The CN3000 Series microprocessor-based ¾ DIN PID controllers provide accurate and reliable control of temperature, pressure, and other variables in both process and machine control applications. This menu-driven controller can be configured from either the front keypad or a remote PC. The front keypad offers direct digital data entry, direct access to desired displays, and soft-key macros.

The CN3000 features universal inputs, an extensive selection of control programs, 4 selectable control outputs, and unparalleled application configuration and programming. The blue dot matrix display can show 4 lines of alphanumeric data plus graphics and is mounted with the keypad in a NEMA 4 (IP65) bezel.

### Specifications

**Accuracy:** ±0.2% of range

**Temperature Stability:** 3 µV/°C

**Operating Ambient:**
- 5 to 55°C (41 to 131°F)
- 0 to 75°C (-4 to 167°F)

**Common-Mode Rejection:** 140 dB typical; 120 dB minimum @ 60 Hz

**Normal-Mode Rejection:** 65 dB typical; 60 dB minimum @ 60 Hz

**Resolution:** 1° for thermocouple, 1° or 0.1° for RTD

**Power:** 117/240 Vac, 50/60 ±2 Hz; 4 W typical, 13.5 W max consumption

**Inputs:**
- 2 standard, user configurable;
- additional input available for remote setpoint or other function

**Input Impedance:**
- 10 MΩ minimum (T/C input)

**Input Update:** 12 updates per second

**Input Filtering:**
- Selectable 1 to 256 samples

**RTD Input:**
- 100 Ω, α = 0.00385 or 0.00392 curve; platinum with 3-wire connection

**Current Input:** 0 to 20 or 4 to 20 mA; fully scalable to ±19,999 counts

**Voltage Input:** 0 to 10 mV up to 100 mVdc; fully scalable to ±19,999 counts

**User Programmable:** 128-segment linearizer for custom analog input

**Sensor Break Protection:**
- Display indicates “-----” if thermocouple or RTD input opens, outputs go off or to a preselected percent output, and alarm triggers go on

**Display:** Vacuum fluorescent dot matrix, 4 lines of alphanumeric data with 10 characters per line plus dot access for graphic displays

**Keypad:** 15 pushbutton keys on sealed NEMA 4 (IP65) front panel
Outputs: Up to 4, independent
Current Output:
4 to 20 mA into 750 Ω max
Voltage Output:
0 to 5 Vdc into 1 KΩ min
Solid State Relay:
Optically isolated form "A" contacts, 50 mA @ 240 Vac resistive
Electromechanical Relay: Form "C" contacts, rated 2.0 @ 240 Vac resistive
DC Trigger: 18 Vdc, 15 mA max
Open Collector: Requires external power up to 50 mA @ 32 Vdc
Alarm/Timer/Event Outputs: Any of the 4 outputs can be programmed as an
alarm, timer or event output using SSR, EMR, DC trigger or OC board(s)
On/Off Output Deadband: 0 to 5% span, settable in 0.01% increments
Cycle Time: 1 to 511 seconds with 1 second resolution
Proportional Band: 5 to 4000 display units with 1 unit increments
Reset (Integral): 0.01 to 20 repeats per minute, settable in 0.01 increments; reset can be turned off by setting reset to 0
Anti-Reset Windup: Inhibits automatic reset when the process input is outside of the proportional band
Rate (Derivative): 0.01 to 5 minutes, settable in 0.01 increments; rate can be turned off by setting rate to 0
Drive Unit Deadband (Valve Positioner):
Settable 0.00 to 25.50% of span
Auto/Manual: Bumpless transfer
Autotune: User-initiated program optimizes PID parameters during “cold” start or on demand; PID values can be read and manually changed
Profile Control: Stores up to 99 profiles of up to 99 segments each with assured soak, multiple programmed events and link and loop programming position display
Control Limiters: Set rate of setpoint, change limit or rate of ramp on startup limit in units per selected time; set maximum or minimum output power in 1% increments
Enclosure: Assembly with plug-in output boards; NEMA 4 (IP65) front bezel when properly secured with tension bolt; polycarbonate flame-retardant bezel and rear terminal block
Weight: 1.6 kg (3.5 lb)
More than 100,000 Products Available!

- **Temperature**

- **Flow and Level**
  Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

- **pH and Conductivity**
  Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

- **Data Acquisition**

- **Pressure, Strain and Force**
  Displacement Transducers, Dynamic Measurement Force Sensors, Instrumentation for Pressure and Strain Measurements, Load Cells, Pressure Gauges, Pressure Reference Section, Pressure Switches, Pressure Transducers, Proximity Transducers, Regulators, Strain Gages, Torque Transducers, Valves

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