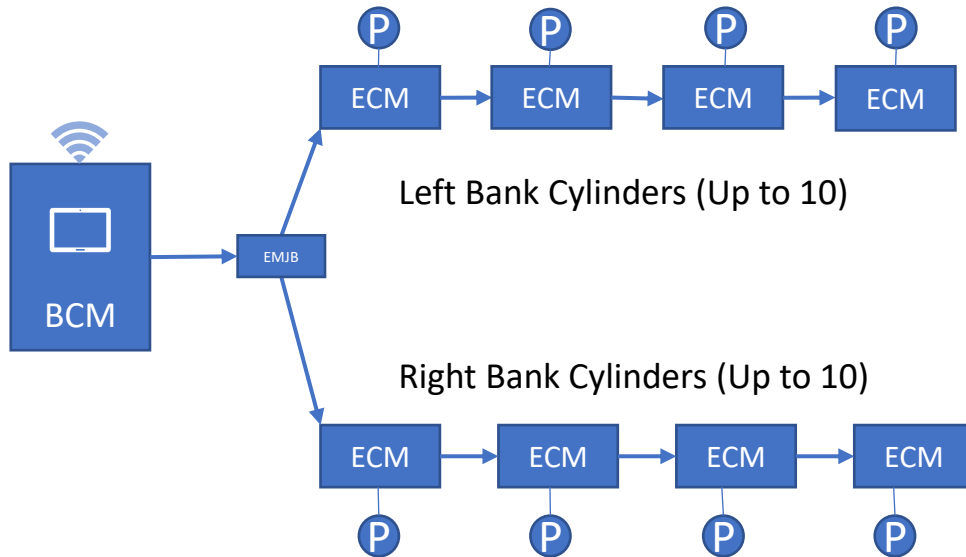


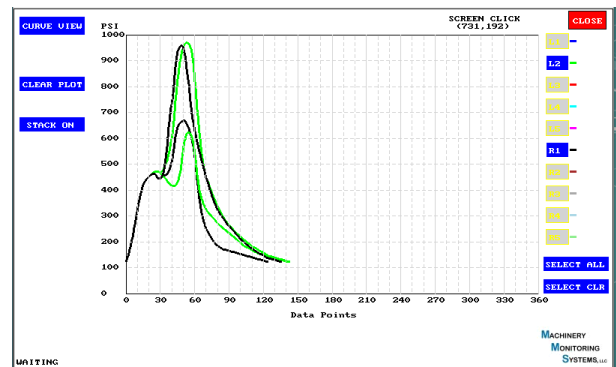
ProBalance® Engine Balance Monitor

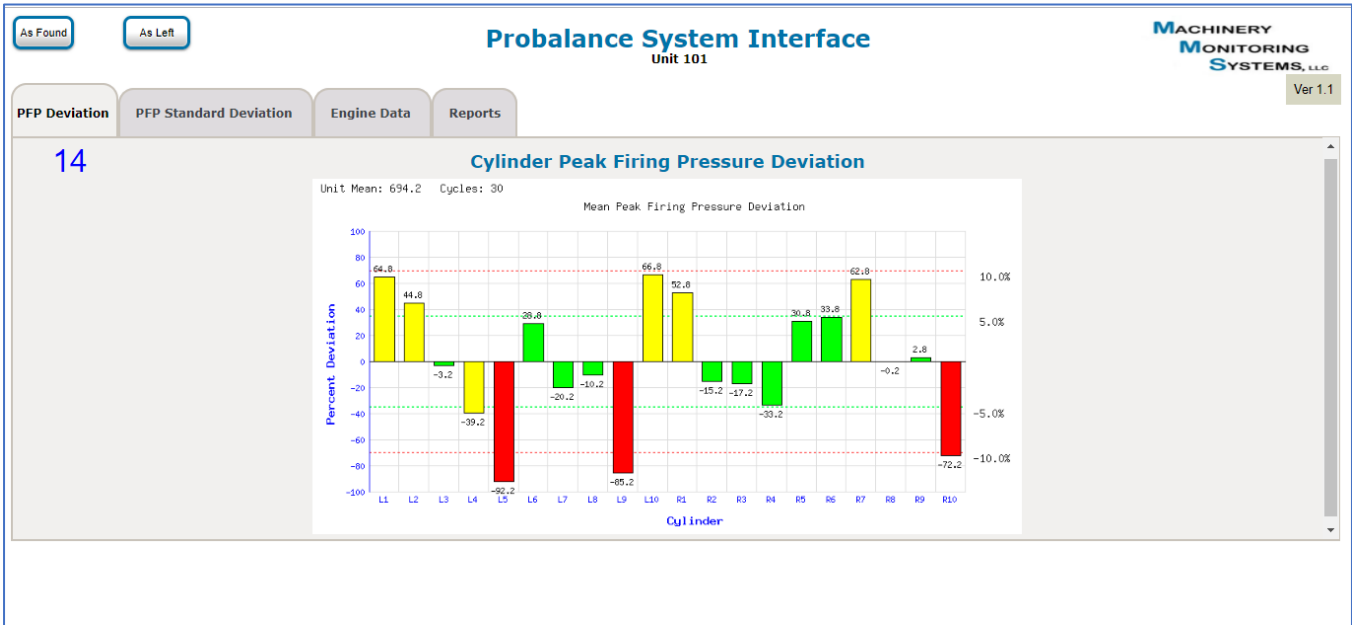


- Continuous PFP monitoring
- MODBUS communication to Unit PLC
- Wireless to tablet
- Alarm on imbalance, Hi PFP, Hi standard deviation
- Magnetic mounting
- Single armored interconnect cable
- 7" Local touchscreen display
- Optional TDC & Deg mag pickups

Machinery Monitoring Systems' ProBalance system is a low-cost, easy & quick to install continuous power cylinder pressure monitoring system. The Balance Control Module (BCM) is a 12" x 10" x 6" enclosure that can be mounted at one end of the engine or at the UCP. The BCM has a 7" touchscreen that displays engine balance live. The balance data is also available wirelessly over secure WiFi to a tablet (or Smart Phone) to support viewing the live engine balance while making adjustments.

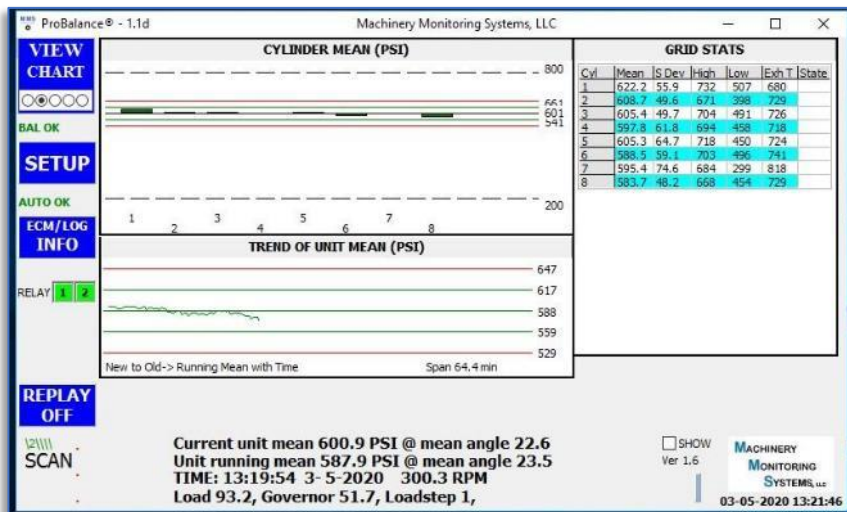
The Engine Cylinder Modules (ECMs) are magnetically mounted and connected with a single, armored cable (one for each engine side for "V" configurations). Other than the 24 VDC to be supplied by the customer and Kiene valves and pressure sensors (if not already installed), installation of the Machinery Monitoring Systems ProBalance system takes less than an hour!





The screen above shows the web page which is wirelessly available in the engine room for display on a tablet computer or smartphone with just a Web Browser. This screen allows the operator to view the engine balance live while making adjustments to each cylinder’s fuel valve.

The BCM local display (shown below) shows the engine’s balance plot indicating each cylinder’s deviation from engine average. The lower plot shows a two-hour trend of the unit’s average peak firing pressure. Controls on the Local Touchscreen allow the user to view: curves, statistics play back historical data and more.



ProBalance Specifications

Hardware

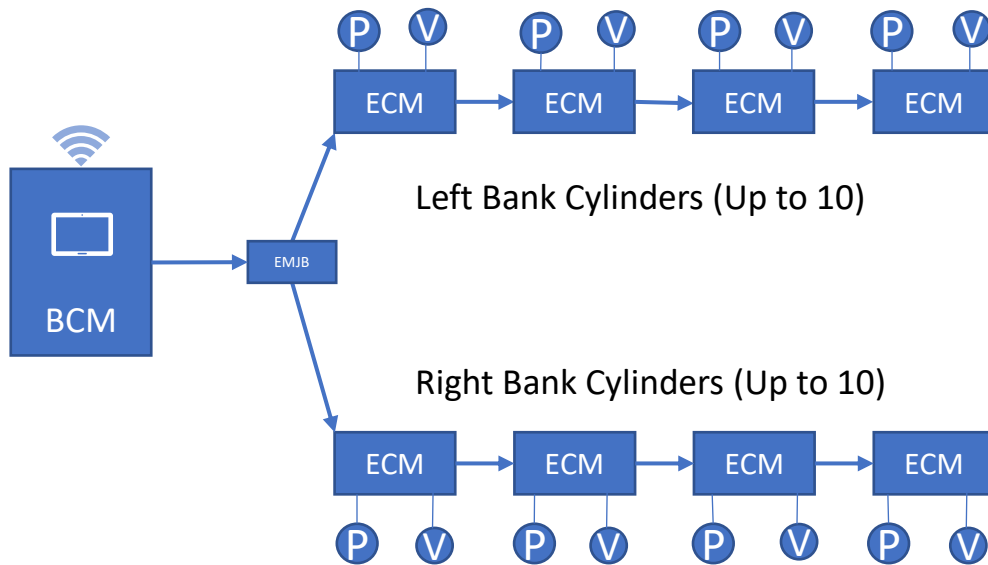
Power Input	46 W, 24 VDC (20-29 VDC)
Sensor Inputs	(Per ECM) 1 Input, selectable: Voltage (0-5 V) or Current (4-20 mA) Calibration Sensor (EMJB) 4-20 mA
Relay Outputs(2)	Dry contacts, Normally energized NO & NC contacts Resistive Load: 1 A, 28 VDC max

Physical & Environmental

Mounting	Magnetic
Size	
(BCM)	12.3" x 10.0" x 5.0"
(ECM)	4.9" x 3.15" x 2.2"
(EMJB)	5.5" x 5.5" x 3.6"
Weight	
(BCM)	13 lbs.
(ECM)	1.2 lbs.
(EMJB)	3.5 LBS
Operating Temp	ECM & EMJB, 0 – 85 °C (32 – 185 °F) BCM, 0 – 60 °C (32 – 140 °F)

Ratings

Enclosures	BCM: NEMA 4 (IP 66) ECM & EMJB: NEMA 4X (IP 66)
System	Class I, Division 2, Groups A, B, C & D



Note: The individual elements on the drawing are “grouped” as a single item. To “un-group” them to be able to manipulate the individual elements, select the drawing and then click on “Arrange” and then “ungroup”