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Find the *Doric Instruments 5000-T-AC32* at our website: *Click HERE*

5000

Programmable Digital Temperature Indicator/Data Logger



The Doric 5000 Series of single and multiple channel digital temperature indicators sets a new standard for performance, features, value and reliability. With built-in programmability, RS232 serial communi-cations and powerful Windows-based software, the Doric 5000 is ideal for monitoring, testing and process control applications.

Complete configuration of the instrument can be quickly performed from the front panel, including sensor input type, sampling rate, limit settings, and resolution. Current value and min/max values can be selected for display from the front panel.

Thanks to its exclusive Viewer software, the Doric 5000 becomes a powerful PC-based data gathering, display and logging system. All front panel setup commands can be executed from your PC and all channel data, limit/alarm status and min/max values can be viewed simultaneously. In addition, you can label channel data, perform engineering unit calculations, log data and create exportable data files.

With the multiple inputs option installed, the 5000 Series provides simultaneous monitoring of up to six thermocouple or three RTD channels.

On single input models, an optional board may be installed which provides enhanced alarm functions as well as a scalable, linearized 4-20ma/0-10V analog output.

The New Doric
5000
the next generation is here

Key Features

- **Fully Programmable and Easy to Use**
- **4-Digit Alphanumeric Display**
- **RS232 Serial Port (standard)**
- **Captures Min and Max Readings**
- **6 Thermocouple Types / 2 RTD Types**
- **Selectable 0.1°/1° Resolution; °F/°C**
- **Scalable Analog Output Option**
- **Dual Alarm Option**
- **Multiple Input Option**

Doric 5000 Viewer™ Windows-Based software

- **Configure, program and download**
- **View all channel data, alarm status and min/max values simultaneously**
- **Log real-time data**
- **Create exportable data files**
- **Custom I.D. Tags**

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Doric 5000

Fully Programmable, Reliable, Accurate, PC-Compatible Digital Temperature Indicator/Data Logger

The Doric 5000 traces its ancestry back to the classic Doric Trendicator®, which set a standard for reliability and ruggedness that still endures to today. The Doric 5000 is the first of the new generation of "intelligent" panel-mounted digital temperature indicators that sets the new standard for high performance *and* low price.

With its built-in functionality, standard serial communications and powerful PC-based software, the economical Doric 5000 is the instrument of choice for a wide range of laboratory, scientific and industrial data display, monitoring, recording and logging applications.

The standard single-input model features easy-to-use front panel configuration and display of temperature with either 0.1° or 1° resolution, min/max values and limit conditions.



The single-input Doric Model 5000-AI-32 shown above features a fully scalable 4-20 mA output; dual alarms (each with hi, lo, or deviation setpoint) and form-C relay outputs; and RS232 serial communications.

Dual Alarms

With the dual alarm option installed, the Doric 5000 can be configured to perform on/off control functions as well as process monitoring. Setpoints can be set for high, low or deviation. In addition, hysteresis (dead-band) and delay can be programmed into each setpoint. Alarm conditions can be programmed for manual acknowledgment or for automatic reset. The dual alarm option comes equipped with two 5A rated form-C (NO/NC) relays, one for each alarm setpoint and flashing display whenever an alarm condition exists.



The sixth channel is shown in °F with 0.1° resolution on a Doric Model 5000-MI-45 equipped with the Multiple Inputs Option and RS-485 serial communications.

Analog Output

Analog output capability is also available in combination with the dual alarm option. A linearized output (4-20mA or 0-10V) with fully adjustable zero and span allows the instrument to serve as an indicating transmitter for a proportional controller, high-level input to a PC-based data converter or other recording device.

Multiple Inputs

Instead of the dual alarm/analog output option, the Doric 5000 can be configured to accept up to six thermocouples or three platinum RTDs.

All active inputs can be manually selected or auto-matically scanned. A front panel channel indicator accompanies the displayed data. Individual limits can be assigned to each channel. A built-in 5A rated form-C relay is energized whenever the limit on the selected channel is exceeded.

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Doric 5000 Viewer

Windows-based software

The Doric 5000 is far more than a stand-alone, high-performance digital temperature indicator. Thanks to the exclusive 5000 Viewer™ software, the Doric 5000 is a powerful real-time data monitoring, control and data logging system.

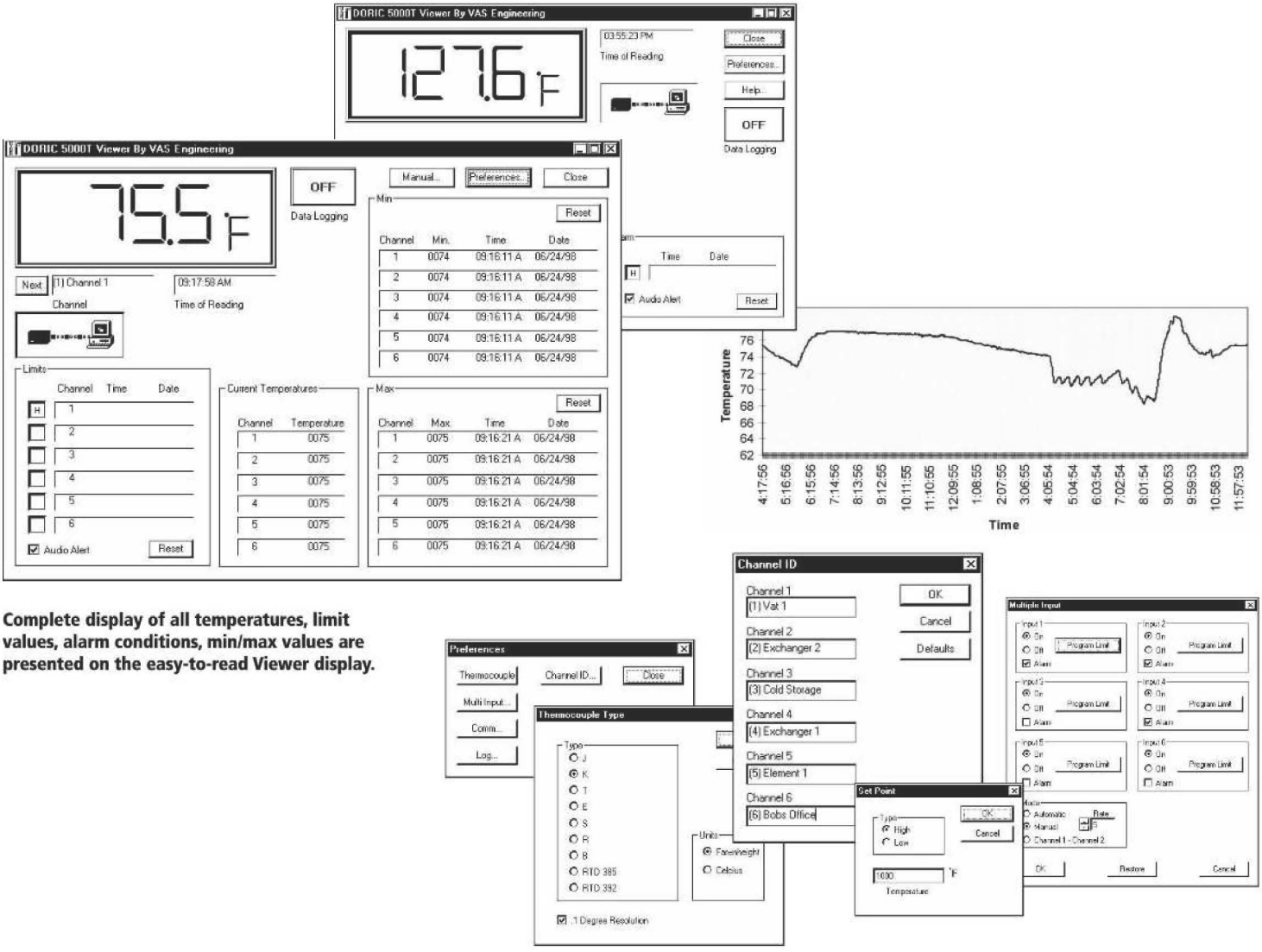
Clear, menu-driven displays guide you through instrument setup and allow you to monitor, collect and log data remotely through your PC serial port. (With the RS422 accessory, you can monitor your Doric 5000 from the convenience of your desk, up to 5,000 feet away!)

Software alarms, channel I.D. and min/max values are presented along with a simulated LED display of the selected channel in an on-screen control panel format. In addition, you can export the data you gathered as text to create graphs and produce hard copy reports.

With the RS485 option, you can use the 5000 Viewer software to address multiple Doric 5000 indicators. (Available early 1999)

Windows-based Instrument Setup

The Doric Viewer software makes setup and operation of the Doric 5000 a snap! Based upon the hardware configuration of your instrument, the software provides you with a series of windows to configure everything from sensor type and resolution to alarm limits and data logging rate.



Complete display of all temperatures, limit values, alarm conditions, min/max values are presented on the easy-to-read Viewer display.

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Doric 5000 Specifications

General Specifications

Size
1/8 DIN, 1.89" (H), 3.78" (W)

Repeatability
±1 Count

Stability with temperature
Zero: 1µV per °C
Span: 0.01%

Thermocouple Reference Junction
Internal, automatic, 0.03°C per °C, 5°C to 45° C.

Break Detection
Upscale = 50nA, unit displays OL

Stability with Time
0.8° per year

Noise Rejection
NMRR: 60dB @ 50/60 Hz
CMRR: 120dB @ 50/60 Hz (±0.1Hz with 250Ω unbalance)

Overload Protection
Power leads to ground: (1500VDC or VAC RMS)
Across inputs, for one minute:
T/C up to 250Vdc or Vac, V+ to V-

Input Impedance
Thermocouple: 20MΩ, exclusive of break detect current effects
RTD: 16.9 KΩ, V+ input to I input

RTD Lead Wire Error
At 150 µA excitation current: 40mΩ/Ω of equal resistance in V+ and V- leads, 1Ω of imbalance in V+ or V- leads

Point update Rate
2 per second nominal (1° readings)
1 per second nominal (0.1° readings)

Display
4 Digit, 14-segment red or green, 0.56" height LED
plus one 0.4" green °F/°C LED

Environmental Ranges
Operating:0° to 50°C
Storage: -40° to +65°C
Humidity: <80% RH non-condensing

Multi-input Option Accuracy
Add ±0.5°C/1°F to instrument accuracy specification

Alarm Relay Contact Rating
5A@ 120VAC (non-inductive load) Form-C

ASK ABOUT OUR OTHER DATA RECORDERS

Power
100-240VAC (±10%), 50-400Hz

RS232 Serial Communications (Standard)
Type: full-duplex voltage, isolated from ground to 500 VAC.
9600 Baud, 8 bits, 1 stop bit, no parity, ASCII.

Options/Accessories

Dual Alarm Option
Two 5A/120V, form-C relay outputs

Analog Output Option
0-10VDC, fully scaleable (load current 2ma maximum)
4-20mADC, fully scaleable (load resistance 300Ω maximum)
Accuracy: +0.25% full scale of display value
Resolution: Approximately .0125 full scale
Isolation: Isolated between input and internal circuit to 500 VAC.

Multiple Input Option
Up to 6 thermocouples or 3 RTDs
Auto/manual scanning
LED channel indicator 0.4" green
Individually programmable set points on each input
5A/120V, form-C relay output energized whenever limit exceeded on any channel

RS422 Serial Communications
external converter translates RS232 to RS422 allowing serial communication up to 5000 ft.

Thermocouple Range Table

	1°Resolution		0.1°Resolution	
Sensor Type	**Range/Display**	**Accuracy(±)***	**Range/Display**	**Accuracy (±)***
J	-337 to 1403°F	1°F+.03% rdg	-99.9° to 999.9°F	0.9°
	-205 to 762°C	1°C+.03% rdg	-99.9° to 761.8°C	0.5°
K	-331 to 2510°F	1°F+.03% rdg	-99.9° to 999.9°F	0.9°
	-202 to 1377°C	1°C+.03% rdg	-99.9° to 999.9°C	0.5°
T	-346 to 755°F	1°F+.03% rdg	-99.9° to 754.6°F	0.9°
	-210 to 401°C	1°C+.03% rdg	-99.9° to 401.4°C	0.5°
E	-338 to 1835°F	1°F+.03% rdg	-99.9° to 999.9°F	0.9°
	-205 to 1002°C	1°C+.03% rdg	-99.9° to 999.9°C	0.5°
R	+32 to 3216°F	1°F+.05% rdg		
	0 to 1769°C	1°C+.05% rdg		
S	+32 to 3218°F	1°F+.05% rdg		
	0 to 1770°C	1°C+.05% rdg		

*Accuracy ±1 digit

RTD Range Table

	1°Resolution		0.1°Resolution	
Sensor Type	**Range/Display**	**Accuracy(±)***	**Range/Display**	**Accuracy (±)***
Platinum RTD	-329 to 1585°F	0.8°,+0.03%	-99.9° to 999.9°F	0.9°
100Ω3-wire (0.00385)	-200 to 863°C	0.8°,+0.03%	-99.9° to 862.6°C	0.5°
Platinum RTD	-332 to 1563°F	0.8°,+0.03%	-99.9° to 999.9°F	0.9
100Ω3-wire (0..00392)	-202 to 851°C	0.8°,+0.03%	-99.9° to 862.6°C	0.5°

*Accuracy percentage of reading +1 digit

Ordering Guide

Model 5000 - ___ - ___ - ___

T – thermocouple
R – RTD

BA – basic input
MI – multiple input
AV – analog voltage output/dual alarm
AI – analog current output/dual alarm
AL – dual alarm

32 – RS232
45 – RS485 (available early 1999)

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