

Roller Chain Jam and Breakage Protection for Conveyors

Challenge:

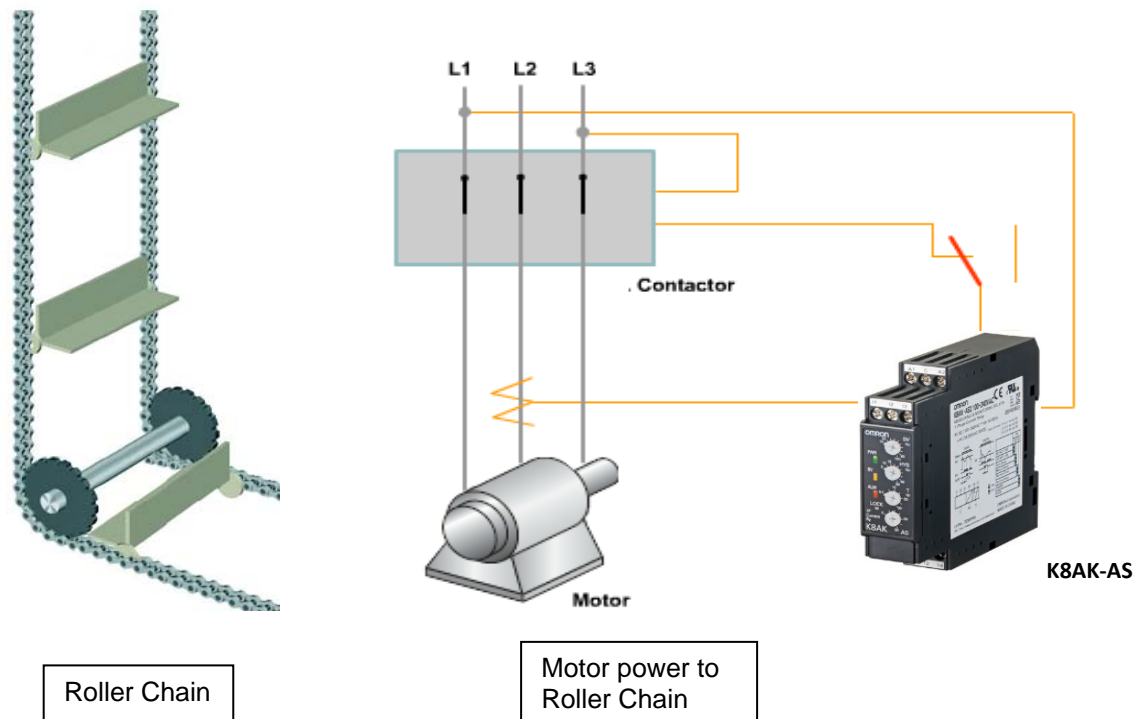
Manufacturers using roller chain conveyors or belt conveyors can have odd shaped products jam the conveyor. When this happens damage can occur to both the product and the conveyor equipment. Stopping the conveyor quickly can reduce costly damage from occurring.

Solution:

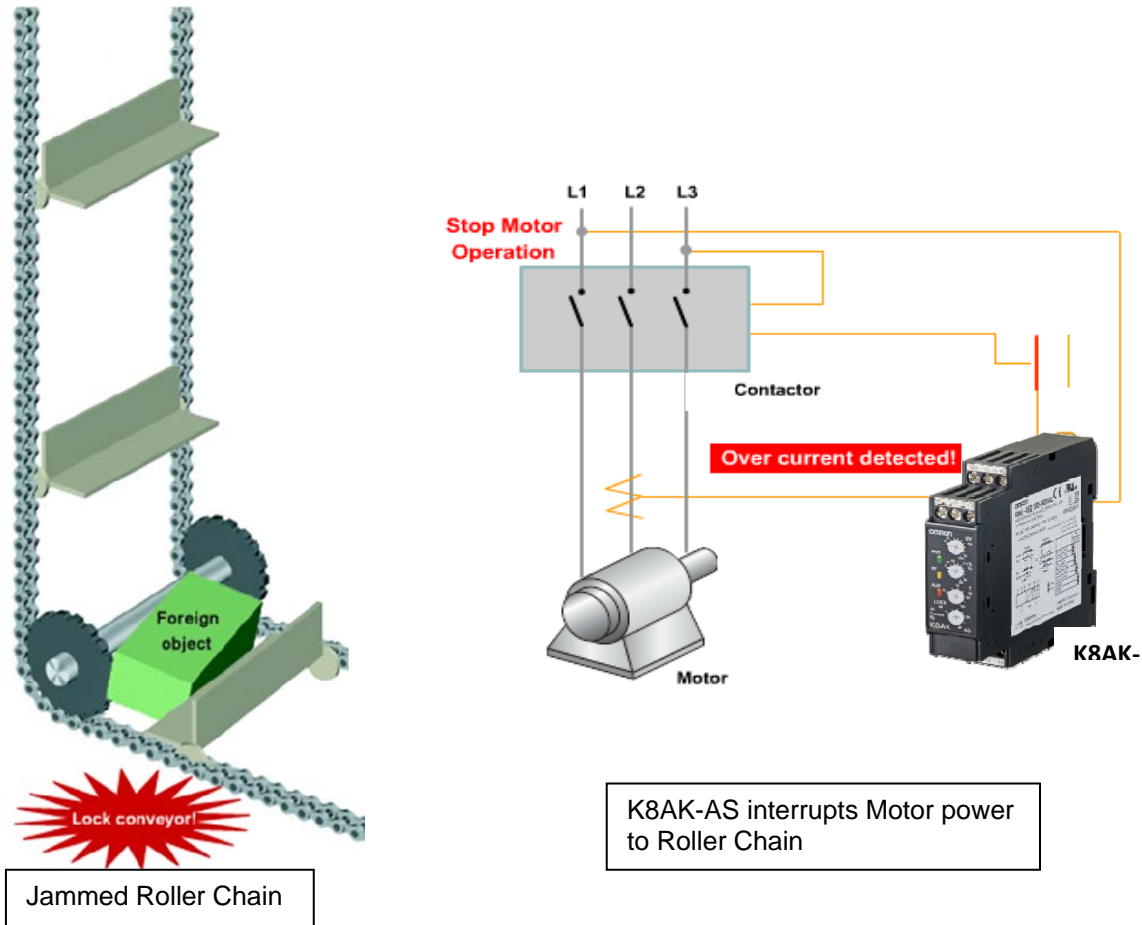
The K8AB-AS3 current relay monitors overcurrents and undercurrents. The K8AK-AS3 offers effective roller chain and conveyor protection because it starts operating in 0.1 s or less. When a jam occurs the current draw increases rapidly and the K8AK-AS3 will signal the change.

How It Works:

The Current Sensing Relay (K8AK-AS3) is wired into the control circuit and allows the motor to energize during start up and proper operation. Using the K8AK-AS3 as the roller chain or conveyor operates normally, it will continually check the current level of the motor.



If a foreign object or the product on the conveyor jams the operation, the roller chain stops moving and the current level operating the motor will increase dramatically (Locked Rotor Condition). This locked rotor condition will damage the motor or break the chain (Conveyer belt) if it is not stopped quickly.



By using the K8AK-AS3 the system automatically detects this increase in current caused by the jam and shuts down the roller chain operation. Once the jam is removed or cleared the system can be restarted without any reset time.

For More Information:

For more information on the K8AK-AS Current Sensing Relay, visit www.omron247.com or contact Omron at 800-55-OMRON.