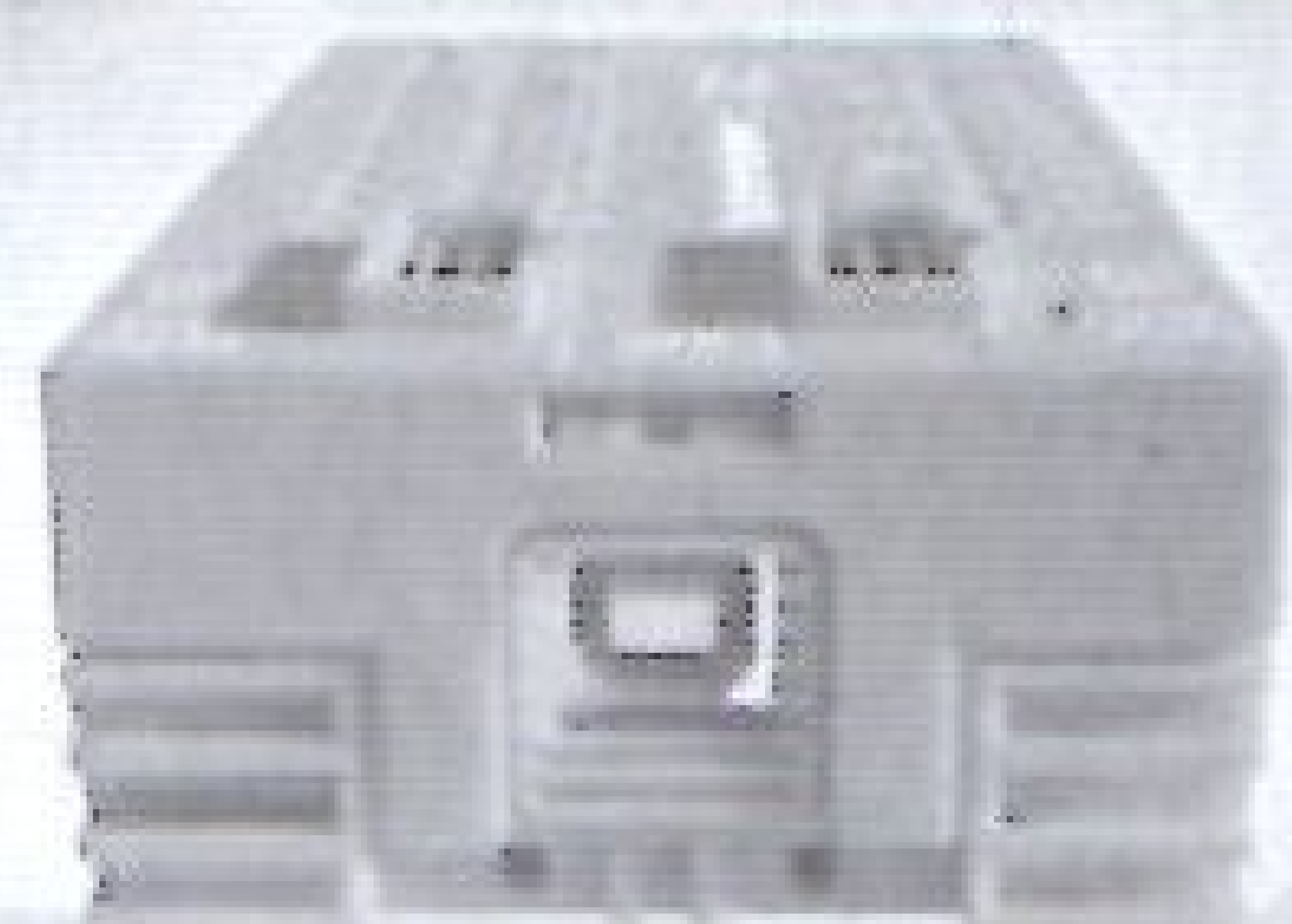


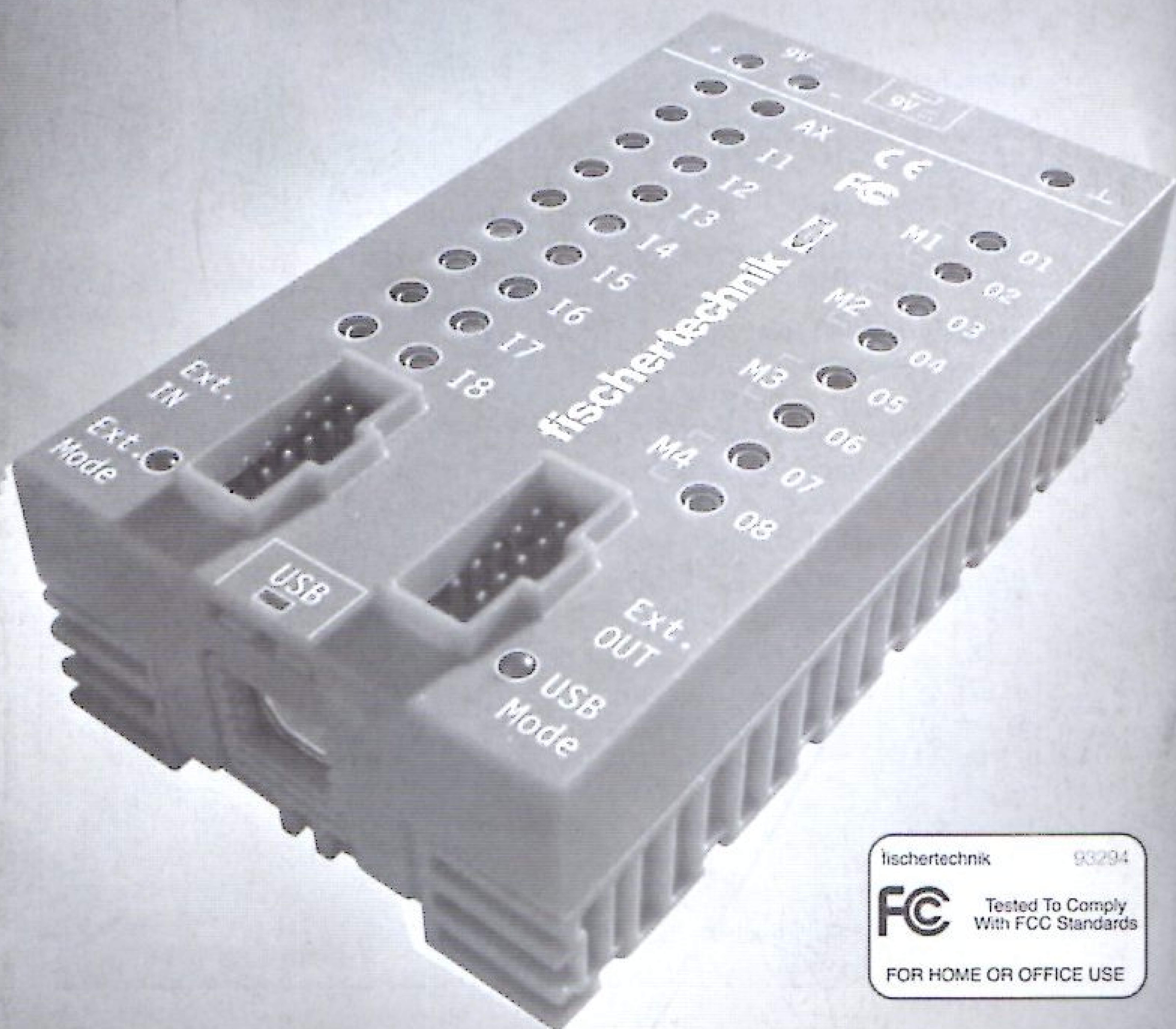
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fischertechnik 

COMPUTING

Bedienungsanleitung
Operating Instructions
Manuel d'emploi
Bedieningshandleiding
Instrucciones de manejo
Instrução de serviço



fischertechnik 93294
FC Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

ROBO I/O-EXTENSION

D S. 4-5, Inhalt

ROBO I/O-Extension

Stromversorgung

Ausgänge M1-M4, bzw.
O1 bis O8

Digitale Eingänge

Analoger
Widerstandseingang

Anschluss am ROBO Interface

Anschluss am PC

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Gewährleistung

Haftung

GB + USA P. 6-7, Contents

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Digital Inputs

Analog Resistance Input

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ROBO Interface

Connection to the PC

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Warranty

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ment O1 jusqu'à O8

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Entrée de résistance
analogique

Raccordement à
l'interface ROBO

Raccordement à l'ordinateur

Avis importants!

Garantie

Responsabilité

NL P. 10-11, Inhoud

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Stroomvoorzorging

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O1 tot O8

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Aansluiting aan de PC

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Vrijwaring

Aansprakelijkheid

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vamente O1 hasta O8

Entradas digitales I1 - I8

Entrada de resistencia
analógica

Conexión en
la ROBO Interface

Conexión en el PC

Notas importantes

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Responsabilidad

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ROBO I/O-Extension

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Entrada de resistência
analógica

Conexão na ROBO Interface

Conexão no PC

Avisos importantes

Prestação de garantia

Responsabilidade

ROBO I/O-EXTENSION

Abb.1 ROBO I/O-Extension • Fig. 1 ROBO I/O-Extension • Afb.1 ROBO I/O-Extension

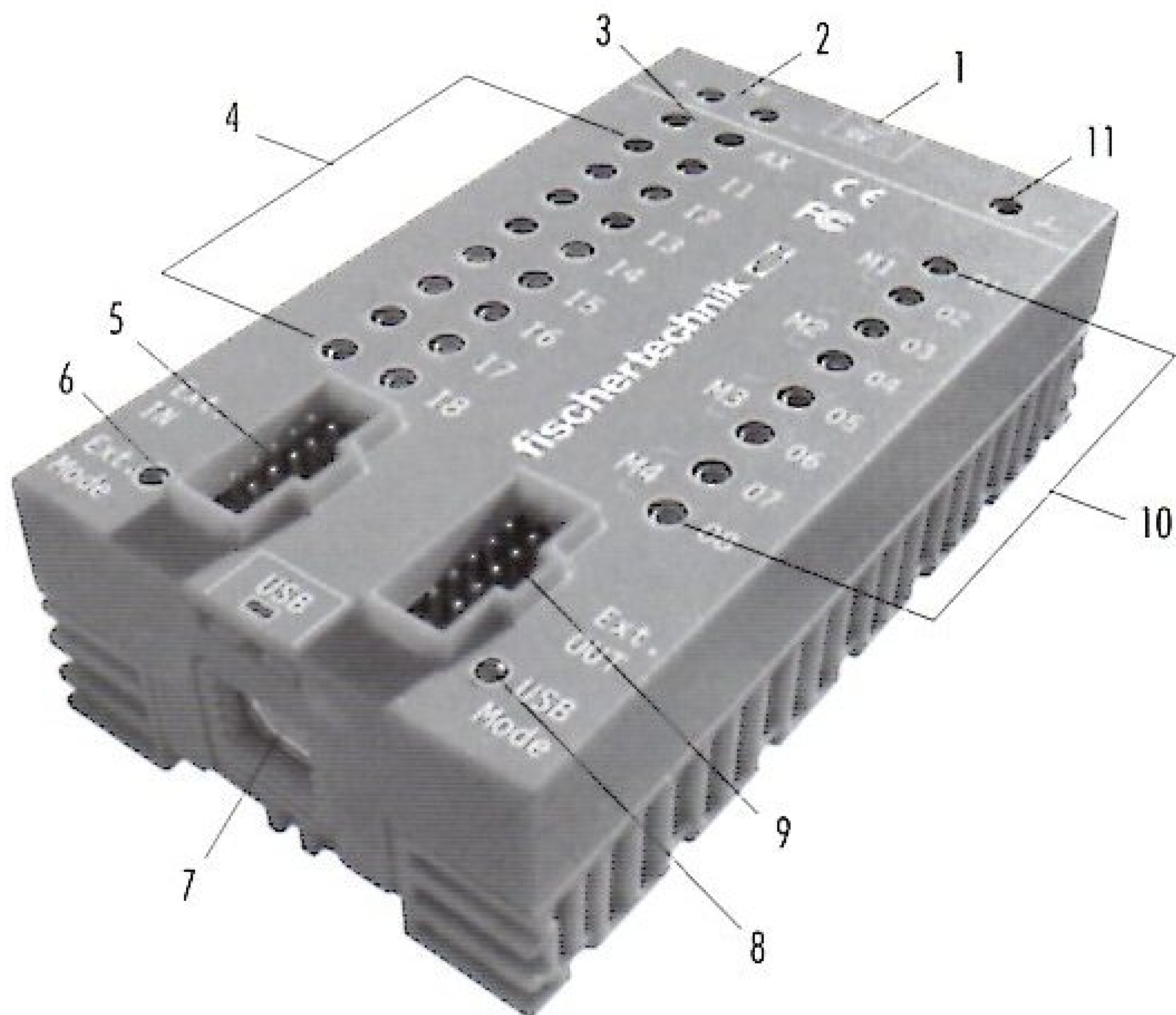
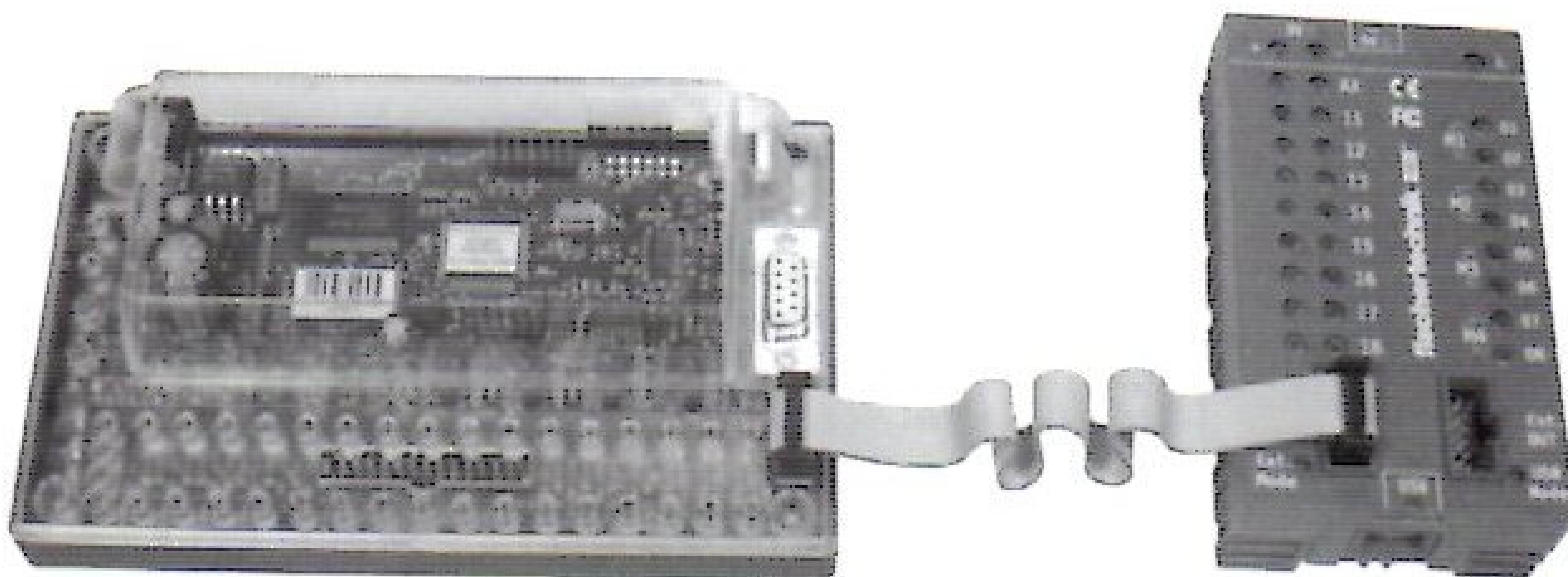


Abb.2 Anschluss an ROBO Interface • Fig. 2 Connection to ROBO Interface • Fig.2 Raccordement à l'interface ROBO
• Afb.2 Aansluiting aan de ROBO Interface • Fig. 2 Conexión en la ROBO Interface • Fig.2 Conexão na ROBO Interface



ROBO I/O-Extension (Fig. 1, p. 3)

The ROBO I/O-Extension allows you to increase the number of inputs and outputs for the ROBO interface. It is connected to the interface with a 10-pin ribbon cable. In addition, the ROBO I/O-Extension can also be connected directly to the PC through the USB and activated with the ROBO Pro software in the online mode.

Power supply 9V DC, 1000mA (1)/(2)

Two choices are available, either the fischertechnik power unit 9V DC, 1000mA, item No. 37109 connected to the DC socket (1) or the battery set item No. 34969 connected to +/- sockets (2). When connecting a power unit to the DC socket (1), the circuit to the sockets for the battery set (2) is automatically interrupted.

Outputs M1-M4 or O1 to O8 (10)

Connection of four motors (forwards, backwards, off, eight speed levels) with 9V DC, continuous operation 250mA, short-circuit-proof.

As an alternative, up to eight bulbs or electromagnets may be connected to the eight individual outputs O1-O8 (the second pin of the power consumer is connected to the grounding socket (11)).

Digital Inputs I1-I8 (4)

For digital sensors such as scanners, photo transistors and reed contacts. Voltage range: 9 V DC, switching threshold for ON/OFF is about 2.6 V, input resistance about 10k Ω .

Analog Resistance Input AX (3)

For connection of potentiometers, photo or NTC resistances. Measuring range 0-5.5k Ω . Resolution 10 bit.

Connection to ROBO Interface

The ROBO I/O-Extension is connected to the ROBO interface with the 10-pin ribbon cable that is supplied. Connection "Ext. IN" (5) on the ROBO I/O extension, connection "Ext" on the ROBO interface, also see Fig. 2, p.3.

As soon as the ROBO I/O-Extension is connected to the interface and both devices are supplied with electricity, the green LED "Ext. mode" (6) blinks on the ROBO I/O extension. The device has then been identified by the interface and is ready for operation, "extension mode."

On the connection "Ext. OUT" (9), an additional ROBO I/O extension can be connected with a maximum of three ROBO I/O extensions on one ROBO interface.

Connection to the PC

The ROBO I/O-Extension can be directly connected to the PC through the USB interface (7) and operated as an independent interface: the USB mode without connection to the ROBO interface. The interface cable is supplied with the items delivered. However, it can only be operated online on the PC, which means that no downloading of programs to the ROBO I/O extension is possible. The device is compatible with the USB 1.1 and 2.0 specification and works with a data rate of 12 Mbit/s. When the ROBO I/O extension is connected to the PC for the first time, then the associated USB driver must be installed. This works just like for the ROBO interface and is described in the handbook for the ROBO Pro software in chapter 1.2.

The green LED "USB mode" (8) blinks when the device is receiving data through the USB interface.

If the LEDs "Ext. mode" (6) and "USB mode" (8) blink alternately, the device is in the "auto-scan mode" and is waiting for data from the ROBO interface or the USB interface.

Important Information

- In the USB mode, no additional ROBO I/O-Extensions can be connected to the connection "Ext. OUT."
- If the ROBO I/O-Extension is connected to the PC and with a ROBO interface, then the connection to the interface has priority if both devices are supplied with electricity.
- Power Supply
For the ROBO I/O-Extension only 9 V DC power supplies from fischertechnik may be used, for example, energy set item No. 30182 or battery set item No. 34969.
- Electromagnetic Interference
If the ROBO I/O-Extension should be affected by extreme electromagnetic influences, then once the interference is ended, the ROBO I/O-Extension can be used for the purpose intended. It may be necessary to interrupt the power supply for a short time and then restart the program.

Warranty

The fischertechnik GmbH guarantees the freedom from errors of the ROBO I/O-Extension according to the existing state of the technology. The fischertechnik GmbH reserves the right to make changes to the design or model, which neither impair functioning nor the value of the ROBO I/O-Extension and such changes shall not constitute a reason for a complaint. Obvious defects must be submitted in writing within 14 (fourteen) days after delivery, otherwise any warranty claims due to obvious defects are excluded.

Immaterial defects of the ROBO I/O-Extension shall not constitute a reason for a warranty claim. In addition, the customer may only demand subsequent fulfillment meaning the remedying of the defect(s) or a replacement delivery. The customer may, according to his choice, withdraw from the contract or demand a reduction of the purchase price if the subsequent fulfillment is not successful and in particular if the subsequent fulfillment is impossible or if we do not succeed with this in a reasonable time period, or we refuse this or it is culpably delayed by us. The warranty period is 24 (twenty-four) months after delivery.

For defects in quality of the ROBO I/O-Extension, which are due to improper handling, normal wear, improper or negligent treatment, we shall not provide any warranty and the same applies to the consequences of improper changes or changes made without our approval or repair by the customer or a third party.

The warranty shall be governed by and construed under German law.

Liability

The fischertechnik GmbH shall not be liable for any damage, which results from use for purposes, for which the ROBO I/O-Extension was not intended.

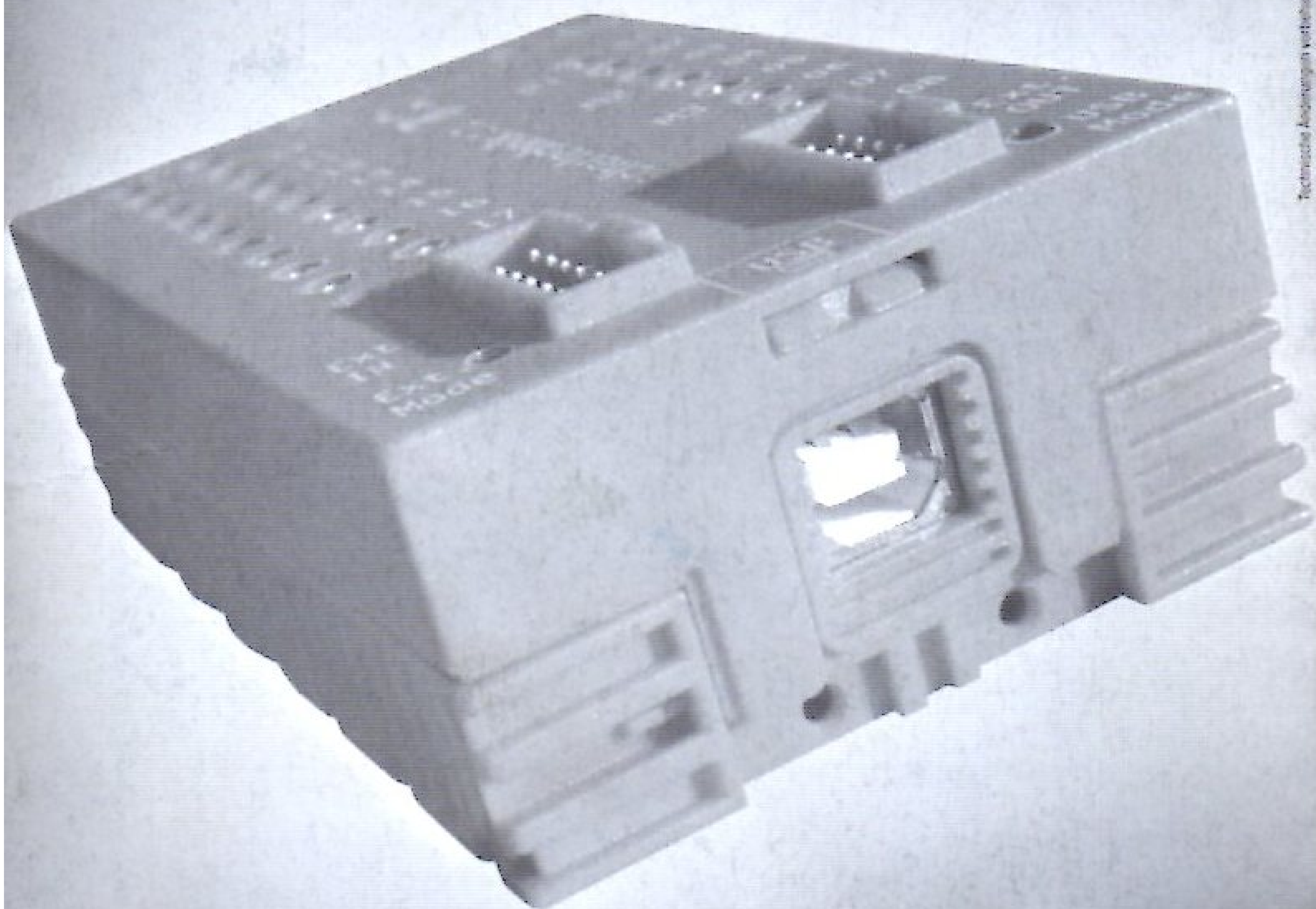


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Technische Änderungen vorbehalten • Subject to technical amendments

ROBO I/O-EXTENSION