



CERTIFICATE NUMBER  
15-BK1419873-PDA

DATE  
24 Sep 2015

ABS TECHNICAL OFFICE  
Busan Engineering Services

# CERTIFICATE OF DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of  
**DUON SYSTEM CO., LTD.**

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: **Pressure Level Gauging Transmitter**

Model: **Smart Pressure and Temperature Transmitter (Model: APT3100, APT3200, ATT2100 series)**

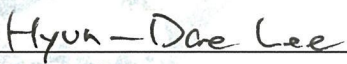
This Product Design Assessment (PDA) Certificate 15-BK1419873-PDA, dated 24/Sep/2015 remains valid until 23/Sep/2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

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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Hyun-Dae Lee  
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-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

**DUON SYSTEM CO.**

60-31, GASAN-DONG

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**Tier: 2 - PDA Issued**

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**Product:** Pressure Level Gauging Transmitter

**Model:** Smart Pressure and Temperature Transmitter (Model: APT3100, APT3200, ATT2100 series)

**Intended Service:**

Pressure and temperature measuring for the vessels and offshore units

**Description:**

A micro processor-based explosion proof type pressure (APT3100, APT3200) and temperature (ATT2100) transmitters

**Rating:**

APT3100 (pressure transmitter)

a) Power Supply: 12 to 45 VDC

b) Output: 4~20mA, Digital Signals

c) Enclosure: IP66

d) Ex-certificate: refer to certificate no. KEMA 07ATEX0103X, 3024416, 13-AV2BO-0198

e) For further details (product and measuring range), refer to attached specification

APT3200 (pressure transmitter)

a) Power Supply: 12 to 45 VDC

b) Output: 4~20mA, Digital Signals

c) Enclosure: IP66

d) Ex-certificate: refer to certificate no. KEMA 07ATEX0103X, 3024416, 13-AV2BO-0199

e) For further details (product and measuring range), refer to attached specification

ATT2100 (temperature transmitter)

a) Power Supply: 12 to 45 VDC

b) Output: 4~20mA, Digital Signals

c) Enclosure: IP66

d) Ex-certificate: refer to certificate no. KEMA 09ATEX0188X, 3024416, 13-AV2BO-0200

e) For further details (product and measuring range), refer to attached specification

**Service Restriction:**

a) Unit Certification is not required for this product.

b) 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:**

a) Application and use are to be in accordance with the manufacturer's operation manual.

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

c) In case this product is used within hazardous area, it is to be approved in each case according to Rules and Ex-certificate issued by a recognized certification body.

d) Note: For electrical equipment installed in hazardous areas, ATEX certification scheme is not currently recognized by the U.S. Coast Guard.

**Notes/Drawing/Documentation:**

This Product Design Assessment is based on as follows:

ABS Type Approval Document for Smart Pressure and Temperature Transmitter (document no. DOSC-001-REV.0 dated of 19 October 2009)

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- (a) Technical Specification and Drawing for APT3100 (dwg. no. 3100-ASS-100-REV.A dated of 27 July 2009 and 3100-ASS-200-REV.A)
- (b) Technical Specification and Drawing for APT3200 (dwg. no. 3200-ASS-100-REV.0)
- (c) Technical Specification and Drawing for ATT2100 (dwg. no. 2100-ASS-100-REV.C dated of 01 June 2009)
- (d) Operation Manual for APT3100 (document no. M3100-E01G)
- (e) Operation Manual for APT3200 (document no. M3200-E01G)
- (f) Operation Manual for ATT2100 (document no. M2100-E01G)

**Test Report and Certificate for Smart Pressure and Temperature Transmitter**

- (a) Report no. 10-S430-6 dated of 15 April 2010
- (b) Report no. PIS11116 dated of 14 February 2011
- (c) Report no. 10-S430-3 dated of 25 May 2010
- (d) Report no. 11-S420-001-1, 11-S420-001-2 and 11-S420-001-3 dated of 25 January 2011
- (e) Report no. 10-1571-244-1 and 10-1571-244-2 dated of 30 November 2010
- (f) Report no. 10-1571-262-1 dated of 30 December 2010
- (g) Report no. 14-023955-02, 14-023955-04 and 14-023955-05 dated of 10 June 2014
- (h) Certificate no. KEMA 07ATEX0103X, KEMA 09ATEX0188X, 3024416, 13-AV2B0-0198, 13-AV2BO-0199 and 13-AV2BO-0200

**Terms of Validity:**

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**STANDARDS**

**ABS Rules:**

2015 Steel Vessels Rules 1-1-4/7.7, 1-1/A3, 1-1/A4, 4-8-4/27.5, 4-9-8/Table 1,  
2015 Steel Vessels Under 90 Meters (295 Feet) in Length 1-1-4/7.7, 1-1/A3, 1-1/A4, 4-7-2/Table 1,  
2015 Offshore Support Vessels 1-1-4/7.7, 1-1/A3, 1-1/A4, 4-8-4/27.5, 4-9-8/Table 1,  
2015 Facilities on Offshore Installations 1-1-4/9.7, 1-1/A2, 1-1/A3,  
2015 Mobile Offshore Drilling Units Rules 1-1-4/9.7, 1-1/A2, 1-1/A3

**National:**

NA

**International:**

NA

**Government:**

NA

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**EUMED:**  
NA

**OTHERS:**  
NA

