

# **HSLIS e-Series<sup>®</sup>**

## **Liquid Optical Particle Counter**



The HSLIS e-series provides continuous, real-time monitoring of contamination levels in DI water and process chemicals. The combination of high sensitivity and low cost makes it ideal when large numbers of sensors and/or long term trending are required. The HSLIS e-series has sizing sensitivity down to 0.05 microns in DI water and 0.065 microns in process chemicals. Integration of the HSLIS e-series into Particle Measuring Systems' Facility Net software provides an economical way to monitor multiple flow systems as well as dedicated local display and control capabilities.

### **BENEFITS**

#### **Cost Effective**

- Monitor for long term trends in fluid quality
- Improve yield with the highest sensitivity particle counters
- Simplify site-to-site comparisons with industry standard particle counter
- Lower overall costs with the control and monitoring of multiple particle counters with Ethernet networks
- Low initial capital investment and lower maintenance cost with proven reliability of the HSLIS design

#### **HSLIS e-Series with Facility Net**

- Existing network can be utilized with Ethernet communication to Facility Net software
- Tabular and SPC charts for detailed statistical information
- Alphanumeric paging and e-mailing functions to alert operator of data excursions
- Sensor status displays four-level alarm for monitoring out-of-spec condition
- Simplified data interpretation with real-time and retrieved data time plots

### **APPLICATIONS**

- Quantifying particle concentrations in DI water systems
- Monitoring chemical delivery systems
- Measuring filter efficiency
- Detecting bacterial growth in DI water systems
- Episodic event tracking and alarming
- Continuous system monitoring

# HSLIS E-Series

## Liquid Optical Particle Counter

## specifications

	<b>M50e</b>	<b>M65e</b>	<b>M100e</b>
Size range	0.05-0.2 $\mu\text{m}$	0.06-0.2 $\mu\text{m}$	0.1-1.0 $\mu\text{m}$
Channels	4		
Channel sizes	0.05, 0.1, 0.15, 0.2 $\mu\text{m}$	0.065, 0.1, 0.15, 0.2 $\mu\text{m}$	0.1, 0.2, 0.5, 1.0 $\mu\text{m}$
Flow rate	100 mL/min. $\pm$ 10%	100 mL/min. $\pm$ 10%	300 mL/min. $\pm$ 10%
Sample volume	.25 mL/min.	0.6 mL/min.	3.0 mL/min.
Counting efficiency	100% of sample volume	100% of sample volume	100% of sample volume
Maximum concentration	10,000 counts/mL		
Sample temperature	90°C	150°C	150°C
Zero count	< 1000 counts/liter	< 2000 counts/liter	< 1000 counts/liter
Wetted surface materials	Teflon <sup>®</sup> , Kel-F <sup>®</sup> , Delrin <sup>®</sup> , fused silica	Teflon, Kel-F, sapphire, Chemraz <sup>®</sup>	Teflon, Kel-F, sapphire, Chemraz
Dimensions (l, w, h)	13 x 4 x 5 inches (32 x 11 x 11 cm)		
Weight	32 lbs. (3 kg)		
Power	85-250 VAC, 50-60 Hz		
Calibration	Materials used are traceable to U.S. National Institute of Standards and Testing (NIST) and/or Japanese Institute of Standards (JIS).		
Environment	Temperature: 10-35°C Humidity: non-condensing		
Communications	Ethernet, 4-20 mA (five outputs; four particle channels, one instrument status), RS-232 (set up and diagnostics, no data)		

\*Greater than 90% accuracy (less than 10% coincidence loss) at maximum recommended concentration.  
Chemraz<sup>®</sup> is a registered trademark of Greene, Tweed of Delaware. Kel-F<sup>®</sup> is a registered trademark of the Minnesota Mining & Manufacturing Company.  
Teflon<sup>®</sup> is a registered trademark of DuPont. LiQuilaz<sup>®</sup> is a registered trademark of Particle Measuring Systems, Inc.



Registration applies to the Boulder, Colorado facility.

### AUTHORIZED REPRESENTATIVE



Particle Measuring Systems Headquarters  
5475 Airport Blvd., Boulder, CO 80301  
1-303-443-7100 1-800-238-1801 Fax: 1-303-546-7331  
Instrument Service & Support: 1-800-557-6363  
Customer Response Center: 1-877-475-3317

Particle Measuring Systems Europe  
Tel: +44 1684 581000  
PMSEurope@pmeasuring.com

Particle Measuring Systems Japan  
PMSJapan@pmeasuring.com

Particle Measuring Systems Asia Pacific  
PMSAsiaPacific@pmeasuring.com

Particle Measuring Systems Singapore  
Tel: +65-6496 0330  
PMSSingapore@pmeasuring.com

Particle Measuring Systems China  
PMSChina@pmeasuring.com

Particle Measuring Systems Mexico  
PMSMexico@pmeasuring.com

Particle Measuring Systems Puerto Rico  
PMSPuertoRico@pmeasuring.com