



Model T100U Ultra-Sensitive UV Fluorescence SO₂ Analyzer

The Model T100U Ultra-Sensitive SO₂ analyzer has been developed specifically to address the challenges of low level monitoring as required, for example, in the US NCore network. It uses the proven UV fluorescence principle, and is designed to allow ultra-sensitive SO₂ measurements while still meeting the requirements for use as a US EPA compliance analyzer.

The analyzer uses both the light and dark phases of the pulsed UV light source to continuously detect and correct for electronic noise, giving exceptionally stable and sensitive performance. A separate UV detector allows the instrument to continuously correct for variations in lamp intensity. Exceptional stability is achieved with the use of an optical shutter to compensate for PMT drift, and a reference detector to correct for changes in UV lamp intensity. A hydrocarbon “kicker” and advanced optical design combine to prevent inaccuracies due to interferences.

All T Series instruments offer an advanced color display, capacitive touch screen, intuitive user interface, flexible I/O, and built-in data acquisition capability. All instrument set up, control and access to stored data and diagnostic information is available through the front panel, or via RS232, Ethernet, or USB com ports either locally or by remote connection using the included APIcom™ software.

- ▶ **Ranges: 0-5 ppb to 0-20,000 ppb, user selectable**
- ▶ **Dual ranges and auto ranging**
- ▶ **Large, vivid, and durable color graphics display with touch screen interface**
- ▶ **Ethernet, RS-232, and (optional) USB com ports**
- ▶ **Front panel USB connections for peripheral devices and firmware upgrades**
- ▶ **8 analog inputs (optional)**
- ▶ **Adaptive signal filtering optimizes response time**
- ▶ **Temperature & pressure compensation**
- ▶ **Comprehensive internal data logging with programmable averaging periods**
- ▶ **Ability to log virtually any operating parameter**
- ▶ **Two-year warranty**

Free Customer Support by telephone and email for the life of the instrument

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Specifications

General

Ranges:	Min: 0-5 ppb Full scale Max: 0-20,000 ppb Full scale (selectable, dual ranges and auto ranging supported)
Measurement Units:	ppb, ppm, µg/m ³ , mg/m ³ (selectable)
Zero Noise:	25 ppt (RMS)
Span Noise:	0.5% of reading (RMS) above 5 ppb
Lower Detectable Limit:	50 ppt
Zero Drift:	< 0.2 ppb/24 hours
Span Drift:	< 0.5% of full scale/24 hours
Lag Time:	30 seconds
Rise and Fall Time:	< 140 seconds to 95%
Linearity:	1% of full scale
Precision:	0.5% of reading
Sample Flow Rate:	650 cm ³ /min ±10%

Electrical Specifications

Power Requirements:	100V-120V, 220V-240V, 50/60 Hz
Analog Output Ranges:	10V, 5V, 1V, 0.1V (selectable)
Recorder Offset:	±10%

Communication Specifications

Included I/O:	1 x Ethernet: 10/100Base-T 2 x RS232 (300-115,200 baud) 2 x USB device ports 8 x opto-isolated digital outputs 6 x opto-isolated digital inputs 4 x analog outputs
Optional I/O:	1 x USB com port 1 x RS485 8 x analog inputs (0-10V, 12-bit) 4 x digital alarm outputs Multidrop RS232 3 x 4-20mA current outputs

Physical Specifications

Operating Temperature Range:	5 - 40°C (with EPA Equivalency)
Dimensions (HxWxD):	7" x 17" x 23.5" (178 x 432 x 597 mm)
Weight:	45 lbs (20.5 kg)

Certifications

US EPA:	EQSA-0495-100
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How to Order

Model T100U includes:

- ☐ Two year warranty
- ☐ Internal pump or external pump (optional)
- ☐ Dual ranges and auto ranging
- ☐ 47mm diameter particulate filter
- ☐ 8 isolated digital outputs
- ☐ 6 isolated digital inputs
- ☐ RS-232 ports
- ☐ Ethernet port
- ☐ USB ports for peripheral devices
- ☐ APIcom™ remote control software
- ☐ Select AC input voltage
 - ☐ 100V - 120V ☐ 50Hz
 - ☐ 220V - 240V ☐ 60Hz
- ☐ Select DC output voltage
 - ☐ 10V ☐ 5V
 - ☐ 1V ☐ 0.1V

Calibration Options:

- ☐ Ambient zero and ambient span
- ☐ Zero scrubber and internal span source (IZS)

Mounting Options:

- ☐ Rack mount brackets with chassis slides
- ☐ Rack mount brackets only
- ☐ Handle

I/O Options:

- ☐ 4-20mA outputs (up to three channels)
- ☐ USB com port
- ☐ 8 Analog Inputs
- ☐ Multi-drop RS232
- ☐ RS485

Other Options:

- ☐ NO optical filter (Recommended for high NO_x applications.)
- ☐ Concentration alarm relays
- ☐ Expendables kit

The values expressed above are in accordance with EPA definitions.
All error specifications are based on constant conditions.
Specifications subject to change without notice.
Printed documents are uncontrolled. SAL000041B (DCN 5880) T100U/10.13.10



9480 Carroll Park Drive ■ San Diego, CA 92121-5201
Ph. 858-657-9800 Fax 858-657-9816
Email api-sales@teledyne.com

For more information about the Teledyne API family of monitoring instrumentation products, call us or visit our website at

www.teledyne-api.com

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