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Router module 1-port

705043

Brief description

The router module 1-port (705043) is a system component of the JUMO variTRON automation system.

The router module 1-port is primarily used together with a variTRON 300 (available as of system version 6) central processing unit. It laterally provides the system bus output and power supply for connecting the input/output modules. The connection to the central processing unit takes place via an RJ45 patch cable.

In addition, the router module 1-port can be used as the first module on a separate DIN rail. That way, in conjunction with a router module 2-port (705041, on the first DIN rail) or a router module 3-port (705042, on an additional DIN rail), 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 (or between central processing unit and router module) is 100 m. A maximum of 30 router modules (705041/42/43) and more than 30 input/output modules (depending on the module) can be used in a system.

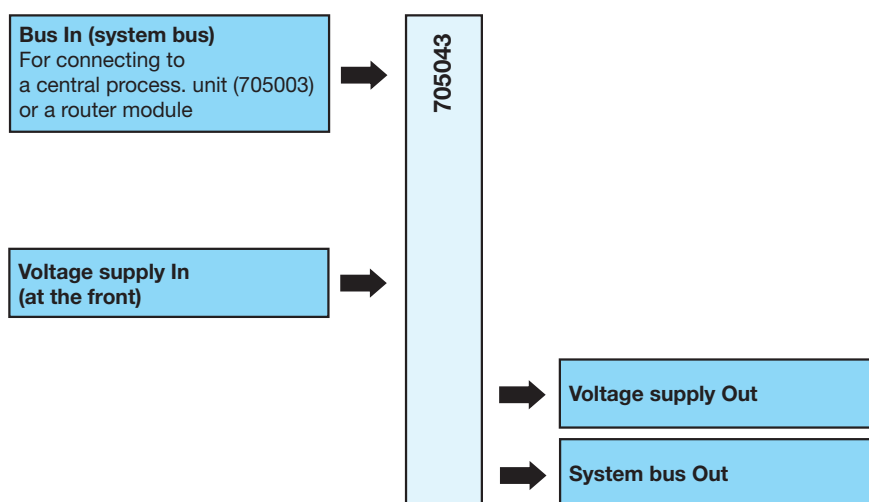
LEDs are used to indicate the voltage supply and the operating status of the module. The electrical connection of the voltage supply for the router module is made on the front via a removable terminal strip.

Configuration of the router module 1-port is not required. It is integrated into the automation system by a setup program.



Type 705043

Block diagram



Features

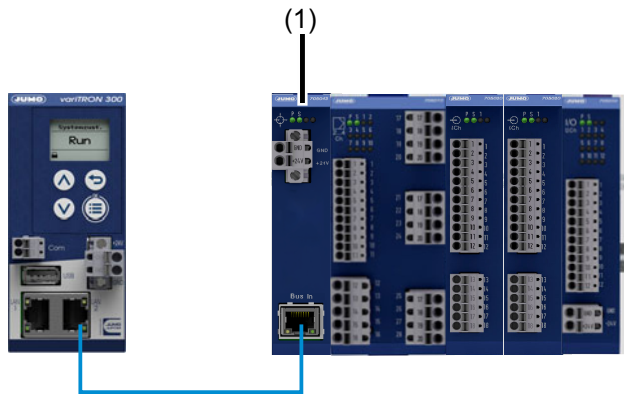
- Compatible with JUMO variTRON as of system version 4
- Connects the variTRON 300 central processing unit (available as of system version 6) to the modules
- Alternatively, decentralized module assignment is also supported
- First module on an additional DIN rail for connecting further modules
- Galvanic isolation of the system bus connection
- 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)



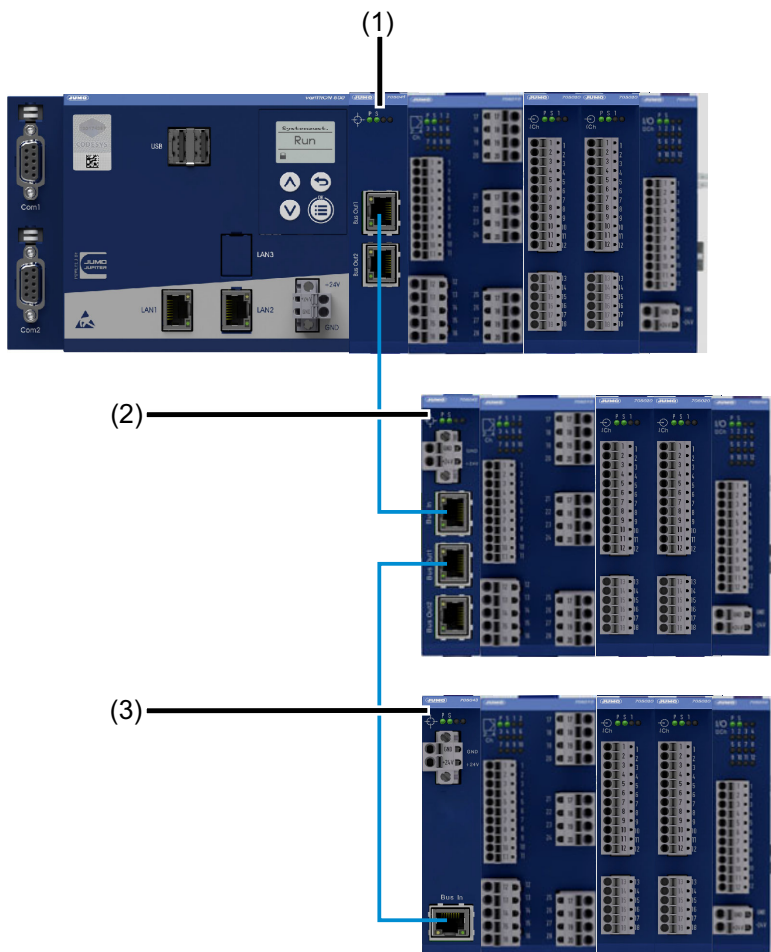
Description

Connection example 1



(1) Router module 1-port (705043), connected to JUMO variTRON 300 central processing unit (705003)

Connection example 2



(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 1-port (705043) with downstream modules

The router module 1-port (705043) is mounted on a DIN rail and provides the lateral connections of the system bus and power supply. It is primarily used to connect the input and output modules of the JUMO variTRON automation system to a JUMO variTRON 300 central processing unit (705003; available as of system version 6), which itself has no side connections (see connection example 1).

The central processing unit is connected to the router module using a standard network cable (CAT5, S/FTP). The voltage for the router module as well as the connected input and output modules is supplied at the router module. That way, the central processing unit and router module can also be mounted on different DIN rails (cable length max. 100 m).

In addition, the router module 1-port can also be used for decentralized arrangement of further modules on an additional DIN rail. For this purpose, it is connected to a router module 2-port (705041) or a router module 3-port (705042) of the same system (see connection example 2).

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 +24V and GND).

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Technical data

Interfaces

System bus (input, front side)	
Designation	Bus In
Type	RJ45
Number	1
Connecting cable	Network cable (patch or crossover cable), at least CAT5 (S/FTP)
Application	Connection to a central processing unit 705003 or a router module (705041, 705042)
System bus (output, lateral)	
Designation	None (side plug connector)
Type	System specific
Number	1
Application	Connection to an input/output module

Electrical data

Voltage supply	
Symbol (see nameplate)	
Connection	At the front (removable terminal strip, 2-pole with PUSH IN technology)
Voltage	DC 24 V +25/-20 % SELV
Residual ripple	5 %
Current consumption	30 mA (at DC 19.2 V) Current consumption of lined-up modules also has to be considered!
Power consumption	0.6 W
Conductor cross section on terminals GND and +24 V	
Wire or stranded wire without ferrule	Min. 1.5 mm ² , max. 2.5 mm ²
Stranded wire with ferrule	Min. 1.5 mm ² , max. 2.5 mm ²
2 × stranded wire with twin ferrule with plastic collar	1.5 mm ²
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	Acc. to DIN EN 61326-1
Interference emission	Class A – only for industrial use –
Interference immunity	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 × 101 mm × 23.9 mm (without connection elements)
Weight	Approx. 42 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 ² from 58.1 to 150 Hz
Shock	Acc. to DIN EN 60068-2-27, table A.1
Peak acceleration	150 m/s ²
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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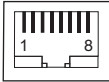
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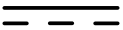
Connection diagram

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.

Interface

Connection	Designation	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 -

Voltage supply

Connection	Terminals	Symbol and terminal designation
DC 24 V (front)	+24 V and GND	+ ———— ○ +24 V  U _X - ———— ○ GND

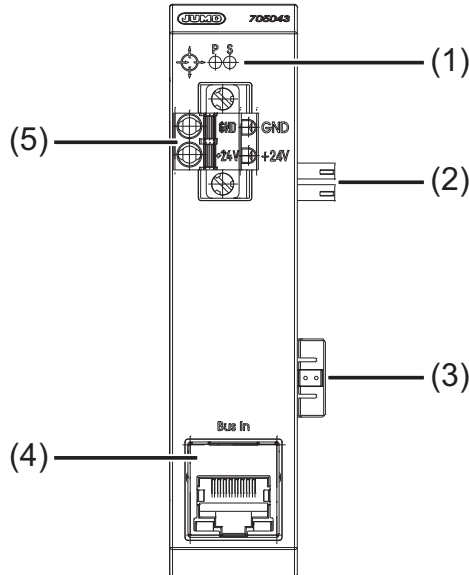
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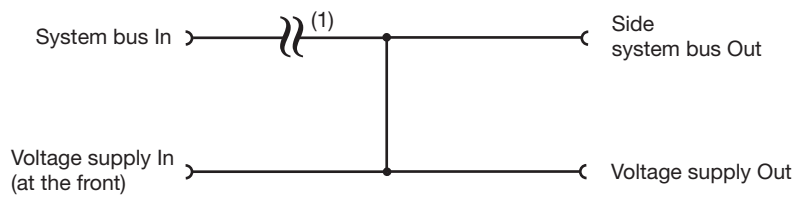


Display, operating, and connection elements



- (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 In (input)
- (5) Voltage supply In, DC 24 V

Electrical isolation



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

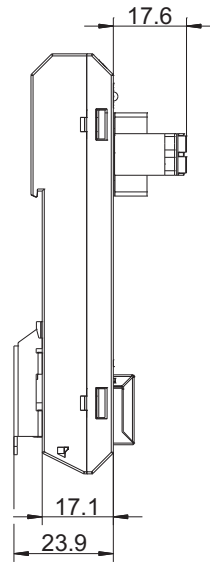
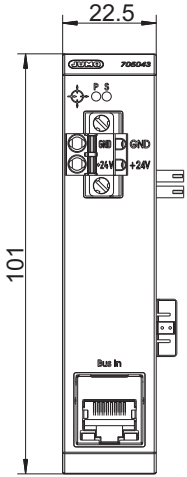
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Dimensions



Compatibility

JUMO variTRON

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

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Order details

(1) Basic type	
705043	Router module 1-port
(2) Voltage supply	
36	DC 24 V +25/-20 %, SELV
(3) DNV GL approved	
000	Without approval

	(1)		(2)		(3)
Order code	705043	/	36	/	000
Order example	705043	/	36	/	000

Scope of delivery

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