RLC circuits are circuits that contain an ohmic resistor R, an inductor L and a capacitor C connected in series or parallel and connected to an alternating current source as shown in the following figures.It can be defined as "the impedance or resistance encountered by an alternating current when passing through the coil due to its self-induction" and its unit is ohm. Factors on which the inductive reactance of a coil (XL) depends: ? frequency (f) ? Coefficient of self-inductance of the coil (L) XL = 2? f L ----------(1) It is clear from this equation that the relationship between the inductive reactance and the frequency is a direct relationship, as the inductive reactance of the coil increases with increasing the frequency. When alternating current passes through the capacitor, it winds up a type of resistance called the "capacitive reactance of the capacitor" because it arises from the capacitance of the capacitor and is denoted by the symbol "XC".The alternating voltage and alternating current are in phase, that is, they have the same phase angle When alternating current passes through an induction coil (without resistance), the coil's self-induction generates a reverse induced electromotive force in the coil that resists the original current, and this resistance is called the "inductive reactance of the coil" and is symbolized by the symbol (XL).Series connection Parallel connection 44 When alternating current passes through the ohmic resistance, it encounters resistance as a result of the collision of the current's electrons with the conductor's atoms and molecules, and energy is exhausted in it in the form of heat.