

SYNERGY NANO

Designed Specifically For Environmental Test Chambers

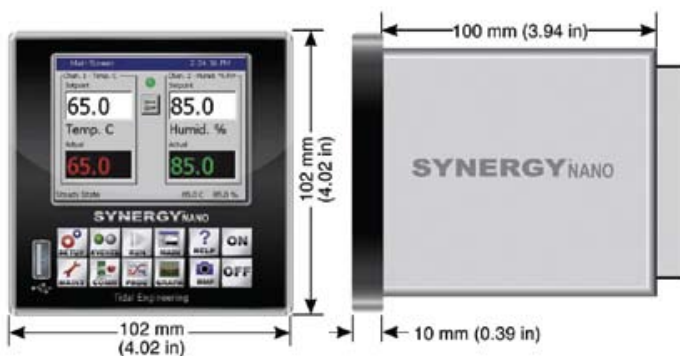
A TWO CHANNEL 1/4 DIN PROCESS CONTROLLER AND DATA LOGGER



Tidal's state-of-the-art controller system is engineered to offer all the features needed to maximize the capabilities of your environmental chambers in a 1/4 DIN package. Designed to take complete command of the chambers' conditioning systems, its algorithms automatically select heating/cooling modes as required, and totally

control programming of temperature, vibration, altitude and humidity versus time.

The Synergy Nano features a full function data logger supporting numerous process inputs and control variables. Process inputs include RTD, thermocouple, voltage and current. It moreover allows users to program up to six custom event outputs for special applications and optional features. Boasting the Microsoft Windows™ CE operating system, this feature-rich instrument's sophisticated communications capabilities also include built-in remote control/monitoring. The Synergy Nano Controller may be specified on most chambers from industry leading chamber manufacturers and is easily retrofit into legacy equipment.



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SYNERGY NANO

FEATURES:

Channels

- Channels: 1 or 2 Process Variables
Temperature, Humidity, Altitude,
Vibration, and Light

LCD

- Type: Color 320 X 240
- Backlight: LED
- Touch screen

Operating System

- Microsoft Windows™ CE

Communications

- 10/100 BaseT Ethernet
 - Telnet, FTP, and Web Touch Servers
 - RS - 232 Communications
 - IEEE 488 (Optional)

Storage

- 2 GB Onboard SD Flash
- Removable USB Flash Disk
- 64 MB SDRAM

Universal Serial Bus (USB)

- USB Flash Memory for program & log files
- USB Mouse, Keyboard, Barcode scanner

Programming

- Windows-friendly program file names
- Step Types:
 - Set Point, Jump Loop, Auto Start,
Hold, and Stop
- Number of programs:
 - Only limited by onboard storage
- Software Features
 - Real Time clock with battery backup
 - Automatic resume after power failure
 - Software configurable chamber type

Analog Inputs

Universal (2) and Process (2)

- Wet Bulb-Dry Bulb Humidity Sensing
- Temp Comp. for Electronic Sensing
- RTD
 - Temp. Range: -200° C to 630° C
 - Accuracy: +/- 0.05 Ohms
 - 100 or 500 Ohm Pt., JIS or DIN
- T/C
 - T/C Accuracy: +/- 1° C
 - Types E, B, J, K, R, S, and T
- Analog Process Inputs (2)
 - Resolution: 16 Bits, 0-5 VDC,
0-10 VDC, and 4-20 mA

Analog Outputs (2)

- Range:
 - 0-5 VDC Standard
 - 4-20 mA Optional

- Accuracy: +/- 0.5 mv
- Resolution: 12 bits
- Analog Output Functions:
Channel 1 & 2
- Setpoint, Actual, Heat PID, & Cool PID

Main Outputs (6)

- DC Outputs: Model TE1858-1
 - 0 to 5 VDC Open Collector
- Relay Outputs: Model TE1858-2
 - Contact Rating: 1.5 A, 250 VAC
- SSR Outputs: Model TE1858-3
 - Contact Rating: 1 A, 250 VAC

Auxiliary Outputs (6)

- 0 to 5 VDC Open Collector

Event Outputs (6) Optional

- TE1151-6: Triac Outputs
- TE1708-6: Relay Outputs
- TE1616-6: Opto22 Outputs

Digital Inputs (5)

- Ground: TRUE
- Open Circuit: FALSE
- Voltage Range: - 0.5 to +5.5 VDC
(Up to 16 Digital Inputs in
Expanded Mode)

Data Logging

- Interval:
 - 1 Second to 60 Minutes
- Data:
 - Process Variables
 - Process Setpoints
 - Setpoints
 - PID Variables
 - UUT T-Type Thermocouples

Alarm Types

- Low Program Memory
- Low Storage Card Memory
- Temp-Guard External Monitor
- Open Sensor Channel 1 & 2
- High/Low Process Limit
- High/Low Deviation Limit
- User Programmable Alarms
- Internal communications failure

Power Requirements

- 100 to 240 VAC, 47 to 63 Hz
- 10 Watts

Operating Conditions

- Temperature:
 - 10° C to 30° C
- Humidity:
 - 0 to 90% RH, Non-condensing

Size and Weight

- 3.78" W x 3.78" H x 3.94" D
- 1.5 lbs.

Compliance

- Touch Safe Terminals
- CE Compliance:
 - EN 61010-1 and EN 61326
- IP-65 and Nema 4X



Synergy Nano Controller Part Numbers:

- TE1858-1: DC Outputs
- TE1858-2: Relay Outputs
- TE1858-3: SSR Outputs
- TE1858-4: Expanded Mode
 - RTD Process inputs (2)
 - 0-5VDC Process inputs (4)
 - Outputs (32)
 - Digital Inputs (16)
- TE1566:
 - Synergy Lab Manager Software
- TE1299-16:
 - Synergy UUT Thermocouple Monitor
- TE1151-6:
 - Triac Output Board, 6 Channel
- TE1616-6:
 - Universal Output Board, 6 Channel
- TE1708-6:
 - Relay Output Board, 6 Channel
- TE1865:
 - Synergy LabVIEW Driver
- TE1588:
 - Synergy488 GPIB option

ABOUT TIDAL ENGINEERING

Headquartered in Randolph, NJ, Tidal Engineering Corporation has been designing and building award-winning embedded hardware and software for environmental test and measurement and data acquisition applications since 1992.

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