

## Product change notification (PCN)

<b>Title / short description</b>	Inline - removal of BV (Bureau Veritas) approval
<b>Affected article category</b>	SPS and I/O systems
<b>Change category</b>	Restriction of the usage recommendation
<b>Change number</b>	CDR220072_IL_BV-00
<b>Reason for PCN/PDN Revision</b>	

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### Purpose/objective of the change

Removal of BV (Bureau Veritas) maritime approval

### Detailed description of the change

The BV (Bureau Veritas) maritime approval for the Inline (IL + ILC) product family will be discontinued on 2023-10-31.

Certificate no.: 20977/C0 BV, 20989/C0 BV, 21595/C0 BV, 21594/C0 BV, 21725/C0 BV

There are no changes to the actual items.

### Identifying characteristics

The certificate (see attachment) will be deleted.

<b>Start of Production (SOP)</b>	-	<b>Last Time Delivery (LTD)</b>	-
<b>Effective date (EOP)</b>	2023-10-31	<b>End of Service (EOSR)</b>	-
<b>End of Sales (EOS)</b>	-		

### Short-term change (< 6 months) or discontinuation (< 12 months), due to:

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Software / Firmware Bugfix | <input type="checkbox"/> Short-term delivery stop by supplier       | <input type="checkbox"/> Short-term recall by supplier |
| <input type="checkbox"/> Force majeure              | <input type="checkbox"/> Product improvement with customer benefits |  |
| <input type="checkbox"/> Others                     |   |  |

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### Attachments

- CDR220072\_IL\_BV\_Certificate\_20977C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_20989C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_21594C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_21595C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_21725C0 BV.pdf
- Material\_list.csv
- PCN-CDR220072\_IL\_BV-00 Inline - Entfernung Zulassung BV (Bureau Veritas)\_DE
- PCN-CDR220072\_IL\_BV-00 Inline - removal of BV (Bureau Veritas) approval\_EN

### Material list

Item no.	Item Type	Hardware old	Firmware new	Item no.	Substitute item Type
2985576	ILC 370 PN 2TX-IB/M				
2742094	IBS IL 24 BK-T/U				
2861580	IBS IL 24 BK-T/U-PAC				
2726201	IB IL 24 DI 2				
2861221	IB IL 24 DI 2-PAC				
2726256	IB IL 24 DO 4				
2861276	IB IL 24 DO 4-PAC				
2727831	IB IL AI 8/SF				
2861412	IB IL AI 8/SF-PAC				
2862806	IB IL AO 2/SF				
2863083	IB IL AO 2/SF-PAC				
2726308	IB IL TEMP 2 RTD				
2861328	IB IL TEMP 2 RTD-PAC				
2727763	IB IL TEMP 2 UTH				
2861386	IB IL TEMP 2 UTH-PAC				
2703994	IL PN BK DI8 DO4 2TX-PAC				
2403696	IL PN BK-PAC				
2726285	IB IL AI 2/SF				
2861302	IB IL AI 2/SF-PAC				
2863478	IB IL AI 4/EF				
2878447	IB IL AI 4/EF-PAC				
2732732	IB IL AO 2/U/BP				
2861467	IB IL AO 2/U/BP-PAC				
2726230	IB IL 24 DI 16				
2861250	IB IL 24 DI 16-PAC				
2862958	IB IL 24 DI 16-PAC/SN				
2740106	IB IL 24 DO 2				
2861470	IB IL 24 DO 2-PAC				
2726272	IB IL 24 DO 16				
2861292	IB IL 24 DO 16-PAC				
2862961	IB IL 24 DO 16-PAC/SN				
2693033	IB IL 24 PWR IN/R/L-0.8A				
2693020	IB IL 24 PWR IN/R/L-0.8A-PAC				
2742612	IB IL PWM/2				
2861632	IB IL PWM/2-PAC				
2742748	IB IL AI 8-I/S				
2861661	IB IL AI 8/IS-PAC				
2836337	IB IL CNT				

Item no.	Item Type	Hardware / Firmware		Item no.	Substitute item Type
		old	new		
2861852	IB IL CNT-PAC				
2863533	IB IL 24 DO 8-NPN				
2985330	I LC 150 ETH				
2916532	I LC 170 ETH 2TX				
2862987	IB IL PD 24V-PAC				
2862990	IB IL PD GND-PAC				
2863119	IB IL 24/48 DOR 2/W-PAC				
2861616	IB IL 24 EDO 2-PAC				
2878340	IB IL 24 DO 32/HD-NPN-PAC				
2863520	IB IL 24 DI 16-NPN-PAC				
2878243	IB IL 24 DI 32/HD-NPN-PAC				
2861483	IB IL 24 DI 2-NPN-PAC				
2897402	IB IL TEMP 4/8 RTD/EF-PAC				
2700973	I LC 131 ETH				
2700974	I LC 151 ETH				
2700975	I LC 171 ETH 2TX				
2700976	I LC 191 ETH 2TX				
2701034	I LC 131 ETH/XC				
2701141	I LC 151 ETH/XC				
2878696	IL MOD BK DI8 DO4-PAC				
2863915	IB IL TEMP 4/8 RTD-PAC				
2861933	IB IL RS 485/422-PAC				
2861357	IB IL RS 232-PAC				
2878722	IB IL RS 232-PRO-PAC				
2863627	IB IL RS 485/422-PRO-PAC				
2700196	IB IL CAN-MA-PAC				
2861331	IB IL 24 PWR IN-PAC				
2861289	IB IL 24 DO 8-PAC				
2700172	IB IL 24 DO8/HD-PAC				
2861247	IB IL 24 DI 8-PAC				
2700173	IB IL 24 DI8/HD-PAC				
2861234	IB IL 24 DI 4-PAC				
2862835	IB IL 24 DI 32/HD-PAC				
2862822	IB IL 24 DO 32/HD-PAC				
2861593	IBS IL 24 BK-DSUB-PAC				
2861441	IBS IL 24 RB-T-PAC				
2863070	IL IB BK-PAC				
2692322	IL PB BK DI8 DO4/EF-PAC				
2703981	IL ETH BK DI8 DO4 2TX-PAC				

Item no.	Item Type	Hardware / Firmware		Item no.	Substitute item Type
		old	new		
2861674	IB IL 24 PWR IN/R-PAC				
2862136	IB IL 24 PWR IN/2-F-PAC				
2861881	IB IL 24/230 DOR1/W-PAC				
2861878	IB IL 24/230 DOR4/W-PAC				
2861645	IB IL DOR LV-SET-PAC				
2861373	IB IL 24 SEG/F-PAC				

# Produktänderungsmitteilung (PCN)

**Titel / kurze Beschreibung** Inline - Entfernung Zulassung BV (Bureau Veritas)  
**Betroffene Artikelkategorie** SPS und I/O-Systeme  
**Änderungskategorie** Einschränkung der Verwendungsempfehlung  
**Änderungsnummer** CDR220072\_IL\_BV-00  
**Grund der PCN/PDN Revisionierung**

## Zweck/Ziel der Änderung

Entfernung der maritimen Zulassung BV (Bureau Veritas)

## Detailbeschreibung der Änderung

Die maritime Zulassung BV (Bureau Veritas) für die Produktfamilie Inline (IL / ILC) wird zum 31.10.2023 abgekündigt.

Zertifikat Nr.: 20977/C0 BV, 20989/C0 BV, 21595/C0 BV, 21594/C0 BV, 21725/C0 BV

Die Artikel selbst werden nicht geändert.

## Identifizierende Merkmale

Das Zertifikat (siehe Anhang) wird gelöscht.

<b>Beginn der Herstellung (SOP)</b>	-	<b>Letztmalige Lieferung (LTD)</b>	-
<b>Inkrafttreten der Änderung (EOP)</b>	2023-10-31	<b>Einstellung von Service (EOSR)</b>	-
<b>Einstellung des Vertriebs (EOS)</b>	-		

## Kurzfristige Änderung (< 6 Monate) oder Abkündigung (< 12 Monate), auf Grund von:

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Software / Firmware Bugfix | <input type="checkbox"/> Kurzfristiger Lieferstopp durch den Lieferanten | <input type="checkbox"/> Kurzfristiger Rückruf durch den Lieferanten |
| <input type="checkbox"/> Höhere Gewalt              | <input type="checkbox"/> Produktverbesserung mit Kundennutzen            |  |
| <input type="checkbox"/> Sonstiges                  |  |  |

## Anlagen

- CDR220072\_IL\_BV\_Certificate\_20977C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_20989C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_21594C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_21595C0 BV.pdf
- CDR220072\_IL\_BV\_Certificate\_21725C0 BV.pdf
- Material\_list.csv
- PCN-CDR220072\_IL\_BV-00 Inline - Entfernung Zulassung BV (Bureau Veritas)\_DE
- PCN-CDR220072\_IL\_BV-00 Inline - removal of BV (Bureau Veritas) approval\_EN

## Materialliste

Art.-Nr.	Artikel Typ	Revision/Versionscharge		Art.-Nr.	Ersatzartikel Typ
		alt	neu		
2985576	ILC 370 PN 2TX-IB/M				
2742094	IBS IL 24 BK-T/U				
2861580	IBS IL 24 BK-T/U-PAC				
2726201	IB IL 24 DI 2				
2861221	IB IL 24 DI 2-PAC				
2726256	IB IL 24 DO 4				
2861276	IB IL 24 DO 4-PAC				
2727831	IB IL AI 8/SF				
2861412	IB IL AI 8/SF-PAC				
2862806	IB IL AO 2/SF				
2863083	IB IL AO 2/SF-PAC				
2726308	IB IL TEMP 2 RTD				
2861328	IB IL TEMP 2 RTD-PAC				
2727763	IB IL TEMP 2 UTH				
2861386	IB IL TEMP 2 UTH-PAC				
2703994	IL PN BK DI8 DO4 2TX-PAC				
2403696	IL PN BK-PAC				
2726285	IB IL AI 2/SF				
2861302	IB IL AI 2/SF-PAC				
2863478	IB IL AI 4/EF				
2878447	IB IL AI 4/EF-PAC				
2732732	IB IL AO 2/U/BP				
2861467	IB IL AO 2/U/BP-PAC				
2726230	IB IL 24 DI 16				
2861250	IB IL 24 DI 16-PAC				
2862958	IB IL 24 DI 16-PAC/SN				
2740106	IB IL 24 DO 2				
2861470	IB IL 24 DO 2-PAC				
2726272	IB IL 24 DO 16				
2861292	IB IL 24 DO 16-PAC				
2862961	IB IL 24 DO 16-PAC/SN				
2693033	IB IL 24 PWR IN/R/L-0.8A				
2693020	IB IL 24 PWR IN/R/L-0.8A-PAC				
2742612	IB IL PWM/2				
2861632	IB IL PWM/2-PAC				
2742748	IB IL AI 8-I/S				
2861661	IB IL AI 8/IS-PAC				
2836337	IB IL CNT				

Art.-Nr.	Artikel Typ	Revision/Versionscharge		Art.-Nr.	Ersatzartikel Typ
		alt	neu		
2861852	IB IL CNT-PAC				
2863533	IB IL 24 DO 8-NPN				
2985330	ILC 150 ETH				
2916532	ILC 170 ETH 2TX				
2862987	IB IL PD 24V-PAC				
2862990	IB IL PD GND-PAC				
2863119	IB IL 24/48 DOR 2/W-PAC				
2861616	IB IL 24 EDO 2-PAC				
2878340	IB IL 24 DO 32/HD-NPN-PAC				
2863520	IB IL 24 DI 16-NPN-PAC				
2878243	IB IL 24 DI 32/HD-NPN-PAC				
2861483	IB IL 24 DI 2-NPN-PAC				
2897402	IB IL TEMP 4/8 RTD/EF-PAC				
2700973	ILC 131 ETH				
2700974	ILC 151 ETH				
2700975	ILC 171 ETH 2TX				
2700976	ILC 191 ETH 2TX				
2701034	ILC 131 ETH/XC				
2701141	ILC 151 ETH/XC				
2878696	IL MOD BK DI8 DO4-PAC				
2863915	IB IL TEMP 4/8 RTD-PAC				
2861933	IB IL RS 485/422-PAC				
2861357	IB IL RS 232-PAC				
2878722	IB IL RS 232-PRO-PAC				
2863627	IB IL RS 485/422-PRO-PAC				
2700196	IB IL CAN-MA-PAC				
2861331	IB IL 24 PWR IN-PAC				
2861289	IB IL 24 DO 8-PAC				
2700172	IB IL 24 DO8/HD-PAC				
2861247	IB IL 24 DI 8-PAC				
2700173	IB IL 24 DI8/HD-PAC				
2861234	IB IL 24 DI 4-PAC				
2862835	IB IL 24 DI 32/HD-PAC				
2862822	IB IL 24 DO 32/HD-PAC				
2861593	IBS IL 24 BK-DSUB-PAC				
2861441	IBS IL 24 RB-T-PAC				
2863070	IL IB BK-PAC				
2692322	IL PB BK DI8 DO4/EF-PAC				
2703981	IL ETH BK DI8 DO4 2TX-PAC				

Art.-Nr.	Artikel Typ	Revision/Versionscharge		Art.-Nr.	Ersatzartikel Typ
		alt	neu		
2861674	IB IL 24 PWR IN/R-PAC				
2862136	IB IL 24 PWR IN/2-F-PAC				
2861881	IB IL 24/230 DOR1/W-PAC				
2861878	IB IL 24/230 DOR4/W-PAC				
2861645	IB IL DOR LV-SET-PAC				
2861373	IB IL 24 SEG/F-PAC				



Item no.	Type	old	new	Substitute item	Replacement product designation	eCl@ss 11.0
2985576	ILC 370 PN 2TX-IB/M					27242207
2742094	IBS IL 24 BK-T/U					
2861580	IBS IL 24 BK-T/U-PAC					27242608
2726201	IB IL 24 DI 2					
2861221	IB IL 24 DI 2-PAC					27242604
2726256	IB IL 24 DO 4					
2861276	IB IL 24 DO 4-PAC					27242604
2727831	IB IL AI 8/SF					
2861412	IB IL AI 8/SF-PAC					27242601
2862806	IB IL AO 2/SF					
2863083	IB IL AO 2/SF-PAC					27242601
2726308	IB IL TEMP 2 RTD					
2861328	IB IL TEMP 2 RTD-PAC					27242601
2727763	IB IL TEMP 2 UTH					
2861386	IB IL TEMP 2 UTH-PAC					27242601
2703994	IL PN BK DI8 DO4 2TX-PAC					27242608
2403696	IL PN BK-PAC					27242608
2726285	IB IL AI 2/SF					
2861302	IB IL AI 2/SF-PAC					27242601
2863478	IB IL AI 4/EF					
2878447	IB IL AI 4/EF-PAC					27242601
2732732	IB IL AO 2/U/BP					
2861467	IB IL AO 2/U/BP-PAC					27242601
2726230	IB IL 24 DI 16					
2861250	IB IL 24 DI 16-PAC					27242604
2862958	IB IL 24 DI 16-PAC/SN					27242604
2740106	IB IL 24 DO 2					
2861470	IB IL 24 DO 2-PAC					27242604
2726272	IB IL 24 DO 16					
2861292	IB IL 24 DO 16-PAC					27242604
2862961	IB IL 24 DO 16-PAC/SN					27242604
2693033	IB IL 24 PWR IN/R/L-0.8A					
2693020	IB IL 24 PWR IN/R/L-0.8A-PAC					27242610
2742612	IB IL PWM/2					
2861632	IB IL PWM/2-PAC					27242605
2742748	IB IL AI 8-I/S					
2861661	IB IL AI 8/IS-PAC					27242601
2836337	IB IL CNT					
2861852	IB IL CNT-PAC					27242605
2863533	IB IL 24 DO 8-NPN					
2985330	ILC 150 ETH					27242207
2916532	ILC 170 ETH 2TX					27242207
2862987	IB IL PD 24V-PAC					27242692
2862990	IB IL PD GND-PAC					27242692
2863119	IB IL 24/48 DOR 2/W-PAC					27242604
2861616	IB IL 24 EDO 2-PAC					
2878340	IB IL 24 DO 32/HD-NPN-PAC					27242604
2863520	IB IL 24 DI 16-NPN-PAC					27242604
2878243	IB IL 24 DI 32/HD-NPN-PAC					27242604
2861483	IB IL 24 DI 2-NPN-PAC					27242604
2897402	IB IL TEMP 4/8 RTD/EF-PAC					27242601
2700973	ILC 131 ETH					27242207
2700974	ILC 151 ETH					27242207
2700975	ILC 171 ETH 2TX					27242207
2700976	ILC 191 ETH 2TX					27242207
2701034	ILC 131 ETH/XC					27242207
2701141	ILC 151 ETH/XC					27242207

2878696	IL MOD BK DI8 DO4-PAC					27242608
2863915	IB IL TEMP 4/8 RTD-PAC					27242601
2861933	IB IL RS 485/422-PAC					27242605
2861357	IB IL RS 232-PAC					27242605
2878722	IB IL RS 232-PRO-PAC					27242605
2863627	IB IL RS 485/422-PRO-PAC					27242605
2700196	IB IL CAN-MA-PAC					27242608
2861331	IB IL 24 PWR IN-PAC					27242610
2861289	IB IL 24 DO 8-PAC					27242604
2700172	IB IL 24 DO8/HD-PAC					27242604
2861247	IB IL 24 DI 8-PAC					27242604
2700173	IB IL 24 DI8/HD-PAC					27242604
2861234	IB IL 24 DI 4-PAC					27242604
2862835	IB IL 24 DI 32/HD-PAC					27242604
2862822	IB IL 24 DO 32/HD-PAC					27242604
2861593	IBS IL 24 BK-DSUB-PAC					27242608
2861441	IBS IL 24 RB-T-PAC					27242608
2863070	IL IB BK-PAC					27242608
2692322	IL PB BK DI8 DO4/EF-PAC					27242608
2703981	IL ETH BK DI8 DO4 2TX-PAC					27242608
2861674	IB IL 24 PWR IN/R-PAC					27242610
2862136	IB IL 24 PWR IN/2-F-PAC					27242610
2861881	IB IL 24/230 DOR1/W-PAC					27242604
2861878	IB IL 24/230 DOR4/W-PAC					27242604
2861645	IB IL DOR LV-SET-PAC					27242692
2861373	IB IL 24 SEG/F-PAC					27242610



Marine & Offshore

Certificate number: 20977/C0 BV

File number: AP3939

Product code: 4501H

*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*

**Phoenix Contact GmbH & Co. KG**

Blomberg - GERMANY

*for the type of product*

**PROGRAMMABLE LOGIC CONTROL UNITS**

Inline Modular I/O System

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: EC 31 for Controllers, EC 33 for terminals

*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: 12 Feb 2026**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 12 Feb 2021,

Dirk Hoefner



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. 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 electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=cnbkchma52>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

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

**Inline Modular I/O System** includes the following modules:

Order No	Article Designation	Description	Data Sheet	FW Ver.
2985576	ILC 370 PN 2TX-IB/M	Inline Controller to be connected to PROFINET System and/or 2 High Level INTERBUS System	User Manual 7062_en_08	4.6F 3.9x
2742094	IBS IL 24 BK-T/U	INTERBUS Inline Bus Terminal	6291_en_02	-
2861580	IBS IL 24 BK-T/U-PAC	INTERBUS Inline Bus Terminal and PAC Option		
2726201	IB IL 24 DI2	Inline Terminal with 2 Digital Inputs	5549_en_03	-
2861221	IB IL 24 DI2-PAC	Inline Terminal with 2 Digital Inputs and PAC Option		
2726256	IB IL 24 DO4	Inline Terminal with 4 Digital Outputs	5557_en_05	-
2861276	IB IL 24 DO4-PAC	Inline Terminal with 4 Digital Outputs and PAC Option		
2727831	IB IL AI 8/SF	Inline Terminal with 8 Analogue Inputs	6226_en_06	10x
2861412	IB IL AI 8/SF-PAC	Inline Terminal with 8 Analogue Inputs and PAC Option		
2862806	IB IL AO 2/SF	Inline Terminal with 2 Analogue Outputs	6655_en_06	10x
2863083	IB IL AO 2/SF-PAC	Inline Terminal with 2 Analogue Outputs and PAC Option		
2726308	IB IL TEMP 2 RTD	Inline Terminal with 2 RTD Inputs	5755_en_06	1.0x
2861328	IB IL TEMP 2 RTD-PAC	Inline Terminal with 2 RTD Inputs and PAC Option		10x
2727763	IB IL TEMP 2 UTH	Inline Terminal with 2 Thermocouple Inputs	5722_en_04	10x
2861386	IB IL TEMP 2 UTH-PAC	Inline Terminal with 2 Thermocouples Inputs and PAC Option		

Power Supply: 24V DC  
Degree of protection: IP20

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

According to Data Sheets, Drawings, User Manuals and other submitted documents.

Bill of materials: - 2726201 Rev. 09; 2726256 Rev. 12; 2726308 Rev. 09; 2727763 Rev. 15; 2727831 Rev. 05;  
- 2742094 Rev. 12; 2861221 Rev. 06; 2861276 Rev. 10; 2861328 Rev. 08; 2861386 Rev. 09; 2861412 Rev. 06;  
- 2861580 Rev. 10; 2862806 Rev. 02; 2863083 Rev. 05; 2985327 Rev. 09; 2985576 Rev. 11; 2985819 Rev. 12

For B1 version:

- 9778159 Rev. 07 dated 15.11.16 for order no.: 2985576

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

Phoenix TESTLAB:

- E10813 2nd Ed. dated 16.02.2002; E10816 dated 24.08.2002; E10816A dated 18.02.2003; E10816B dated 22.04.2004;  
- E50985 dated 01.07.2005; E61502 dated 10.08.2006; E092909E1 dated 25 March 2010; E092909E2 dated 25 March 2010;  
- E092909E3 dated 25 March 2010; S10813 2nd Ed. dated 27.07.2006; S10816 2nd Ed. dated 04.08.2006;  
- U50985 dated 05.07.2005; U61502 dated 11.08.2006

Phoenix Contact:

- Firmware Test Reports (PT0750), MonA1.41 Rev. 02 dated 20.03.2007 and MonA1.42 Rev. 00 dated 16.11.2006.

Bundesamt für Seeschifffahrt und Hydrographie:

- Assessment Report No.: BSH46105/1515/10 dated 25 February 2010

For B1 version:

- Phoenix TESTLAB: E171186E1 dated 11.07.2017 for order no.: 2985576

For C0 version:

- Phoenix TESTLAB: E200895E1 dated 16.09.2020; U200895E1 dated 18.08.2020

**4. APPLICATION / LIMITATION:**

- 4.1 - Bureau Veritas Rules for the Classification of Steel Ships
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - Bureau Veritas Environmental Category, **EC 31** for ILC 3xx Controllers, **EC 33** for terminals.
- 4.4 - The equipment installed within metallic cabinet fulfils the EMC requirements for installation on the Bridge and Deck Zone. A Phoenix Contact NEF 1-6 Filter as required by the manufacturer is to be used on DC Power Lines.
- 4.5 - Modules of the INLINE series are exceeding the radiated emission limit of 24dB $\mu$ V/m according to IACS UR E10 in the VHF band in the range between 159.9MHz - 160.1MHz. This certificate has been issued due to the results of BSH assessment.
- 4.6 - Equipment covered by this Type Approval certificate can be installed on ships contracted for construction before 1 January 2022. On or after this date of 1 January 2022, equipment is to comply with IACS UR E10 Rev. 7.
- 4.7 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.
- 4.8 - Where the system is used for machinery safeguards required by the Rules, the equipment is to be duplicated by another and different system.
- 4.9 - Depending on the application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for programmable electronic system categories II or III.
- 4.10 - Only Hardware and Software / Firmware successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.
- 4.11 - Automation systems associated with essential services based on PLC's, once installed on board ships, are to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.

**5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 - The above mentioned products are to be supplied by **Phoenix Contact 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 - **Phoenix Contact GmbH & Co. KG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

**Phoenix Contact Electronics GmbH  
Dringenauer Strasse 30  
31812 Bad Pyrmont  
GERMANY**

**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 either marked or displayed on command on the equipment.

**7. OTHERS:**

- 7.1 - It is the responsibility of **Phoenix Contact GmbH & Co. KG** 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.
- 7.2 - This certificate supersedes the Type Approval Certificate N° 20977/B1 BV issued on 06 Jun 2017 by the Society.

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



Marine & Offshore

Certificate number: 20989/C0 BV

File number: AP3949

Product code: 4501H

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

www.veristar.com

## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**Phoenix Contact GmbH & Co. KG**

Blomberg - GERMANY

*for the type of product*

**PROGRAMMABLE LOGIC CONTROL UNITS**

Inline Modular I/O System

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31

*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: 10 Dec 2025**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 10 Dec 2020,

Dirk Hoepfner



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. 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 electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=uaummybgyrc>

BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**Inline Modular I/O System** includes the following modules:

Article No.	Article Designation	Description	Data Sheet	Rev. HW	Rev. FW
2703994	IL PN BK DI8 DO4 2TX- PAC	Inline Bus Coupler for PROFINET I/O with 8DI and 4DO	7410_en_00	04	4.0x
2403696	IL PN BK-PAC	Inline Bus Coupler for PROFINET	107784en02	02	1.1x
2726285	IB IL AI2/SF	Inline Terminal with 2 Analogue Inputs	5564_en_03	08	10x
2861302	IB IL AI2/SF-PAC	Inline Terminal with 2 Analogue Inputs and PAC Option		08	10x
2863478	IB IL AI4/EF	Inline Terminal with 4 Analogue Inputs	7252_en_02	02	10x
2878447	IB IL AI4/EF-PAC	Inline Terminal with 4 Analogue Inputs and PAC Option		02	10x
2732732	IB IL AO 2/U/BP	Inline Terminal with 2 Analogue Voltage Outputs	5660_en_02	03	10x
2861467	IB IL AO 2/U/BP-PAC	Inline Terminal with 2 Analogue Voltage Outputs and accessories	5660_en_02	03	10x
2726230	IB IL 24 DI16	Inline Terminal with 16 Digital Inputs		07	NA
2861250	IB IL 24 DI16-PAC	Inline Terminal with 16 Digital Inputs and PAC Option	5553_en_05	07	NA
2862958	IB IL 24 DI16-PAC/SN	Inline Terminal with 16 Digital Inputs, PAC Option and Standard Numbering		07	NA
2740106	IB IL 24 DO2	Inline Terminal with 2 Digital Outputs	6187_en_01	00	NA
2861470	IB IL 24 DO2-PAC	Inline Terminal with 2 Digital Outputs and PAC Option		00	NA
2726272	IB IL 24 DO16	Inline Terminal with 16 Digital Outputs		06	NA
2861292	IB IL 24 DO16-PAC	Inline Terminal with 16 Digital Outputs and PAC Option	5559_en_05	06	NA
2862961	IB IL 24 DO16-PAC/SN	Inline Terminal with 16 Digital Outputs, PAC Option and Standard Numbering		06	NA
2693033	IB IL 24 PWR IN/R/L-0,8	Inline Power terminal for supplying the communications power (UL)	7914_en_00	00	NA
2693020	IB IL 24 PWR IN/R/L-0,8-PAC	Inline Power terminal for supplying the communications power and accessories		00	NA
2742612	IB IL PWM/2	Inline Function Terminal for Pulse Width Modulation and Frequency Modulation	6920_en_01	00	10x
2861632	IB IL PWM/2-PAC	Inline Function Terminal for Pulse Width Modulation and Frequency Modulation and accessories		00	10x
2742748	IB IL AI 8/IS	Inline terminal with 8 Analogue Input channels and supply for passive sensors	6321_en_06	02	10x
2861661	IB IL AI 8/IS-PAC	Inline terminal with 8 Analogue Input channels and supply for passive sensors and accessories		02	10x
2836337	IB IL CNT	Inline modular counter terminal	6987_en_01	05	10x
2861852	IB IL CNT-PAC	Inline modular counter terminal and accessories		05	10x
2863533	IB IL 24 DO 8-NPN	Inline Terminal with 8 Digital Outputs, NPN-Wired	6950_en_02	01	NA
2985330	ILC 150 ETH	Inline Controller to be connected to Ethernet System	7406_en_05 7533_en_02	11	3.9x
2916532	ILC 170 ETH 2TX	Inline Controller with 8 Digital Inputs and 4 Digital Outputs		11	3.9x
2862987	IB IL PD 24V-PAC *	Terminal for 24V DC distribution	687901	00	NA
2862990	IB IL PD GND-PAC *	Terminal for GND distribution		00	NA
2863119	IB IL 24/48 DOR 2/W- PAC *	Inline terminal with 2 SPDT relays	685000	01	NA
2861616	IB IL 24 EDO 2-PAC *	Inline Terminal with 2 Digital Outputs, extended diagnostics	6528B	00	1.1x
2878340	IB IL 24 DO 32/HD-NPN-PAC *	Inline Terminal with 32 Digital Outputs, NPN-Wired	7167_en_03	00	1.0x
2863520	IB IL 24 DI 16-NPN-PAC *	Inline Terminal with 16 Digital Inputs, NPN-Wired	6964_en_02	01	NA
2878243	IB IL 24 DI 32/HD-NPN-PAC *	Inline Terminal with 32 Digital Inputs, NPN-Wired	7166_en_02	00	1.0x
2861483	IB IL 24 DI 2-NPN-PAC *	Inline Terminal with 2 Digital Inputs, NPN-Wired	6223_en_01	00	NA
2897402	IB IL TEMP 4/8RTD/EF-PAC *	Inline Terminal with 8 Analog Inputs, RTD temperature detectors	7567_en_07	02	1.1x

Article No.	Article Designation	Description	Data Sheet	Rev. HW	Rev. FW
2700973	ILC 131 ETH	Inline Controller with 8 Digital Inputs and 4 Digital Outputs, 1 x Ethernet, 8 devices	8385_en_00	03	4.7x
2700974	ILC 151 ETH	Inline Controller with 8 Digital Inputs and 4 Digital Outputs, 1 x Ethernet, 16 devices		03	4.7x
2700975	ILC 171 ETH 2TX	Inline Controller with 8 Digital Inputs and 4 Digital Outputs, 2 x Ethernet, 24 devices		03	4.7x
2700976	ILC 191 ETH 2TX	Inline Controller with 8 Digital Inputs and 4 Digital Outputs, 2 x Ethernet, 24 devices		03	4.7x
2701034	ILC 131 ETH/XC	Inline Controller with 8 Digital Inputs and 4 Digital Outputs, 1 x Ethernet, 8 devices		03	4.7x
2701141	ILC 151 ETH/XC	Inline Controller with 8 Digital Inputs and 4 Digital Outputs, 1 x Ethernet, 16 devices		03	4.7x

"\*" see item 4.5

Accessories (PAC): Plug connector and labeling field

Power Supply: 24 VDC.

Degree of protection: IP20

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

- According to Data Sheets, Drawings, User Manuals and other submitted documents.
- Monitoring description Inline series, Rev. 04 dated 20.03.08
- Proof Test on IL PN BK DI8 DO4 2TX module, Rev. 00 dated 15.05.08.
- Bill of materials: 2693020-06; 2693033-03; 2700973-04; 2700974-04; 2700975-02; 2700976-02; 2701034-04; 2701141-04; 2703994-14; 2726230-15; 2726272-14; 2726285-12; 2732732-07; 2740106-05; 2742612-06; 2742748-04; 2836337-10; 2861250-10; 2861292-10; 2861302-09; 2861467-08; 2861470-06; 2861483-05; 2861616-03; 2861632-07; 2861661-06; 2861852-07; 2862958-08; 2862961-09; 2862987-03; 2862990-03; 2863119-03; 2863478-07; 2863520-07; 2863533-05; 2863546-08; 2878243-07; 2878340-07; 2878447-08; 2897402-09; 2916532-12; 2985330-16

For C0 version:

- 107784\_en\_02 dated 2018-10-05

## **3. TEST REPORTS:**

- Phoenix Testlab: E092913E1 dated 25 March 2010; U092913E1 dated 07 April 2010; E092909E1 dated 25 March 2010; E80082 dated 19.03.2008; - U80082 dated 10.04.2008; E80661 2nd Ver. dated 08.04.2008; U072603E dated 30.04.2008; U134073E1 dated 04 Sept. 2013; E125245E1 dated 04.04.2013; U125245E1, 2nd version, dated 16 May 2013

- Bundesamt für Seeschifffahrt und Hydrographie: Assessment Report No.: BSH46105/1515/10

- Phoenix Contact: PT0767, Rev. 01 dated 19.09.2007; EL2115 dated 21.03.2006 and Internal Note dated 03/12/2007;

PU neue FW 4.4 ILC1x1 dated 25.02.2016

For C0 version:

- Phoenix Testlab: E181604E2 dated 06.12.2018; U181604E1 dated 25.02.2019
- E200895E1 dated 16.09.2020; U200895E1 dated 18.08.2020

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

4.1 - Bureau Veritas Rules for the Classification of Steel Ships

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - Bureau Veritas Environmental Category, **EC 31**

4.4 - The equipment installed within metallic cabinet fulfils the EMC requirements for installation on the Bridge and Deck Zone. A Phoenix Contact ME-MAX/NEF/QUINT20A Filter as required by the manufacturer is to be used on DC Power Lines.

4.5 - The equipment marked with "\*" fulfils the EMC requirements for installation in general power distribution zones only.

4.6 - Modules of the INLINE series are exceeding the radiated emission limit of 24dB $\mu$ V/m according to IACS UR E10 in the VHF band in the range between 159.9 MHz - 160.1 MHz. This certificate has been issued due to the results of BSH assessment.

4.7 - Equipment covered by this Type Approval certificate can be installed on ships contracted for construction before 1 January 2022. On or after this date of 1 January 2022, equipment is to comply with IACS UR E10 Rev. 7.

4.8 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.

4.9 - Where the system is used for machinery safeguards required by the Rules, the equipment is to be duplicated by another and different system.

4.10 - Depending on the application, Factory Acceptance and On-board Tests are to be performed in accordance with requirements for category II or III equipment.

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

4.12 - Automation systems associated with essential services based on PLC's, once installed onboard ships, are to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.



**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The above mentioned terminals and controllers are to be supplied by **Phoenix Contact 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 - **Phoenix Contact GmbH & Co. KG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

**Phoenix Contact Electronics GmbH  
Dringenauer Strasse 30  
31812 Bad Pyrmont  
GERMANY**

**6. MARKING OF PRODUCT:**

- Maker's name or trademark
- Date of manufacture and/or serial number
- Equipment type or model identification

**7. OTHERS:**

7.1 - It is the responsibility of **Phoenix Contact GmbH & Co. KG** 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.

7.2 - This certificate supersedes the Type Approval Certificate N° 20989/B2 BV issued on 18 May 2016 by the Society.

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



Marine & Offshore

Certificate number: 21594/C0 BV

File number: AP3980

Product code: 4501H

*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*

**Phoenix Contact GmbH & Co. KG**

Blomberg - GERMANY

*for the type of product*

**PROGRAMMABLE LOGIC CONTROL UNITS**

INTERBUS - Inline Bus Couplers and Inline Branch Terminals

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31B

*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: 15 Sep 2026**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 15 Sep 2021,

Dirk Hoepfner



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. 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 electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=53kwdy2r3l>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**Inline Bus Couplers** and **Inline Branch Terminals** include the following modules:

Article No.	Article Designation	Description	Data Sheet	Drawing No.	Rev. HW	Rev. FW
2861593	IBS IL 24 BK-DSUB-PAC	INTERBUS Inline Bus Coupler	63626_en_03	97 77 729.02 9773812.02 LP(Doc 83029655)	04	00x
2861441	IBS IL 24 RB-T-PAC	Inline Branch Terminal for an INTERBUS Remote Bus	603603 (dated 03/2004)	9773225.01 LP (Doc 83025554)	03	-

Power Supply: 24V DC

Degree of protection: IP20

### 2. DOCUMENTS AND DRAWINGS:

See documents listed in item 1.

### 3. TEST REPORTS:

- Phoenix TESTLAB: E092909E1 dated 25 March 2010; E61502 dated 10.08.2006; 61502 dated 11 August 2006.  
- Bundesamt für Seeschifffahrt und Hydrographie: Assessment Report No.: BSH46105/1515/10 dated 25 February 2010  
For C0 version:

- Phoenix TESTLAB: E202070E11 dated 02.02.2021

### 4. APPLICATION/LIMITATION:

4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - Bureau Veritas Environmental Category, **EC Code: 31B**

4.4 - The equipment installed within metallic cabinet fulfils the EMC requirements for installation on the Bridge and Deck Zone. A Phoenix Contact NEF 1-6 Filter as required by the manufacturer is to be used on DC Power Lines.

4.5 - Modules of the INLINE series are exceeding the radiated emission limit of 24dB $\mu$ V/m according to IACS UR E10 in the VHF band in the range between 159.9MHz - 160.1MHz. This certificate has been issued due to the results of BSH assessment.

4.6 - 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.

4.7 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.

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

### 5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **Phoenix Contact 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 - **Phoenix Contact GmbH & Co. KG** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

**Phoenix Contact Electronics GmbH  
Dringenauer Strasse 30  
31812 Bad Pyrmont  
GERMANY**

### 6. MARKING OF PRODUCT:

- Maker's name or trademark

- Equipment type or model identification

- Date of manufacture and/or serial number

**7. OTHERS:**

7.1 - It is the responsibility of **Phoenix Contact GmbH & Co. KG** 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.

7.2 - This certificate supersedes the Type Approval Certificate N° 21594/B0 BV issued on 28 Aug 2015 by the Society.

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



Marine & Offshore

Certificate number: 21595/C0 BV

File number: AP3980

Product code: 4501H

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

www.veristar.com

## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**Phoenix Contact GmbH & Co. KG**

Blomberg - GERMANY

*for the type of product*

**PROGRAMMABLE LOGIC CONTROL UNITS**

Inline Bus Couplers and Inline Terminals

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31B

*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: 15 Sep 2026**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 15 Sep 2021,

Dirk Hoepfner



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. 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 electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=qleq6is73i>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**Inline Bus Couplers** and **Inline Terminals** include the following modules:

Article No.	Article Designation	Description	Data Sheet	Drawing No.	Rev HW	Rev FW
2878696	IL MOD BK DI8 DO4-PAC	Inline Bus Coupler for Modbus with 8 Digital Inputs & 4 Digital Outputs	7258_en_02	97 79 557.00 97 79 556.01	02	10x
2863915	IB IL TEMP 4/8 RTD-PAC	Inline Analog Input Terminal, 8 channels, RTDs, 2-3 wire connection method	7079_en_04	B9778348.03 97 77 894.02	03	10x
2861933	IB IL RS 485/422-PAC	Inline Terminal for Serial Data Transmission	6199_en_03	97 72 388.05 9772389.01 LP (Doc 83024639)	02	13x
2861357	IB IL RS 232-PAC	Inline Terminal for Serial Data Transmission	5935_en_04	97 72 318.05 9772319.01 LP (Doc 83021274)	03	10x
2878722	IB IL RS 232-PRO-PAC	Inline Terminal for Serial Data Transmission	7112_en_02	97 78 632.01 9772319.01 LP (Doc 83021274)	02	12x
2863627	IB IL RS 485/422-PRO-PAC	Inline Terminal for Serial Data Transmission	6985_en_05	97 77 494.04 9772389.01 LP (Doc 83024639)	02	11x
2700196	IB IL CAN-MA-PAC	Inline Terminal for CAN bus Data Transmission	8027_en_03	9048867.03	02	10x
2861331	IB IL 24 PWR IN-PAC	Inline Power Terminal without Fuse	5567_en_05	B9774546.01	10	-
2861289	IB IL 24 DO 8-PAC	Inline Terminal with 8 Digital Outputs	5558_en_07	97 78 426.01 97 76 397.00	06	-
2700172	IB IL 24 DO 8/HD-PAC	Inline Terminal with 8 Digital Outputs	7985_en_01	9068065-03	02	-
2861247	IB IL 24 DI 8-PAC	Inline Terminal with 8 Digital Inputs	555205(03/04)	97 78 424.00 Doc 83010755.01 (No Ident No)	07	-
2700173	IB IL 24 DI8/HD-PAC	Inline Terminal with 8 Digital Inputs	7984_en_00	9067871-03	03	-
2861234	IB IL 24 DI 4-PAC	Inline Terminal with 4 Digital Inputs	5550_en_05	9433892.02 LP (Doc 83014300.02)	05	-
2862835	IB IL 24 DI 32/HD-PAC	Inline Terminal with 32 Digital Inputs with PAC option	6842_en_02	97 76 155.01 97 76 154.00	03	-
2862822	IB IL 24 DO 32/HD-PAC	Inline Terminal with 32 Digital Outputs	6843_en_02	9062938-03 9064813-01	03	-

Power Supply: 24 VDC

Degree of protection: IP20

### 2. DOCUMENTS AND DRAWINGS:

See documents listed in item 1.

### 3. TEST REPORTS:

- Phoenix TESTLAB: E40328 2nd Ed. dated 05.07.2004; S40560 2nd Ver. dated 21/06/2006; E60461 dated 12/04/2006; U60461 dated 29.06.2006; E61502 dated 10.08.2006; U61502 dated 11.08.2006; E102169E1 dated 29.10.2010; U102169E1 rev 2 dated 19 November 2010; E092909E1 dated 25 March 2010; E092909E2 dated 25 March 2010; E141650E1 dated 27.05.2014; E141650E2 dated 27.05.2014

- Bundesamt für Seeschifffahrt und Hydrographie: Assessment Report No.: BSH46105/1515/10

For C0 version:

- Phoenix TESTLAB: E201432E1 dated 11.12.2020; E202070E11 dated 02.02.2021

### 4. APPLICATION / LIMITATION:

4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - Bureau Veritas Environmental Category, **EC Code: 31B**

4.4 - The equipment installed within metallic cabinet fulfils the EMC requirements for installation on the Bridge and Deck Zone. A Phoenix Contact NEF 1-6 Filter or ME-MAX/NEF/QUINT20A Filter as required by the manufacturer is to be used on DC Power Lines.

- 4.5 - Modules of the INLINE series are exceeding the radiated emission limit of 24dB $\mu$ V/m according to IACS UR E10 in the VHF band in the range between 159.9MHz - 160.1MHz. This certificate has been issued due to the results of BSH assessment.
- 4.6 - 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.
- 4.7 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.
- 4.8 - 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 are covered by this certificate.

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

- 5.1 - The above mentioned products are to be supplied by **Phoenix Contact 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 - **Phoenix Contact GmbH & Co. KG** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

**Phoenix Contact Electronics GmbH  
Dringenauer Strasse 30  
31812 Bad Pyrmont  
GERMANY**

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

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number

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

- 7.1 - It is the responsibility of **Phoenix Contact GmbH & Co. KG** 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.
- 7.2 - This certificate supersedes the Type Approval Certificate N° 21595/B0 BV issued on 28 Aug 2015 by the Society.

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



Marine & Offshore

Certificate number: 21725/C0 BV

File number: AP3989

Product code: 4501H

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

www.veristar.com

## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**Phoenix Contact GmbH & Co. KG**

Blomberg - GERMANY

*for the type of product*

**PROGRAMMABLE LOGIC CONTROL UNITS**

Inline Bus Coupler and Power Terminal

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31B

*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: 15 Sep 2026**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 15 Sep 2021,

Dirk Hoepfner



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 electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=umcrmqwdmx>

BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)



## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**Inline Bus Coupler and Power Terminal** including the following modules:

Article No.	Article Designation	Description	Data Sheet	Drawing No./Rev.	Rev. HW	Rev. FW
2863070	IL IB BK-PAC	Inline Bus Coupler for INTERBUS	689600	97 73 872/01 97 76 500/00	02	-
2692322	IL PB DI8 DO4/EF-PAC	Inline bus coupler for PROFIBUS DP with 8 Digital Inputs and 4 Digital Outputs	7724_en_02	97 78 476/06 97 80 500/02	01	21x
2703981	IL ETH DI8 DO4 2TX-PAC	Inline bus coupler for ETHERNET with 8 Digital Inputs and 4 Digital Outputs	7275_en_04	97 78 476-06 97 80 806-04	07	14x
2861674	IB IL 24 PWR IN/R-PAC	Inline Power Terminal for Supplying the Communications Power	6483_en_02	97 72 664/03 97 73 963/00 97 73 961/02 B9774313/01	01	-
2862136	IB IL 24 PWR IN/2-F-PAC	INTERBUS Inline Power Supply Terminal w/ Fuse	6392A	97 74 402/00 97 74 645/01	02	-
2861881	IB IL 24/230 DOR1/W PAC	Inline Terminal with 1 Digital Relay Output	6774_en_00	94 41 738-06 94 28 670-01	06	-
2861878	IB IL 24/230 DOR4/W-PAC	Inline Terminal with 4 Digital Relay Outputs	6326_en_03	97 73 347/01 94 29 983/05 97 74 309/01 97 74 677/02	02	-
2861645	IB IL DOR LV-SET-PAC	Terminals for Separating a Relay Terminal	TNR9011572-00	92 72 419/00 97 72 665/01	00	-
2861373	IB IL 24 SEG/F-PAC	Inline Segment Terminal with Fuse	5656_en_03	93 76 447/01 93 86 893/03 B93 86 893/01	04	-

Accessories (PAC): Plug connector and labelling field

Power Supply: 24V DC.

Degree of protection: IP20

### 2. DOCUMENTS AND DRAWINGS:

- Description of Monitoring / Inline series, Rev. 01 dated 19.12.08;
- Description of Monitoring / Test Inline Series, Rev. 01 dated 14.03.09;
- Summary and Article Overview VO009423-09-11071, dated 25.05.09
- See further documents listed in item 1.

### 3. TEST REPORTS:

- Phoenix TESTLAB: Declaration (Test with different Hardware revisions) of 17.12.2008; E081907E dated 19 November 2008; U081907E1 dated 04 December 2008; E090393E dated 05 May 2009; U090393E1 dated 12 May 2009; E110787E1 dated 11 May 2011; U110787E1 dated 29 April 2011
- Bundesamt für Seeschifffahrt und Hydrographie: Assessment Report No.: BSH46105/1515/10
- For C0 version:
  - Phoenix TESTLAB: E201432E1 dated 11.12.2020; E202070E11 dated 02.02.2021

### 4. APPLICATION/LIMITATION:

- 4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - Bureau Veritas Environmental Category, **EC Code: 31B**
- 4.4 - The equipment installed within metallic cabinet fulfils the EMC requirements for installation on the Bridge and Deck Zone. A Phoenix Contact ME-MAX/NEF/QUINT20A Filter as required by the manufacturer is to be used on DC Power Lines.
- 4.5 - Modules of the INLINE series are exceeding the radiated emission limit of 24dB<sub>i</sub>V/m according to IACS UR E10 in the VHF band in the range between 159.9MHz - 160.1MHz. This certificate has been issued due to the results of BSH assessment.
- 4.6 - 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.
- 4.7 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.
- 4.8 - 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.

**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1 - The above mentioned products are to be supplied by **Phoenix Contact 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 - **Phoenix Contact GmbH & Co. KG** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

**Phoenix Contact Electronics GmbH  
Dringenauer Strasse 30  
31812 Bad Pyrmont  
GERMANY**

**6. MARKING OF PRODUCT:**

- Maker's name or trade mark
- Equipment type or model identification
- Date of manufacture and/or serial number

**7. OTHERS:**

7.1 - It is the responsibility of **Phoenix Contact GmbH & Co. KG** 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.

7.2 - This certificate supersedes the Type Approval Certificate N° 21725/B0 BV issued on 28 Aug 2015 by the Society.

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