

DTX832

DIN Rail Mounted Digital Gas Analyzer

- Compact expandable platform
- Multiple communication interfaces
- Simple setup and configuration via netbook or USB download
- Software with diagnostic, self-test, and data logging capabilities
- Sensor predictor, watchdog timer, and auto-calibration functions
- Interchangeable sensor technology capabilities



Description

The DTX832 is a DIN rail mounted modular, robust analyzer for gas measurement and process control applications. With eight (8) configurable digital I/Os, three (3) configurable analog inputs, and two (2) configurable analog outputs, the DTX technology significantly improves the ease of use and simplifies the installation, configuration, and integration into DCS, PLC, and customized process control systems. Interchangeable sensor technologies give this analyzer the flexibility to meet the demands of a wide variety of applications and process conditions.

Communication Options

The user has a choice of options for communicating between the DTX832 analyzer and the operating system controller. The Ethernet, RS-485, and RS-232 digital interfaces give the user access to all settings including the "factory restore" option which resets the analyzer to the factory delivered configuration settings. Three (3) configurable analog inputs are available: 4-20mA, 0-20mA, 0-5V, 1-5V or 0-10V. Additionally, all three (3) of the analog inputs can be set up with sensor bias voltage output. Two (2) analog outputs are available with options for 4-20mA, 0-20mA, 0-5V, 1-5V or 0-10V settings. Eight (8) digital I/Os can be configured independently, each one with the capability of driving a relay module or accepting a switched voltage input.

Simple Setup and Configuration

The DTX832 is shipped ready to install and operate. Each unit is configured and tested prior to shipment. Setup parameters may be reviewed or changed by accessing the setup menu and configuration screen in a variety of ways: by connecting a netbook via the USB port, by uploading new configuration data from a USB flash memory drive, or by using one of the digital interface connections.

Self-test/validation Capabilities

In addition to the quick setup, the DTX832 analyzer has the capability for a self-test function for the three channels of input and two channels of output to verify that the configuration settings are in accordance with the specification.

Watchdog Timer

The analyzer includes the hardware for two watchdog timers, one internal and one external to the processor. In the event of a hardware or software fault, the watchdog timers reset the micro-controller.

Data Logging Capability

The analyzer's built-in digital processor has the ability to collect data from the sensors and analyzer status. This provides the user with a comprehensive accurate record of the conditions being monitored. Selectable sample rates range from once per second up to once per minute. The analyzer records the data along with the status of the digital I/Os with a timestamp to ensure that each recorded value is associated with a date and time of acquisition.

Sensor Service Life Predictor

The DTX832 software includes a sensor service life predictor to notify the user when a sensor is approaching the end of its life expectancy. A warning message will scroll across the analyzer's LED display and the system maintenance relay and the alarm condition relay will be initiated.

Auto-Calibration

For sensors requiring periodic calibration, the analyzer can automatically initiate and control sensor calibration on a user defined schedule. The Auto-CAL function not only enhances system reliability by automatically running the calibration but eliminates the time and cost typically required for hands-on service by maintenance personnel. During the Auto-CAL function, the analyzer will indicate that it is off-line. Calibration can also be manually activated.

Small. Robust. Intuitive.

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Expandable Platform

A four character smart alphanumeric display is included with the core analyzer. Add-on I/O modules, Wireless HART transmitters, and alternate larger displays and operator interface panels with HMI functionality make it possible to customize the DTX832 analyzer to optimize data and sensor management.

Interchangeable Sensors

The DTX832 is designed to accept a wide variety of sensor types. The firmware for other sensor types such as zirconia oxide, laser diode, paramagnetic, polarographic, fluorescent quenching, and pellistor is currently in development.

Specifications

Type	DIN rail mounted analyzer
Operating range (full scale, analog outputs)	0-1%, 0-10%, 0-25%, 0-50%, 0-100%, auto or fixed (fixed range, user defined)
Sensor type	Electrochemical, CAG250, GP
Accuracy (analyzer)	0.1% full scale @ STP
Accuracy (sensor)	0.2% full scale @ calibration point
Repeatability	0.2% full scale @ STP
Response time	$T_{90} < 15$ seconds CAG250; $T_{95} < 20$ seconds GP
Warm up time	< 10 seconds
Relative humidity	0% to 95%, non-condensing
Operating temperature	-20° C to 60° C (-4° F to 140° F)
Shock / vibration	EN/IEC 61010-1: 204 – Safety Directive – requirements for electrical equipment for measurement, control, and laboratory use
Regulatory compliance	EN/IEC 61326-1, EN/IEC 61326-3, EN/IEC 61326-2-3
SIL level	Designed for EN/IEC 61508
Power supply	24VDC \pm 10%
Analog current output	4 – 20 mA, 0-20mA, 0-5V, 1-5V or 0-10V (16 bit resolution)
Analog current input	4 – 20 mA, 0-20mA, 0-5V, 1-5V or 0-10V (24 bit resolution)
Digital protocols	Ethernet TCP/IP, EIA/TIA-485 (RS-485), RS-232
Local display	3.7mm four character 5 x 7 dot matrix display
Remote display	Available through RS-485 link, 2-way addressable
Mounting	Modular 35mm DIN rail mounting bracket
Display resolution	2 decimal places for 0-1%, 0-10% range; 1 decimal place for 10-100%
Environmental	IP20 rating (no hazardous moving parts or electrical hazards)
Warranty	12 months from date of shipment
Enclosure dimensions (LxWxH)	4.16" (105.6mm) x 2.07" (52.5mm) x 2.79" (70.8mm)
Weight	Less than 1 lb.

Specifications are subject to change without notice.



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