

**SEMS, INC**

# SEMS LX Series Optical Pinhole Detector



SEMS Optical Pinhole Detector Typical Configuration



**SEMS, INC**  
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USA

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# SEMS LX Series

## Optical Pinhole Detector



### **A) SYSTEM SPECIFICATIONS**

- 1) Standard and Custom Industrial Enclosures available**
  - a) Frames designed and manufactured by SEMS to function on your production line without interfering with existing operations
  - b) Manufactured from steel tube with 3/16" wall
  
- 2) Solid State Industrial Sensing Arrays**
  - a) Highly sensitive multi-element sensors
  - b) Precisions high speed optical lens
  - c) Long lasting LED illumination with matching optical filter
  
- 3) On board purging and cooling system**
  - a) No plant air required
  - b) No plant water required on hot mill applications
  - c) This air purging system allows the sensor array and optics to remain clean, even in oily environments associated with production lines
  - d) Uses 'tool-less quick change' 10" x 20" x 2" air filters
  
- 4) Minimum pinhole size = 0.0004" (0.010mm)**
  
- 5) Operating line speed = 0 to 6600f/min (0-2000m/min)**
  - a) 0.0004" (10um) @ 650f/min (200m/min)
  - b) 0.001" (25um) @ 5000f/min (1500m/min)
  
- 6) Standard width measurement = +/- 0.12" (3mm)**
  - a) Optional width measurement = +/- 0.04" (1mm)
  
- 7) Electronic edge detection of product**
  
- 8) Scans all product to 0.12" (3mm) of material edge**

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- 9)** Includes Industrial Operator Station with Touch Screen
  - a) Housed in a wall mount NEMA 12 enclosure
  - b) Can be up to 328 feet (100 meters) from sensor assembly
  - c) LCD Touch Screen display with real time imaging and trending
  - d) Ethernet interface for customer data collection and control
  
- 10)** Optional system inputs...(customer terminated)
  - a) Operator Acknowledge
  - b) End of Strip 1 (Make Report 1)
  - c) End of Strip 2 (make Report 2)
  - d) Hole Detection Permissive
  - e) Pulse Tachometer
  - f) Additional Inputs available
  
- 11)** Optional system Outputs...(customer terminated)
  - a) Large Hole Detected
  - b) Medium Hole Detected
  - c) Small Hole Detected
  - d) Edge Crack Detected
  - e) Weld Hole Detected
  - f) Spare
  - g) Spare
  - h) System On-Line
  - i) Steering Left-Left
  - j) Steering Left
  - k) Steering Right
  - l) Steering Right-Right
  - m) Additional Outputs available
  - n) Data and Reports available via TCP/IP 10/100/1000mb Ethernet
  
- 12)** Uses 120Vac at 5A (supplied by customer)

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## B) SOFTWARE

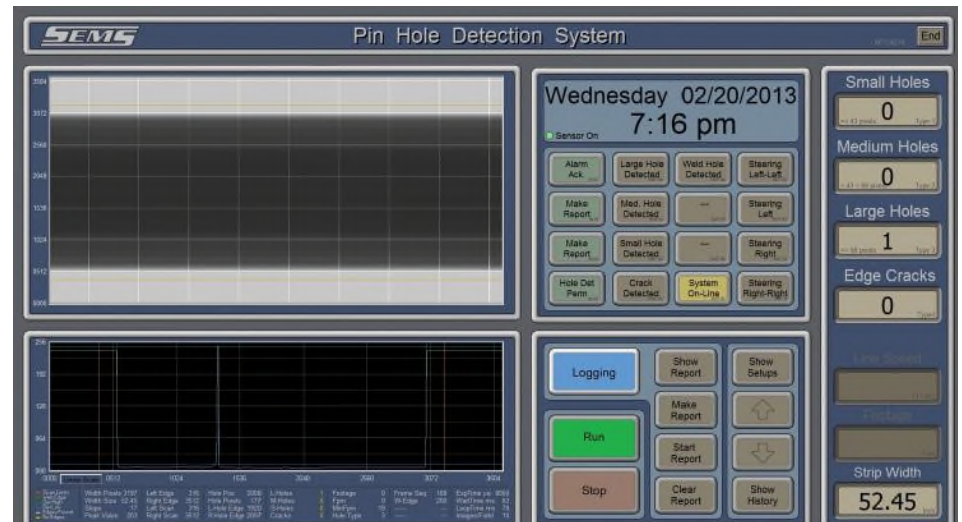
- 1) Windows Workstation software license is supplied.
- 2) All system control software is supplied – no license required
  - a) No customer programming required for system operation
  - b) Customer setup via Operator Touch Screen
- 3) Ethernet interface allows access to system data and reports.

## C) OPTIONS

- 1) Field installation by SEMS available
- 2) Software to allow remote factory maintenance via internet
- 3) Pulse tach interface to allow display of speed and footage
- 4) Custom software for interfacing to Allen Bradley and GE PLCs
- 5) Additional inputs and outputs at customer's request
- 6) Hi resolution width measurement = +/- 0.04" (1mm)

## OPERATOR'S STATION Screen Shots:

Main Screen:



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Report Screen

SEMS Pin-Hole Detection System									
Hole Detection Report Report-2013-01-12-192419.txt									
Nbr.	LHoles	MHoles	SHoles	Cracks	HPostn	Width	Speed	Length	
1	1	0	0	0	513	6043	0	0	
2	2	0	0	0	1510	6043	0	0	
3	3	0	0	0	1527	6043	0	0	
4	4	0	0	0	2149	6043	0	0	
5	5	0	0	0	2282	6043	0	0	
6	6	0	0	0	1804	6043	0	0	
7	7	0	0	0	2056	6043	0	0	
8	8	0	0	0	2153	6043	0	0	
9	9	0	0	0	2274	6043	0	0	
10	9	0	1	0	2336	6043	0	0	
11	10	0	1	0	1546	6043	0	0	
12	11	0	1	0	1433	6043	0	0	
13	12	0	1	0	1311	6043	0	0	
14	12	0	2	0	1204	6043	0	0	
15	12	1	2	0	1132	6043	0	0	
16	13	1	2	0	1406	6043	0	0	
17	14	1	2	0	1652	6043	0	0	
18	15	1	2	0	1892	6043	0	0	
19	16	1	2	0	2084	6043	0	0	
20	17	1	2	0	1921	6043	0	0	
21	18	1	2	0	2365	6043	0	0	

Setup Screen

Min Detect Speed: 19  
Small Hole Pixels: 43  
Large Hole Pixels: 68  
Hold Display Time: 10  
Display Black Level: 0  
Display White Level: 128  
Weld Position Left: 1528  
Weld Position Right: 2684  
Weld Min Pixels: 70

Width Det Mode: Auto Manual ON OFF  
Edge Crack Det: ON OFF ON OFF  
Hole Det Parm: ON OFF  
Auto Report: ON OFF  
Report Header: ON OFF

Small Holes: 0  
Medium Holes: 0  
Large Holes: 0  
Edge Cracks: 0  
Strip Width: 50.04

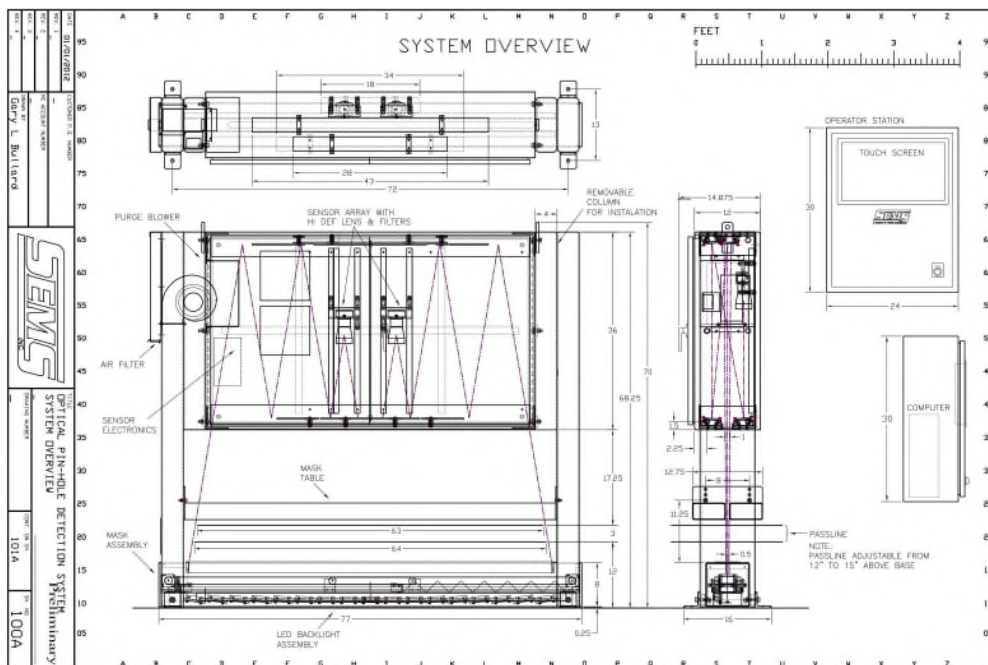
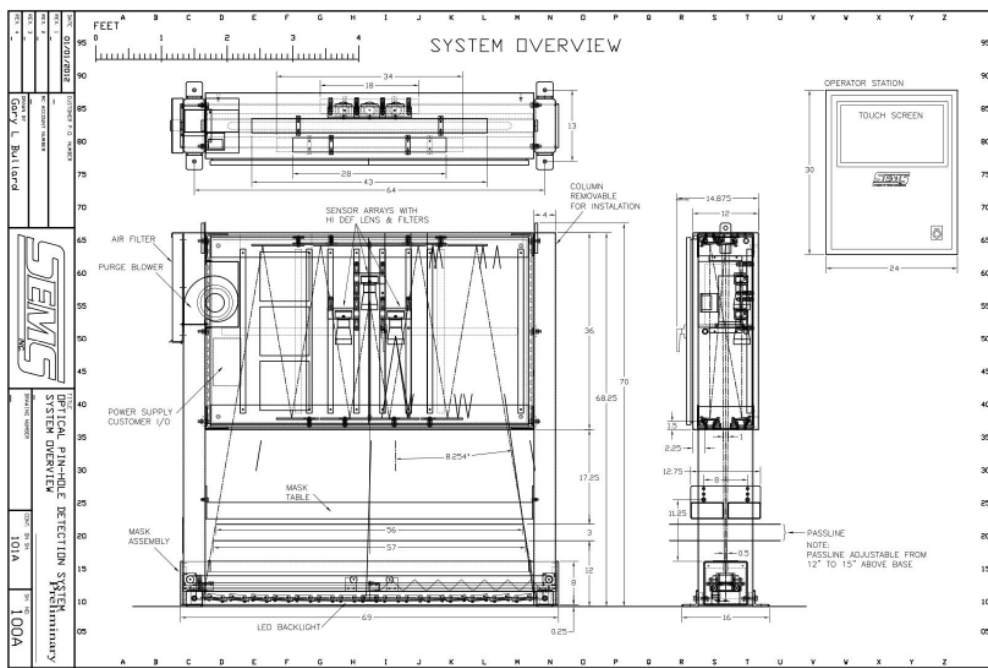
Run Stop

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Typ. Configurations: (Frame size determined by customer's application)



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