

TYPE APPROVAL CERTIFICATECertificate No:
TAA000001Y
Revision No: **1****This is to certify:****That the Automatic Telephone, Handsfree Voice/Talkback/Intercom, Public Address, General Alarm Systems**with type designation(s)
INTRON-D plus

Issued to

INDUSTRONIC Industrie-Electronic GmbH & Co. KG
Wertheim, Germany

is found to comply with

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards**LSA Code VII 7.2****IMO A.1021(26) Code on alerts and indicators (2009)****IMO MSC Circ 808****IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids****Application :****See page 2****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Temperature	A*
Humidity	A
Vibration	A
EMC	B*
Enclosure	A*

* unless specifically stated otherwise in Appendix

This Certificate is valid until **2018-06-30**.Issued at **Høvik** on **2015-10-15**DNV GL local station: **Augsburg**Approval Engineer: **Steinar Kristensen**for **DNV GL**

Digitally Signed By: Grimsrud, Jan Tore

Location: DNV GL Høvik, Norway

Signing Date: 15.10.2015

Jan Tore Grimsrud
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id: **262.1-014482-3**
Certificate No: **TAA000001Y**
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Product description

INTRON-D *plus* Public Address (PA), General Alarm (GA), Automatic Telephone and Handsfree voice/Talkback/ Intercom system can be provided as either:

- PA system only
- GA system only
- Integrated PA and GA system
- Automatic Telephone and Handsfree Voice/ Talkback/ Intercom system
- Integrated PA, GA, Automatic Telephone and Handsfree Voice/ Talkback/ Intercom system

When used for PA on passenger vessel or integrated PA and GA on any vessel, the system shall be duplicated. When used for passenger vessels the duplicated parts of the system are to be installed in separate main vertical fire zones.

For further product details and configurations, see Appendix.

Application/Limitation

1. The INTRON-D *plus* system may be used in cargo ships, passenger vessels and mobile offshore units for compliance with the following codes/rules/regulations:
 - SOLAS
 - HSC Code
 - MODU Code
 - DNV Statutory Interpretations [Sept 2013]
2. Any PA call station/intercom station/access panel which is not used for emergency PA activation shall have a lower priority than GA.
3. Central cabinet equipment is to be installed in 19" rack(s) with lockable door(s).
4. Call station/intercom stations/access panels with functions for activation of Emergency PA and GA is to be installed in locations with access control.
5. Call station/intercom stations/access with functions for activation of Emergency PA and GA shall be provided with means to avoid unintended use. This can be either cover for protection of keys, or keys shall be pressed for minimum 3 seconds to activate function. Keys shall be clearly labelled.
6. When used as combined PA/GA system, two independent speaker loops are required.
7. System shall operate on a dedicated IP network/LAN, consisting of components listed in this certificate. Interconnection to other networks is subject to conditions as stated in Note in Appendix.
8. Any Ex-equipment (equipment to be used in areas with explosive atmosphere) listed in this certificate are subject to separate Ex- approvals.


Tests carried out

- Environmental testing: DNV Standard for certification 2.4 (2006)
- Performance testing: Functional tests according to DNV Type Approval programs 848.22 for PA/GA systems, 848.25 for Automatic Telephone systems and 848.26 for Handsfree Voice/Talkback systems.

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Type Approval documentation

Doc. ID	Rev.	Description
FDE-315-042-120	R03	Description: Industronic, Functional description, Digital Voice Processor with up to 4 voice channels
028-007-113	3	Manual: Industronic, Instructions for Desktop Intercom Station, 12 DT 002
028-007-140	3	Manual: Industronic, Instructions for Digital Desktop Intercom Station 10.112 DT 003
028-007-171	2	Manual: Industronic, Instructions for Digital Desktop Intercom Station DTM 010/011
UMN-028-007-218	1	Manual: Industronic, Instructions for Outdoor Intercom Station, DA(E) 0x5
FDA-330-001-452	3	Manual: Industronic, INTRON-D Functions, Direct Two-Way Communication (pre-defined)
FDA-330-001-453	3	Manual: Industronic, INTRON-D Functions, Dynamic Two-Way Communication
FDA-330-001-454	3	Manual: Industronic, INTRON-D Functions, Group Call and All Call
FDA-330-001-451	3	Manual: Industronic, INTRON-D Functions, Overview
GDL-330-001-406	3	Manual: Industronic, INTRON-D <i>plus</i> Commissioning and Troubleshooting
UMN-100-708-102	1	Manual: Industronic, INTRON-D <i>plus</i> , Dial Keypad
UMN-028-007-200	1	Manual: Industronic, Operating Manual for the Digital Explosion-proof Intercom Station of the DX(E) 005 or 015 and DX 005/T6 series
UMN-070-028-008	1	Manual: Industronic, User Manual, 5-port Fast-Ethernet PoE Switch
304-110-320E_EN	3	Manual: Industronic, User Manual, 6 LME 01, 6 LME 01/FA
ECL-ENV-TR-13-039	V01.00	Report: BV, Climatic test report for Intercom Stations
ECL-ENV-TR-13-035	V01.00	Report: BV, Climatic test report for INTRON-D <i>plus</i> Cabinet
ECL-EMC-TR-13-163	V01.00	Report: BV, EMC test report for 12 DT 002 desktop intercom station
ECL-EMC-TR-13-164	V01.00	Report: BV, EMC test report for 15 DTM 010/C6 Intercom station
ECL-EMC-TR-13-165	V01.00	Report: BV, EMC test report for 16 DT 003 Intercom Station
ECL-EMC-TR-13-179	V01.00	Report: BV, EMC test report for 2 DA 015/25 outdoor intercom station
ECL-EMC-TR-13-183	V01.00	Report: BV, EMC test report for 2 DDSI 103 digital dual system interface
ECL-EMC-TR-13-184	V01.00	Report: BV, EMC test report for 2 DDSIX 113 digital dual system interface
ECL-EMC-TR-13-181	V01.00	Report: BV, EMC test report for 2 DX 015 Intercom station
ECL-EMC-TR-13-182	V01.00	Report: BV, EMC test report for 2 DXE 015 Intercom Station
ECL-EMC-TR-13-180	V01.00	Report: BV, EMC test report for 2 DAE 015/25 Intercom Station
ECL-EMC-TR-13-166	V01.00	Report: BV, EMC test report for 36 AP 701H/C8 IP desktop intercom station
ECL-EMC-TR-13-115	V01.00	Report: BV, EMC test report for INTRON-D <i>plus</i> Cabinet
ECL-ENV-TR-13-036	V01.00	Report: BV, Vibration test report for Intercom Stations
TAB48.22	2013-08-19	Report: Industronic, Performance Test Report Industronic INTRON-D <i>plus</i> PA/GA system
EB/TR 1385229	2013-07-17	Report: TÜV, Salt Mist tests for Intercom Stations and DDSI digital interfaces
5001686-9030-0001/185366	2013-07-10	Report: VDE, Vibration Test Central Cabinet
	2014-05-28	Report: Industronic, Performance test report for PA/GA system
	2014-05-28	Report: Industronic, Performance test report for Automatic Telephone System
P321286-1	2014-06-06	Statement: Industronic, Documentation reference for components 6 LMT 01 and 2 DDSIX 113-O
ECL-ENV-TR-14-014	V01.00	Report: BV, Vibration test report for 1DITx 002/0 and 3 MSX 102
ECL-ENV-TR-14-011	V01.00	Report: BV, Vibration test report for Intron-D Plus central cabinet
ECL-ENV-TR-14-008	V01.00	Report: BV, Environmental test report for Intron-D Plus central cabinet
ECL-ENV-TR-14-007	V01.00	Report: BV, Environmental test report for 1DITx 002/0 and 3 MSX 102
ECL-EMC-TR-14-019	V01.00	Report: BV, EMC test report for 1DITx 002/0 and 3 MSX 102
ECL-EMC-TR-14-018	V01.00	Report: BV, EMC test report for Intron-D Plus central cabinet
A-12989	2012-11-19	Certificate: DNV, A-12989 Exicom and Provicom terminal types
UMN-315-026-100	1	Manual: Industronic, Operating manual for 1 DVDM 01 DVD/CD/USB/MP3 Player
UMN-315-024-200	1	Manual: Industronic, Operating manual for 1 TM 03 Synthesizer Tuner



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Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/or supply voltage.

Periodical assessment

A retention survey is to be performed at least once every second year, and again upon renewal of this certificate. The scope of the retention/renewal survey is to verify that the production quality conditions stipulated for the type approval are complied with and that no alterations are made to the product design or its components and/or materials without appraisal by the Society.