



CERTIFICATE NUMBER  
15-HS1360731-PDA

DATE  
26 May 2015

ABS TECHNICAL OFFICE  
Houston SED Machinery - Piping  
& Electrical Sys.

## CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of

### **BINSFELD ENGINEERING INC.**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Power Meter**

Model: **TorqueTrak Revolution**

This Product Design Assessment (PDA) Certificate 15-HS1360731-PDA, dated 26/May/2015 remains valid until 25/May/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

  
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Tim Kimble  
Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by the terms and conditions as contained in ABS Rules 1-1-A/3.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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Web: www.binsfeld.com

**Tier: 2 - PDA Issued**

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**Product:** Power Meter

**Model:** TorqueTrak Revolution

**Intended Service:**

Marine Application - Measure Torque And Horsepower On Rotating Shafts. Example. Propeller Shaft

**Description:**

TorqueTrak Revolution is a permanently installed instrument that provides continuous dynamic measurement and data output for true mechanical Torque, Shaft Speed (RPM) and Power (Hp or kW) on the rotating propeller shafts. This "Shaft Power" data can be compared real-time to fuel consumption, ship speed, heading, weather conditions and other variables giving you the "Power Efficiency" information needed to make decisions. The TorqueTrak Revolution system features Inductive Power and Inductive Data Transfer - there are no mechanical wear surfaces, so you can expect long-term reliable operation. Installation is simple. Shaft modification/disassembly is not required. The TorqueTrak Revolution can be machined to fit any size shaft and it can monitor any torque or power level, static or dynamic. Features & Benefits include a 14-bit microprocessor-based design for excellent data accuracy and resolution plus many setup tools and mechanisms for easy calibration, scaling and adjustment of the output signals.

**Rating:**

Input Power: 11-16 VDC (2 A Max, 0.5 A Nominal), 115 VAC or 230 VAC Options Available;  
Frequency Response: 1000 HZ, 12 Hz, 1.5 Hz or 0.1 Hz;  
Resolution: 14 bits  
Sampling Rate: 4800 Hz;  
Signal: Torque - 4-20 mA, Power - 4-20 mA, Shaft Speed/RPM - 5-19 mA, Shaft Direction - 5-19 mA;  
Operating Temperature: -40 °C to 85 °C

**Service Restriction:**

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

**Comments:**

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

- (1) Installation of receiver module is to be in compliance with 4-8-3/1.11 of the SVR with regards to IP Protection.
- (2) Installation as per Binsfeld TorqueTrak Revolution User's Guide.

**Notes/Drawing/Documentation:**

Drawing No. BEI-TTRevolution Product Datasheet\_C, TT Datasheet, Revision: -, Pages: 1  
Drawing No. Torque Full Scale, Torque Scale, Revision: -, Pages: 1  
Drawing No. TorqueTrak Revolution User's Manual, Power Coil, TT User's Manual, Revision: -, Pages: 1

**Terms of Validity:**

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**STANDARDS**

**ABS Rules:**

Rules for Conditions of Classification, Part 1 - 2015 Steel Vessels Rules 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

Steel Vessels: 4-8-3/1.11;

Steel Vessels Under 90 Meters (295 feet) in Length: 4-6-1/15;

Offshore Support Vessels (OSV Rules): 4-8-3/1.11;

Rules for Conditions of Classification, 2015- Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

Mobile Offshore Drilling Units: 4-3-1/15;

**National:**

NA

**International:**

NA

**Government:**

NA

**EUMED:**

NA

**OTHERS:**

NA