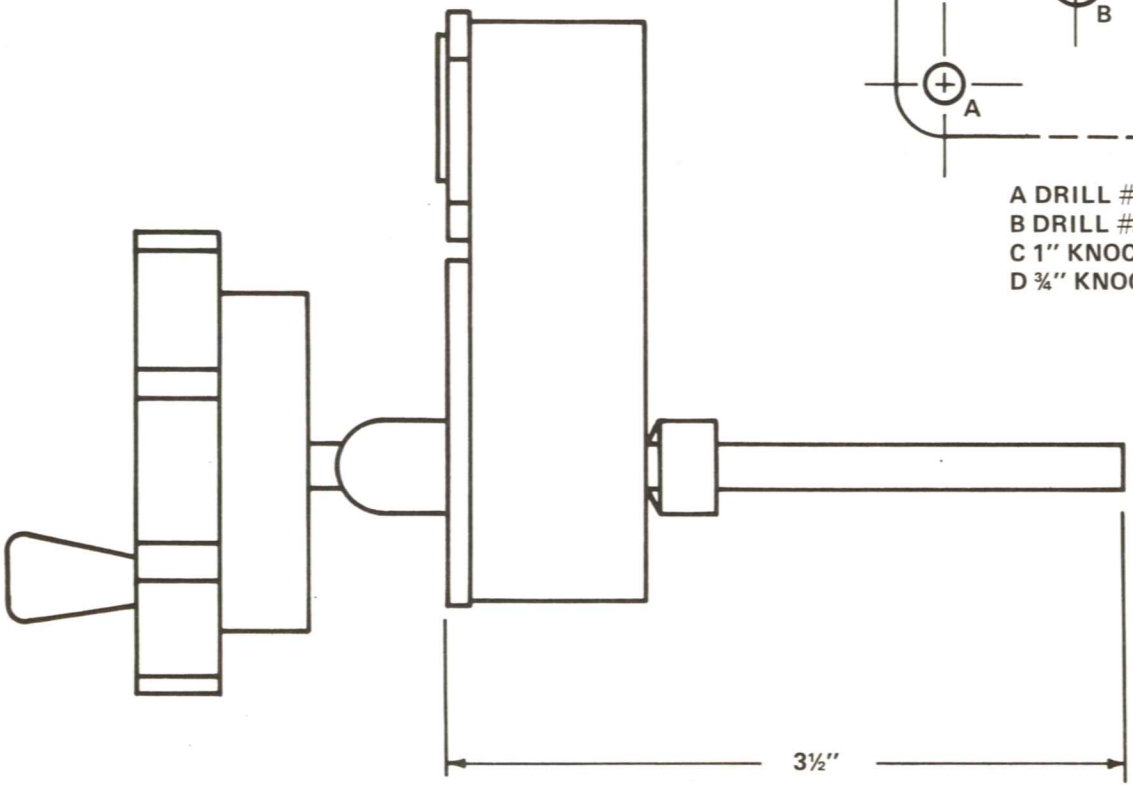
1/4" x 1/8" Conductor — 10 Amps. Popular for commercial and amateur uses, these moving coil type inductors handle well over a kilowatt of plate modulated RF energy to 30 MHz. Heavy plated conductors and plated contact bars and contacts. Glass bonded mica or glass polyester end frames and support bars. 3/8" shafts extend 3/4" front and rear. Length dimension is over mounting feet, does not include shaft extensions.

EFJ Cat. No.	Mult. Type	Inductance	Mounting Dimensions (in.)	Overall Dimensions (in.) L	W	H
226-1	MJ22.5-10V	22.5 uh	3 x 12-3/4	13-1/2	4	6-1/2
226-3	MJ13.5-10V	13.5 uh	3 x 10-3/4	11-1/2	4	6-1/2
226-5	MJ8-10V	8 uh	3 x 9-1/4	10	4	6-1/2





A DRILL #15 4 PLACES
B DRILL #28 4 PLACES W/CS.
C 1" KNOCK-OUT
D ¾" KNOCK-OUT



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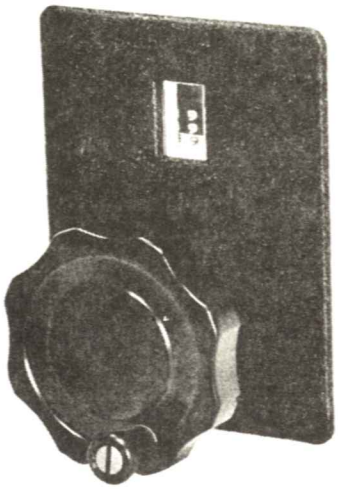
COUNTER DIAL
Model MCD-2

MULTRONICS®, INC.

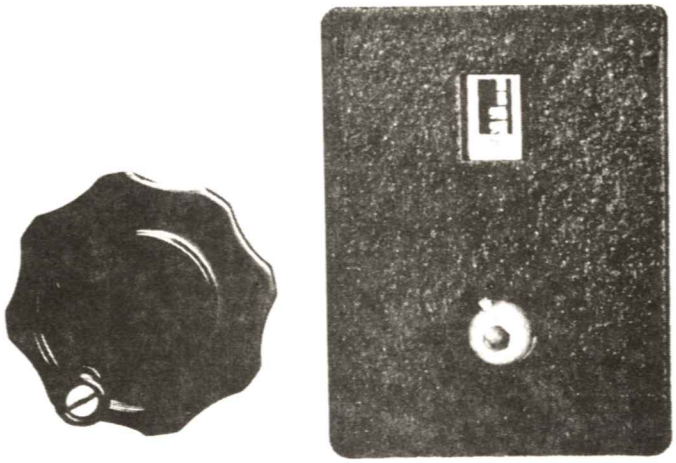
FEATURES

- Reliable, accurate, and rugged
- Direct drive (1:1) readout to 99.9 turns
- 1,000,000 plus turns life
- Counter floats on brass beveled gears
- Extruded aluminum case
- Solid stainless steel shaft
- Removable 2½" knob
- Engravable escutheon



APPLICATION

Developed by Multronics, the MCD-2 is a heavy-duty direct drive counter dial for driving multi-turn devices such as variable inductors and capacitors in applications requiring reliability and resettability.

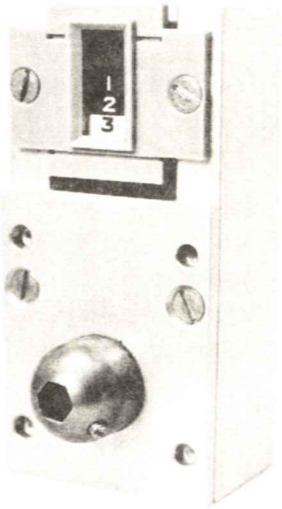


DESCRIPTION

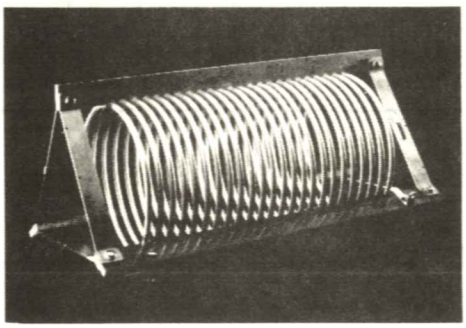
This ruggedly constructed, precisely calibrated MCD-2 is easy to install, records up to 99.9 turns and permits fast accurate return to any predetermined setting. The heavy-duty handle and direct drive shaft withstands the most severe torque requirements and provides long-term turn life in excess of 1,000,000 revolutions. The extruded aluminum case (1" x 1.5" x 3") contains a readout window that seals out dust and moisture.

The counter assembly floats on brass beveled gears (set at 90°) to ensure positive engagement. The variable component drive is direct via a solid 1/4" stainless steel shaft which extends 3½" behind the mounting surface. Brazed on the front end of the shaft is a stainless steel hub with a hex cutout to accept a removable knob. Standard items include a 2½" knob and an attractive black wrinkle-finish escutheon that can be engraved.

The MCD-2 is a stock item available only from Multronics. Quantity discounts are offered. See the reverse side of this sheet for the mounting template and hole dimensions.



FIXED TUBING INDUCTORS



30 AMP, 3/8 inch O.D. Tubing

Cat. No.	Inductance (uh)	Mounting Dimensions (in.)	Overall Dimensions (in.) L	W	H
M5-30T	5	4 x 7.75	9	x 8.5	x 8.75
M8-30T	8	5 x 7.75	9	x 10.75	x 11.25
M10-30T	10	4 x 10.75	12	x 8.5	x 8.75
M15-30T	15	4 x 13.75	15	x 8.5	x 8.75
M16-30T	16	5 x 10.75	12	x 10.75	x 11.25
M20-30T	20	6 x 10.75	12	x 12	x 12.5
M22-30T	22	5 x 13.75	15	x 10.75	x 11.25
M28-30T	28	6 x 13.75	15	x 12	x 12.5
*M42-30T	42	4 x 22.75	24	x 8.5	x 9.25
M69-30T	69	5 x 22.75	24	x 10.75	x 11.75
M82-30T	82	6 x 22.75	24	x 12	x 13.25

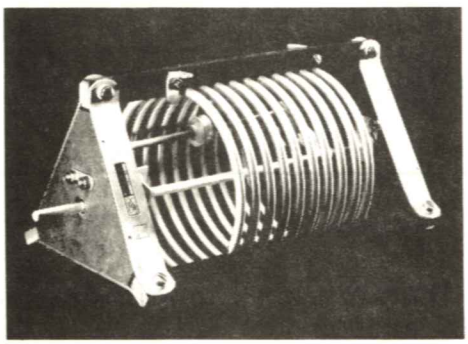
40 AMP, 1/2 inch O.D. Tubing

M5-40T	5	4 x 7.75	9	x 8.5	x 8.75
M7-40T	7	5 x 7.75	9	x 10.75	x 11.25
M9-40T	9	6 x 7.75	9	x 12	x 12.75
M10-40T	10	4 x 10.75	12	x 8.5	x 8.75
M14-40T	14	4 x 13.75	15	x 8.5	x 8.75
M15-40T	15	5 x 10.75	12	x 10.75	x 11.25
M19-40T	19	6 x 10.75	12	x 12	x 12.75
M20-40T	20	5 x 13.75	15	x 10.75	x 11.25
M26-40T	26	6 x 13.75	15	x 12	x 12.75
M30-40T	30	4 x 22.75	24	x 8.5	x 9.25
M47-40T	47	5 x 22.75	24	x 10.75	x 11.75
M60-40T	60	6 x 22.75	24	x 12	x 13.25

60 AMP, 3/4 inch O.D. Tubing

M12-60T	12	6 x 14	15.25	x 13.4	x 13.5
M20-60T	20	6 x 16.5	17.75	x 13.4	x 13.5
M24-60T	24	6 x 19	20.25	x 13.4	x 13.5
M30-60T	30	6 x 22.75	24	x 13.4	x 13.5
M40-60T	40	6 x 27.75	29	x 13.4	x 13.5
M60-60T	60	6 x 35.25	36.5	x 13.4	x 13.5

VARIABLE TUBING INDUCTORS



30 AMP, 3/8 inch O.D. Tubing

Cat. No.	Inductance (uh)	Mounting Dimensions (in.)	Overall Dimensions (in.) L	W	H
M10-30V	10	4 x 10.75	16	x 8.5	x 8.75
M15-30V	15	4 x 13.75	19	x 8.5	x 8.75
M16-30V	16	5 x 10.75	16	x 10.75	x 11.25
M20-30V	20	6 x 10.75	16	x 12	x 12.5
M22-30V	22	5 x 13.75	19	x 10.75	x 11.25
M28-30V	28	6 x 13.75	19	x 12	x 12.5
M42-30V	42	4 x 22.75	28	x 8.5	x 9.25
M69-30V	69	5 x 22.75	28	x 10.75	x 11.75
M82-30V	82	6 x 22.75	28	x 12	x 13.25

40 AMP, 1/2 inch O.D. Tubing

M10-40V	10	4 x 10.75	16	x 8.5	x 8.75
M14-40V	14	4 x 13.75	19	x 8.5	x 8.75
M15-40V	15	5 x 10.75	16	x 10.75	x 11.25
M19-40V	19	6 x 10.75	16	x 12	x 12.75
M20-40V	20	5 x 13.75	19	x 10.75	x 11.25
M26-40V	26	6 x 13.75	19	x 12	x 12.75
M30-40V	30	4 x 22.75	28	x 8.5	x 9.25
M47-40V	47	5 x 22.75	28	x 10.75	x 11.75
M60-40V	60	6 x 22.75	28	x 12	x 13.25

SPECIAL INDUCTORS ON REQUEST.

730 W. McNAB ROAD • FT. LAUDERDALE, FLORIDA 33309 • 305 974-0300

INDUCTORS AND ACCESSORIES

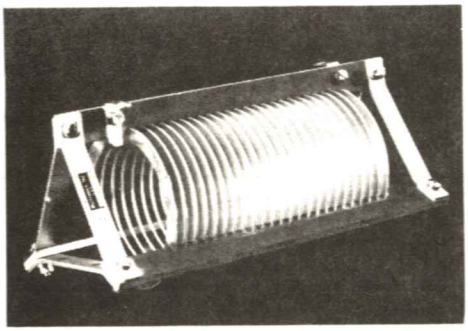
MULTRONICS, INC.

APPLICATION

Multronics RF Inductors and associated components are unsurpassed for providing accuracy and stability in communications systems requiring impedance matching, phase shifting, power dividing and filtering networks. Widely accepted by the communications industry and other equipment manufacturers, these components are used domestically and internationally in a variety of equipments from amateur radio to high-power LF, and from induction heating to cyclotrons. Highest quality RF materials, precise engineering designs, and controlled fabrication techniques used in the production of Multronics RF components result in reliable HI-Q systems.

Multronics RF Inductors range from 15 to 100 amperes current handling capability with inductance values of 5 to 620 microhenries. Other sizes and ratings that those listed are available on special order. Related accessories for use in RF systems are listed to indicate the complete line of RF components available to communications engineers and radio broadcasters.

FIXED EDGEWOUND INDUCTORS



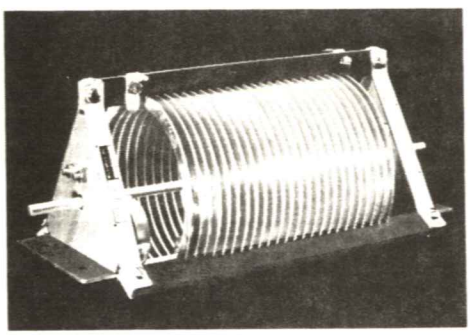
15 AMP, 3/8 inch by .072 Ribbon

Cat. No.	Inductance (uh)	Mounting Dimensions (in.)	Overall Dimensions (in.) L	W	H
M9-15	9	2 x 8	8.75	x 6	x 5.75
M13-15	13	2 x 8	8.75	x 6.75	x 6.75
M16-15	16	2 x 10.25	11	x 6	x 5.75
M18-15	18	3 x 8	8.75	x 7.75	x 7.75
M23-15	23	2 x 10.25	11	x 6.75	x 6.75
M32-15	32	3 x 10.25	11	x 7.75	x 7.75
M53-15	53	2 x 12.5	13.25	x 6	x 5.75
M78-15	78	2 x 12.5	13.25	x 6.75	x 6.75
M105-15	105	3 x 12.5	13.25	x 7.75	x 7.75

20 AMP, 1/2 inch by .090 Ribbon

M9-20	9	2 x 8	8.75	x 6	x 5.75
M13-20	13	2 x 8	8.75	x 6.75	x 6.75
M16-20	16	2 x 10.25	11	x 6	x 5.75
M18-20	18	3 x 8	8.75	x 7.75	x 7.75
M22-20	22	2 x 12.5	13.25	x 6	x 5.75
M24-20	24	2 x 10.25	11	x 6.75	x 6.75
M32-20	32	3 x 10.25	11	x 7.75	x 7.75
M35-20	35	2 x 12.5	13.25	x 6.75	x 6.75
M47-20	47	3 x 12.5	13.25	x 7.75	x 7.75
M54-20	54	2 x 12.5	13.25	x 6	x 5.75
M79-20	79	2 x 12.5	13.25	x 6.75	x 6.75
M107-20	107	3 x 12.5	13.25	x 7.75	x 7.75
M120-20	120	3 x 12.5	13.25	x 7.75	x 7.75
M175-20	175	8 x 10.25	11	x 21	x 21
M270-20	270	8 x 12.5	13.25	x 21	x 21
M620-20	620	8 x 12.5	13.25	x 21	x 21

VARIABLE EDGEWOUND INDUCTORS



15 AMP, 1/2 inch by .090 Ribbon

Cat. No.	Inductance (uh)	Mounting Dimensions (in.)	Overall Dimensions (in.) L	W	H
M9-15V	9	2 x 10	12.75	x 6	x 5.75
M13-15V	13	3 x 10	12.75	x 6.75	x 6.75
M16-15V	16	2 x 12.25	15	x 6	x 5.75
M18-15V	18	3 x 10	12.75	x 7.75	x 7.75
M22-15V	22	2 x 14.5	17.25	x 6	x 5.75
M24-15V	24	3 x 12.25	15	x 6.75	x 6.75
M32-15V	32	3 x 12.25	15	x 7.75	x 7.75
M35-15V	35	3 x 14.5	17.25	x 6.75	x 6.75
M47-15V	47	3 x 14.5	17.25	x 7.75	x 7.75
M54-15V	54	2 x 14.5	17.25	x 6	x 5.75
M79-15V	79	3 x 14.5	17.25	x 6.75	x 6.75
M107-15V	107	3 x 14.5	17.25	x 7.75	x 7.75

RF CONTACTOR
Model 160/161 Series

MULTRONICS®, INC.

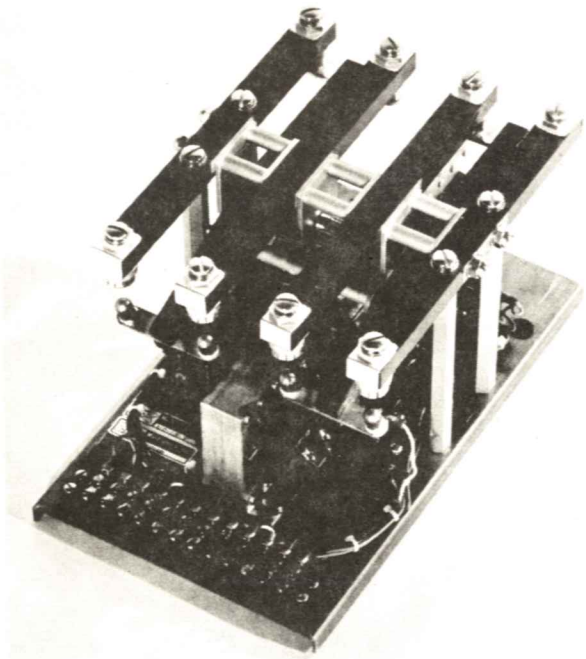
APPLICATION

The Model 160/161 RF Contractors are designed primarily for high voltage RF Circuit applications at VLF, LF, MF, and HF. They can also be used as an excellent high voltage DC switch for transmitter applications. The standard RF Contactor is furnished for 220 volt systems with voltage handling capability from 208 to 240 volts. A 110 volt version is available on special order.

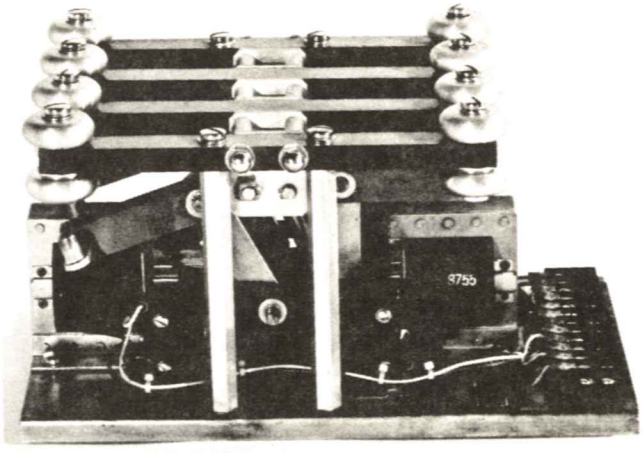
DESCRIPTION

Multronics Models 160/161 RF Contactors have been designed to handle high voltage RF switching. On the 161 Corona pluming is prevented by means of a special corona gradient shield. Silver plated beryllium-copper contact cups assure maximum surface contact for all switching modes. Switching is accomplished with two heavy duty solenoids with molded and encapsulated coil windings that require only momentary application of control power. Two protective limit switches that are normally closed during the switching cycle serve to remove control power when the cycle is completed, and two additional (normally open) limit switches provide electrical interlock and impulse for indicator circuits.

Positive transfer action is accomplished with a spring loaded breechlock mechanism. No ceramics or micalex are used in the Model 160/161. The specially treated and virtually indestructable (NEMA GPO-3) material used in arms and crossbars provides added strength and durability, as well as voltage and current handling capability without arcing. Servicing and parts replacement is simplified, since basic parts are accessible without disassembly.



Model 160-220-1



Model 161-220-1

SPECIFICATIONS

RF RATINGS:

	Model 160-220-1	Model 160-220-3	Model 161-220-1	Model 161-220-3
Voltage (KV Peak)	24 KV	24 KV	40 KV	40 KV
Amperage (RMS)	40 A	80 A	40 A	80 A
Action	DPDT	SPDT	DPDT	SPDT

Both relays are similar; different strapping configuration is used to accomplish individual characteristics of the Contactor Series, and Corona Rings added to the 161 Series.

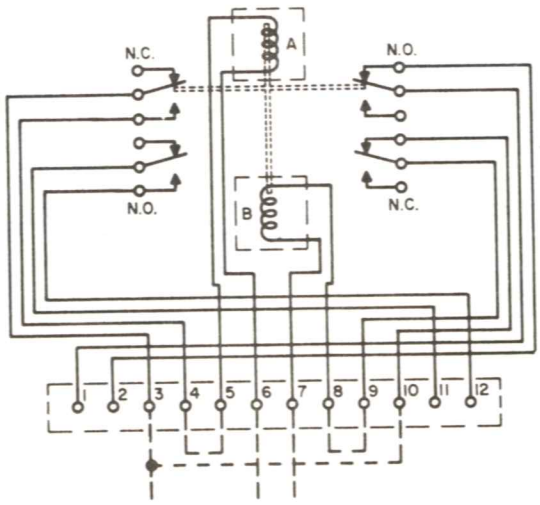
POWER EQUIPMENT:

50 - 60 Hz, 208 VAC WYE or 230 - 240 VAC DELTA, 8 AMP

WEIGHT	MOUNTING DIMENSIONS (inches)	OVERALL DIMENSIONS (inches)
15 pounds	5-7/8 x 5-7/8	12 long x 7 wide x 7 high

SPECIAL FEATURES

- Available for two AC voltages: Standard Model 161-220 (208-240 VAC @ 50-60 Hz)
  Special Order 161-110 (100-125 VAC @ 50-60 Hz)
- All limit switches contact rated at 15 amperes.
- Terminal Board has 12 screw-type terminals with numbered marker strip.
- Normally uses #16 AWG (600V) stranded wire for control circuits; #10 or #12 AWG wiring to solenoids.
- Extremely rugged construction, with military high reliability parts and components.
- Parts replacement simplified by symmetrical arrangement and easy accessibility.
- Shakeproof hardware provides added reliability. The breechlock device provides positive protection against recoil.



Schematic of Model 160/161 RF Contactor

RF CONTACTOR
Model 5080 Series (High Voltage)

MULTRONICS®, INC.

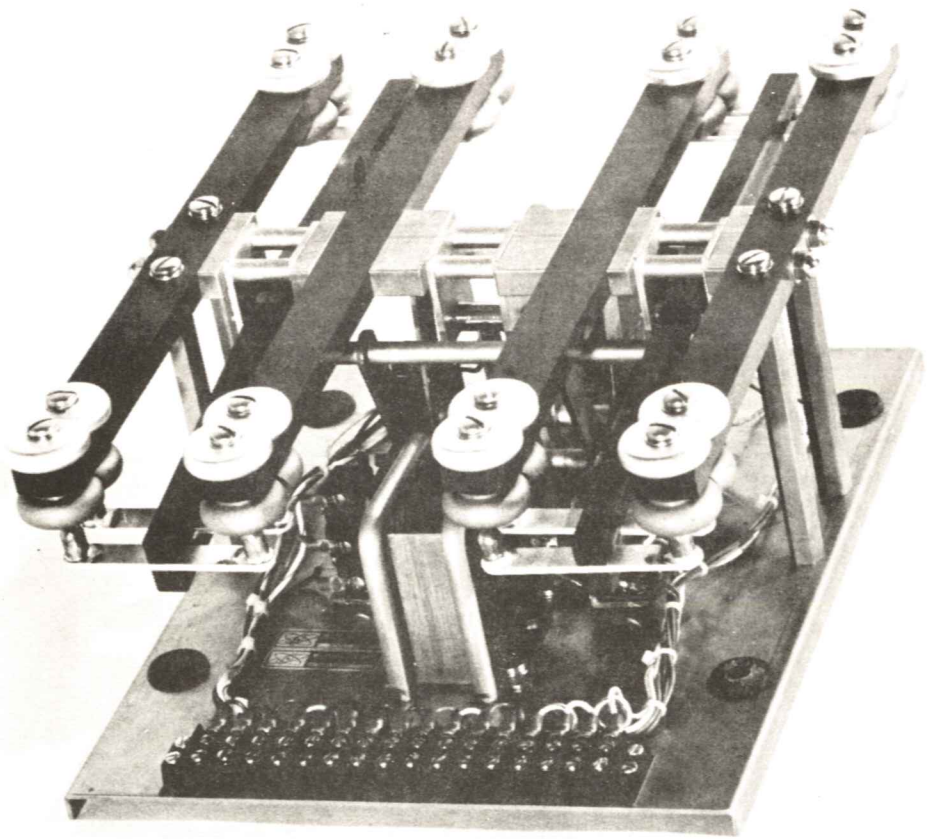
APPLICATION

The Model 5080-220-1 RF Contactor is designed primarily for high power RF Circuit applications at VLF, LF, MF, and HF. It can also be used as an excellent high voltage DC switch for transmitter applications.

DESCRIPTION

Multronics Model 5080 RF Contactor has been designed to handle high voltage RF switching. Corona or pluming is prevented by means of special corona gradient shields. Silver plated beryllium-copper contact cups assure maximum surface contact for all switching modes. Switching is accomplished with two heavy duty solenoids with molded and encapsulated coil windings that require only momentary application of control power. Two protective limit switches that are normally closed during the switching cycle serve to remove control power when the cycle is completed, and two additional (normally open) limit switches provide electrical interlock and impulse for indicator circuits. All limit switch functions are brought out to a 16 pin terminal board.

Positive transfer action is accomplished with a spring loaded breechlock mechanism using a minimum 15 pound force. The specially treated and virtually indestructable (NEMA GPO-3) material used in arms and crossbars provides added strength and durability, as well as voltage and current handling capability without arcing. Servicing and parts replacement is simplified, since basic parts are accessible without disassembly.



SPECIFICATIONS

RF RATINGS:

Voltage (KV Peak)	50 KV
Amperage (RMS)	80 A
Action	DPDT

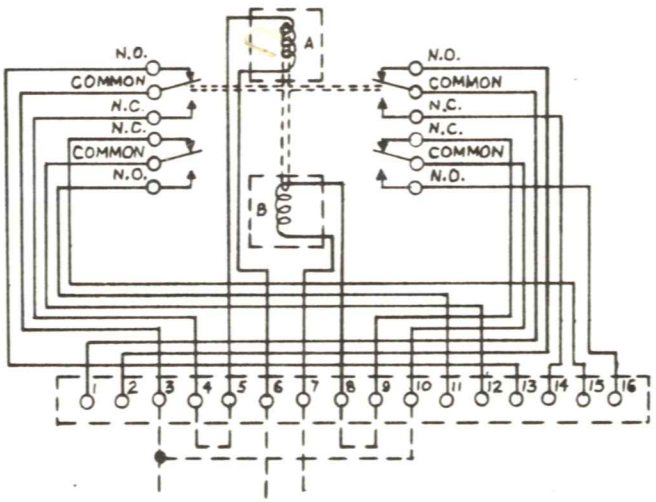
POWER REQUIREMENT:

50 - 60 Hz, 220 VAC, ±10%, 8 AMP, (Nominal 6.5 AMP at switching cycle).

WEIGHT	MOUNTING DIMENSIONS (inches)	OVERALL DIMENSIONS (inches)
20 pounds	8 long x 10¼ wide	13½ long x 11 wide x 7 high

SPECIAL FEATURES

- All limit switches contact rated at 15 amperes
- Terminal Board has 16 screw-type terminals with numbered marker strip
- Normally uses #16 AWG (600V) stranded wire for control circuits; #10 or #12 AWG wiring to solenoids
- Extremely rugged construction, with military high reliability parts and components
- Parts replacement simplified by symmetrical arrangement and easy accessibility
- Shakeproof and self-locking hardware provides added reliability. The breechlock device provides positive protection against recoil



Schematic of Model 5080 RF Contactor

INDUCTORS AND ACCESSORIES

MULTRONICS, INC.

APPLICATION

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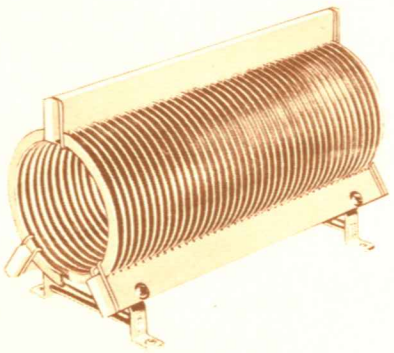
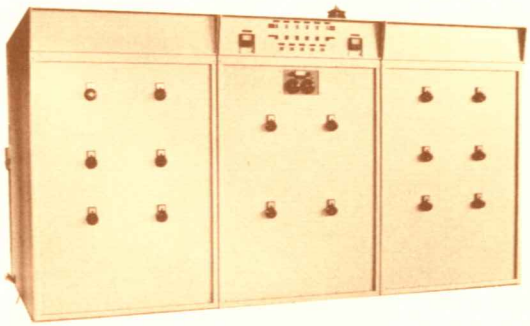
Multronics RF Inductors range from 15 to 100 amperes current handling capability with inductance values of 5 to 620 microhenries. Other sizes and ratings than those listed are available on special order. Related accessories for use in RF systems are listed to indicate the complete line of RF components available to communications engineers and radio broadcasters.

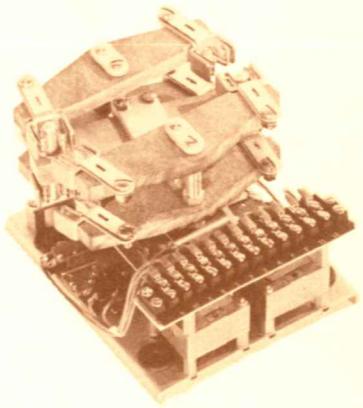
TYPICAL PRODUCTS



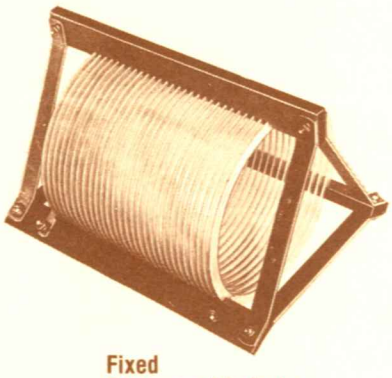
Fixed 'H-Q' Inductors



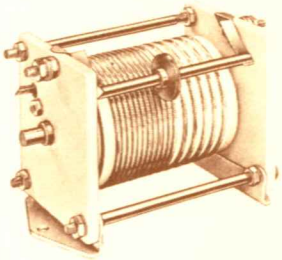
AM Phasing Systems



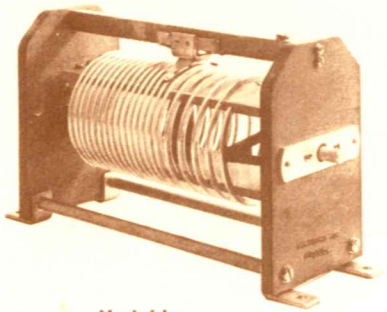
RF Contactors



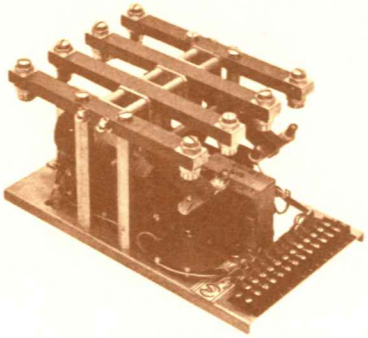
Fixed
Edgewound Inductors



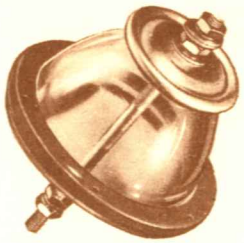
Roller Inductors



Variable
Edgewound Inductors



RF Contactors



Feed-Thru Bowl
Insulators