

BETA-TRAP™ Plus Ignition

Power Cylinder Balancer with USB

- *Optimize engine performance*
- *Detect individual cylinder failures*
- *Better emission control (lower Nox & CO)*
- *Check ignition integrity prior to balance*
- *Reduce maintenance costs and extend engine life*

The **BETA-TRAP 3 Plus Ignition (BT3+)** Power Cylinder Balancer is a 3rd generation, industry-standard engine balancer used for frontline detection of engine mechanical and performance problems. Dynalco offers the BT3+ as a new unit or as an upgrade to owners of an original BETA-TRAP 3.

The BT3+ allows you to acquire real-time ignition traces and secondary ignition statistics before you balance. It is always good practice to perform an ignition data collection run first to ensure that the ignition timing and waste gate position is stable and no mechanical problems exist.

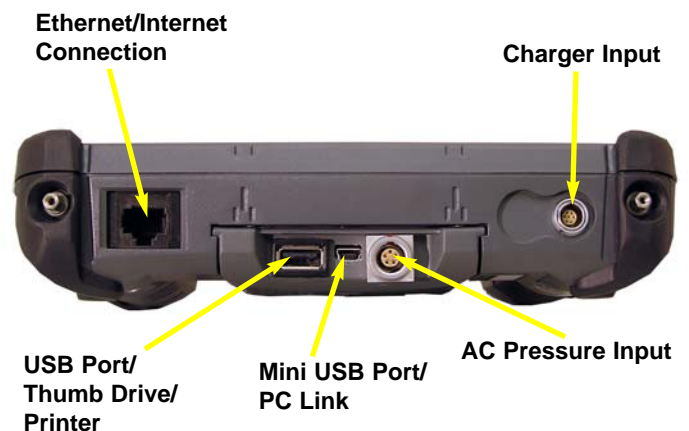
The BT3+ comes with an ignition clip to safely and reliably collect secondary voltage signals (up to 10% accuracy, 10 - 30 kV, maximum 40 kV) and generate secondary ignition reports prior to balancing.

When you are ready to balance, the BT3+ will easily guide you through setting up the engine and process variables.

Starting off in "Monitor Mode", the BT3+ will sample all of the cylinders, record PFP statistics and determine if the engine is in balance. If the engine is not in balance, the BT3+ proceeds to "Balance Mode" where the BT3+ begins monitoring the peak firing pressures while the amount of fuel entering the cylinder is adjusted to balance the engine.



Once the engine is in balance the BT3+ will collect the "As Left" process variables and prompt you to generate a "Balance Report" using the IR port, parallel to IR adapter, or USB port. The BT3+ also provides direct PC connection for exporting data to a CSV file.



With the addition of USB capability, the BT3+ offers even more convenience. Now you can backup and restore data to a thumb drive or PC. Reports can be generated via the USB to most any printer, eliminating the need for cross-over cabling.



FEATURES

- Graphical display of power cylinder balance and ignition trace showing the entire engine at once.
- Guides the operator through the balancing process, identifying the cylinders that should be adjusted.
- Displays average, standard deviation, maximum and minimum power cylinder peak firing pressure.
- Coefficient of variance across the engine is used to assist in reducing emissions associated with unstable combustion.
- User definable:
 - PFP sample size
 - Engine name - up to 20 characters
 - Gauge readings - select from a predefined list or make your own
 - Balance criteria - target balance
- A phase marker is not required to collect data.
- The pressure-time pattern can be viewed to identify power cylinder problems.
- Arrange engines in logical plant areas.
- Set up wizard asks only a few questions to create each engine.
- No limit to the number of engines per plant location.
- On-board database stores historical "As Found" and "As Left" data.
- Review and print historical balance reports for any engine.
- No PC is required to operate the BT3+.
- ASCII balance reports may be sent to PC for import into other software.
- Prints reports through the built-in infrared or USB port.
- USB port allows backup and restore directly to thumb drive or PC.
- Updates its own software from Dynalco site using built-in ethernet port.
- Connects to M-Health® Asset Management Tool.
- Uses Dynalco's patented, rugged field-proven AQUA-PROBE® AC piezo electric pressure transducer.
- On-screen instructions make the device easy to use.
- Virtually immune to the effects of open ignition secondaries.
- Light weight (< 3lbs.).

IGNITION

- Calibration clip
- Real-time display
- Statistical evaluation of ionization voltage
- Ignition report

**1-Year
Warranty**

DATA COLLECTOR SPECIFICATIONS

- **Display:** ½ VGA (640 X 240 pixels), Indoor/outdoor backlit color display with automatic contrast temperature compensation.
- **Keyboard:** Large 64 key high resistance keyboard with independent numeric keypad and independent/dedicated function keys.
- **Power Source:** Rechargeable Lithium-Ion battery (2200mAh).
 - Power gauge to monitor main battery
 - Integrated charge status and low battery indicator
 - Separate rechargeable backup battery for data retention
- **Communication:** 1-IrDA port, 1-Ethernet port, 1-USB A & 1-USB B Minis
- **Weight:** 2.43 pounds (1100g) Data Collector only with Lithium battery.
- **Dimensions:** 9.05 Inches x 7.27 Inches x 1.97 Inches.
- **Temperature:** Operating -4° F to 122° F (-20° C to 50° C), Storage -40° F to 140° F (-40° C to 60° C), Humidity, 95% Non-condensing.
- **Environmental Resistance:** Sealed to keep out dust, humidity and water (Splash Proof).

PRESSURE TRANSDUCER SPECIFICATIONS

- **Type:** Dynamic Pressure Sensor.
- **Environmental:**
 - Temperature Range (Dynalco Water Cooled Probe): -0° to 275° F
 - Flash Temperature (Sensor): 3000° F
- **Range:** 0 to 2000psi, Linearity (Sensor Only) 3% FS, Frequency Response : >400KHZ.
- **Material:** Hermetically Sealed Inconel .
- **Housing:** Dynalco Water Cooled Probe Body with Wing Nut.



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