We propose a mechanism by which a number of useful all-optical operations, such as switches, diodes, and logic gates, can be performed with a single device. An effective potential well is obtained by modulating the coupling between the waveguides through their separations. Depending on the power of a control soliton injected through the potential well, an incoming soliton will either completely transmit or reflect forming a controllable switch. We show that two such switches can work as AND, OR, NAND, and NOR logic gates. Furthermore, the same device may also function as a perfect soliton diode with adjustable polarity. We discuss the feasibility of realizing such devices with current experimental setups.