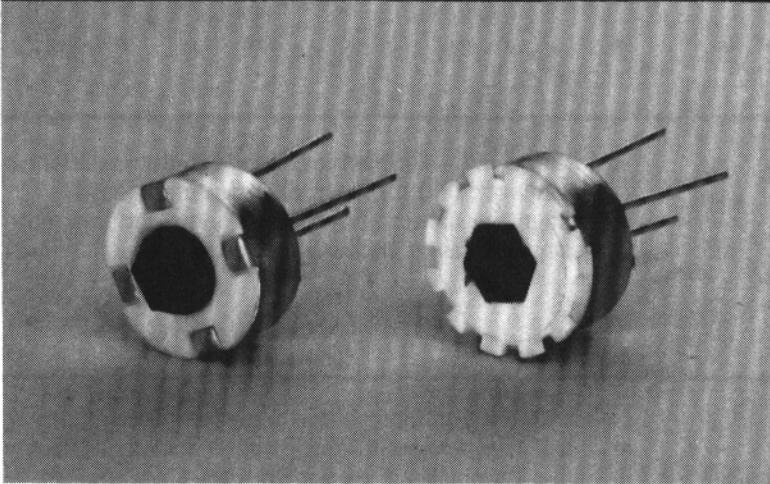


Type Y
**Hot-Molded
Trimming Potentiometers**



Features

- Thumbwheel/Screwdriver Adjustment . . .
- Linear and Non-Linear Tapers
- 5000 Mechanical Cycles
- Snap-In Panel Mount

Benefits

- Versatility
- Versatility
- Very Long Rotational Life
- Versatility

AVAILABILITY

Groupings

The Type Y Hot-Molded Trimming Potentiometers are available as follows.

OEM standard components—These OEM components (Resistance Value listed in the table on Page 288) are stocked as components at our manufacturing facilities. They offer a wider range of possible combinations than

the distributor stocked final assemblies but do require assembly.

All custom components—All other components listed are available. Since they are not stocked, they require **both** fabrication and assembly.

SPECIFICATIONS

General

- Temperature range — -55°C to $+100^{\circ}\text{C}$.
- Total resistance range — 100 ohms to 5 Megohms.
- Total resistance tolerances — $\pm 20\%$ or $\pm 10\%$.

Tapers— See chart on Page 286 for explanation of tapers. Special tapers, where practical, can be supplied.

End resistance— See chart on Page 286.

Electrical

Power — 0.25 watt maximum for "U" linear taper at +50°C provided voltage rating is not exceeded.

Power derating — Derate power linearly from +50°C to zero at +100°C. Derate power 50 percent for resistors with "A", "B", "S", and "DB" tapers. For rheostat applications, derate power directly with shaft or actuator position.

Voltage — 350 volts maximum working voltage (RMS or DC), or as determined by $E_{max.} = \sqrt{PR}$, whichever is less (at sea level).

Dielectric withstanding voltage — Will withstand a one second test of 750 volts (RMS or DC) at sea level or 350 volts (RMS or DC) at 3.4 inches (86,36 mm) mercury.

Insulation resistance — 1000 megohms minimum for clean and dry conditions at +25°C.

Voltage characteristic — 0.005 percent per volt or 0.5 ohm, whichever is greater.

Operational

Load Life — 10 percent maximum change in total resistance as a result of a 1000 hour test at rated power across entire element in still air at +50°C (1.5 hours "ON", 0.5 "OFF").

Rotational life — Maximum change in total resistance as a result of 5000 mechanical cycles under load is 10 percent for values above 500K ohms and less than 5 percent for values below 500K ohms.

Mechanical

Shafts — Thumbwheel or screwdriver adjustment, refer to DIMENSIONS on following pages.

Rotation — Mechanical rotation is $295^\circ \pm 5^\circ$. Electrical rotation is 270° nominal.

Turning torque — 0.25 to 3 inch-ounces (0,018 to 0,22 kgf-cm) at +25°C.

Backlash — Maximum of 3 degrees.

Stop torque — 2 inch-pounds (2,31 kgf-cm) minimum.

Construction — Materials are corrosion resistant and essentially non-magnetic. Enclosure is dust and splash resistant. Terminals are treated for easy soldering.

Standard marking — Clarostat part number and nominal resistance value. Other marking possible, limited to maximum of 16 characters in each of two lines for Types YR, YC and YN. 8 characters in each of two lines for Types YH and YS. "Type Y" always included.

Environmental

Vibration — 3 percent maximum change in total resistance or setting. (Tested per EIA Standard RS-186B, Method 7, Type 1 and Method 8, Type I.)

Shock, medium impact — 3 percent maximum change in total resistance or setting after a 50G, 11 millisecond test.

Effect of soldering — 2 percent maximum change in total resistance as a result of immersing the terminals in +350°C solder to within 0.125 inch (3,18 mm) of the resistor for a maximum of 3 seconds. (Tested per EIA Standard RS-186B, Method 10.)

Steady state humidity — Maximum temporary resistance change 10 percent. (Tested for 96 hours per EIA Standard RS-186B, Method 1.)

Salt spray — No evidence of corrosion damage. (Tested for 96 hours per EIA Standard RS-186B, Method 5, using Type I [20%] salt solution.)

Temperature cycling — 3 percent maximum change in total resistance as a result of the temperature cycling test. (Five cycles -55°C to +100°C.)

Low temperature operation — 2 percent maximum change in total resistance as a result of the low temperature operation test. (-55°C for two hours without load and 45 minutes with rated load.)

Low temperature storage — 2 percent maximum change in the total resistance as a result of the storage test. (24 hours at -63°C.)

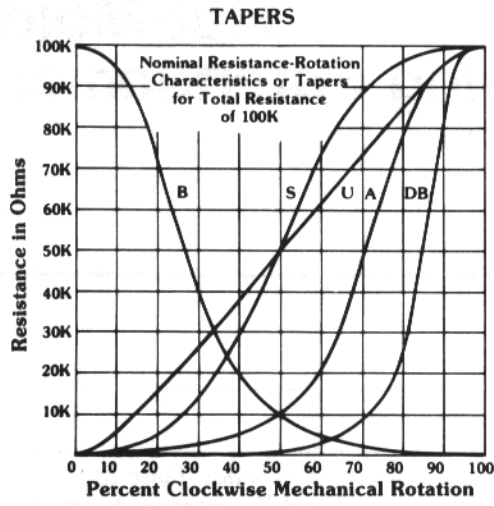
Temperature characteristics — Maximum percent temporary total resistance change from the +25°C value. See table below.

Washability — Performance of Type Y Trimmers may be adversely affected if subjected to conventional after-solder boardwash processes.

Nominal Resistance	Degrees Celsius — "U" Linear Taper						
	-55°	-25°	0°	+25°	+55°	+85°	+100°
100 Ohms	+4.5	+2.5	+1.5	0	±1.0	±1.5	+2.0
1,000 Ohms	+5.5	+3.0	+1.5	0	±1.0	±2.0	+2.5
10,000 Ohms	+7.0	+3.5	+2.0	0	±1.0	±2.5	+2.7
100,000 Ohms	+8.0	+4.0	+2.0	0	±1.5	±3.0	+3.2
1 Megohm	+10.0	+5.0	+2.5	0	±1.5	±3.5	+4.0

For "S", "A", "B" and "DB" tapers multiply percentage figures shown above by 1.25.

Taper Data



Tapers A, DB, S and U are measured between the wiper and the counter-clockwise terminals; taper B is measured between the wiper and the clockwise terminals.

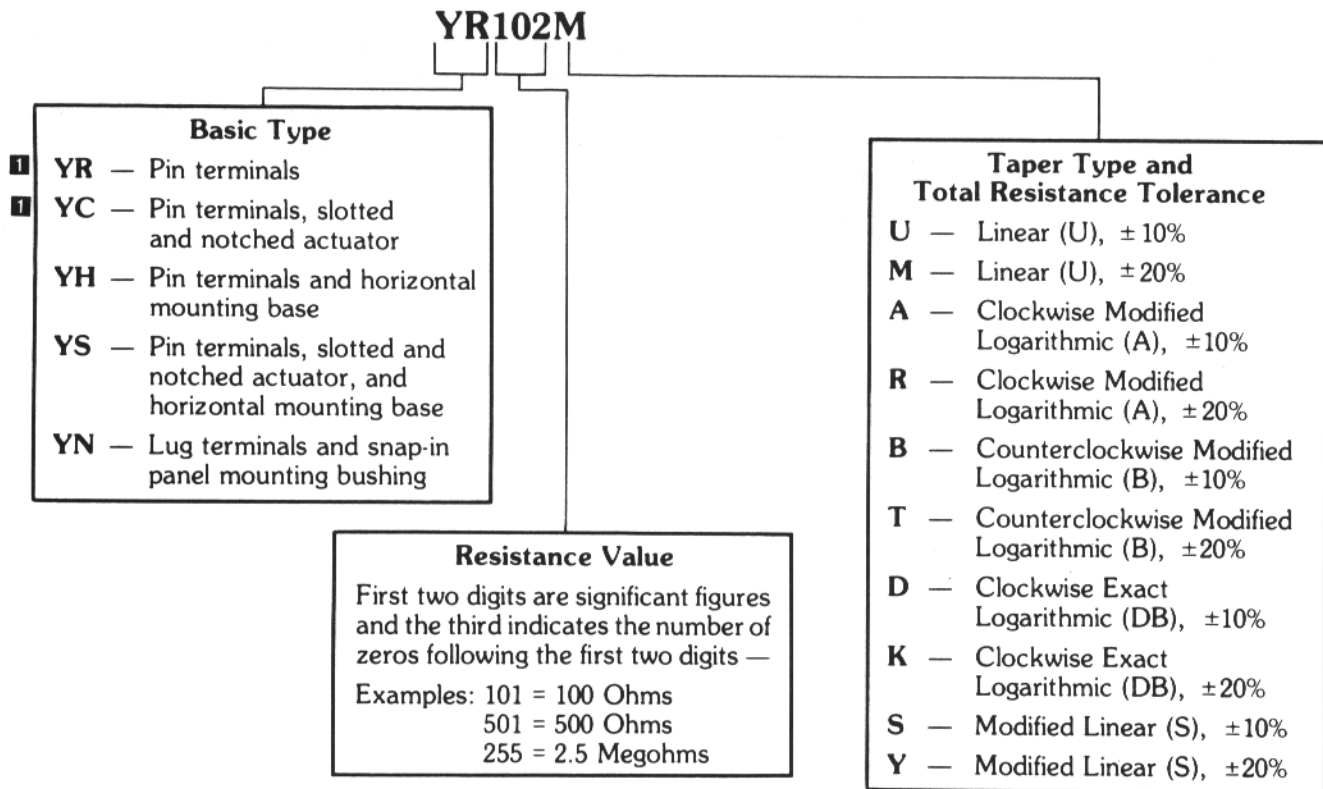
END RESISTANCE

TAPER	MINIMUM RESISTANCE BETWEEN TERMINALS 1 and 2	MINIMUM RESISTANCE BETWEEN TERMINALS 2 and 3
U & S	❶	❶
A	❶	❷
B	❷	❶
DB	❸	❷

- ❶ Less than .004% of total resistance, or less than 15 ohms whichever is greater.
- ❷ Less than 1% of total resistance or less than 15 ohms whichever is greater.
- ❸ Less than 15 ohms.

Hot-Molded Trimming Potentiometers

Explanation of Part Numbers



1 THESE CONFIGURATIONS ARE AVAILABLE AS A SPECIAL ORDER ONLY.