



APPLICATION NOTE 364031: **CONTROLLING CONDENSATE  
LEVEL WITH KURZ 6500 SERIES SWITCHES**

**Applications:**

- Condenser Hotwell
- Condensate Drip Wells

**Industry:**

- **Power plants/Power Generation**

**Description:**

- The “Condenser” is the primary water reservoir for the turbine.
- Steam is condensed to water here and then is supplied to the low pressure feed water heaters.

**Problem:**

- One of the few LEVEL applications where *high sensitivity*, *high repeatability* and *fast response* are critical.
- Proper level control at this point is critical to the thermal efficiency of the process and operation of the turbine system.
- The “usual suspects” that can cause instrument malfunctions and maintenance problems are present:
  - a. High vibration
  - b. Temperature extremes depending upon location and operation the instrument will see high temperatures (steam) and low temperatures (to the point where ice may form in the area).
  - c. Water contamination—feed water and cooling water often contains sediment and high mineral content.
  - d. Electromagnetic interference.
  - e. Difficult and/or controlled access points limit monitoring and daily maintenance.

**Solution: Kurz 6500 Series**

- **SET UP & RESPONSE:** Easy, incremental adjustment and control of heater power, range (zero and span), relay set points and timer functions enable the user to configure the switch for faster response without sacrificing sensitivity or repeatability.
- **RELIABILITY:** Unlike float, paddle or gap switches Kurz switches feature all-welded, 316L stainless steel sensors, no-moving parts, true digital electronics with auto-diagnostic functions and sealed enclosures with vibration dampening.
  - a. Temperature: Continuous use: -67°F to +392°F (-55°C to +200°C). Remote electronics available.
  - b. Vibration: No-moving-parts design and welded construction makes this a non-issue.
  - c. Coating/Corrosion: Kurz sensors are not effected by process materials that coat the probe nor can they be clogged by particulates or rendered inoperable due to corrosion.
- **REMOTE OPERATION:** Using the free RCM Software Kurz switches can be monitored and/or configured remotely via Modbus.
- **STANDARD FEATURES:** The Kurz 6500 Series Electronics provide two independent relay timers, a bypass timer for auto restart function, simultaneous temperature mode and **a 4-20 mA analog output corresponding to the process level.**
- **CUSTOM SENSORS:** In addition to the standard “U” lengths and flange sizes and ratings, Kurz offers customer choices in insertion lengths, flange sizes and ratings and materials of construction.  
Example: A 3/4” ANSI 300 flange with 8” insertion in Monel.