



# ENHANCED PROCESS MONITORING FOR METAL CUTTING AND FORMING APPLICATIONS

## MONITOR YOUR PROCESSES EASILY AND EFFECTIVELY WITH THE NEW IMPAX PASS MONITORS

The **IMPAX PASS-4** and **IMPAX PASS-6** Monitors use an innovative algorithm to analyze signals from a variety of analog sensors. The monitors measure the **PEAK** and/or **AVERAGE VALUE** of the signal, and compare these values to their respective upper and lower limit settings. By doing this for each machine cycle, the monitor can detect missing, broken, and dull tooling, feed problems, and other machine issues.

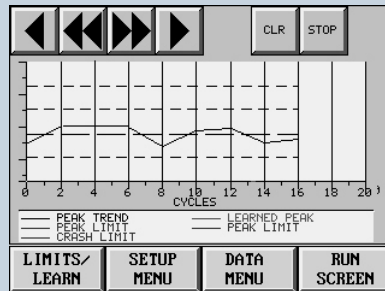
The operator begins the process by entering high and low limit percentages to apply to the learned peak and average values. Once the **LEARN NOW** Key is pressed, the system calculates the average values for a number of machine cycles, and then sets the limits around these values.

MODE	SET PERCENTAGE LIMITS		PPM
READY TO MONITOR			22
ENTER PERCENT LIMITS AND PRESS "LEARN"			
PEAK HIGH PERCENT:	10	AREA HIGH PERCENT:	10
PEAK LOW PERCENT:	10	AREA LOW PERCENT:	10
LEARN NOW			
LIMITS/LEARN	SETUP MENU	DATA MENU	RUN SCREEN

MODE	OVERVIEW SCREEN				PPM
READY TO MONITOR					22
GOOD PARTS	CURRENT PEAK	HIGH PEAK LIMIT	CURRENT AREA	HIGH AREA LIMIT	
1500	10.00	VALUE	1000	450	
PARTS TO GO	8.00	6.35			
0					
BAD PARTS	4.00	LOW PEAK LIMIT	400	LOW AREA LIMIT	
78	2.00	VALUE	200	397	
LAST ERROR AT	1.00	5.37	420		
150	5.62				
LIMITS/LEARN	SETUP MENU	DATA MENU	RUN SCREEN		

The System Overview Screen displays Current Peak and Current Average Values along with their respective high and low limits, and a bar graph for each. It also shows the speed of the machine (parts-per-minute) and both the good and bad parts produced.

The Trending Screens show the peak and average values for the last 100 cycles along with the limits. A crash limit is also displayed. The arrow keys can be used to scroll the display.



MODE	ERROR LOG PAGE 1							PPM
READY TO MONITOR								22
	COUNT	PEAKLO	PEAK	PEAKHI	AUGLO	AUG	AUGH1	
PEAK	1482	3.00	4.11	4.00	3.00	450	500	
PEAK	1420	3.00	5.12	4.00	3.00	375	500	
AUG	1302	3.00	4.00	4.00	3.00	522	500	
BOTH	1298	3.00	4.86	4.00	3.00	550	500	
<	SETUP MENU	DATA MENU						>

The Error Log Screens keep track of the last eight errors. Information provided includes the count value, and the peak and average values along with their respective limits.



### Auto Learn Function

- Variable Cycle Count
- Learns Peak and Average Values

### Peak Analysis

- High and Low Percentage Settings
- High and Low Fixed Limit Settings

### Average Analysis

- High and Low Percentage Settings
- High and Low Fixed Limit Settings

### Order Counter

- Order Quantity
- Good Parts Made
- Good Parts to Go
- Bad Parts Sorted/Diverted

### Trending

- Trending of Peak Values
- Trending of Average Values
- Trending Data Logs for Peak & Area

### Error Log - Last 8 Events

- Count, Peak & Average Values

### Machine Stop Control

- Immediate or Delayed (configurable error tolerance)
- Additional Always-On Crash Protection

### Sorting Control via Diverter Output

- Start & Stop Delays

### Sensors Supported

- 0-10V Analog Sensors
- 4-20mA Analog Sensors
- Contact PTG, Inc. for information on sensors we recommend for your application.

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# Existing PASS Modules

TAPPING - Motor Load Input

POINTING - Motor Load Input

METAL CUTTING - Vibration Sensor with Signal Conditioner

TEMPERATURE MONITORING - Thermocouples, Thermistors, RTDs

TOOL USAGE COUNTING - Up to 40 separate Tool Counters

MAINTENANCE ITEM USAGE COUNTING - Up to 18 separate Maintenance Counters

GAGING - Up to 3 Characteristics

CUSTOM PROJECTS - Hardware, software, and 0-10V sensor selection to meet your project criteria.