APPLICATION NOTE 364024: **Configuring the Kurz 6500 Flow/Level Switch for "FAIL-SAFE" Conditions.**

Generic – Used in *all* industries and applications

Application: Wiring and configuring the Kurz 6500 Series Flow/Level Switch for "Fail-Safe" operation.

Product Used: Kurz 6500 Series Flow-Level-Interface-Temperature Switch.

LOOP -	VAC-H
LOOP +	VAC-N
R2NC	COM
R2NO	+VDC
R2CM	485-T
R1NC	485-A (-)
R1NO	485-B (+)
RICM	485-C

6500 Series wiring terminals

Description: The term "Fail-safe" refers to a method of wiring and programming control instrumentation commonly used in hazardous locations/applications such as a chemical plant, gas plant or refinery.

Problem: In a "Fail-safe" application the instrument is wired and configured to be "ON" (closed contacts, outputs(s) supplied by the instrument to the system) during normal system operations, but "OFF" (contact(s) open or de-energized, outputs(s) discontinued) in the event of a power failure, cable break, self-test failure, or other loss of electrical power.

Solution: A common "Fail-safe" set up for **NO FLOW CONDITION, PUMP PROTECTION**:

- Connect the relay contact wires to Normally Open **(R1NO, R1CM)**[1]
- Program the relay(s) to energize above setpoint.[2]
- Depending on application and set up of the switch, the relay contact(s) will OPEN (de-energize):
    a. When the thermal signal decreases due to the decrease or loss of flow/level.
    b. When power is lost to the switch as described above.

Notes:

1. The Kurz 6500 Series provides wiring terminals for **Normally Open** and **Normally Closed** outputs, as well as the ability to set (locally via the keypad or remotely via the RCM Software) the relay contact(s) to energize above or below setpoint(s).
2. The RELAY LED's are illuminated when the corresponding relay is energized.