



# APPLICATION GUIDE

## CONCRETE MIXING



Type BEMF

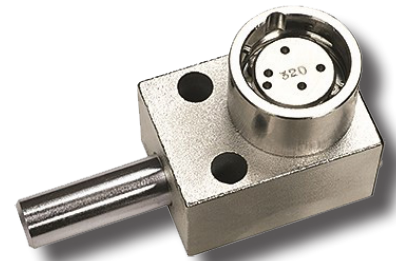
## CONCRETE MIXING

Concrete is the most commonly used man-made material on earth. The uses of concrete range from structural applications to piping, drains, and pavers. Buildings, bridges, roads, and more could not be constructed without this important material.

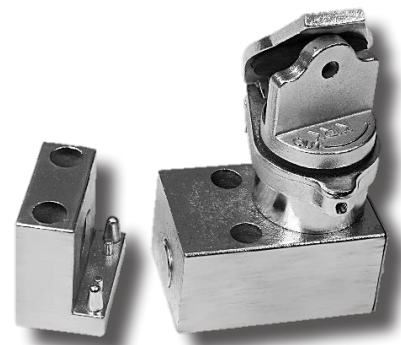
Working with concrete introduces safety hazards that can place workers in danger and put their lives at risk. Concrete mixing plants must perform regular maintenance on mixers to ensure proper working conditions and efficiencies. Maintenance can involve accessing the mixer's entry points for cleaning and servicing of paddles. To ensure worker safety, power must be isolated prior to entry of the mixer and at no time during maintenance can power be inadvertently re-energized.

Implementing a trapped key interlock safety system into the safety procedures for power isolation can eliminate human error and drive a pre-determined sequence of operations to ensure worker safety.

An example of a KIRK® trapped key interlock safety scheme for concrete mixer maintenance is detailed on the back side.

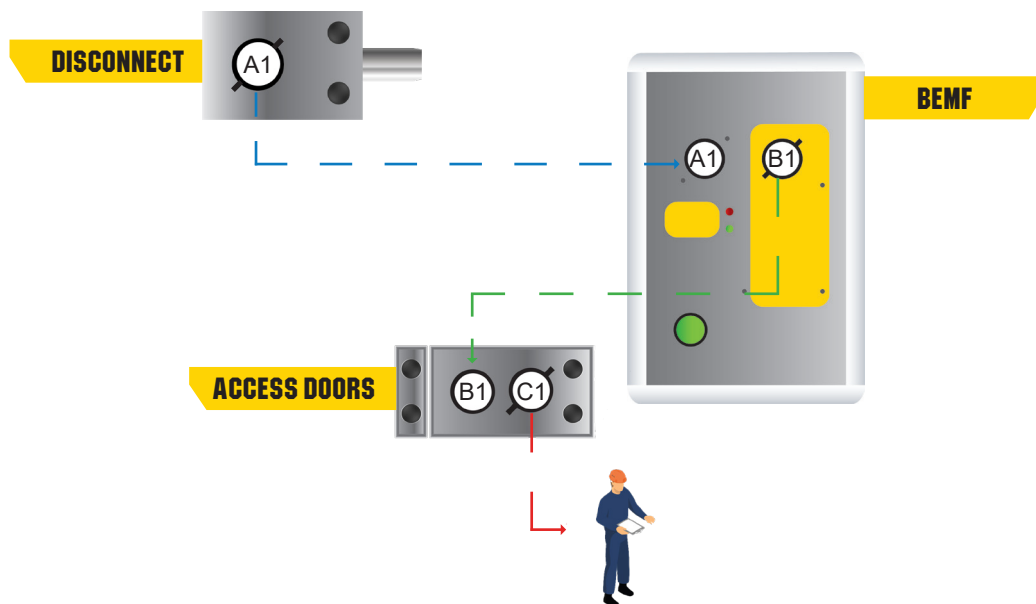


Type F



Type D

# INTERLOCKING LOGIC



## OPERATION

### INITIAL SYSTEM STATUS:

The concrete mixer is in operation and all access doors are locked. The hopper has been emptied and mixer is ready for maintenance.

### SYSTEM OPERATION:

1. Rotate key A-1 in the KIRK® trapped key interlock fitted to the power isolation disconnect switch. This isolates the power and releases the key ensuring power cannot be restored until the key is re-engaged in the interlock.
2. Take key A-1 to the BEMF unit wired to the concrete mixer. Engage key A-1 in the BEMF and rotate, energizing the BEMF measuring the presence of the mixers back electro-motive force. Once the back electro-motive force is completely absent, only then will the BEMF unit release key B-1. Key A-1 is now trapped.
  - a. A TDKRU unit (Time Delay Key Release Unit) could also be used in place of a BEMF. The TDKRU unit would be pre-set to the appropriate run down time of the mixer, only releasing key B-1 once time has expired.
3. Take key B-1 to the KIRK® 2-cylinder access interlock. Engage and rotate key B-1. B-1 is now trapped and key C-1 is released, acting as the personnel key to be kept on your person until maintenance is complete.
  - a. In the situation of a mixer with multiple access doors, key B-1 could be taken to a transfer interlock which would then trap key B-1 and release multiple keys for multiple access doors.
4. Reverse the sequence to lock doors and restore power to the mixer.