

Kemro

NX 252/A

**Ethernet PCI option module
Project engineering manual V1.03**

Translation of the original instructions

KEBA[®]

Automation by innovation.

Document : V1.03 / article no.: 1000412
Filename : nx252apjen.pdf
Pages : 21

© KEBA 2011

Specifications are subject to change due to further technical developments. Details presented may be subject to correction.

All rights reserved.

A: KEBA AG, Gewerbepark Urfahr, A-4041 Linz, Tel.: +43 732 7090-0, Fax: +43 732 7309-10, E-Mail: keba@keba.com
D: KEBA GmbH Automation, Leonhard-Weiss-Straße 40, D-73037 Göppingen, Tel.: +49 7161 9741-0, Fax: +49 7161 9741-40, E-Mail: keba@keba.com
US: KEBA Corp., 100 West Big Beaver Road, Troy, MI 48084, US, Tel.: +1 248 526-0561, Fax: +1 248 526-0562, E-Mail: usa@keba.com
CN: Beijing Austrian KEBA Science and Technology Development Ltd., Room B516, Nan Xin Cang Tower, A22 Dong Si Shi Tiao, Dong Cheng District, Beijing, 100027, P.R. China, Tel. +86 10 6409-6592, Fax +86 10 6409-6312, E-Mail: china@keba.com

www.keba.com

Record of Revision

Version	Date	Change in chapter	Description	changed by
1.00	02-2008		Newly created	meis
1.01	04-2009		EC directives corrected	hasl
1.02	08-2010	EC directives and standards, Declaration of conformity	updated	hasl
1.03	08-2011	Introduction	Hint "not for end customers" added, various minor updates.	fstl

Table of Contents

1	Introduction	7
1.1	Purpose of the document.....	7
1.2	Preconditions.....	7
1.3	Intended use.....	8
1.4	Notes on this document.....	8
1.4.1	Contents of the document.....	8
1.5	Documentation for further reading.....	8
2	Safety notes	9
2.1	Representation.....	9
2.2	General safety instructions.....	9
3	Description of the module	11
3.1	Front view.....	11
4	Installation instructions	12
5	Connections and wiring	15
5.1	Ethernet.....	15
5.1.1	Pin assignment.....	15
5.1.2	Cable and plug specification.....	15
5.2	EMC and wiring guidelines.....	15
6	Configuration	16
7	Operating behavior	17
7.1	Start-up after Power-On.....	17
7.2	Reset.....	17
8	Disposal	18
8.1	Disposal of the module.....	18
9	Technical data	19
9.1	Environmental conditions.....	19
9.2	Interface to the CPU module.....	19
9.3	Ethernet interface.....	19
9.4	Mechanics.....	19
10	EC directives and standards	20
10.1	EC directives.....	20
10.2	Standards.....	20
10.2.1	General procedures and safety principles.....	20
10.2.2	EMC guideline.....	20
10.2.3	Electrical safety and fire protection.....	20
10.2.4	Environmental and surrounding conditions.....	20
10.3	Standards for the American market.....	20
10.3.1	UL test for industrial control equipment.....	20

11 Declaration of conformity..... 21

1 Introduction

1.1 Purpose of the document

This document describes the structure of the NX 252/A (Ethernet PCI option module).

Information

This manual is not addressed to end costumers! Necessary safety notes for the end costumer have to be taken into the costumer manual in the respective national language by the machine builders and system providers.

1.2 Preconditions

This document contains information for persons with the following skills:

Target group	Knowledge and skills pre-requirement
Project engineer	Basic technical training (University of Applied Science/University level, engineering degree or corresponding professional experience). Knowledge in: <ul style="list-style-type: none"> ● working mode of a PLC, ● safety regulations, ● the application.
Operator	Basic technical training (Vocational high school, engineering degree or corresponding professional experience). Knowledge in: <ul style="list-style-type: none"> ● safety regulations, ● working mode of machine or plant, ● principal functions of the application, ● system analysis and troubleshooting, ● setting options at the operating installations.
Service technician	Basic technical training (Vocational high school, engineering degree or corresponding professional experience). Knowledge in: <ul style="list-style-type: none"> ● working mode of a PLC, ● safety regulations, ● working mode of machine or plant, ● diagnosis possibilities, ● systematic error analysis and rectification.

1.3 Intended use

The NX 252/A may only be used for the types of use described in the technical descriptions and only in conjunction with recommended/approved third-party equipment/installations.

The NX 252/A has been developed, manufactured, tested and documented in accordance with the appropriate safety standards. Therefore, the products do not pose any danger to the health of persons or a risk of damage to other property or equipment under normal circumstances, provided that the instructions and safety precautions relating to the intended use are properly observed.

1.4 Notes on this document

This manual is integral part of the product. It is to be retained over the entire life cycle of the product and should be forwarded to any subsequent owners or users of the product.

1.4.1 Contents of the document

- Description of the Ethernet PCI option module NX 252/A
- Use of the Ethernet PCI option module in CPU modules
- Description of interface including EMC measures
- Technical data

1.5 Documentation for further reading

The following documents are to be observed depending on the system solution used:

If you are using the KeStudio U2 tool suite:

Doc.No.	Name	Target group
DE: 65352 EN: 65353	K2-200 automation system manual	<ul style="list-style-type: none"> • Project engineer • Electrician • Programmer • Commissioning foreman • Service technician

If you are using the KeStudio U3 tool suite:

Doc.No.	Name	Target group
DE: 1000868 EN: 1000869	System manual Kemro automation system	<ul style="list-style-type: none"> • Project engineer • Electrician • Programmer • Commissioning foreman • Service technician

2 Safety notes

2.1 Representation

At various points in this manual you will see notes and precautionary warnings regarding possible hazards. The symbols used have the following meaning:



DANGER!

- indicates an imminently hazardous situation which will result in death or serious bodily injury if the corresponding precautions are not taken.



WARNING!

- indicates a potentially hazardous situation which can result in death or serious bodily injury if the corresponding precautions are not taken.



CAUTION!

- means that if the corresponding safety measures are not taken, a potentially hazardous situation can occur that may result in property injury or slight bodily injury.

CAUTION

- CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in damage to property.



- This symbol reminds you of the possible consequences of touching electrostatically sensitive components.

Information

Useful practical tips and information on the use of equipment are identified by the "Information" symbol. They do not contain any information that warns about potentially dangerous or harmful functions.

2.2 General safety instructions



WARNING!

- It is absolutely essential to observe the safety instructions in the system manual.
- The module is defined as "open type equipment" (UL508) or as "offenes Betriebsmittel" (EN 61131-2) and must therefore be installed in a control cabinet.

CAUTION

Improper use of the assembly or the control system leads to irreparable damage!

- Turn off the power supply before inserting or removing the module. Otherwise, the module can be destroyed or undefined signal states can lead to damage of the control system.
-



When removed from its casing this module is sensitive to electrostatic discharge. Before handling the modules touch a grounded metal object in order to discharge any static electricity from your body.

3 Description of the module

The NX 252/A is a Ethernet PCI option module for inserting into CPU modules of the type CP 24x/x or CP 25x/x. The NX 252/A Ethernet PCI option module can be integrated into a 10Mbit/s as well as a 100Mbit/s Ethernet.

Information

The module's functionality is only guaranteed if used within a CP 24x/x or CP 25x/x. The module is not designed for connection with foreign modules.

3.1 Front view

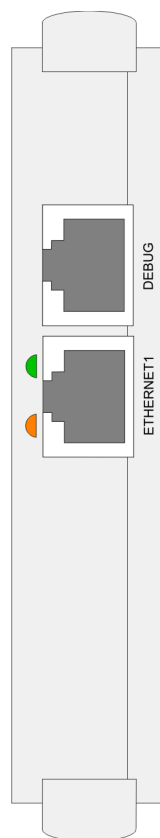


Fig.3-1: NX 252/A front view

4 Installation instructions

The module has been designed for operation with CPU-module, where it is inserted into the PCI slot.

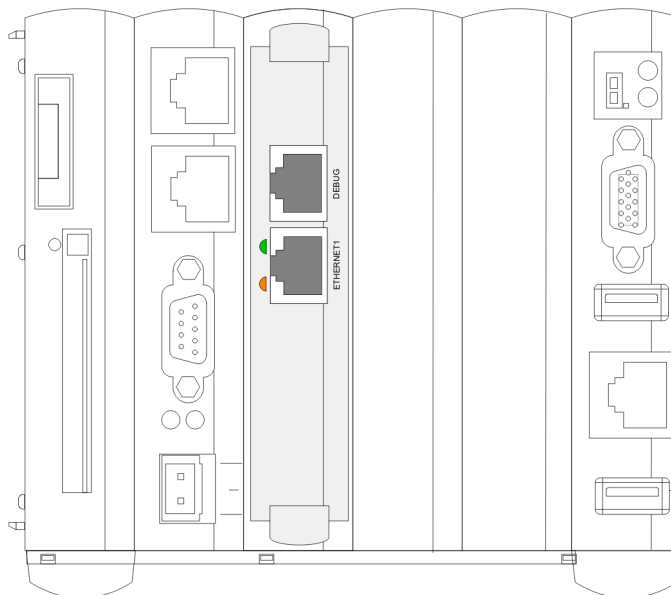


Fig.4-1: Use of a NX 252/A in a CPU module

Information

The Ethernet PCI option module may not be plugged or removed if the CPU module is activated.

Inserting an option module into slot

- 1) Turn off power supply
- 2) Remove dummy module
- 3) Insert module in the correct position (labelling right side) into the right-hand slot

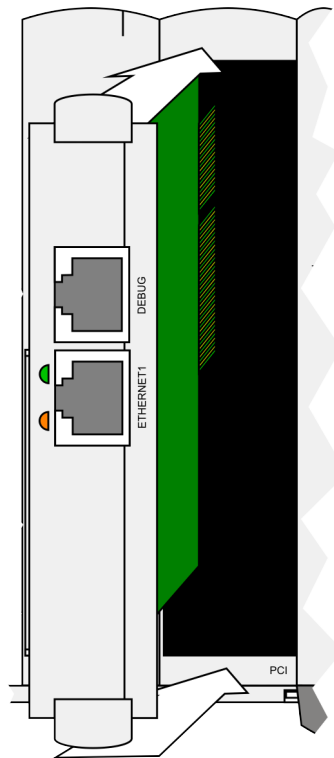


Fig.4-2: Inserting the NX 252/A

Removing an option module:

- 1) Turn off power supply
- 2) Pull module out of the slot
- 3) Insert dummy module

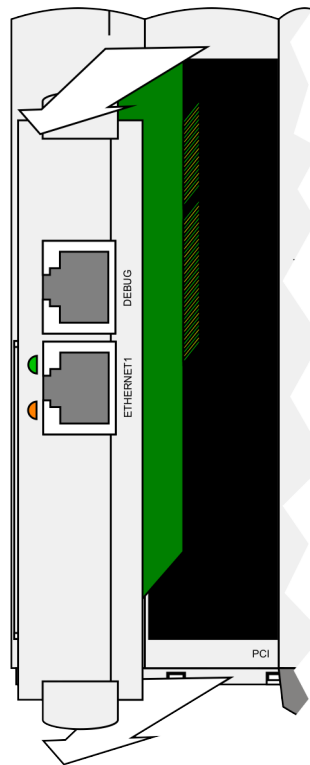


Fig.4-3: Removing the NX 252/A

5 Connections and wiring

5.1 Ethernet

5.1.1 Pin assignment

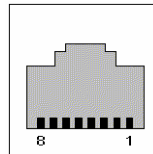


Fig.5-1: Ethernet connection

Pin no.	Signal designation		Input / Output
1	Tr. Data +	Transmit Data +	Output
2	Tr. Data -	Transmit Data -	Output
3	Re. Data +	Receive Data +	Input
4	Bi-Data +	n.c.	---
5	Bi-Data -	n.c.	---
6	Re-Data-	Receive Data -	Input
7	Bi-Data +	n.c.	---
8	Bi-Data -	n.c.	---

5.1.2 Cable and plug specification

Further information: See system manual.

5.2 EMC and wiring guidelines

Pay attention from the outset to careful wiring and shielding.

Further information: See system manual.

6 Configuration

No configuration is required for this module.

7 Operating behavior

7.1 Start-up after Power-On

The module is passive and is configured and activated through the HOST.

7.2 Reset

The module can be reset by the HOST without the HOST itself having to be reset.

8 Disposal

8.1 Disposal of the module

CAUTION

Please observe the regulations regarding disposal of electric appliances and electronic devices!



- The symbol with the crossed-out waste container means that electrical and electronic devices including their accessories must not be disposed of in the household garbage.
- The materials are recyclable in accordance with their labeling. You can make an important contribution to protecting our environment by reusing, renewing and recycling materials and old appliances.

9 Technical data

9.1 Environmental conditions

Operating temperature:	+5 °C to +55 °C
Storage temperature:	-40 °C to 70 °C
Relative humidity of air:	10 % to 95 % (non condensing)
Vibration resistance:	according to EN 61131-2:2007
Shock resistance:	according to EN 61131-2:2007

9.2 Interface to the CPU module

Interface type:	Media Independent Interface
Connection:	CHAMP plug 30-pin
Power supply:	5 V
Power consumption (5 VDC):	2 W
Module recognition:	YES (Module given, YES/NO, no type recognized)

9.3 Ethernet interface

Ethernet interface:	10/100 MBit/s LAN,
Galvanic isolation:	Yes, signaling line
Number:	1
Connection:	Modular 8-pin plug (RJ45 plug)

9.4 Mechanics

Structure:	No casing; only front plate mounted on print
Protection class:	When the module is plugged into CPU module, then the CPU module conforms to IP 20
Weight:	23 g

10 EC directives and standards

10.1 EC directives

Guideline 2004/108/EC	EC guideline on electromagnetic compatibility
Guideline 2002/95/EC	RoHS guideline

10.2 Standards

To check the conformity of the system with the directives, the following non-binding legal European standards were applied:

10.2.1 General procedures and safety principles

EN 61131-1:2003	Programmable controllers - Part 1
-----------------	-----------------------------------

Information

This product was developed for the use in industrial areas and can cause radio interference when used in residential areas.

10.2.2 EMC guideline

EN 61131-2:2007	Programmable controllers - Part 2
-----------------	-----------------------------------

10.2.3 Electrical safety and fire protection

EN 61131-2:2007	Programmable controllers - Part 2
-----------------	-----------------------------------

10.2.4 Environmental and surrounding conditions

EN 61131-2:2007	Programmable controllers - Part 2
-----------------	-----------------------------------

10.3 Standards for the American market

10.3.1 UL test for industrial control equipment

UL 508, 2005	Industrial Control Equipment
--------------	------------------------------

11 Declaration of conformity



EC Declaration of Conformity



KEBA AG
Gewerbepark Urfahr
4041 Linz
AUSTRIA

Document No.: **68406/CE/1**

We declare that the following product(s)

Name of product: **NX 25x**
 Variants: **NX 250/A, NX 252/A**
 From: **revision 01 (Mat.Nr. 74571)**
revision 00 (Mat.Nr. 81762)
revision 06 (Mat.Nr. 64167)
revision 03 (Mat.Nr. 69336)
revision 02 (Mat.Nr. 68285)

is/are in conformity with the essential requirements of the following European Council Directive(s):

∞ **EC-Directive relating to electromagnetic compatibility 2004/108/EC**

Conformity to the directive 2004/108/EC is assured by the compliance with the applicable parts of the following harmonized european standards:

∞ **EN 61131-2:2007**

Important notes:

Any modification on the product(s), that is performed without KEBA's consent will render this declaration invalid.

This declaration certifies the conformity with the directives mentioned, but does not imply any warranty of the features of the product(s).

The safety instructions contained in the documentation supplied with the product(s) must be followed.

kemro_k2_nx25x-eng1