

# ChemScan®

## PROCESS ANALYZERS

# UV-6101

### CAPABILITIES

Continuous, On-Line,  
Automatic Monitoring of  
up to Eight Sample Lines\*

Multiple Parameters

Multiple Detection Ranges

Analog, Serial or Modbus RTU  
Output Capabilities (32 max.)

Multiple Concentration  
Set Point Alarms

Continual Self Diagnostics  
with Alarm

### PARAMETERS

- Any UV Absorbing Chemical
  - Many Reagent Assisted  
Parameters
- Consult factory or catalog for  
specific parameters

### BENEFITS

A ChemScan On-Line Analyzer  
can automatically provide  
operators with timely process  
chemistry measurements,  
without the need for frequent  
manual sampling or laboratory  
analysis. These measurements  
can be used to:

Assure Process Conformance

Control Energy and  
Chemical Costs

Improve Process  
Performance

### FEATURES

Multiple Wavelength UV  
Absorbance Detection System

Integrated Multiple Sample  
Line Manifold

Automatic Zero and Clean

Internal Data Logs

Benign, Inexpensive Reagents

No Ion Specific Electrodes  
to Clean or Replace

Simple to Use  
Operator Interface

### APPLICATIONS

- Municipal Potable Water
- Surface Water Treatment
  - Well Blending
  - Ion Exchange Breakthrough

- Municipal Wastewater
- Process (with filtration)\*
  - Effluent (without filter)

Cooling/Boiler Water

Industrial Wastewater

- Industrial Process Water
- Plating Bath Adjustment
  - Leak Detection

\* four sample lines maximum  
if cyclic filters are used.



*For On-Line and  
Real-Time Water and  
Wastewater Analysis*

Sample handling and conditioning  
accessories are available for this  
and other ChemScan Analyzers.

**ChemScan®**  
An  In-Situ Brand

*"Monitoring a World of Water"*

REPRESENTED BY:

**CCLYNCH**  
& ASSOCIATES  
*The Water Monitoring People*

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ChemScan® UV-6101  
TECHNICAL SPECIFICATION

## FUNCTIONS AND OUTPUTS

Measurement Principle	High Resolution, Ultraviolet Absorbance
Number of Wavelengths	256
Spectral Range	200 - 450 nm
Calibration Technique	Pattern Recognition of Spectral Data
Number of Parameters	8 max.
Parameter Options	Primary or Secondary Absorbance
Data Communications	4 - 20mA (16 outputs max.), RS-232, other formats optional
Data Log	1000 Values Time/Date Stamped, 24 Calibration Spectra
Auto Zeroing	YES (Std)
Auto Cleaning	YES (Std)
Analyzer Pump	YES (Std), Zeroing and Cleaning Only
Sample Conditioning	YES (with Direct Injection Sample Cell), NO (with Standard Flow Cell)
Number of Sample Lines	1 to 8 thru Internal Manifold

## PERFORMANCE SPECIFICATIONS

Reading Interval	3 - 9999 minutes
Response Time	Analyte Dependent (3-5 min typ.)
Range	Parameter/Site Dependent
Accuracy	Parameter/Site Dependent Typ. 2% to 5% of Range
Precision	Parameter/Site Dependent Typ. 2% of Range
Zero Drift	Parameter Dependent Minimized with Auto Zero

## SAMPLE PARAMETERS

Sample Pressure	10 to 80 psi (Standard Flow Cell Only), 0-10 psi (Opt) w/peristaltic pump (max. lift 5 ft., max. run 20 ft.)
Sample Flow	0.5 to 5 l/min. (1.5 l flush/sampling)
Filtration Requirement	NONE (For samples meeting turbidity and solids requirements), Optional ultrafilter available for high solids or turbidity.
Strainer Requirement	Mesh Opening of 2.0 mm Max.
Sample Temperature	1° - 60°C (Std)
Sample Turbidity	0 - 60 NTU (Max)
Sample Suspended Solids	0 - 150 mg/l (Max)

## MAINTENANCE

Light Source Replacement	Every 5 years
Internal Battery Replacement	Every 2 years
Zero/Clean Solution Refill	As Required (2-4 weeks typ.)
Reagent Refill	As Required (2-4 weeks typ.)

## INSTRUMENT SPECIFICATIONS

Size	48 x 20 x 10 in.
Weight	140 lbs.
Mounting	Wall (Std) or Stand (Opt)
Finish Coating	Baked Enamel on Steel (Std) or Stainless Steel (Opt)
Power	120 VAC ±10%, 50-60 Hz, 10 Amps max.
Power Connection	Hard Wired (Std) or Plug (Opt)
Power Condition	Dedicated Branch Circuit Free From: Surges/Dips > 10%, RF and Switching Noise
Operator Interface	2 x 20 LCD and 4 x 4 Keypad
Sample Cell Material	Polymer Body with Quartz Windows

Sample Connection  
Waste Connection

1/4" FNPT Fitting  
1/4" FNPT Fitting (Open Drain Required)

OPERATING ENVIRONMENT

Enclosure Ratings

NEMA 4 (Main Enclosure)  
NEMA 3R (Optrode Enclosure)

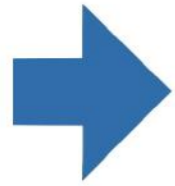
Ambient Temperature

5° - 35°C (Std)

Relative Humidity

0 - 100%

# Data Communication Options



Electronic Interface Enclosure

Analog

Serial

Ethernet IP

## CIM

Customer Interface Module



Features a Max. of Eight 4-20 mA Outputs, Alarms and Input

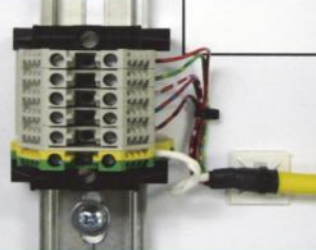
## PLC

Programmable Logic Controller



For use when 4-20 mA Outputs are greater than eight

## RS-232 Modbus RTU



Direct from Analyzer to Terminal Block in EIE

SUB-D RS-232 terminal for temporary laptop connection available in lower enclosure

## RS-422/485 Converter



See Factory for Limitations

## Modbus TCP/IP



## AB Ethernet IP (Allen Bradley)



Typically used when connecting to Allen-Bradley Plant System

# ChemScan<sup>®</sup> Accessories

Sample Handling Options & Data Communication



ChemScan, Inc.  
2325 Parklawn Drive, Suite I  
Waukesha, WI 53186  
Phone 262-717-9500  
ChemScan.com

Contact Your Local Representative for Additional Information:



[www.ChemScan.com](http://www.ChemScan.com)



Wastewater Filter Options

Typical applications:  
 - aeration basins  
 - SBR  
 (sequenced batch reactors)

**External Filter Required**  
 TSS is greater than 150 mg/L  
 NTU is greater than 60

**No Filter Needed**  
 TSS is less than 150 mg/L  
 NTU is less than 60

**In-Situ Cyclic Filter (In-Tank Wand)**



Run is less than 50 ft  
 Lift is less than 10 ft

Maximum of Four Filters/  
 Sample Lines per Analyzer

No external pump required

\* SBR Applications Require  
 Pivoting Wand Mount -  
 Std. Wand is Fixed Angle

Freeze protected (Heat  
 Traced option available)

**Flow-Through Cyclic (FTC) Filter**



Run less than 500 ft



Maximum of Four Filters  
 Per Analyzer

External Pump(s)  
 Required  
 - Provided by ASA  
 or Others

10-20 GPM

**Cross-Flow Filter**



Run is less than 1500 ft.

Maximum of 8 Sample  
 Points Per Filter System

External Pump(s)  
 Required  
 - Provided by ASA  
 Alternative: Valves and  
 Single Central Pump

30 GPM Minimum

**Sample Circulation Chamber (SCC)**

For coarse screening. Algae screening protects analyzer inlet screens and reduces maintenance. Typical applications include post secondary clarifier.

TSS is less than 150 mg/L,  
 NTU is less than 60

Run is greater than 20 ft  
 Lift is greater than 5 ft

Maximum of Eight Sample Lines

External Pump(s) Required

- Provided by ASA or Others  
 - 3 - 10 GPM



**Sample Extraction Accessory**

For use with the ChemScan mini analyzer. Provides a pressurized sample.

TSS is less than 150 mg/L,  
 NTU is less than 60

(Includes Pump and  
 Sample Circulation  
 Loop Assembly)



**Legend**

- TSS - Total Suspended Solids
- NTU - Nephelometric Turbidity Units
- GPM - Gallons Per Minute
- Run - Horizontal Distance to Sample Point
- Lift - Vertical Distance to Sample Point

**Other Accessories**

**Heat Traced Cyclic Sample Line**

Flexible conduit prevents freezing and damage to sample line. An option for any cyclic wand application.



**Outdoor Enclosure**

Providing a stable environment for the ChemScan mini along with the ability to locate the analyzer near the sample site.

**Filter Wand with Disposable Cartridge**

Simple design, no cleaning air, water or chemicals required. Inexpensive operational cost.



**Sample Circulation Pumps**

Light Duty, Submersible Pump  
 1.3" Max. Dia. Solids  
 Weight: 20 - 30 lbs  
 Power: 1/4 - 3/4 HP, 120 VAC 60 Hz  
 Power Cable: 20 feet  
 12 foot SS support cable



Heavy Duty, High Head, Submersible, Grinder Pump. Cast Iron Construction.  
 Weight: 70 lbs  
 Power: 2.3 HP 230 or 460 VAC  
 Power Cable: 30 feet  
 Mounting: Dual guide bars  
 Note: Guide bars are typically provided by others