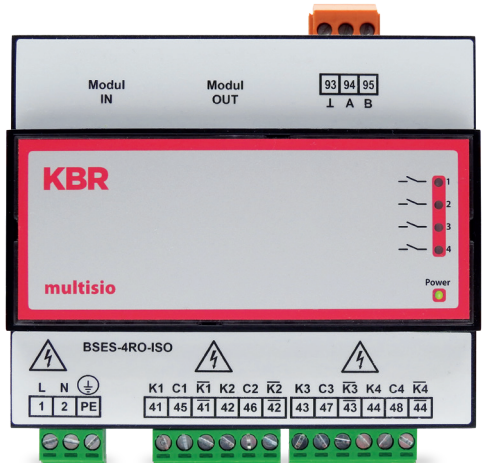




User Manual Technical Parameters



multisio D6-ESBS-4RO-ISO-1



You can find the instructions for your KBR device at our download center.

<https://www.kbr.de/de/dienstleistungen/download-center>

System | English

Thank you for choosing this KBR quality product.

In order to become familiar with the operation and programming of the device and to always be able to use the full range of functions of this high-quality product, you should carefully read these operating instructions and the safety instructions enclosed with the device.

The individual chapters explain the technical details of the device and show how damage can be avoided through proper installation and commissioning.

KBR Kompensationsanlagenbau GmbH does not accept any liability for any loss or damage resulting from printing errors in or changes to this manual.

In addition, **KBR Kompensationsanlagenbau GmbH** does not accept any liability for any loss or damage caused by defective devices or devices manipulated by the user.

Copyright 2021 by **KBR Kompensationsanlagenbau GmbH**
Subject to change.

Table of Contents

1	Function description of multisio D6-ESBS-4RO ISO-1	3
1.1	Connection Diagram	4
1.2	Connection Variants of the Supply Voltage.....	5
1.3	Terminal assignment:	6
1.4	Function of Scan button.....	7
1.5	Manual Operation:.....	7
1.6	DIP Switch for Terminating RS-485 Interface:	8
2	Technical Data	9
2.1	Environmental Conditions / Electrical Safety	11

1 Function description of multisio D6-ESBS-4RO ISO-1

The multisio D6-ESBS-4RO ISO-1 with eBus hardware supports four floating relay outputs (changeover relays), 5 LEDs and an 8-fold DIP switch.

The relay outputs serve to control contactors of devices or other systems.

The module can be accessed from a master device (multimax D6-5, multisio D6-7 or higher, or a computer with visual energy via multigate ESBS) using the module bus interface. The master device has to configure the module. The module cannot be used on its own

The bus interface is powered via a power supply (of Ph-N 100V – 240V+/-10% 50Hz/ 60Hz AC or DC) or the module bus interface (24 VDC). The device is equipped with a “power” LED for supply voltage monitoring.



NOTE

The expanded module bus interface (RS 485 serial) also functions as a gateway (implementation of module bus RJ12 on eBus (ESBS)).

Prerequisite: **Module bus input via RJ12 - connector**
eBus output via terminal 93, 94, and 95

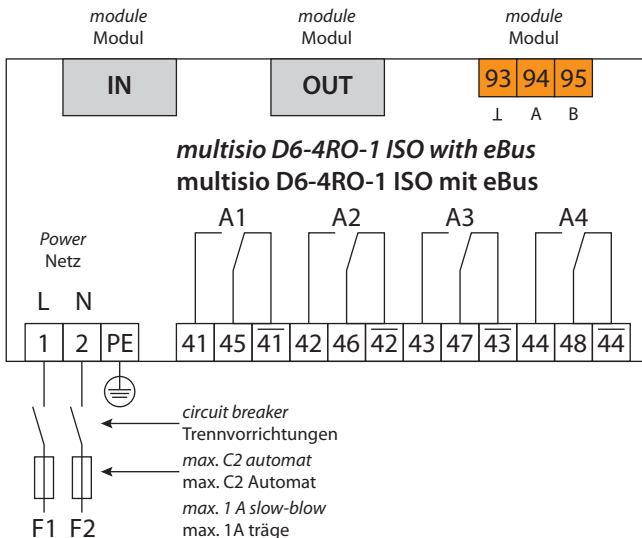
1.1 Connection Diagram

IN/OUT: Module bus/
supply voltage
IN/OUT: Modulbus/
Versorgungsspannung

eBus Interface:
Klemme 93 eBus Ground
Klemme 94 eBus A
Klemme 95 eBus B
eBus Schnittstelle:
Klemme 93 eBus Masse
Klemme 94 eBus A
Klemme 95 eBus B

Drawn switch position
= idle state (Device is voltage-free)
Gezeichnete Schalterstellung
= Ruhstellung
(Gerät ist spannungslos)

supply voltage
see name plate
Versorgungsspannung
siehe Typenschild



NOTE

When connecting the phase (L1) to terminal 1 and the neutral conductor (N) to terminal 2 (Ph-N 100V – 240V +/-10% DC/50Hz/60Hz) the safety device and the disconnector in the supply line to terminal 2 (N) are not required.

The safety device and the disconnector to terminal 2 (N) are only required for the following connection variants:

Alternating voltage: Terminal 1 (L1) and terminal 2 (L2):
US1 Phase-Phase 100V - 240V +/-10% 50Hz/60 Hz

Direct voltage: Terminal 1 (+) and terminal 2 (-):
US1 100V - 240V +/-10% DC

1.2 Connection Variants of the Supply Voltage

Terminal 1	Terminal 2	Voltage	Safety device and disconnector to Terminal 2 required
		Power supply unit US1	
Phase L	Neutral conductor N	100V - 240V +/-10% AC 50/60 Hz	No
Phase L1	Phase L2	100V - 240V +/-10% AC 50/60 Hz	Yes
+	-	100V - 240V +/-10% DC	Yes

1.3 Terminal assignment:

Mains	Terminal 1:	Phase (L) and DC (+)
	Terminal 2:	Neutral conductor and DC (-)
	Terminal PE:	Protective earth
eBus	Terminal 93:	eBus ground
	Terminal 94:	eBus A
	Terminal 95:	eBus B
Changeover relay A1:	Terminal 41:	NO = normally open relay 1
	Terminal 45:	Shared connection relay 1
	Terminal $\overline{41}$:	NC = normally closed relay 1
Changeover relay A2:	Terminal 42:	NO = normally open relay 2
	Terminal 46:	Shared connection relay 2
	Terminal $\overline{42}$:	NC = normally closed relay 2
Changeover relay A3:	Terminal 43:	NO = normally open relay 3
	Terminal 47:	Shared connection relay 3
	Terminal $\overline{43}$:	NC = normally closed relay 3
Changeover relay A4:	Terminal 44:	NO = normally open relay 4
	Terminal 48:	Shared connection relay 4
	Terminal $\overline{44}$:	NC = normally closed relay 4



NOTE

The potential at the relay outputs on the module matches the respective input (shared connection) of the relay! (Ph-N 100V - 240V +/-10% DC/50Hz/60Hz)

In scanning mode, all 4 output LEDs are flashing.

In the module detection mode, the output LEDs generate a chase light effect.

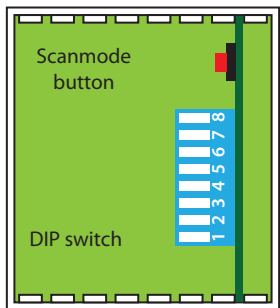
The LEDs represent:

- LED 1: Output relay 1 (A1) switched
- LED 2: Output relay 2 (A2) switched
- LED 3: Output relay 3 (A3) switched
- LED 4: Output relay 4 (A4) switched
- LED Power: Operating voltage



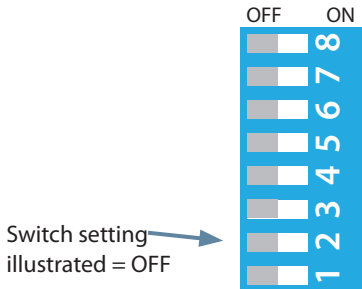
1.4 Function of Scan button

If the scan button is pressed briefly (2 to 4 seconds), the module enters the scan mode (module detection mode).



1.5 Manual Operation:

Each output can manually be set to active. If the DIP switch for the channel is set to "OFF," the output state is established within the module. If the DIP switch is set to "ON," the state for this output is kept as active, regardless of the state of the output that has actually been determined.



25993_EDEBDA0293-3721-1_EN

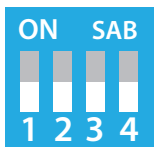
DIP Switch for Terminating RS-485 Interface:

Relay state	Output 1		Output 2		Output 3		Output 4	
	DIP S1	DIP S5	DIP S2	DIP S6	DIP S3	DIP S7	DIP S4	DIP S8
automatic	X	OFF	X	OFF	X	OFF	X	OFF
manual passive / off	OFF	ON	OFF	ON	OFF	ON	OFF	ON
manual active / on	ON	ON	ON	ON	ON	ON	ON	ON

X: DIP switch state does not matter

If necessary, the RS-485 interface on the module bus side can be terminated using four DIP switches (terminating resistors are fitted into multisio).

1.6 DIP Switch for Terminating RS-485 Interface:



DIP1 and DIP2 ON, DIP3 OFF = failsafe active

DIP1 and DIP2 OFF, DIP3 ON = termination active

DIP1 and DIP2 OFF, DIP3 OFF = no failsafe, no termination

DIP4 is not assigned!



NOTE

The failsafe termination can only be activated once per bus segment!

2 Technical Data

Hardware inputs		
Power supply	Via module bus	24 V DC / max. 3W
	Connection	Modular connector RJ12:6P6C
	Via network connection	Ph-N 100V - 240V +/-10% 50Hz/60 Hz/DC, max. 25 VA, 13W
		Terminal 1 phase (+)
		Terminal 2 neutral conductor (-)
Terminal 3 PE		
Connection elements	Plug-in terminals	
Permissible cross-section of the connecting cables	Voltage supply 2.5 mm ²	
Input control voltage	Fuse max. 1 A slow-blow max. C2 automatic isolating switch UL/IEC-approved	

Hardware outputs		
Module bus interface	Serial interface	RS485
	Module bus connection	RJ12 for ready-made KBR system cable, max. length 30 m when suitably placed Maximum DC power output 7W
	Transmission speed	38400 Bps
	Bus protocol	KBR module bus/eBus
optional	Module bus connection	
	Connection material	
	Connections: eBus via plug-in terminal, 3-pin	Device: Terminal 93 (L) Terminal 94 (A) Terminal 95 (B)
	Bus protocol	KBR – module bus / eBus

Continuation of table

Continuation of table Hardware Outputs

4 relay outputs	2 plug terminals, each 6-pin	
Changeover relay A1:	Terminal 41	NO = normally open relay 1
Changeover relay A1:	Terminal 45	Shared connection relay 1
Changeover relay A1:	Terminal $\overline{41}$	NC = normally closed relay 1
Changeover relay A2:	Terminal 42	NO = normally open relay 2
Changeover relay A2:	Terminal 46	Shared connection relay 2
Changeover relay A2:	Terminal $\overline{42}$	NC = normally closed relay 2
Changeover relay A3:	Terminal 43	NO = normally open relay 3
Changeover relay A3:	Terminal 47	Shared connection relay 3
Changeover relay A3:	Terminal $\overline{43}$	NC = normally closed relay 3
Changeover relay A4:	Terminal 44	NO = normally open relay 4
Changeover relay A4:	Terminal 48	Shared connection relay 4
Changeover relay A4:	Terminal $\overline{44}$	NC = normally closed relay 4
Contact capacity	500VA each, 2A, 250V 50/60Hz AC	
Overvoltage category	CAT II	
Display	LED	4x message 1x operation display
Control unit	DIP switch	1x 8-fold, for manual operation
		1x 4-fold, for bus termination serial connection RS485
	Button	Scan button (module bus)

Mechanical data		
DIN rail device	Housing dimensions	90 x 108 x 61 mm (H x W x D)
	Mounting type	Wall mounting on DIN rail 7.5 mm deep, in accordance with DIN EN 60715. Suitable for distribution board mounting
	Weight	Approx. 650g

2.1 Environmental Conditions / Electrical Safety

Surrounding conditions	Standards	DIN EN 60721-3-3/A2: 1997-07; 3K5+3Z11; (IEC721-3-3; 3K5+3Z11)
	Operating temperature	K55 (-5 °C +55 °C)
	Air humidity	5 % ... 95 %, non-condensing
	Storage temperature	K55 (-25°C +70°C)
	Operating height	0...2,000 m above sea level
Electrical safety	Standards	DIN EN 61010-1: 2011-07
	Protection class	I
	Oversvoltage category	CAT III
	Rated surge voltage	4kV
Protection type	Standards	IP20 in accordance with DIN EN 60529: 2014-09
EMC	Standards	DIN EN 61000-6-2:2006-03 + amendment 1:2011-03 DIN EN 61000-6-3:2011-09 + amendment 1:2012-11 DIN EN 61326-1:2013-07

KBR Kompensationsanlagenbau GmbH

Am Kieferschlag 7
D-91126 Schwabach
Germany

T +49 (0) 9122 6373-0
F +49 (0) 9122 6373-83
E info@kbr.de

www.kbr.de