UNITED ELECTRIC CONTROLS
PRECISION SENSORS

# APPLICATION GUIDE

RELIABLE MONITORING AND CONTROL FOR

# Data Centers Processes

PRESSURE | TEMPERATURE | DIFFERENTIAL PRESSURE | FLOW | LEVEL
















United Electric Controls is ISO 9001:2015 Certified

Precision Sensors is ISO 9001:2015 and AS9100 Certified by NQA

RoHS compliant

# RELIABLE MONITORING AND CONTROL FOR DATA CENTERS PROCESSES

## COOLING (Direct-to-chip, Immersion Cooling, Rear Door Heat Exchanger, CRAC/CRAH, CDU Liquid Loop)

**PRESSURE**
- Pump control (Suction, Discharge, Pressure
- Low Pressure Loss-of-flow Interlock
- Expansion Tank Pressure
- Secondary Water / Circulation Loop Pressure
- Proof of Pump Function
- Coil Supply Pressure
- Chilled Water Supply Pressure
- Fan Pressure
- Chilled Water Pressure
- Refrigerant High/Low Pressure
- System High/Low Pressure Protection



**TEMPERATURE**
- Tank bulk fluid temperature
- High Temperature Cutoff and Safety Alarm
- Supply Air Temperature
- Supply/Return Water Temperature
- Supply/Return Air Temperature
- High Outlet Air Temperature Alarm
- Refrigerant High/Low Temperature
- CDU Heat Exchanger Temperature
- Heat Exchanger Inlet/Outlet Temperature



**DIFFERENTIAL PRESSURE**
- Clogged Filter Alarms
- Filter Differential Pressure
- Air Filter Differential Pressure
- Coil Differential Pressure
- Proof of Flow

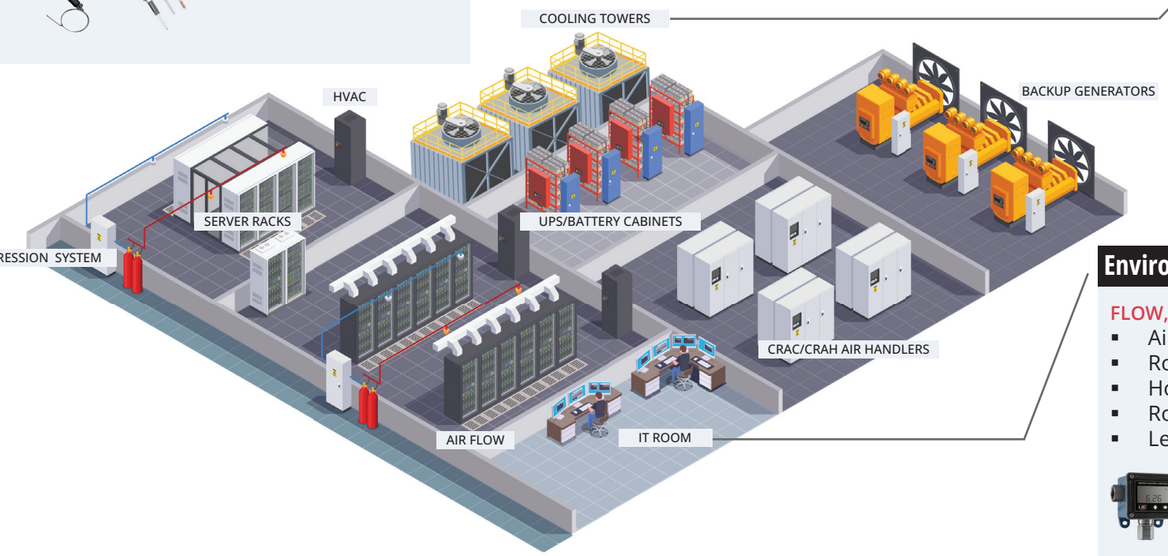


**FLOW**
- Loss of Flow Interlock (Low Pressure/Flow)
- Exhaust Air Flow
- Proof of flow



**LEVEL**
- Level / overflow detection
- Condensate Overflow






## Chillers, Cooling Towers, Condenser Loops

**PRESSURE, DIFFERENTIAL PRESSURE, TEMPERATURE**
- Cooling Tower Pump Pressure
- Pump Cavitation Detection
- Chilled Water Loop Pressure Differential
- Condenser Loop Temperature



## Fire Protection/Flooding System

**PRESSURE**
- Supervisory switches for fire suppression systems (suppression agent tanks controls, sprinklers controls)



## Environmental/IT room monitoring

**FLOW, DIFFERENTIAL PRESSURE, TEMPERATURE**
- Airflow
- Room/Filter Differential Pressure (Air)
- Hot Aisle/ Cold Aisle Temperature
- Room Ambient Temperature
- Leak Detection



## UE SOLUTIONS




### EXCELA
- 2-wire electronic switch
- Pressure, differential or temperature
- Fully adjustable set point and deadband
- Advanced features (trip filtering, trip delay, etc.)
- Self diagnostics




### TX300
- Compact pressure transmitter
- Cost effective
- Wide variety of pressure connections and ranges



### 100 SERIES
- Versatile, NEMA 4X, SPDT/DPDT switch for pressure, temperature and differential pressure
- Variety of ranges, microswitches, sensors and process connections
- Quick and easy installation



### 10 SERIES
- Versatile and rugged pressure switch
- Compact
- Variety of electrical terminations
- Easy set point adjustment
- Can be customized for OEMs



### 24 SERIES
- Cost effective differential pressure switch
- Compact
- Can be customized for OEMs
- Easy set point adjustment



### THERMOCOUPLES, THERMISTORS & RTDS
- Customized to your applications and needs
- Rugged heat tracing sensors with field replaceable elements
- RTDs: -200 °C to up to 482 °C
- Thermocouples: as high as 1250 °C (2280 °F)

## PRECISION SENSORS SOLUTIONS




### STASET SERIES
- 3-in-1 device
- Absolute and gage transducer
- Compact (1 1/8" diameter)
- OLED display
- Wide pressure range (up to 3,000 psi)



### ECHOLOCITY
- Exhaust velocity sensor
- Eliminate excessive power exhaust consumption
- Enhance SPC and FDC monitoring
- Meets UL, CE, and EN standard
- Self-diagnostics and time delays reduce false trips



### VF FLOW SWITCH
- Extremely reliable for gas or liquid
- Inline construction
- Various end fittings
- High purity polymer construction
- Corrosion resitant materials



### LF SERIES LIQUID LEVEL SWITCH
- Top or bottom mount
- Up to 25 inches
- High pressure capability
- Hermetically sealed switch contacts



### D48W DP SWITCH
- 2 ports: one is suitable for high purity gases or liquids, second for dry air or inert gases
- Welded construction
- Highly repeatable Belleville spring design

## LARGE PORTFOLIO

**Solutions for the Data Center Industry**

- Pressure transmitters and switches
- Temperature transmitters and switches
- Differential pressure and airflow velocity
- Level and flow threshold detection
- RTD probes and temperature switches

## ENGINEERING

**Custom designs and short lead-time**

- Build-to-specification
- Engineered components
- Customer-driven engineering for specialized applications.

## EXTREME RELIABILITY

**Stable performance**

- Integration of the highest-performance sensing elements
- Up to 5-year warranty
- Products engineered for long-term stability in demanding environments.

## ENGINEERING & MANUFACTURING

- 90+ years of experience in instrumentation
- TRUSTED U.S. MANUFACTURING - Designed and assembled in the U.S. across two manufacturing facilities
- GLOBAL REACH - Supported by 100+ local business partners in over 80 countries
- FAST TURNAROUND - Nimble engineering response and short lead times to keep projects moving

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