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# Router module 3-port

## 705042

### Brief description

The router module 3-port (705042) is a system component of the JUMO variTRON automation system.

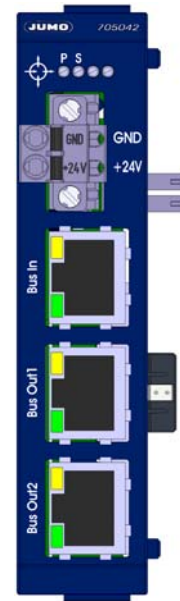
The router module 3-port is the first module to be mounted on a separate DIN rail and provides a system bus input and 2 outputs on the front. In conjunction with a router module 2-port (705041) and, if necessary, additional router modules 3-port, the input/output modules of the automation system can be distributed over several DIN rails or control cabinets.

The maximum distance between 2 router modules is 100 m. A maximum of 30 router modules (705041/42) and more than 30 input/output modules (depending on the module) can be used in a system.

LEDs are used to indicate the voltage supply and the operating status of the module. The electrical connection of the voltage supply for the router module is made on the front via a removable terminal strip.

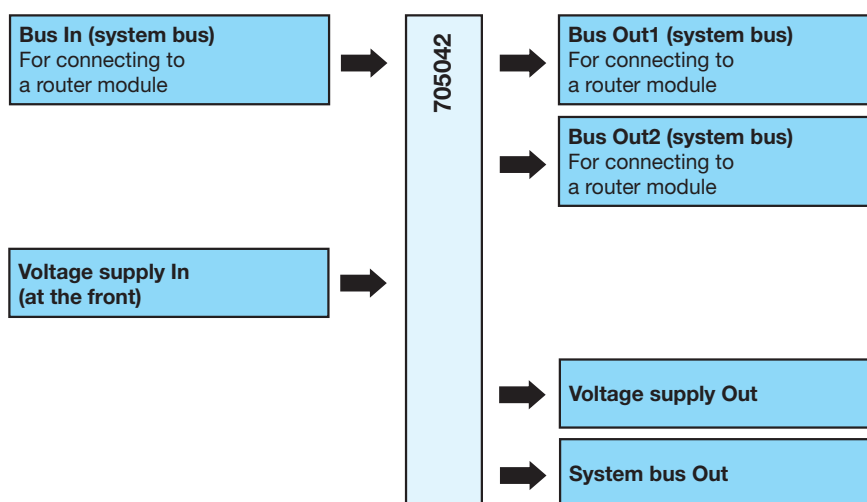
Configuration of the router module 3-port is not required. It is integrated into the automation system by a setup program.

For service purposes the module insert can be easily pulled out of the case at the front. The case, including the bus board, remains mounted on the DIN rail.



Type 705042

### Block diagram



### Features

- Compatible with JUMO variTRON as of system version 3
- Decentralized module assignment supported
- First module on an additional DIN rail for connecting further modules
- System bus expansion via RJ45 sockets on the front (1 × Bus In, 2 × Bus Out)
- Galvanic isolation of the system bus connections
- Supply of operating voltage
- Quick wiring of operating voltage and system bus provided by simple module connection principle

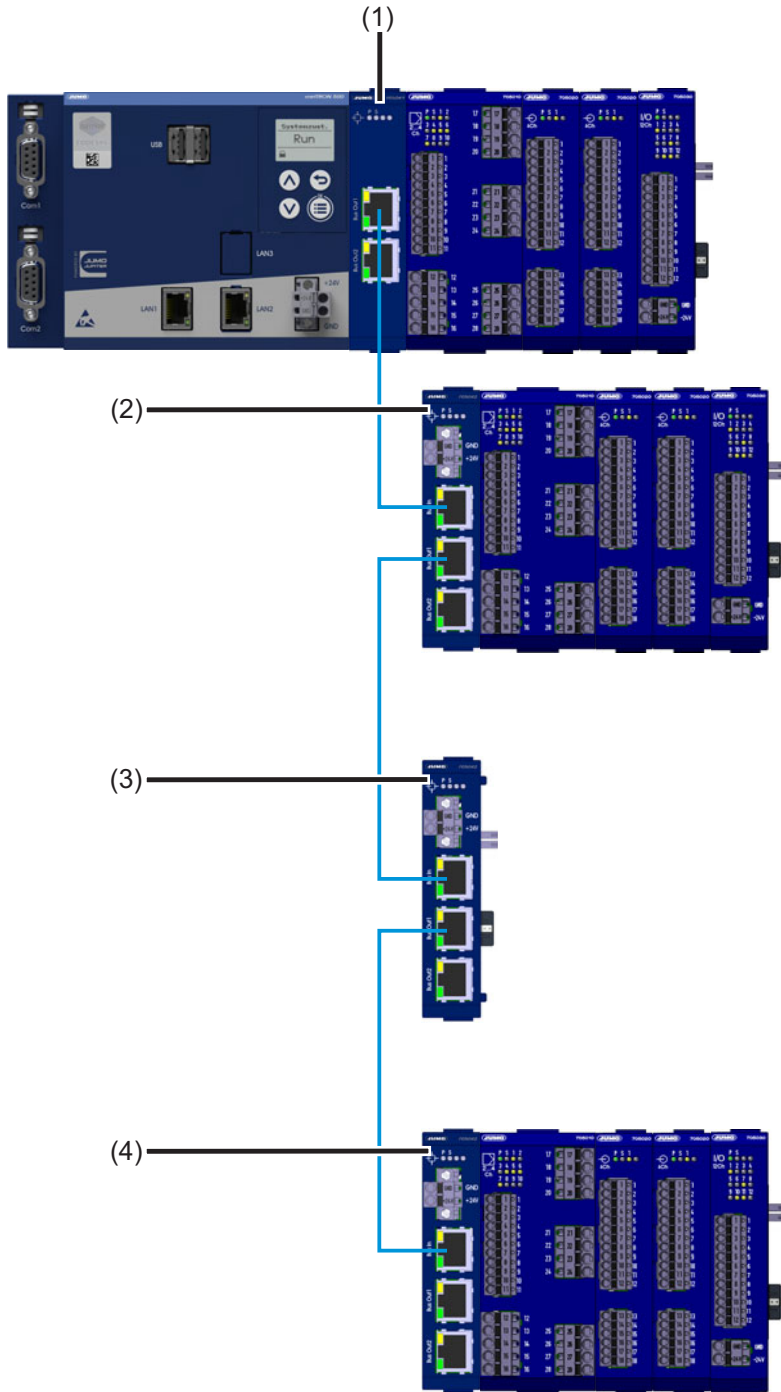
### Approvals and approval marks (see "Technical data")





# Description

## Connection example



- (1) Router module 2-port (705041), attached to JUMO variTRON 500 central processing unit (705002)
- (2) Router module 3-port (705042) with downstream modules
- (3) Router module 3-port (705042) to increase the range
- (4) Router module 3-port (705042) with downstream modules

The router module 2-port (705041) is used on the same DIN rail as the central processing unit and enables system bus networking with standard network cables (see Technical Data). The position of the router module 2-port on the DIN rail is freely selectable.

The router module 3-port (705042) is always used as the first module on a separate DIN rail and is designed for system expansion with additional modules. The router module 3-port can also be used to increase the system bus range.

System bus interconnection is only possible with the router modules of the JUMO variTRON system (closed system); conventional Ethernet switch technology cannot be used.

In the illustrated connection example, the voltage supply of the central processing unit and the modules is not shown (terminals +24 V and GND).

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## Technical data

### Interfaces

System bus (output, lateral) Description Type Number Application	None (side plug connector) System specific 1 Connection to an input/output module
System bus (input, front side) Description Type Number Connecting cable Application	Bus In RJ45 1 Network cable (patch or crossover cable), at least CAT5 (S/FTP) Connection with a router module 705041 (on the same DIN rail as the central processing unit) or 705042 (on separate DIN rail)
System bus (output, front side) Description Type Number Connecting cable Application	Bus Out1, Bus Out2 RJ45 2 Network cable (patch or crossover cable), at least CAT5 (S/FTP) Connection with router modules of the JUMO variTRON automation system

### Electrical data

Voltage supply Connection Voltage Residual ripple	At the front (removable terminal strip, 2-pole with Push In technology) DC 24 V +25/-20 % SELV 5 %
Current consumption	100 mA (at DC 19.2 V) Current consumption of lined-up modules also has to be considered!
Power consumption	2 W
Conductor cross section on terminals GND and +24 V Wire or stranded wire without ferrule Stranded wire with ferrule 2 × stranded wire with twin ferrule with plastic collar	Min. 1.5 mm <sup>2</sup> , max. 2.5 mm <sup>2</sup> Min. 1.5 mm <sup>2</sup> , max. 2.5 mm <sup>2</sup> 1.5 mm <sup>2</sup>
Stripping length on terminals GND and +24 V	10 mm
Electrical safety	According to DIN EN 61010-1 Overvoltage category III, pollution degree 2
Protection rating	III
Electromagnetic compatibility Interference emission Interference immunity	Acc. to DIN EN 61326-1 Class A – only for industrial use – Industrial requirement

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## Housing and environmental conditions

Case type	Plastic case for DIN rail mounting in the control cabinet (indoor use); DIN rail acc. to DIN EN 60715, 35 mm × 7.5 mm × 1 mm
Dimensions (W × H × D)	22.5 mm × 103.6 mm × 101.5 mm (without connection elements)
Weight	Approx. 150 g
Protection type	IP20, according to DIN EN 60529
Ambient temperature range	-20 to +55 °C
Storage temperature range	-40 to +70 °C
Resistance to climatic conditions	Relative humidity ≤ 90 % annual average without condensation (climate class 3K3 acc. to DIN EN 60721-3-3 with extended temperature and humidity range)
Site altitude	Up to 2000 m above sea level
Vibration	Acc. to DIN EN 60068-2-6, table C.2
Amplitude	0.15 mm from 10 to 58.1 Hz
Acceleration	20 m/s <sup>2</sup> from 58.1 to 150 Hz
Shock	Acc. to DIN EN 60068-2-27, table A.1
Peak acceleration	150 m/s <sup>2</sup>
Shock duration	11 ms

## Approvals and approval marks

Approval mark	Test facility	Certificate/certification number	Inspection basis	Valid for
c UL us	Underwriters Laboratories	E201387	UL 61010-1 (3. Ed.), CAN/CSA-22.2 No. 61010-1 (3. Ed.)	All types

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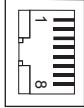
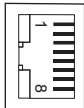
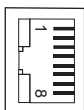
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## Connection diagram

The connection diagram in the data sheet provides preliminary information about the connection options. For the electrical connection, only use the installation instructions or the operating manual. The knowledge and the correct technical compliance with the safety information and warnings contained in these documents are mandatory for mounting, electrical connection, and startup as well as for safety during operation.

### Interfaces

Connection	Description	Connection element	Assignment
System bus In (input)	Bus In		1 TX+      Transmission data + 2 TX-      Transmission data - 3 RX+      Received data + 6 RX-      Received data -
System bus Out1 (output)	Bus Out1		1 TX+      Transmission data + 2 TX-      Transmission data - 3 RX+      Received data + 6 RX-      Received data -
System bus Out2 (output)	Bus Out2		1 TX+      Transmission data + 2 TX-      Transmission data - 3 RX+      Received data + 6 RX-      Received data -

### Voltage supply

Connection	Terminals	Symbol and terminal designation
DC 24 V (front)	+24 V and GND	+ ———— ○ +24 V U <sub>x</sub> - ———— ○ GND

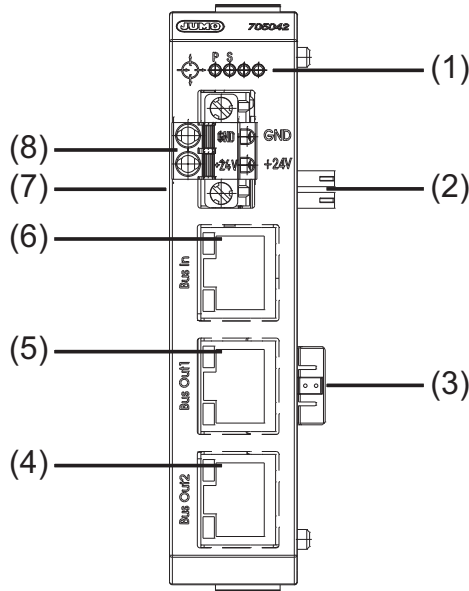
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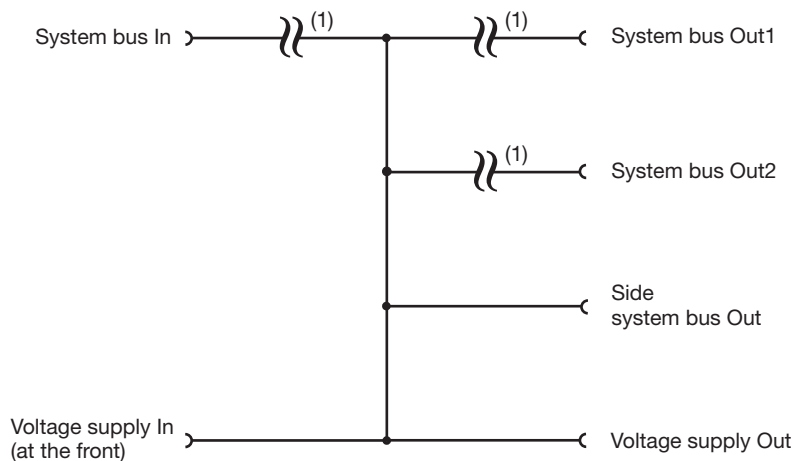


## Display, operating, and connection elements



- (1) Status displays (LED):  
 P = Voltage supply  
 S = Status
- (2) Voltage supply Out, DC 24 V
- (3) Side system bus Out (output)
- (4) System bus Out2 (output)
- (5) System bus Out1 (output)
- (6) System bus In (input)
- (7) 2 rotary coding switches (setting of the alias device address)
- (8) Voltage supply In, DC 24 V

## Electrical isolation



(1) Functional galvanic isolation for connection of SELV or PELV electrical circuits.

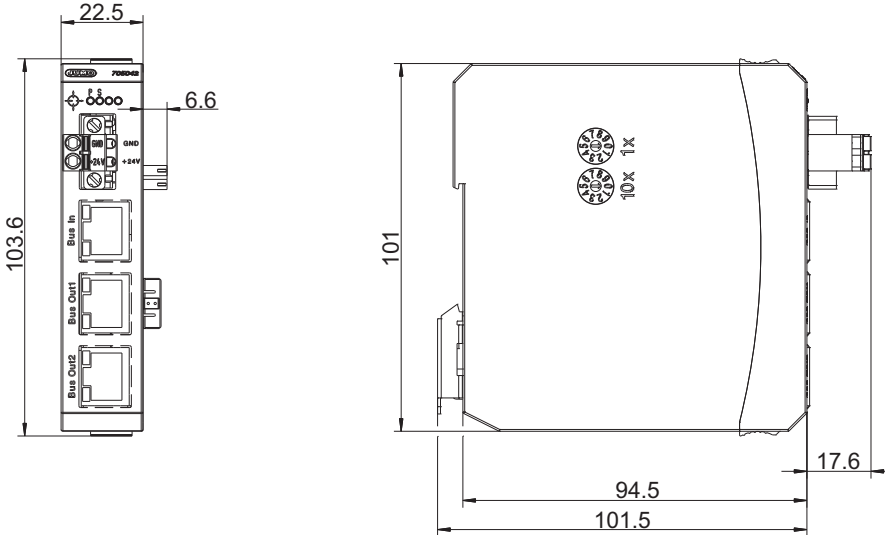
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## Dimensions



## Compatibility

### JUMO variTRON

See data sheet of the relevant central processing unit JUMO variTRON:  
 Data sheet 70500x

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## Order details

<b>(1)</b>	<b>Basic type</b>
705042	Router module 3-port
<b>(2)</b>	<b>Voltage supply</b>
36	DC 24 V +25/-20 %, SELV
<b>(3)</b>	<b>DNV GL approval</b>
000	Without approval

	<b>(1)</b>		<b>(2)</b>		<b>(3)</b>
<b>Order code</b>	705042	/	36	/	000
<b>Order example</b>	705042	/	36	/	000

## Scope of delivery

1 router module 3-port
1 cover for system bus
2 screw-on end clamps for DIN rail
1 installation instructions