TELEDYNE
GAS AND FLAME DETECTION
Everywhereyoulook™

SkotFire
AND SAFETY TECHNOLOGY

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7800 Controller

Multichannel gas & flame monitoring system

Description

Whether you are building a new facility or updating an existing one, there are a myriad of safety decisions to make. One decision, however, is now crystal clear. To best protect your workplace and employees, choose the 7800 Controller.

Five simple function buttons make configuration and setup of the 7800 Controller easy and intuitive. Built-in programming flexibility allows you the ability to configure the controller to the needs of a wide variety of applications. Moreover, alarm LEDs indicate three levels of alarm status for every channel monitored.

Features

- Inputs include 4-20 mA, direct catalytic bead sensor, direct IR (infrared sensor), and MODBUS RTU RS-485
- Selectable relay flexible outputs include common and individual relays and acknowledgeable Horn relay
- 4-20 mA re-transmission (optional)
- Built-in local horn and lights (optional)
- Bright alarm LEDs and full function display for at-a-glance system status
- Configurable with economical eight channel input and output boards providing a cost-effective solution which can be upgraded to meet future requirements
- Trending screen provides graphical view of alarm events

7800 Controller
Multichannel gas & flame monitoring system

The right decision for your workplace.
This product brings to bear our more than 75 years of expertise in safety design and innovation. The 7800 Controller provides the ability to accurately monitor multiple gas and flame detection points from one location, thereby reducing installation costs.

Scalable, flexible, easy to use.
The 7800 Controller centralizes the display and alarm processing functions in critical multi-point gas and flame detection applications. Its modular design integrates easily with up to 32 gas or flame detectors and is available in a fiberglass or stainless steel NEMA-4X enclosure, a cast aluminum NEMA-7 explosion proof enclosure, as well as panel mount and 19" rack mount configurations. As your needs grow, the drop-in I/O boards of the 7800 Controller make upgrading the unit in the field quick and inexpensive.

Simple and intuitive user interface.
A graphic LCD display offers at-a-glance system status. The control screen offers you the ability to track gas concentrations in three different formats:

- Bar graph and numerical value of all active channels simultaneously
- 24 hour trend screen (per channel)
- Combination 10 minute trend and bar graph (per channel)

The 7800 Controller features a modular plug circuit board design.

Robust analog and MODBUS I/O capabilities.

Depending on the specific configuration chosen, the 7800 Controller can accept four different types of signals in any combination:

- 4-20 mA from two or three simple wire transmitters
- Direct outputs from a direct Wheatstone bridge bead sensor
- Direct outputs from a direct IR sensor
- MODBUS® RTU RS-485 communications

Standard with the 7800 Controller is the ability to retransmit a MODBUS RTU RS-485 signal in both master and slave configurations. This allows up to 128 controllers to be multidropped onto a single data highway for interrogation by another MODBUS master. They may also be cascaded by connecting one unit's master port to another's slave port. In addition, optional 4-20 mA output boards allow communication with PLCs, DCSs or other control devices.

Integrates seamlessly with other systems.

The 7800 Controller comes equipped with common relays for Horn, Alarm, Warn and Fault conditions. To operate additional auxiliary alarm and safety devices, up to three discrete relays per channel are available with the addition of optional drop-in discrete relay boards. Programmable alarms include on/off delays, rising and falling operation, and can be operationally "zoned" in
accordance with each facility's integration needs.

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Specifications and ordering information

Display:
- 128 x 240 pixel graphic LCD with backlight displays bar graph, trends and engineering units
- 52 discrete LEDs indicate alarm status for 3 alarms per 16 channels and common relays

Input Power:
- Switch selectable 88–132 or 176–264 VAC power supply
- 10–30 VDC (24 VDC nominal)

Inputs:
- MODBUS RTU RS-485
- [Optional] 4-20 mA
- [Optional] Bridge sensor input
- [Optional] Bridge sensor input that supports direct catalytic bead and direct IR sensor inputs

Outputs Standard:
- MODBUS RTU RS-485/Master and Slave

Optional Features:
- 4-20 mA—750 ohms at 24 VDC sourcing

Relay Outputs:
- All relays configurable as failsafe/non-failsafe and latching/non-latching SPDT 5A at 30 VDC or 20/250 VAC

Common:
2 ea. Alarm (Warning/High)
2 ea. Alarm (Low Low/High High)
Individual: [Optional] Maximum of 3 per channel
Repeatability: ± 0.5% full scale
Linearity: ± 0.5% full scale
Operating Temperature: -20° to +55°C (-4° to 130°F)
Dimensions: 12.4" w x 16.0" h x 8.6" d (31.5 mm x 41 mm x 22 mm)
Weight: 25 lb., typical (11 kg)
Enclosure Rating: NEMA-4X (fiberglass and tainless steel) NEMA-7 (explosion proof)
Warranty: 1 year

Approvals:
CSA C22.2 No. 152 for combustibles
Class 1, Div 2 Groups A, B, C and D

7800 Controller Configurations
Model 7800 A-B-C-D-E-F-G-H

Enclosures
Fiberglass NEMA-4X Wall Mount Enclosure
Panel Mount
NEMA-7 Explosion Proof Wall Mount Enclosure (cast aluminum)
19" Rack Mount with Single Sixteen Channel Receiver & Cover Panel
19" Rack Mount with Dual Sixteen Channel Receivers (Note: Supports 32 Pts)
Stainless Steel Enclosure (NEMA-4X)

Optional Boards
Input—Analog 4-20 mA
Input Direct Bridge Sensor and Direct IR Sensor
Discrete Relay
Output—Analog 4-20 mA

Other Options
Local Annunciator
Auxiliary Blind Enclosure (required to increase option board capacity)

Additional Part

Part N°	Description
093-0277	NEMA-4 Expansion Box (used in applications that require more option boards than the receiver can accommodate)
093-0307	Expansion Mounting Plate (accepts 6 option boards)
093-0220	Interconnect Cable Phone Type
028-0033	24 V Power Supply (fiberglass box)
096-0719	Backup Power Supply, 24 V 2.5 Ah, complete with rechargeable batteries & 120 V AC charger
093-0306	4 Position Expansion Steel Plate (white powdered coat) with mounting standoffs (allows 125 additional option boards to be stacked above existing boards)
087-0021	Sentinel 16 Manual

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