

# DSM-43900 Series

## Universal Temperature Monitors with Serial Communications

- 3 models: 8-, 16- and 24-point
- Universal operating features:
  - 4 setpoints per individual channel
  - 1 or 2 temperature groups with differential protection and 6 setpoints per group
  - 2 solid state output switches
  - Bargraph display of proximity to setpoint
  - Modbus RTU, RS-485 serial communications
  - 4 selectable baud rates, 9,600 to 57,600
- 12–30VDC-powered
- Rugged powder-coated aluminum case

The Altronic DSM-43900DUS digital setpoint monitors are universal microprocessor-based instruments designed to monitor engine, process and other critical temperatures using standard J or K thermocouples. Power is from any 12- or 24-volt DC source capable of supplying 10 watts. An RS-485 port provides communication capability in the ModBus-RTU protocol.

Three models are available: DSM-43908DUS (8 channels), DSM- 43916DUS (16 channels), and DSM-43924DUS (24 channels). The DSM-43900 series has four individual set-

points (two high and two low) per channel. Two output switches are provided; all level 1 setpoints trip output switch 1, and all level 2 setpoints trip output switch 2. This allows the DSM-43900 devices to be used in alarm/shutdown service or virtually any other configuration where the monitored points serve two functions. Modbus RTU communications is standard in the DSM-43900 models with baud rate selectable at 9,600/19,200/38,400/57,600.

DSM-43900 models can also be programmed for a user-selected number of channels in one or two groups having six common group setpoints (two high, two low and two differential). This feature can be used, for example, to monitor functions such as engine cylinder exhaust and compressor cylinder temperatures. Model DSM-43908DUS can also be operated to simulate the popular DSM-4388DUS model, which it replaces. In this mode, there is one high and one low setpoint per channel and one form C, solid-state output switch.

The backlit, alphanumeric LCD display indicates all setup and monitored information. The front panel sealed membrane keypad provides easy selection and adjustment of the units, range, setpoints and other configuration data. Any fault trips one of two solid-state output switches; fault information by sequence of occurrence is available on the display and via the serial port. The integral RS-485 port allows the monitored values and status of all channels to be communicated to a PC, PLC or the Altronic DE series annunciators.

The DSM devices are housed in gasketed, powder-coated aluminum cases and assembled using stainless steel hardware, making them ideal for oilfield or other demanding environmental applications.



## Specifications

Power requirement.....	12–30Vdc, 100mA max.
Thermocouple type .....	Type J or K
Hazardous area classification .....	Class I, Div. 2, Group C & D
Display .....	2x16 backlit, alphanumeric
Range.....	–76°F to +1472°F –60°C to 800°C
Accuracy.....	±1% of reading, ±3 units
Update rate.....	1/sec.
Output switches .....	2, solid state (N.O./N.C.) 200Vdc, 200mA continuous
Ambient temperature range .....	–40°F to +175°F –40°C to +80°C
Cold junction compensation.....	Automatic

## To Order

8-Point Universal Monitor..... DSM-43908DUS\*  
 16-Point Universal Monitor..... DSM-43916DUS  
 24-Point Universal Monitor..... DSM-43924DUS\*\*

\* Replaces prior model DSM-4388DUS

\*\* Replaces prior model DSM-43920DUS

## Other DSM Models

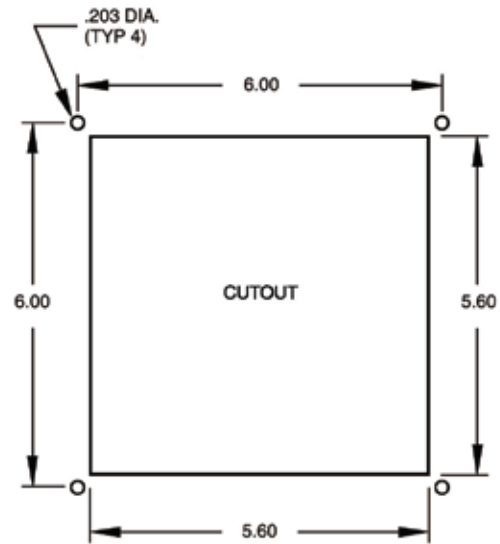
Two other specialized DSM models are also available. Each has its own set of unique features and capabilities.

**DSM-43820DUS:** 20-point Exhaust System Monitor  
 Points organized in 3 groups (16-2-2)

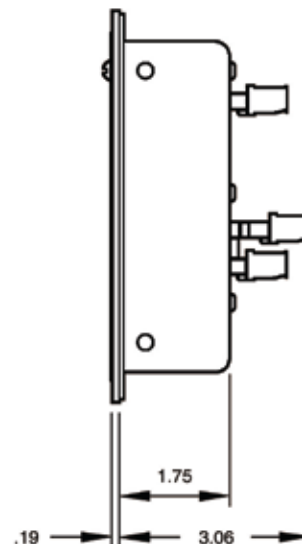
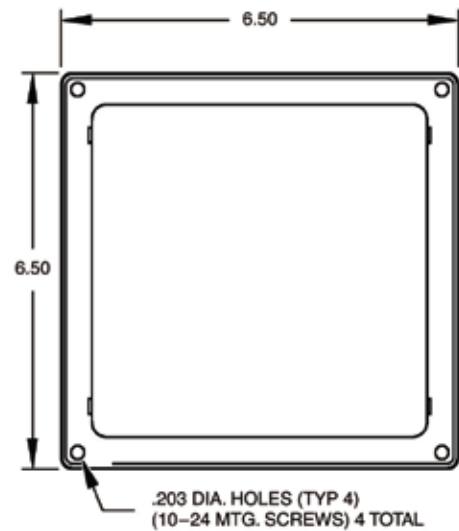
**DSM-4689DUS:** 8-point Analog Signal Monitor with RPM,  
 Overspeed and Hours (pictured)



## Dimensions



RECESSED MOUNTING



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