VARES LOOP

DETECT, LOCALISE AND ISOLATE IN 3 SEC.

R·C·S®
AUDIO-SYSTEMS

EN 54-17 certified

Compatible with:
VARES 1500
VARES 2000
VARES 3000

VARES LOOP

MONITORING OF RING BUS LINES AND SPEAKER LINES

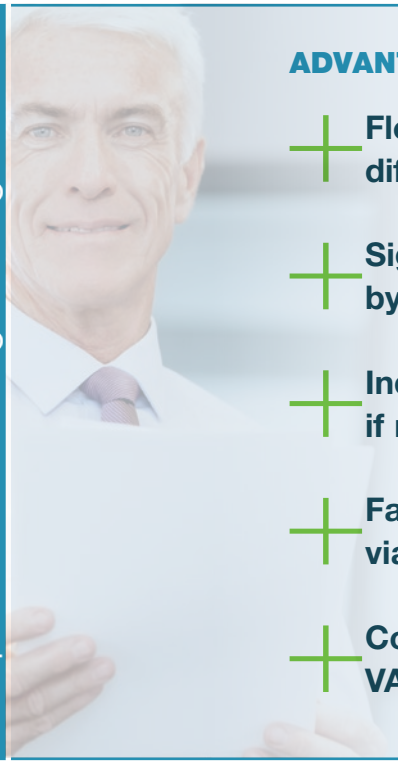
... IN 3 SECONDS

THE VARES-LOOP SYSTEM

With the VARES-LOOP system it is possible to quickly detect, localize and isolate faults in ring bus or loudspeaker lines. With this system, functional failures in audio transmission due to cable damage in the ring bus can be prevented cost-effectively and effectively.

It is an EN 54-17 certified system for monitoring ring bus and loudspeaker lines in public address and voice alarm systems. With the VARES-LOOP system, loudspeaker circuits can be set up so that they meet the requirements of VDE 0833-4.

for planners and engineering offices

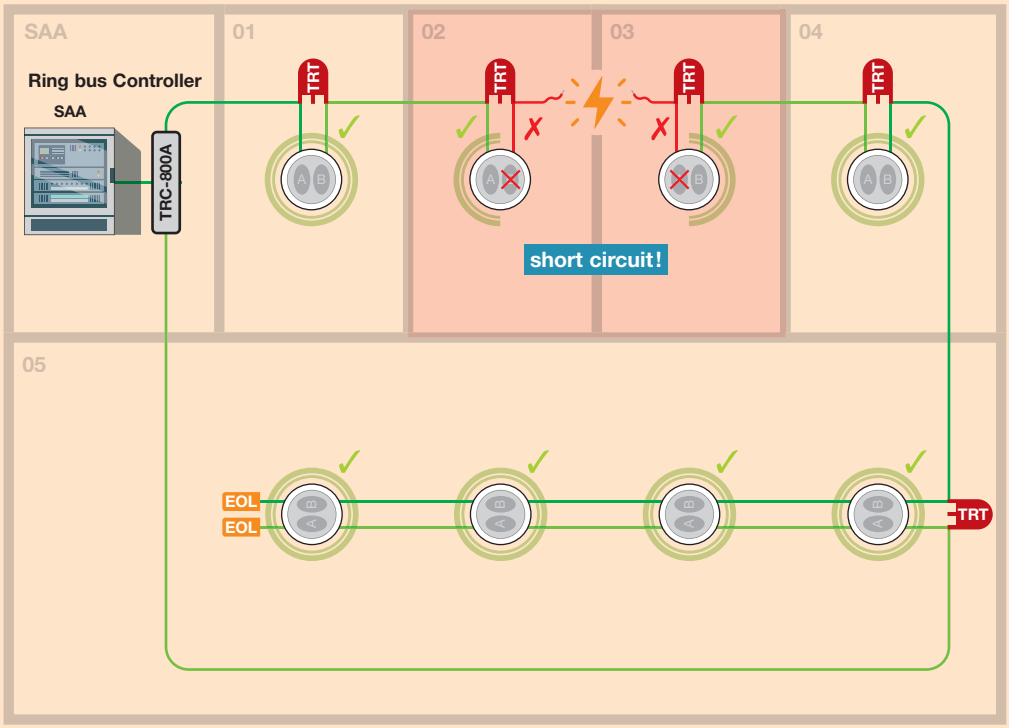


ADVANTAGES OF THE SYSTEM

- **Flexible planning options while maintaining functionality in difficult building situations** (old building, modular building)
- **Significant cost reduction by reducing E30 functional maintenance cables**
- **Individual monitoring of loudspeakers possible if required**
- **Fail-safe shutdown of third-party systems via existing ring line**
- **Compatible with our voice alarm systems VARES-1500, VARES-2000 and VARES-3000**

example of application

The figure shows the functional integrity of the ring bus and the audio playback despite a short circuit caused by a fire.



THE LOOP-SYSTEM:

- **Ring bus controller** (TRC-800 A)
- **Ring bus isolator** (TRT-200 A)

optional:

- **Ring bus module** (TRT-300 A) **with relay contact**
- **Ring bus module** (TRT-400 A) **with LS controller**

EN 54-17 certified

Certification No.
0560-CPR-142190002

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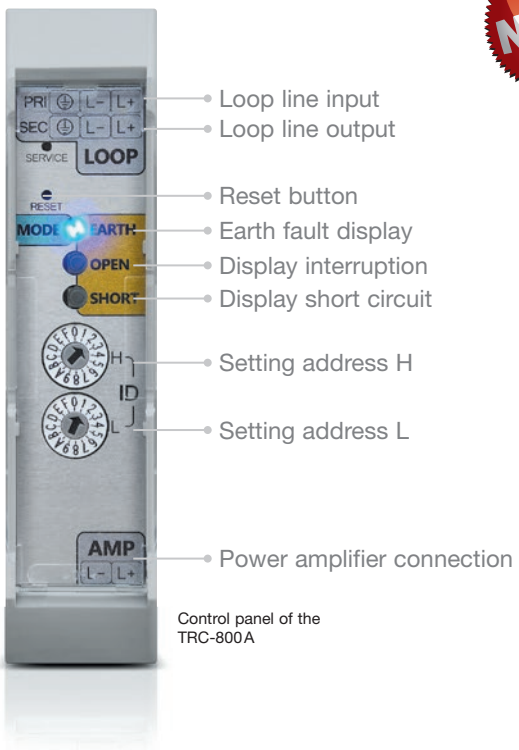
TRC-800A



Control panel of the TRC-800A

Description

The ring bus controller TRC-800A is the central unit in the VARES-LOOP system. The controller is located between the power amplifiers and the speaker line.

It supplies the ring bus modules (e.g. TRT-200A) with voltage, performs the monitoring and data exchange between the ring bus modules and the electroacoustic warning system (EWS or VAS).

Technical data	TRC-800A
Power supply	18 - 36V DC, nominal voltage 24V DC
Power consumption (@ 200 TRT-XXX full load)	Idle current 100 mA continuously max. Power consumption 2.4 W.
AC voltage	max. cont. 100Vrms
AC current	max. cont. 5A
AC frequency range	40Hz - 20kHz (-3dB)
DC voltage	30V
DC current	max. cont. 130mA
LOOP total load	max. 500 W
LOOP wiring	2-pole, max. 2,5 mm² / max. Loop length: 1.000 m
Loop relay contact	max. 250V AC / 8A (dual-state type)
Bus address range	00 - FF (0-255) / max. 32 on a single rail
Detection - LOOP	short circuit, open circuit, earth fault
Max. number of ring bus modules	200 pieces
Connections	1x 5-pin DIN rail bus connector; 2x 3-pin screw connection; 1x 2-pin screw connection
Housing / Pretection class	ABS, DIN DIN rail mounting; IP 30
Dimensions (WxHxD)	17,5 x 114,5 x 99 mm, 1 HP
Weight	210 g
Certification	EN54-17:2005, NEN2575-2

The ring bus modules can be switched to different modes using the ring bus controller operating software:

Service mode: The service mode is used to set up and commission the VARES-LOOP system.

Tracking Mode: While tracking the software determines which ring bus isolator has detected an error.

Please consider the following features:

- The TRC-800A controller monitors whether a power amplifier is connected.
- Monitoring of the connected lines for earth fault, short circuit and open circuit.
- A loudspeaker group may cover a maximum area of 1,600m² and may not exceed a fire zone.
- Space-saving installation on DIN rails, only 1 module width.
- If an error occurs, the fault signaling contact is activated and the following operating states are displayed:
  - Ring bus short circuit
  - Ring bus earth fault
  - Ring bus interruption
  - Amplifier input open
  - amplifier input earth fault

Model designation

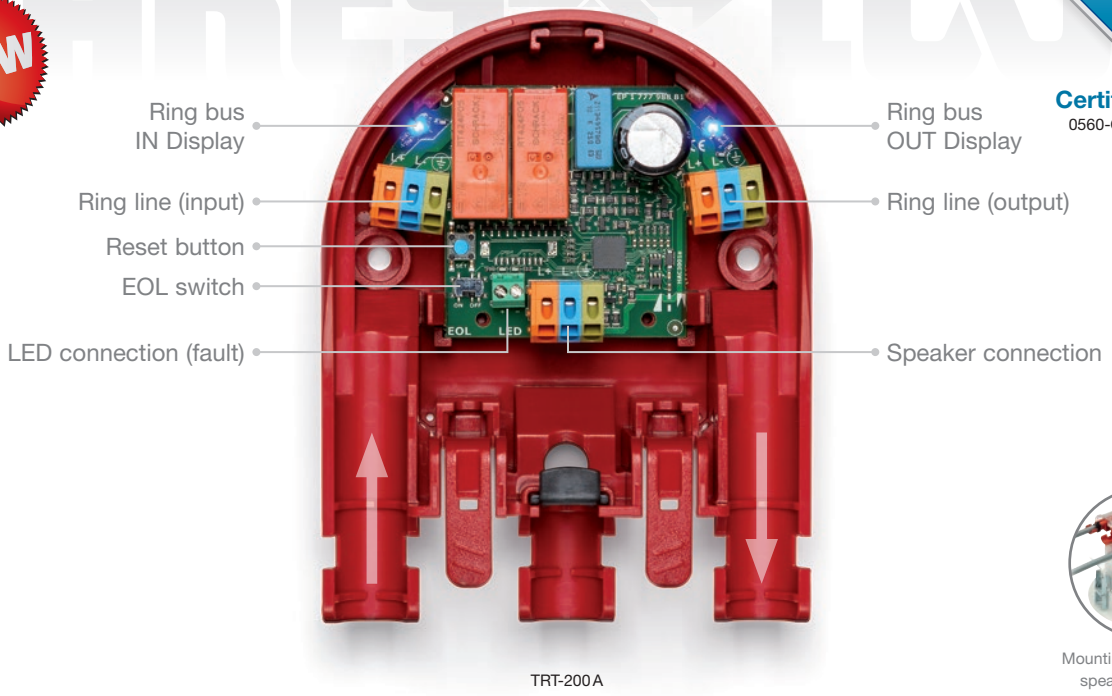
Ringbus Controller, for 1 HP DIN rail mounting (IP-30) **TRC-800A**

MADE IN EUROPE

NEW

EN 54-17 certified

Certification No.
0560-CPR-142190002



TRT-200 A

Mounting directly on the speaker is possible

Description

The ring bus isolator TRT-200 A is an EN 54-17 certified module for monitoring loudspeaker lines in electroacoustic emergency warning and voice alarm systems.

The ring bus isolators are linked in the loudspeaker ring line and transmit audio signals from the voice alarm system to the loudspeakers via the ring bus controller.

Technical data	TRT-200 A
Power supply (via TRC-800A)	19 - 30 V DC, nominal voltage 30 V DC
Power consumption	Idle current 100 µA continuous max. Power consumption 20 mW
Control	20 kHz / 7,5Vrms
Control times	0,3 sec. (fade in); 1,0 sec. (fade out)
Wiring	2-wire, max. 2,5 mm²; Loop max. length 1.000 m Cable outer diameter max. 13 mm
T branch (cable end)	max. 50W / EoL = 47 kOhm; 0,25 W or higher
Speaker type	only with DC blocking capacitor (TRK-001 A)
Detection - LOOP	short circuit, open circuit, earth fault
Surface mounting	Mounting on the speaker
Connections	3-pin 5-mm WAGO plug-in terminal; Ring line input (L +, L-, GND) 0,8-2,5 mm² Ring line output (L +, L-, GND) 0,8-2,5 mm² Speaker (L +, L-, GND) 0,8-2,5 mm² LED Connection (L +, L-) 0,8-2,5 mm²
Housing / Pretection class	ABS, with transparent cover; IP 21C
Dimensions (WxHxD)	110 x 130 x 55 mm
Weight	150 g
Certification	EN54-17:2005 / 0560-CPR-142190002

The ring bus isolator monitors the connection cables of the ring bus input, the ring bus output and the loudspeaker connection for short-circuit, open circuit and earth fault.

If an error occurs, this information is immediately sent to the TRC-800 A ring bus controller. At the same time, the ring bus isolator initiates the required measure, such as switching off the ring bus on the side where there is a short circuit. The ring bus display LED shows which side of the ring bus isolator is the source of the error.

All loudspeakers must always be connected via a DC blokking capacitor (TRK-001 A). I

Please consider the following features:

- Detection and isolation of short-circuits in the adjacent loudspeaker lines.
- Detection and isolation of interruptions, short circuits and overloads at branch points.

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Model designation

Ringbus Isolator ..... **TRT-200 A**
IP 21C, incl. Cover

VARES LOOP RING BUS SYSTEM

EN 54-17 CERTIFIED SYSTEM

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Certification No.
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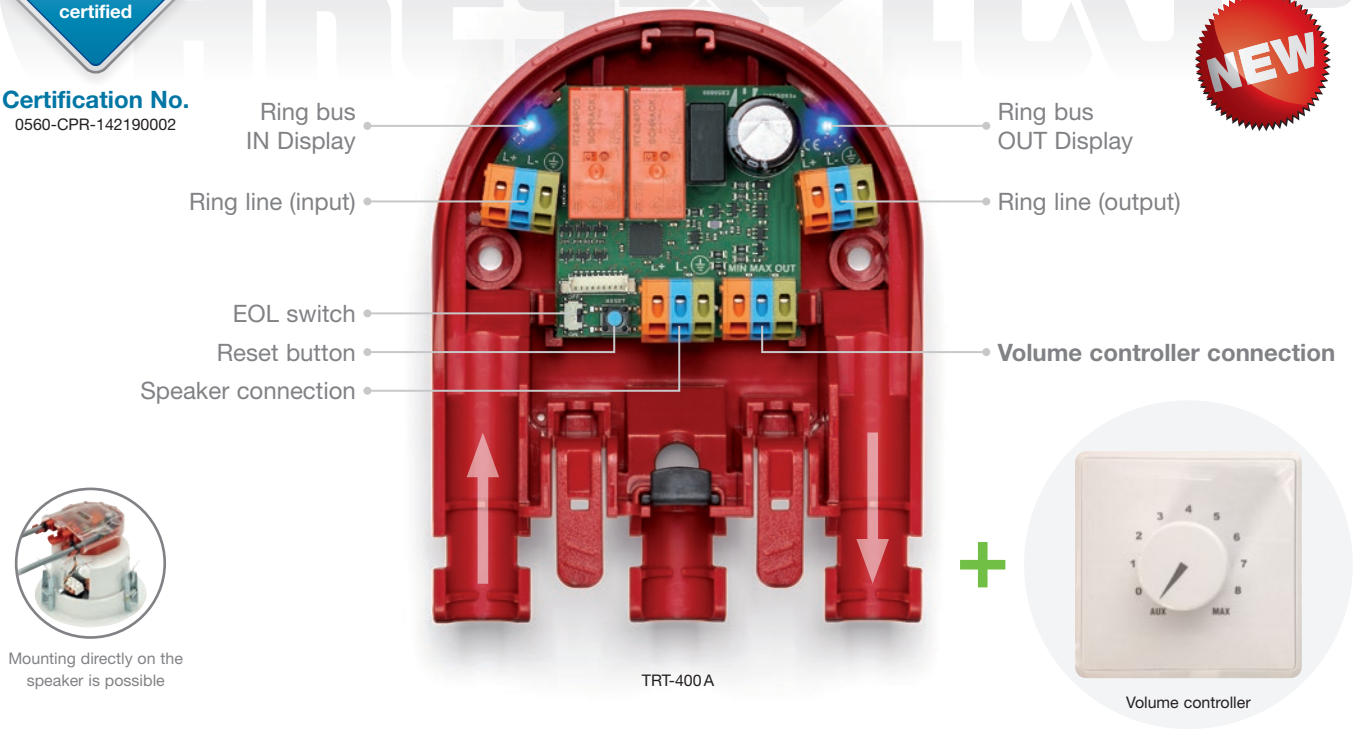
NEW



Mounting directly on the speaker is possible

TRT-400 A

Volume controller

Description

The connection device for loudspeakers with volume control TRT-400 A is an EN 54-17 certified module in electro-acoustic emergency warning and voice alarm systems.

The connection device has no isolating function, which is why it is always used between two isolators (TRC-800 A or TRT-200 A).

Technical data	TRT-400 A
Power supply (via TRC-800A)	19 - 30 V DC, nominal voltage 30 V DC
Power consumption	Idle current 100 µA continuous max. Power consumption 20 mW
Control	20 kHz / 7,5Vrms
Control times	0,3 sec. (fade in); 1,0 sec. (fade out)
Wiring	2-wire, max. 2,5 mm²; Loop max. length 1.000 m Cable outer diameter max. 13 mm
T branch (cable end)	max. 50W / EoL = 47 kOhm; 0,25 W or higher
Speaker type	–
Detection - LOOP	short circuit, open circuit, earth fault
Surface mounting	Mounting on the speaker
Connections	3-pin 5-mm WAGO plug-in terminal; Ring line input (L +, L-, GND) 0,8-2,5 mm² Ring line output (L +, L-, GND) 0,8-2,5 mm² Speaker (L +, L-, GND) 0,8-2,5 mm² 2x changeover contact (MIN, MAX, OUT) 0,8-2,5 mm²
Housing / Pretection class	ABS, with transparent cover; IP 21C
Dimensions (WxHxD)	110 x 130 x 55 mm
Weight	160 g
Certification	EN54-17:2005 / 0560-CPR-142190002

The TRT-400 A ring bus module with 60 W volume control can be used in two different ways:

1. **Individual adjustment:** to individually adjust the volume of a subordinate background sound system.
2. **Own 100 V program:** to cue-in your own background sound through the connected speaker line

In both cases, the volume control is bridged in the case of an alarm or priority announcements. The supply and control runs trough the higher-level loudspeaker ring bus line.

Please consider the following features:

- Detection and isolation of short circuits in the adjacent loudspeaker lines.
- Detection and isolation of interruptions, short circuits and overloads at branch points.
- Individual volume adjustment in rooms.
- Recording of your own 100 V program via the connected loudspeaker line.

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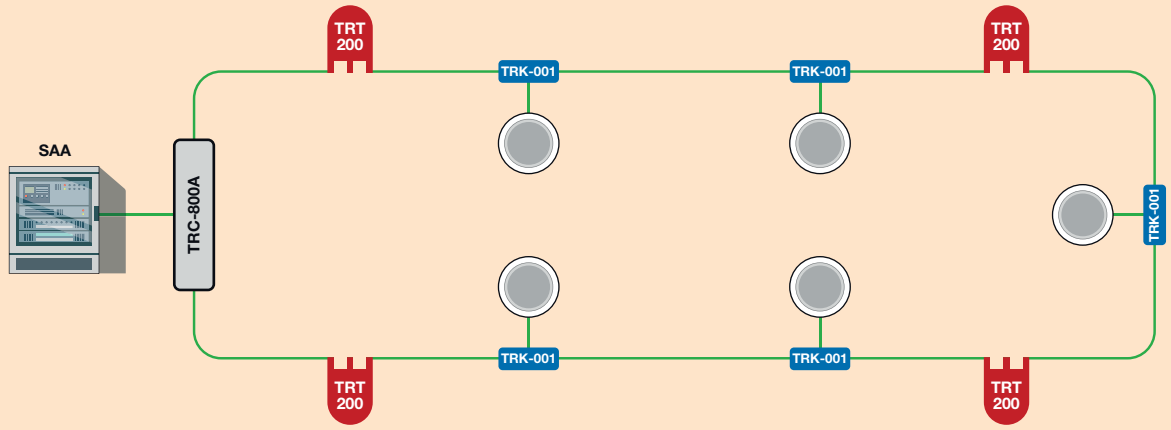
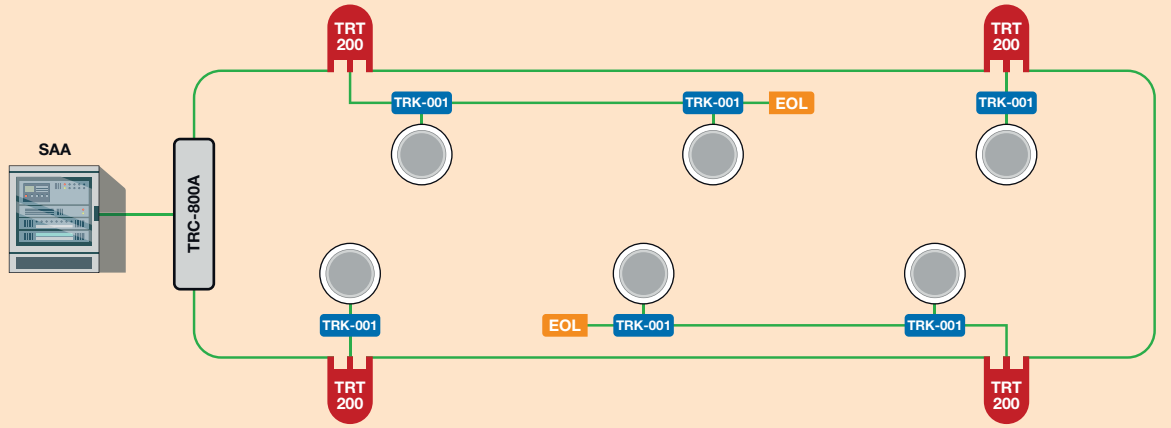
Model designation

Ringbus Module, with volume controller 60W. . . . . **TRT-400 A**
IP 21C, incl. Cover

Use of the DC blocking capacitor (TRK-001 A)



Use of the end-of-line module (TRA-001 A)



VARES-LOOP accessories

Ring bus termination (EOL)

The TRA-001 A ring bus termination (end-of-line module) is used to terminate a 100 V line.

If more than one loudspeaker is connected to the T-branch of the Ring bus isolator, the end-of-line module must be used.

The module is connected to the last loudspeaker of a branch line in the VARES-LOOP system.

Ringbus-Abschluss.....**TRA-001 A**
(end-of-line module)

DC Blocking Capacitor

Loudspeakers in the VARES-LOOP system must always be connected via a DC blocking capacitor.

DC Blocking Capacitor TRK-001 A
Please note: every speaker in the system requires a DC blocking capacitor.

Programming adapter RS485

The programming adapter (RS485 / USB) enables the connection of a PC with the VARES-LOOP ring bus system.

With the help of the VARES-LOOP system software, the ring bus isolators in the ring bus can be checked, operated and analyzed. Faults in the line network can be localized and isolated in a matter of seconds.

Programmier Adapter..**TRP-485 A**
(RS485 to USB)

EN 54-17 certified

Certification No.
0560-CPR-142190002

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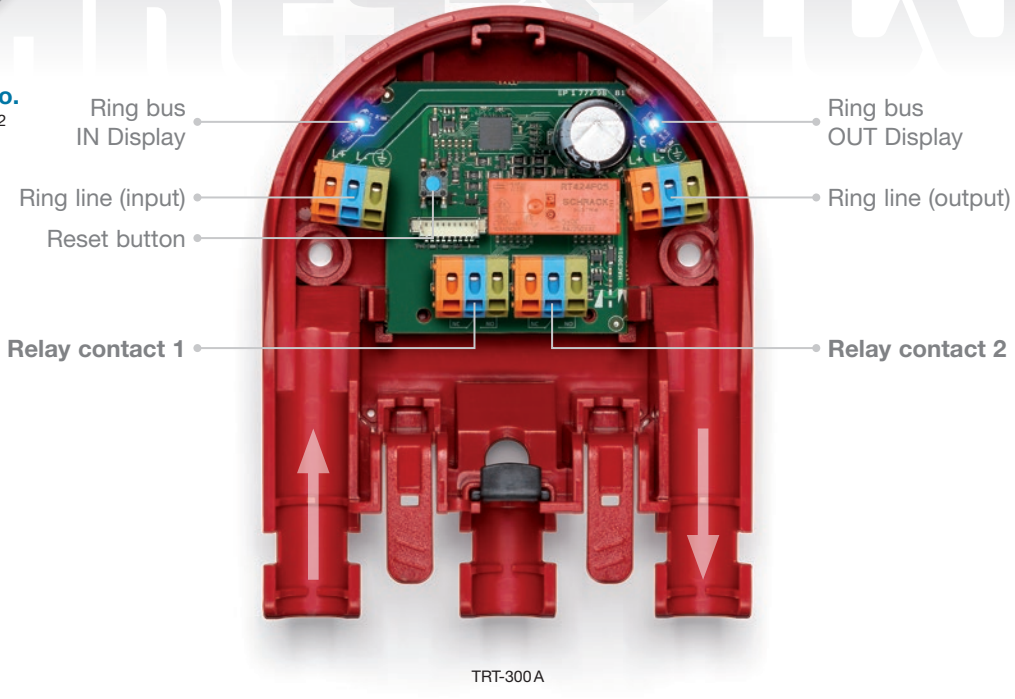

TRT-300 A

Description

The ring bus module TRT-300 A is an emergency switching device and not a ring bus isolator. It is looped into the ring bus in order to automatically switch off the subordinate sound system in the event of an alarm or an emergency announcement.

The ring bus module has two potential-free changeover contacts (230 V AC / 8 A). For example, in the event of an alarm, the first relay contact can switch on flashing lights and the second relay contact can switch off the loudspeakers.

Technical data	TRT-300 A
Power supply (via TRC-800A)	19 - 30 V DC, nominal voltage 30 VDC
Power consumption	Idle current 100 µA continuous max. Power consumption 20 mW
Control	20kHz / 7,5rms
Control times	fade in: 0,3 sec. / fade out: 1,0 sec.
Wiring	2-wire, max. 2,5 mm²; Loop max. Länge 1.000 m Cable outer diameter max. 13 mm
Relaiskontakt (2x)	max. 250 V AC / 8 A (Dual-State-Typ)
max. AC-Schaltlast	1800 W (230 V AC / 8 A)
Detection - LOOP	short circuit, open circuit, earth fault
Surface mounting	Mounting on the speaker
Connections	3-pin 5-mm WAGO plug-in terminal; Ring line input (L +, L-, GND) 0,8-2,5 mm² Ring line output (L +, L-, GND) 0,8-2,5 mm² 2x changeover contact (NO, COM, NC) 0,8-2,5 mm² –
Housing / Pretection class	ABS, with transparent cover; IP 21C
Dimensions (WxHxD)	110 x 130 x 55 mm
Weight	150 g
Certification	EN54-17:2005 / 0560-CPR-142190002

This enables priority circuits to be activated via the 100 V loudspeaker line. This is necessary if priority alarms or announcements have to be imported into the affected area.

Power is supplied via the ring line. A capacitor that is charged by the ring bus controller holds sufficient energy for at least two emergency cycles.

Please consider the following features:

- Two potential-free heavy current relay contacts (230 V AC / 8 A) for automatic interruption of the subordinate own program, e.g. for emergency announcements.
- Power is supplied via the ring line. It stores energy for at least two emergency cycles.
- In addition to the priority switch, additional attention displays (e.g. strobe lights) can also be switched.

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Model designation

Ringbus Module, with 2 relay contacts . . . . . **TRT-300 A**
IP 21C, incl. Cover

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