

Complete monitoring system for the automatic, continuous measurement of total organic carbon (TOC) in pure and high purity water.

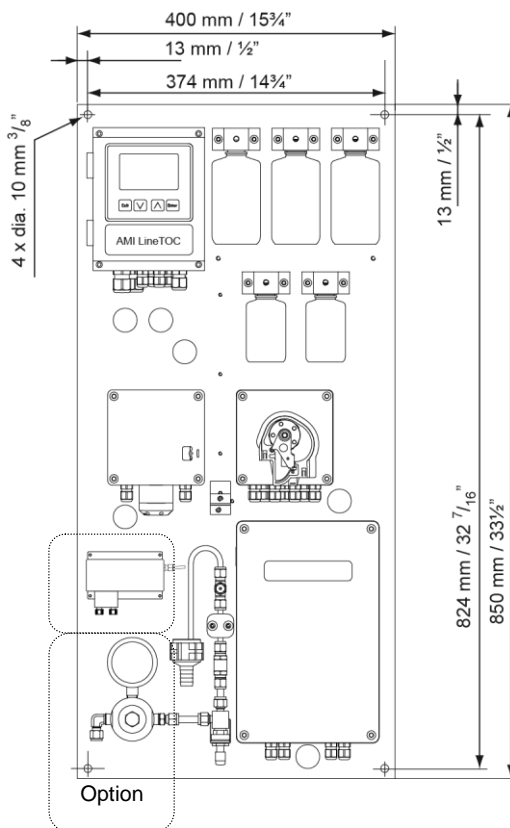
Monitor AMI LineTOC

Complete system mounted on stainless steel mounting panel:

- **Transmitter AMI LineTOC** in a rugged aluminum enclosure (IP 66).
- **Analyzing unit** with reagent free UV oxidation, two high precision two-wire conductivity electrodes made of stainless steel with integrated NTC temperature probe for automatic temperature compensation.
- **3-Channel Peristaltic pump** with automatic dilution of standard solution (performance check).
- **Grab sample** measurement
- Continuous **sample flow** detection.
- Factory tested, ready for installation and operation.

Specifications:

- Measurement range: TOC: 0 to 1'000 ppb
- System suitability test according to USP<643>.
- Big backlit LC display for the reading of measuring value, sample temperature, sample flow, temperature compensation type and operating status.
- Easy user menus in English, German, French and Spanish. Simple programming of all parameters by keypad.
- Electronic record of major process events and calibration data.
- Data logger for 1'500 data records stored at a selectable interval. (Data download to PC requires optional RS-232- or USB-interface).
- Programmable, automatic sensor check (verification) using concentrated, durable standard and internal dilution.
- Two current outputs (0/4 - 20 mA) for measured signals.



Options:

- Communication interface.
- Inlet Pressure Regulator.
- Sample Cooler.

Order Nr.	Monitor AMI AMI LineTOC	A-23.612.100
Option 1:	<input type="checkbox"/> 3 rd current signal output (0/4 – 20mA) <input type="checkbox"/> RS-232 interface (SWAN Terminal) <input type="checkbox"/> Profibus DP interface <input type="checkbox"/> Modbus interface <input type="checkbox"/> USB interface	A-81.410.020 A-81.420.010 A-81.420.020 A-81.420.022 A-81.420.040
Option 2:	<input type="checkbox"/> Inlet Pressure Regulator	A-82.589.000
Option 3:	<input type="checkbox"/> Sample Cooler LineTOC	A-82.300.010

TOC Measurement

Analyzing method; reagent free UV oxidation, differential conductivity.
Reaction time <2 min.

Swansensor TOCON with integrated NT5K temperature sensor.

UV Emitter

Lifetime 6 months
depending on application: up to 12 months
Power 11 W

Measuring range Resolution
0.1 to 1'000 ppb TOC 0.1 ppb

Reproducibility
0.1 to 50 ppb ± 1 ppb
50 to 1'000 ppb $\pm 2\%$

Precision
0.055 to 2 $\mu\text{S}/\text{cm}$ (20°C) $\pm 2\%$

Periodic accuracy test with ultra high precision resistors.

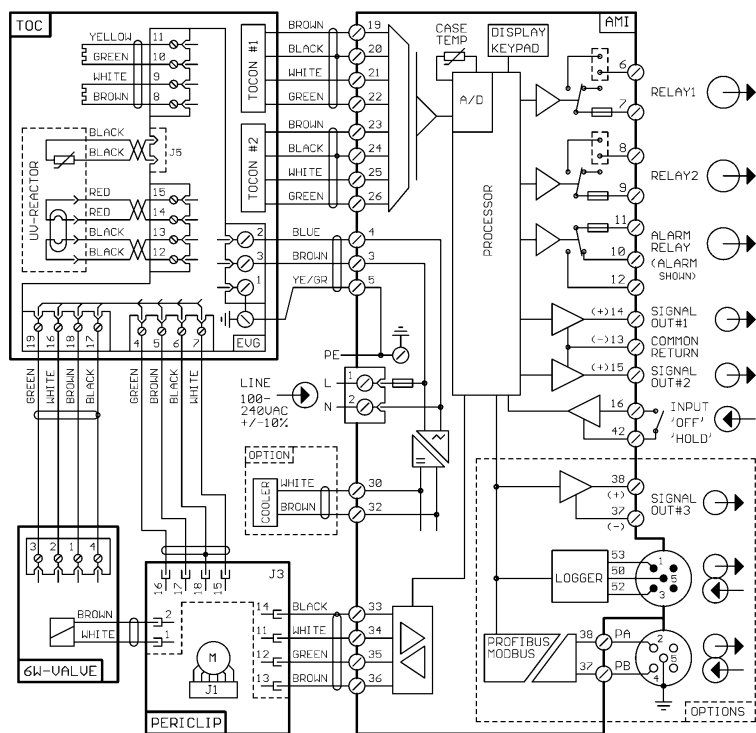
Automatic sensor check (verification) using concentrated, durable standard and internal dilution.

System Suitability Test according to USP<643> and Ph.Eur.2.2.44.

Automatic **Temperature compensation**

Sample flow detection.

Electrical Connection Scheme



Transmitter Specifications and Functionality

Electronics case: Cast aluminum
Protection degree: IP 66 / NEMA 4X
Display: backlit LCD, 75 x 45 mm
Electrical connectors: screw clamps
Dimensions: 180 x 140 x 70 mm
Weight: 1.5 kg
Ambient temperature: -10 to +50°C
Humidity: 10 - 90% rel., non condensing

Power supply

Voltage: 100 - 240 VAC ($\pm 10\%$),
50 / 60 Hz ($\pm 5\%$)
Power consumption: max. 55 W

Operation

Easy operation based on separate menus for "Messages", "Diagnostics", "Maintenance", "Operation" and "Installation". User menus in English, German, French and Spanish.
Separate menu specific password protection.
Display of process value, alarm status and time during operation.
Storage of event log, alarm log and calibration history.
Storage of the last 1'500 data records in logger with selectable time interval (not suitable for Pharma).

Safety features

No data loss after power failure, all data is saved in non-volatile memory.

Overvoltage protection of in- and outputs.
Galvanic separation of measuring inputs and signal outputs.

Transmitter temperature monitoring with programmable high/low alarm limits.

1 Alarm relay

One potential free contact for summary alarm indication for programmable alarm values and instrument errors.
Maximum load: 1A / 250 VAC

1 Input for potential-free contact.

Programmable hold or remote off function.

2 Relay outputs

Two potential-free contacts programmable as limit switches for measuring valves, controllers or timer with automatic hold function.
Rated load: 1A / 250 VAC

2 Signal outputs (3rd as option)

Two programmable signal outputs for measured values (freely scalable, linear or bilinear) or as continuous control outputs (control parameters programmable)
Current loop: 0/4 - 20 mA
Maximum burden: 510 Ω

1 Communication interface (option)

- RS232 interface for logger download to PC with SWANterminal
- RS485 interface (galvanically separated) with Fieldbus protocol Modbus or Profibus DP
- 3rd Signal output
- USB

Monitor Data

Sample conditions

Flow rate: 1 to 5 l/h
Temperature: 10 to 40 °C
with Sample Cooler (Option): up to 90°C
Inlet pressure_{Abs.} (25 °C): up to 1.5 bar
with Pressure Regulator : up to 5 bar
Outlet pressure: pressure free
Conductivity: 0.055 to 2 $\mu\text{S}/\text{cm}$
Particle size: < 100 μm
No sand, no oil

Sample connections

Sample inlet: Swagelok 1/4" tube adapter
Sample outlet: G 1/2" adapter
for flexible tube \varnothing 20 x 15 mm

Panel

Dimensions: 400 x 850 x 180 mm
Material: stainless steel
Total weight: 20 kg