

(1) **TYPE EXAMINATION CERTIFICATE**

(2) Equipment intended for use in potentially explosive atmospheres – Directive 94/9/EC

(3) Type Examination Certificate Number: **KEMA 02ATEX1235 X**

(4) Equipment: **Bus Coupler Modules Type BK.... and Bus Terminals Type KL....**

(5) Manufacturer: **Elektro Beckhoff GmbH**

(6) Address: **Eiserstraße 5, D-33415 Verl, Germany**

(7) This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) KEMA Quality B.V. certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. 2021697.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 50021 : 1999**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This Type Examination Certificate relates only to the design, examination and tests of the specified equipment and not to the manufacturing process and supply of the equipment.

(12) The marking of the equipment shall include the following:



**II 3 G**

**EEx nA II T4 or EEx nC IIC T4**

Arnhem, 27 August 2002  
KEMA Quality B.V.



T. Pijpker  
Certification Manager

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## SCHEDULE

(14)

### to Type Examination Certificate KEMA 02ATEX1235 X

(15) **Description**

The Bus Coupler Modules Type BK.... provide an interface between a fieldbus system and actuators and sensors, connected to the input and output channels of Bus Terminals Type KL....

The field circuits are galvanically isolated from the fieldbus.

Ambient temperature range 0 °C ... +55°C.

#### Model codes

Following models are included in the system:

Model Code	Description
BK3000	Bus coupler Profibus FMS/DP 1.5 MBaud
BK3100	Bus coupler Profibus FMS/DP 12 MBaud
BK3110	Bus coupler Profibus DP 12 MBaud (Economy)
BK3120	Bus coupler Profibus DP 12 MBaud (Economy plus)
BK5210	DeviceNet Bus coupler (Economy)
BK5220	DeviceNet Bus coupler (Economy plus)
KL1002	Digital Input Module 2 Channel, 24 Vdc, 3,0 ms
KL1104	Digital Input Module 4 Channel, 24 Vdc, 3,0 ms
KL2022	Digital Output Module 2 Channel, 24 Vdc, 2,0 A
KL2032	Digital Output Module 2 Channel, 24 Vdc, 0,5 A
KL2134	Digital Output Module 4 Channel, 24 Vdc, 0,5 A
KL3312	Analogue Input Module 2 Channel, Thermo couple
KL4002	Analogue Output Module 2 Channel, 0 ... 10 Vdc
KL4032	Analogue Output Module 2 Channel, -10 ... +10 Vdc
KL9010	Bus End Terminal Module
KL9020	Terminal Bus Extension, End Terminal
KL9050	Terminal Bus Extension, Coupler Terminal
KL9100	Supply Module 24 Vdc

#### Electrical data

##### Bus coupler Modules

Supply ..... 24 Vdc (20,4 ... 28,8 Vdc), max. 600 mA

##### Input and Output Modules

(also refer to modules list for functional specifications)

Low voltage analogue and digital input and output modules:

Supply ..... 24 Vdc (20,4 ... 28,8 Vdc)  
 Analogue output ..... 0 ... 10 Vdc or -10 ... +10 Vdc  
 Digital output, load ..... max. 2 A per output  
 (depending on module)

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(16) **Report**

KEMA No. 2021697.

(17) **Special conditions for safe use**

The Bus Coupler and Bus Terminal Modules must be mounted in a cabinet or an enclosure with suitable cable or conduit entry devices, in order to provide a degree of ingress protection in accordance with clause 6.1.1 of EN 50021.

Modules may only be removed or inserted when the system supply and the field supply are switched off, or when the location is known to be non-hazardous.

Fieldbus connectors may only be disconnected or connected when the system supply is switched off, or when the location is known to be non-hazardous.

(18) **Essential Health and Safety Requirements**

Covered by the standard listed at (9).

(19) **Test documentation**

	<u>dated</u>
1. Description (product marking)	---
2. Drawing No. BK3000 2B (4 sheets)	04.02.2002
BK3000_2B	07.02.2002
BK3005.2	27.02.1996
BK3005_2 (3 sheets)	---
BK3006.2	05.03.1996
BK3006_2 (2 sheets)	---
BK3110 1B (4 sheets)	17.06.1998
BK3110_1B	18.06.1998
BK3115_1	26.05.1997
BK3115.1	---
BK5110_4 (3 sheets)	25.10.1999
BK5110_4	24.01.2000
BK5115	14.07.1997
BK5115_1	14.10.1999
KL9030_8 (schematic diagram)	09.06.1999
KL9030_8 (component lay-out)	21.06.1999
KL9031_4 (schematic diagram)	22.08.2001
KL9031_4 (component lay-out)	01.09.2001
KL9035_3 (schematic diagram)	21.10.1998
KL9035_3 (component lay-out)	11.04.2001
KL1002_2 (schematic diagram)	16.11.1995
KL1002_2 (component lay-out)	02.08.1995
KL1104_1 (schematic diagram)	12.03.1998
KL1104_1 (component lay-out)	12.03.1998

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		<u>dated</u>
Drawing No.	KL2022_2 (schematic diagram)	04.07.1996
	KL2022_2 (component lay-out)	04.07.1996
	KL2032_1 (schematic diagram)	23.06.1996
	KL2032_1 (component lay-out)	23.06.1997
	KL2134_1 (schematic diagram)	05.05.1998
	KL2134_1 (component lay-out)	05.05.1998
	KL3302_3 (schematic diagram, 2 sheets)	13.08.1998
	KL3302_3 (component lay-out)	03.12.1998
	KL4002_2 (schematic diagram, sheet 1)	17.03.1998
	KL4002_2 (schematic diagram, sheet 2, 3)	19.03.1998
	KL4002_2 (component lay-out)	01.09.1998
	KL9010_1 (schematic diagram)	21.10.1999
	KL9010_1 (component lay-out)	25.10.1999
	KL9020_2 (schematic diagram)	15.08.2001
	KL9020_2 (component diagram)	24.08.2001
	KL9025_2 (schematic diagram)	15.08.2001
	KL9025_2 (component diagram)	02.10.2001
	KL9050_2 (schematic diagram, 3 sheets)	17.08.2001
	KL9050_2 (component lay-out)	24.08.2001
	KL9110_2 (schematic diagram)	19.04.1996
	KL9110_2 (component lay-out)	19.04.1996
	750-011 (assembly drawing)	16.10.1995