

Induction Relay Coil Selection Data

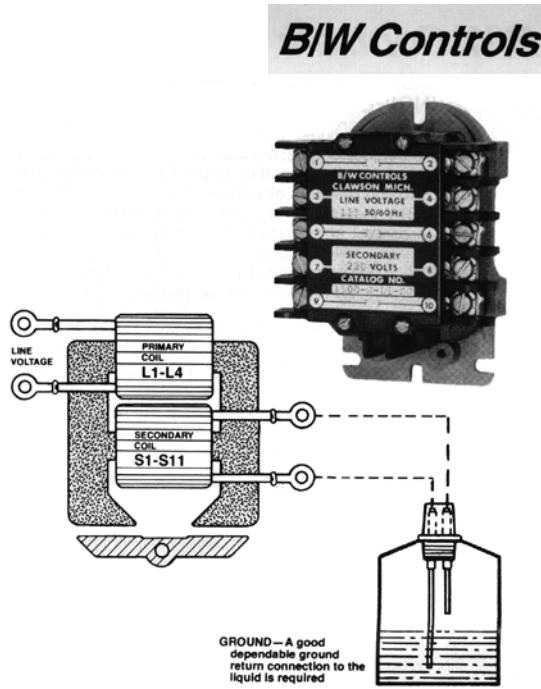
Primary Coil:

The primary coil voltage should be chosen to match the line voltage of the control system. The 1500 Series Induction Relay can be supplied with any of the following line voltages.

Line Voltage	Frequency (Hertz)	Max Amps (Secondary Shorted)
110-120	50-60	.075
208-240	50-60	.038
440-480	50-60	.019

Secondary Coil:

Since B/W level control systems use liquid as an electrical conductor to complete the relay's secondary circuit - and since the resistance of liquid varies, it is necessary that each induction relay be equipped with a secondary coil that will operate over the resistance of the liquid it controls. The table below lists the operating characteristics of various coils available. All values are based on line voltage of 115, 230, 460 volts at 60 hertz.



Typical Liquids:

The following recommendations are satisfactory for general use, but because the conductivity of liquids varies greatly with concentration, purity, temperature and other factors, some applications may require a different selection. A number of the products listed are produced as solids such as crystals or powders, and the relay selection is based on the normally used commercial solutions of these materials.

Liquid Description	Secondary Coil	Liquid Description	Secondary Coil	Liquid Description	Secondary Coil
Acetic Acid - up to 75%	90 volt	Carbolic Acid - up to 90%	220 volt	Nitric acid	40 or 90 volt
- 75 - 90%	220 volt	Catsup	90 volt	Orange juice	90 volt
Acids - General	40 or 90 volt	Caustic Soda (Sodium Hydroxide)	40 volt	Paper stock	220 volt
Alkalies - General	40 or 90 volt	Cement slurry	220 volt	Penicillin	220 volt
Alum Solutions	220 volt	Chromic acid	40 volt	Phosphoric acid	40 volt
Aluminum Sulphate	90 volt	Citric acid	40 or 90 volt	Plating solutions	40 or 90 volt
Aluminum Hydroxide	90 volt	Coffee	90 volt	Salts - chemical	40 or 90 volt
Amino Acids	90 volt	Condensate - ordinary water	480 volt	Sodium Carbonate (soda ash)	90 volt
Ammonium Chloride	40 volt	Corn syrup	480 volt	Sodium Chloride (table salt)	40 volt
Ammonium Hydroxide (Ammonia)	220 volt	Corn - cream style	90 volt	Sodium Hydroxide (caustic soda)	40 volt
Ammonium Sulphate	220 volt	Ferrous Sulphate	220 volt	Sodium Hypochlorite	40 volt
Baby foods	90 volt	Formic acid - up to 75%	90 volt	Sodium Silicate (water glass)	90 volt
Barium Chloride	40 volt	- 75 to 90%	220 volt	Soups	40 volt
Barium Nitrate	40 volt	Hydrofluoric acid - up to 20%	220 volt	Starch solutions	220 volt
Beer	90 volt	- above 20%	40 volt	Sugar - low concentrations	220 volt
Black liquor	40 volt	Hydrofluosilicic acid	90 volt	- high concentrations	360 volt
Blood	220 volt	Jams & jellies	360 volt	Vinegar	90 volt
Borax - up to 10%	220 volt	Juices - fruit & vegetable	40 or 90 volt	Water - Sea	40 volt
- Greater than 10%	90 volt	Lithium Chloride	40 volt	- Ordinary potable	220 volt
Bread dough	90 volt	Magnesium Hydroxide	90 volt	- ordinary soft	360 volt
Buttermilk	24 or 40 volt	Mayonnaise	220 volt	- Ordinary condensate	480 volt
Cadmium Chloride	40 volt	Milk	40 volt	Zinc Chloride	40 volt
Cake batter	220 volt	Molasses	220 volt		
Calcium Chloride	40 volt	Muriatic acid	40 volt		
Calcium Hydroxide	220 volt	Mustard	40 volt		

NOTE: Maximum distance limitations for typical induction relay secondary circuits are: 220 secondary - 900 feet, 360 secondary - 350 ft, 480 secondary - 250 ft.