

## IP PA System

# BASIC DEVICE WITH AMPLIFIERS AND INTEGRATED ANNOUNCEMENT DEVICE



front view CuraG3 (preliminary)

The IP PA System with 4 x 125 W amplifiers and integrated announcement device is a compact and scalable PA system of the 3rd generation Cura® product family. It combines all functions of an announcement device and a public address system in one compact device. A 3rd generation PA system can consist of up to 20 devices that work together and are controlled and monitored by the base device.

## FUNCTIONAL FEATURES

- » full digital signal processing
- » redundant cabling between the devices with Ethernet patch cables
- » 4 x 125 W output power per device at 100 V
- » galvanically isolated speaker lines in pairs with insulation monitoring and separately monitored A/B line outputs
- » up to 80 amplifiers and 160 monitored line outlets possible
- » additional audio outputs
- » digital in- and outputs
- » Audio functions: delay, parametric equalizer, high/low control, limiter, automatic level adjustment
- » Announcement monitoring at the signal feeds and the amplifier outputs by signal comparison
- » optimized for use in standard rail environments
- » Impedance monitoring for speaker lines to detect short circuits, disconnection and defective loud speakers
- » automatic disconnection of short-circuited line feeders
- » integrated average switching (various methods available depending on the application)
- » Control of announcements via IP network, AF+contacts or customer-specific interfaces
- » Integration of text-to-speech synthesis (multilingual) and VoIP possible on customer specification
- » Background music possible
- » web-based configuration and diagnosis
- » Power supply with 230 VAC and/or 48 VDC
- » maintenance-free design due to fanless operation
- » optional use as part of a voice alarm system in accordance with EN 54-16 with fire department call station

## TECHNICAL DATA

### GENERAL PROPERTIES

Range of application	IP PA System with integrated announcement device and 4 x 125 W amplifiers as part of a PA system
Power Supply	90 – 250 V AC, 47 – 63 Hz and/or +46 – 53 V DC
Protection class according to DIN EN 61140	Protection class I
Power consumption	max. 600 W Stand by: ca. 25 W
Dimension (L x W x H)	483 x 320 x 44 mm (19 inches, 1 U)
Weight	approx. 7 kg
Installation instructions	Installation in racks with 19 inches standard profile
Cable feed	generally from the rear side with optional cable trap plate
Degree of protection	IP20
Temperature range	Operation: -5 °C to +55 °C
Cooling	passiv, fanless
Front side display elements	<p>LED indicators:</p> <ul style="list-style-type: none"> <li>- power supply AC/DC</li> <li>- operation</li> <li>- voice alarm condition</li> </ul> <ul style="list-style-type: none"> <li>- failures (intern and extern malfunctions, power supply mal function, amplifier/loud speaker malfunctions)</li> <li>- Audio-bus link 1 and 2</li> <li>- Ethernet-status link 1 and 2</li> </ul> <p>Piezo buzzer</p>

## TECHNICAL DATA

### GENERAL PROPERTIES

Front side operating elements	Test button Display elements Alarm cancel/reset button Acknowledge fault button Delayed alarm on/off button or customer-specific function
Extension slots	4 module slots: - of these used: 2 x measurement and line cards - 2 slots free for: - 4 x audio-in card - 4 x audio-out card - 8 x/8 x GPIO card with optional monitored input contacts - Card for expanding the parametric equalizer
Compliance	CE, RoHS, electrical safety and EMC EN 50121-4 (railway application)), for more see CE Declaration of Conformity Option: EN 54-16 (voice alarm system)

## TECHNICAL DATA

### INTERFACES

AF inputs	no onboard retrofittable with 4 x Audio-In card or parametric equalizer card
AF output	2 x audio output (onboard): - electrically symmetrical - output level up to +8 dBu further retrofittable with 4 x audio-out card or parametric equalizer card
Switch inputs	2 x digital inputs (onboard): - potential-free - 0 – 60 V DC input voltage range, threshold value at approx. 15 V DC - Load less than 20 mA at 60 V further retrofittable via 8 x/8 x GPIO card
Switch output	2 x digital outputs (onboard): - potential-free - make / brake contacts configurable - max. 60 V / 1 A DC further retrofittable via 8 x/8 x GPIO card
Fault message contact	configurable to onboard switching output

## TECHNICAL DATA

### ANNOUNCEMENT DEVICE

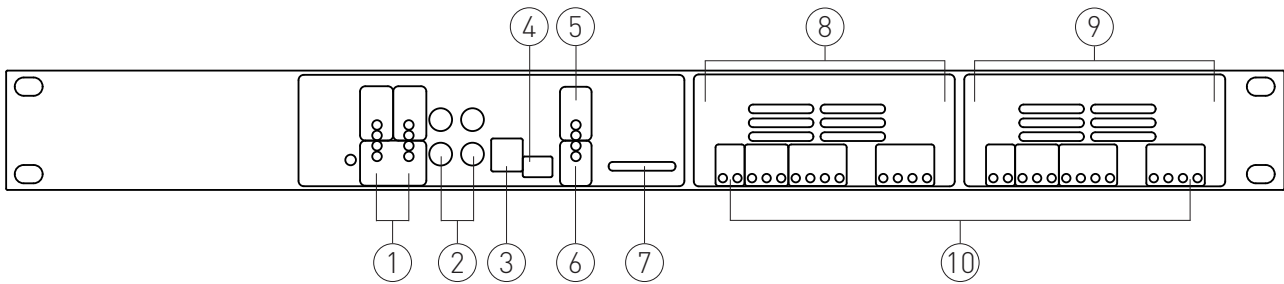
CPU equipment	NXP i.MX8MP, 4 x 1.6 GHz, ARM Cortex-A53
Memory	2 GiB RAM 8 GB eMMC onboard on customer order: 4 GiB RAM, 32 GB eMMC expandable via SDHC/SDXC card, front side
LAN	2 x RJ45 (10/100/1000 MBit/s), rear side on customer order: 1 x RJ45 (10/100/1000 MBit/s)
Service interface	miniUSB 2.0 A/B, front side
Network protocols	Network: static/DHCP configuration, DNS, NTP Announcement assignments: JSON-RPC and customized processes Live announcements: VoIP/SIP and customized processes Monitoring: SNMPv2 and customized processes on customer order: Other (customer-specific) network protocols
Number of simultaneous and different announcements	max. 12

### AMPLIFIER

Amount, class	2 double amplifiers, class D
Output power	2 x 125 W per double amplifier at 100 V
Distortion factor	< = 1 % at nominal capacity
Monitored output lines	8 (4 x amplifiers with A/B line outputs)
Galvanic isolation	one galvanic group per double amplifier, the double amplifiers are galvanically isolated from each other and from all other circuits
Front side display elements	Voltage supply, defect on speaker line, short to ground, amplifier overload, amplifier error, input level, channel assignment

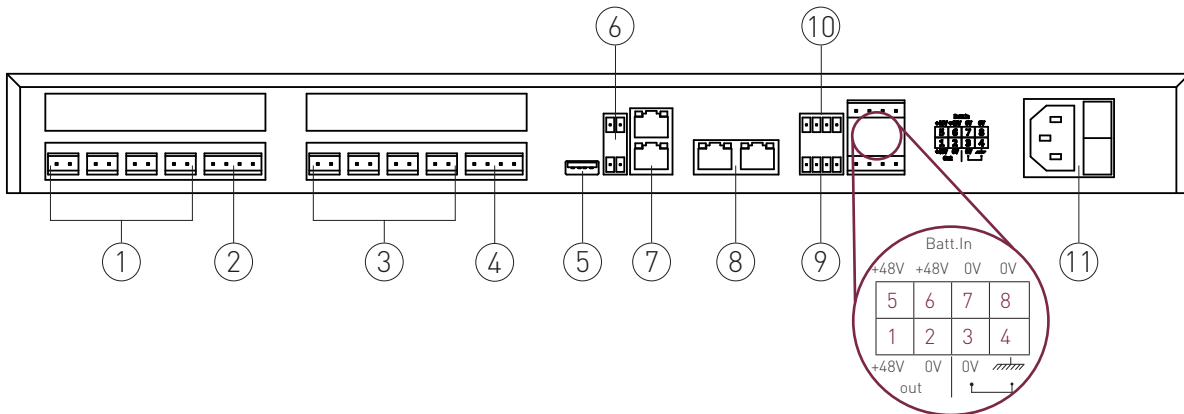
## TECHNICAL DATA

Figure 1 Connection designation of the front view



- |                              |                   |                               |
|------------------------------|-------------------|-------------------------------|
| 1 Status display             | 5 AudioBus status | 8 Amplifier 1/3               |
| 2 Operatingfield             | 6 Ethernet status | 9 Amplifier 2/4               |
| 3 Address selector           | 7 SD card         | 10 Amplifier status indicator |
| 4 miniUSB maintenance access |                   |                               |

Figure 2 Connection designation of the rear view



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|-----------------------|------------------------|------------------------------|---|
| 1 100 V Speaker lines | 5 Ethernet connections | 9 230 V input + power switch | 1/2 +48 V DC auxiliary voltage output (max. 200 mA) |
| 2 Accident input      | 6 AudioBus connections |                              | 3/4 Potential equalisation, earth connection        |
| 3 USB connection      | 7 Switching inputs     |                              | 5-8 +48 V DC input                                  |
| 4 AF outputs          | 8 Switching outputs    |                              |   |

### ARTICLE NO.

3611.000-01122 (CuraG3 – ASG+4Ampl.125W+Ext)	CuraG3 PA system with 4 x 125 W amplifier, expandable (Type Cura41B)
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