

SYNERGY NANO

Designed Specifically For Environmental Test Chambers

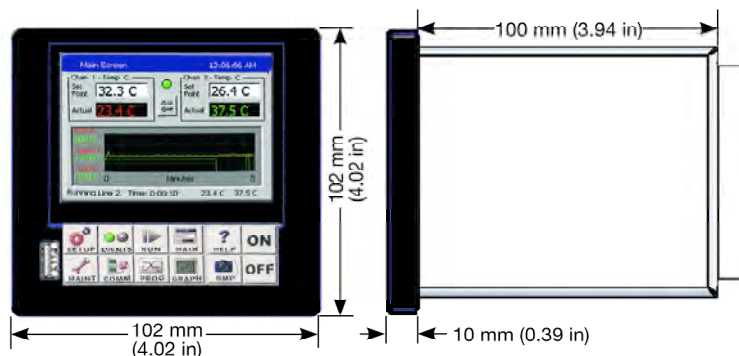
A TWO-CHANNEL 1/4 DIN PROCESS CONTROLLER



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 logic circuits automatically

select heating/cooling modes as required, and totally controls programming of temperature, vibration, altitude and humidity versus time.

It moreover allows users to program up to six custom outputs for special applications and optional features. Process inputs include RTD, Thermocouple, voltage and current. Boasting the Microsoft Windows™ CE.NET operating system, this feature-rich system's sophisticated communications capabilities also include built-in remote control/monitoring. The Synergy Nano Controller is easy to retrofit into legacy equipment.



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SYNERGY NANO

FEATURES:

Channels

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

LCD

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

Operating System

Microsoft Windows™ CE .NET

Communications

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

Storage

- 1 GB On Board Flash
Removable USB Flash Disk
64 MB SDRAM

Universal Serial Bus (USB)

- USB Flash Memory for
Program and Log File and Export,
Also for Bar Code Scanner,
USB Mouse and USB Keyboard

Programming

- Windows-friendly program file names
Step Types:
- Set Point, Jump Loop, Auto Start,
Hold, 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 –

(2) Universal and (2) Process

RTD

- Temp. Range: -200° C to 630° C
Accuracy: +/- 0.05 Ohms
Type 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, 4-20 mA Optional

Analog Outputs (cont'd)

- Accuracy: +/- 0.5 mV
Resolution: 12 bits
Analog Output Functions:
Channel 1 & 2

Setpoint, Actual, Heat & Cool PID

Main Outputs (6)

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

DC Outputs (6)

- 0 – 5 VDC Open Collector

Event Outputs (6) Optional

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

Digital Inputs (5)

(Up to 16 Dig Inputs in Expanded Mode)

- Ground: TRUE
Open Circuit: FALSE
Voltage Range: - 0.5 to +5.5 VDC

Data Logging

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

Alarm Types

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

Power Requirements:

- 100 to 240 VAC, 47 to 63 Hz, 10 Watts
8-24 VDC (Optional)

Dimensions: 3.78"W X3.78" H X 3.94" D

Operating Conditions:

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

Compliance

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



Synergy Nano 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-Ch
- TE1616-6:
Universal Output Brd, 6-Ch
- TE1708-6:
Relay Output Board, 6-Ch
- 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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