TÜV Rheinland Group

TÜV Industrie Service GmbH
Automation, Software und Informationstechnologie

ZERTIFIKAT
CERTIFICATE

Nr./No. 968/EZ 214.00/05

Prüfgegenstand **Product tested**	Safety I/O (Transmitter and Receiver) for SILBUS	**Lizenznehmer** **Licence Holder**	Austdac Pty Ltd Unit 1, 4 Packard Avenue Castle Hill N.S.W. 2154 Australia
Typbezeichnung **Type designation**	Safety input module Type SILBUS8150 Safety relay output module Type SILBUS8151	**Verwendungs-** **zweck** **Intended** **application**	Safety I/O with SILBUS connection
Prüfgrundlagen **Codes and standards** **forming the basis of testing**	IEC 61508 part 1-7/12.98 - 05.00 EN 954-1/12.96 IEC 61131-2/02.03 EN 50178/1997		
Prüfungsergebnis **Test results**	The Safety I/O for SILBUS is suitable for Safety related applications in accordance with IEC 61508 up to Safety Integrity Level 3 and up to Safety Category 4 of EN 954-1.		
Besondere Bedingungen **Specific requirements**	See test report-no.: 968/EZ 214.00/05 dated 2005-12-06 Chapter 5, Summary		

Der Prüfbericht-Nr.: 968/EZ 214.00/05 vom 2005-12-06 ist Bestandteil dieses Zertifikates.
Der Inhaber eines für den Prüfgegenstand gültigen Genehmigungs-Ausweises ist berechtigt, die mit dem Prüfgegenstand übereinstimmenden Erzeugnisse mit dem abgebildeten Prüfzeichen zu versehen.

The test report-no.: 968/EZ 214.00/05 dated 2005-12-06 is an integral part of this certificate.
The holder of a valid licence certificate for the product tested is authorized to affix the test mark shown opposite to products, which are identical with the product tested.

Functional Safety

FS
Type Approved

TÜV Rheinland Group

TÜV Industrie Service GmbH
Geschäftsfeld ASI
Automation, Software und Informationstechnologie
Am Grauen Stein, 51105 Köln
Postfach 91 09 51, 51101 Köln

2005-12-06
Datum/Date

Firmenstempel/Company seal

Unterschrift/Signature

TÜV

TÜV Rheinland Group

Test report about the type approval of
SILBUS8150 Safety Transmitter and
SILBUS8151 Safety Receiver

Report-No.:	968/EZ 214.00/05
Date:	2005-12-06
Pages:	3
Test object:	SILBUS8150 Safety Transmitter and SILBUS8151 Safety Receiver
Client:	Austdac Pty Ltd. Unit 1, 4 Packard Avenue Castle Hill N.S.W. 2154 Australia
Manufacturer:	CARLO GAVAZZI INDUSTRI A/S Over Hadstenvej 40 DK-8370 Hadsten Denmark
Order-No./Date:	Fax dated 2004-11-22
Test Institute:	TÜV Industrie Service GmbH Automation, Software und Informationstechnologie (ASI) Am Grauen Stein D-51105 Köln
TÜV-Offer-No./Date:	968/99/03 dated 2003-05-16
TÜV-Order-No./Date:	9167769 dated 2004-11-16
Inspector:	Dipl.-Ing. Andreas Hesse
Test location:	see Test Institute
Test duration:	November - December 2005

The test results exclusively relate to the test objects.

This report must not be copied **in an abridged version** without the written permission of the Test Institute.

TÜV   TÜV Rheinland Group

1   Scope

Test objects of the type approval are the Safety I/O Modules SILBUS8150 Safety Transmitter and SILBUS8151 Safety Receiver of Austdac Pty Ltd., which are based on the type approved Safety input module Type GS 7510 2101 and Safety relay output module Type GS 3830 0143 of CARLO GAVAZZI INDUSTRI A/S.

The intention of this type approval is to confirm that the Safety I/O Modules meet the applicable requirements according to the standards listed in chapter 2.

2   Standards

[S1]   IEC 61508, parts 1 - 7: 2000 Functional safety of electrical/electronic/programmable electronic safety-related systems

[S2]   EN 954-1/1996 Safety of machinery, Safety related parts of control systems, Part 1: General principles of design

[S3]   IEC 61131-2/2003 Programmable Controllers

[S4]   EN 50178/1997 Electronic equipment for use in power installations

3   Test object

The Safety I/O Modules SILBUS8150 and SILBUS8151 of Austdac Pty Ltd. are modified types of Safety I/O Modules Type GS 7510 2101 and GS 3830 0143 of CARLO GAVAZZI INDUSTRI A/S, for which a valid type approval and certification has been performed [T1, T2].

Therefore, only the changes related to the product have to be inspected and judged.

3.1   Documents of the manufacturer

Due to the fact that the Safety I/O Modules Type GS 7510 2101 and GS 3830 0143 of CARLO GAVAZZI INDUSTRI A/S have been type approved by the Test Institute, the complete documentation from the manufacturer is available.

3.2   Additional documentation

The following additional documents are available to the Test Institute:

[D1]   Datasheet Safety Input Module SILBUS8150

[D2]   Datasheet Safety Output Module SILBUS8151

[D3]   Declaration from Austdac Pty Ltd. for both modules, 2005-11-04

[D4]   Cross reference for the type designation and declaration for Issuing a Co-License from GAVAZZI INDUSTRI A/S for both modules, 2005-11-15

3.3   Test Institute documentation

[T1]   Certificate No.: 968/EZ 212.00/05 dated 2005-11-08

[T2]   Report-No.: 968/EZ 212.00/05 dated 2005-11-08

4   Implementation and results of the type approval

4.1   Product modifications

In the documents [D3] and [D4] is declared, that the devices delivered by CARLO GAVAZZI INDUSTRI A/S are technically identical to the devices, which are provided by Austdac Pty Ltd. The same applies to the datasheet except the items, which are mentioned in chapter 4.2.

Therefore the results of the test report-no.: 968/EZ 212.00/05 dated 2005-11-08 can be transferred to the products Safety I/O Modules SILBUS8150 and 8151.

4.2   Verification of the documentation

Related to the products Safety I/O Modules SILBUS8150 and SILBUS8151 the following modifications have been carried out and accepted by the Test Institute:

- The datasheets and the type plates have been modified according to the interests of Austdac Pty Ltd. These changes include re-formatting and catalogue numbers.

5   Summary

The performed reviews have shown that the Safety I/O Modules SILBUS8150 and SILBUS8151 are suitable for applications up to Category 4 according to EN 954-1 and up to SIL 3 according to IEC 61508.

Conditions and prerequisites are described in the component datasheet.

Cologne, 2005-12-06
TIS/ASI/Kst. 968 he-nie

The inspector

Dipl.-Ing. Andreas Hesse

LICENCE CERTIFICATE
for TÜV Rheinland Test Mark

No. 968/EZ 214.00/05

Licence Holder:	Austdac Pty Ltd Unit 1, 4 Packard Avenue Castle Hill N.S.W. 2154 Australia
Manufacturer:	CARLO GAVAZZI INDUSTRI A/S Over Hadstenvej 40 DK-8370 Hadsten Denmark

Date of Application: 2005-11-04	File Ref.: 968/EZ 214.00/05	Date of Issue: 2005-12-06

Description:		Annual Fee-Units
Product tested:	Safety I/O (Transmitter and Receiver) for SILBUS	
Types:	SILBUS8150 and SILBUS8151	
Safety category:	up to 4 according to EN 954-1	
Safety level:	up to SIL 3 according to IEC 61508	
Input:	Safety input moduleType SILBUS8150	
Output:	Safety relay output module Type SILBUS8151	
Yearly fee:	for the two listed types of product	8

The Test samples	☐	will be kept by TÜV Industrie Service GmbH
	X	will be kept by the Licence Holder for the disposal of TÜV Industrie Service GmbH

Special Remarks: see test report-no.: 968/EZ 214.00/05 dated 2005-12-06 and
Certificate No.: 968/EZ 214.00/05 dated 2005-12-06

Test Mark:

△ **TÜV** **FS** Functional Safety
TÜV Rheinland Group   Type Approved

The Licence for the using of the TÜV Rheinland Test Mark is only valid for the licence holder and can only be transferred from TÜV Industrie Service GmbH to third persons.
The right for the using of the Test Mark is restricted to such products which are described and are examined by TÜV Industrie Service GmbH appropriately.
In addition, all regulations of the General Contract are also valid for the licence.
This Licence certificate has to be given back to TÜV Industrie Service GmbH if it is being declared as invalid.

2005-12-06
Date   Company seal   Signature

9/504 11.03