



Marine &amp; Offshore

Certificate number: 74169/A0 BV

File number: AP4993

Product code: 3896H

This certificate is not valid when presented without the full attached schedule  
composed of 7 sections

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**Weidmüller Interface GmbH & Co. KG**  
Detmold - GERMANY

*for the type of product*

### MEASURING DEVICE TRANSDUCERS

Universal frequency signal converters types ACT20P-PRO-FI-AO-DO-S-/P  
Universal temperature converters types ACT20P-PRO-RTC(I)-AO-DO-S-/P

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships  
Bureau Veritas Rules for the Classification of Offshore Units  
Bureau Veritas Rules for the Classification of Naval Ships  
EC Code: 33/43 or 33B/43B (see item 4.3)

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 21 Feb 2028**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 21 Feb 2023,  
Dirk Hoepfner

***This certificate was created electronically and is valid without  
signature***



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### **1. PRODUCT DESCRIPTION:**

The universal frequency signal converters type **ACT20P-PRO-FI-AO-DO-S/-P** separate, convert and monitor frequency signals and the duty cycle of pulse-width-modulated signals. The universal temperature converters type **ACT20P-PRO-RTC(I)-AO-DO-S/-P** separate, convert and monitor analogue signals from standard temperature measurement sensors. Both provide an adjustable analogue voltage signal or an active or passive current signal. A transmission function between input and output can be selected via operating buttons. The transistor output can issue an alarm with adjustable delay times and hystereses if a preset low/high/range threshold is exceeded or not met. Error messages, help texts or current process input/output values are displayed via a LED display.

### **1.1 - Main characteristics:**

Power supply: 48~230VAC (48~62Hz) / 24~230VDC  
 Degree of protection: IP 20  
 Pollution Degree 2

### **1.2 - Types:**

#### **Universal frequency signal converters**

Designation	Article Nr.	Description	HW version
ACT20P-PRO-FI-AO-DO-S	2447940000	Input: Frequency measurement or Duty cycle measurement of 2-wire NAMUR sensors, mechanical switches, 2-/3-wire NPN/PNP sensors, frequency/PWM generators, encoders Output: adjustable analogue voltage max. $\pm 10V$ or current max. $\pm 20mA$ , NPN transistor output for programmable alarm function; Screw connection	2.2.x
ACT20P-PRO-FI-AO-DO-P	2447950000	Input/Output as 2447940000; Push-in connection	2.2.x

#### **Universal temperature converter**

Designation	Article Nr.	Description	HW version
ACT20P-PRO-RTCI-AO-DO-S	2448100000	Input: Resistance/Potentiometer, 2-/3-/4-wire RTD (Pt, Ni, Cu), 2-wire RTD (KT, ST), Thermocouple, voltage signal Output: adjustable analogue voltage max. $\pm 10V$ or current max. $\pm 20mA$ , NPN transistor output for programmable alarm function; Screw connection	2.2.x
ACT20P-PRO-RTCI-AO-DO-P	2448110000	Input/Output as 2448100000; Push-in connection	2.2.x

### **2. DOCUMENTS AND DRAWINGS:**

- Operating Instructions: 2592360000/00/09.2022; 2592380000/00/09.2022; 2592350000/00/09.2022; 2505930000/00/09.2022
- Enclosure drawings: 66280 issue no.3; 63614 issue no.7; 62476 issue no.2; C 48685 issue no.03; 49938 issue no.10; 63593 issue no.4; 63592 issue no.4; 63598 issue no.4; 48684 issue no.04; 63599 issue no.3; C 48684 issue no.04; 63596 issue no.3; 63595 issue no.4; 63594 issue no.6
- PCB drawings/Schematics/Part Lists: 63611 issue no.3; 66284 issue no.7; 66248 issue no.7; 66286 issue no.6; 66283 issue no.6;
- Software Quality Assurance Documents: SCMP ACT20ProRTD ProFREQ version 3.0 dated 2018/03/27; Product Versioning Instruction version 2.0 dated 2016/08/08

### **3. TEST REPORTS:**

- Weidmüller Central Laboratory: LAB23936E dated 2022/06/20; LAB24103E dated 2022/11/25; LAB24131E dated 2022/12/15

### **4. APPLICATION/LIMITATION:**

- 4.1 - Bureau Veritas Rules for the Classification of Steel Ships, Rules for the Classification of Offshore Units and Rules for the Classification of Naval Ships.
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-POR and AUT-IMS**.
- 4.3 - Bureau Veritas Environmental Category, **EC Code: 33/43** for the universal frequency signal converters ACT20P-PRO-FI modules. Bureau Veritas Environmental Category, **EC Code: 33/43B** for the universal temperature converter ACT20P-PRO-RTC(I) modules.

4.4 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:

- Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.

- Inspection and testing before installation onboard is to be performed under the surveillance of the Society.

4.5 - Only Hardware and Firmware successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.

4.6 - Equipment is not to be installed in the vicinity of the standard or steering magnetic compass. Separation with 5m relative distance to either compass is to be maintained.

4.7 - Additional environmental tests may be required for depending on particular manufacturing or operational conditions for naval applications as per NR483, Pt C, Ch 3, Sec 6 [2.2.3].

4.8 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev.8.

#### **5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The above mentioned products are to be supplied by **WEIDMÜLLER INTERFACE GMBH & CO. KG** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - For information, **WEIDMÜLLER INTERFACE GMBH & CO. KG** has declared to Bureau Veritas the following production site(s):

**H&S Electronic SPOL. s.r.o**  
Zavodna 459  
02743 Nizna  
SLOVAK REPUBLIC

#### **6. MARKING OF PRODUCT:**

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number
- The title and version of each software element included in the installed software system shall be traceable by appropriate marking on the equipment.

#### **7. OTHERS:**

7.1 - It is **WEIDMÜLLER INTERFACE GMBH & CO. KG**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

\*\*\* END OF CERTIFICATE \*\*\*