

# **The Doty Probe Controller for Spinning Speed and Temperature Control**



Doty's PC-based Probe Controller providing both spin-rate and temperature control on Doty probes.

Windows based multi-channel PID control software maintains spinning speeds and gas supply temperatures with high precision and stability. The hardware consists of an Intel Celeron or AMD Duron based PC with interface cards to allow operation with the DSI fiber-optics spin rate monitoring system and the DSI VT heater power supply. The computer system includes a flat-panel LCD display for low distortion in magnetic fields. The controller software has been designed for ease of use and robust operation while providing simultaneous control of spin rate and bearing and drive gas temperature.

The spin rate control sub-system features high accuracy, low drift control from 500 Hz to 30 kHz, auto-tuning of PID parameters, user adjustable spinning instability detection with automatic shutdown, user adjustable rotor acceleration, and manual operation with smooth change-over between automatic and manual valve control.

The VT sub-system features dual channel gas supply temperature control with auto-tuning of PID parameters and built in calibration software.

The controller allows remote operation from another computer via RS-232 serial interface.

Plug-in modules are easily changed to provide convenient control from -238°C to 750°C. **One sensor module is included with the controller. When ordering, please specify the module to be included.** Additional modules can be ordered at any time.

## **Temperature Controller Modules**

**TEMPERATURES GIVEN ARE FOR THE CONTROLLER MODULES. PLEASE DO NOT EXCEED YOUR PROBE TEMPERATURE SPECIFICATIONS!**

### **Standard VT Sensor Module**

Provided for standard and extended-temperature MAS, as well as for standard high-resolution, and high-temperature high resolution. Accepts dual copper-constantan sample-gas thermocouple and 100-Ω RTD cold junction compensation inputs. Supports an additional copper-constantan thermo-couple for the electronics region. Dual, independent, overheat-protected heater outputs. Accuracy: ±0.2°C from -180°C to +400°C with user calibration.

### **Extreme-High-Temp Module**

Accepts chromel-alumel spinner air sensor with 100-Ω RTD cold junction sensor, electronics region and dewar region copper-constantan thermocouples. Single, overheat-protected heater output. Accuracy: ±0.5°C from -100°C to +750°C with user calibration.

### **Extreme-Low-Temp Module**

Accepts RTD sample gas sensor. Single over-heat-protected heater output. Accuracy: ±0.5°C from 35 K to 700 K with user calibration.

**Specify 100 VAC, 120 VAC or 230 VAC when ordering.**

# 99241 Doty Probe Controller .....	<b>\$ 20,500</b>
# 97471 Doty Probe Controller For Spin Control Only .....	8250*
# 99240 Doty Probe Controller For Temperature Control Only .....	15,250*
<b># 99270 Standard VT Sensor Module .....</b>	<b>1215</b>
<b># 99250 Extreme-High-Temp Module .....</b>	<b>1215</b>
<b># 97985 Extreme-Low-Temp Module .....</b>	<b>1215</b>

\*Doty Probe Controllers can be ordered with a spin control unit, with a VT control unit, or with both.

(US\$ –Foreign prices higher, plus taxes.)