IP PA System

# BASIC DEVICE WITH AMPLIFIERS AND INTEGRATED ANNOUNCEMENT DEVICE



front view CuraG3

**The IP PA System with 2 x 250 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

» 2 x 250 W output power per device at 100 V

» galvanically isolated speaker lines in pairs with insulati- on monitoring and separately monitored A/B line outputs

» up to 40 amplifiers and 80 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 defec-tive loud speakers

» automatic disconnection of short-circuited line feeders

» integrated average switching (various methods availa- ble depending on the application)

» Control of announcements via IP network, AF+con- tacts 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 accor- dance with EN 54-16 with fire department call station

# TECHNICAL DATA

## GENERAL PROPERTIES

| | |
|---|---|
| Range of application | IP PA System with integrated announcement device and 2 x 250 W amplifiers as part of a PA system |
| Power Supply | 90 – 250 V AC, 47 – 63 Hz<br>and/or<br>+46 – 53 V DC |
| Protection class according to DIN EN 61140 | Protection class I |
| Power consumption | max. 600 W<br>Stand by: ca. 25 W |
| Dimension (L x W x H) | 483 x 320 x 44 mm<br>(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 | LED indicators:<br>  - power supply AC/DC<br>  - operation<br>  - voice alarm condition<br>  - failures (intern and extern malfunctions, power supply malfunction, amplifier/loud speaker malfunctions)<br>  - Audio-bus link 1 and 2<br>  - Ethernet-status link 1 and 2<br>Piezo buzzer |

# TECHNICAL DATA

## GENERAL PROPERTIES

| | |
|---|---|
| Front side operating elements | Test button Display elements<br>Alarm cancel/reset button<br>Acknowledge fault button<br>Delayed alarm on/off button or customer-specific function |
| Extension slots | 4 module slots:<br>   - of these used: 1 x measurement and line cards<br>   - 3 slots free for:<br>      - 4 x audio-in card<br>      - 4 x audio-out card<br>      - 8 x/8 x GPIO card with optional monitored input contacts<br>      - Card for expanding the parametric equalizer |
| Compliance | CE, RoHS, electrical safety and EMC<br>EN 50121-4 (railway application)), for more see CE Declaration of Conformity<br>Option: EN 54-16 (voice alarm system) |

# TECHNICAL DATA

## INTERFACES

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

# TECHNICAL DATA
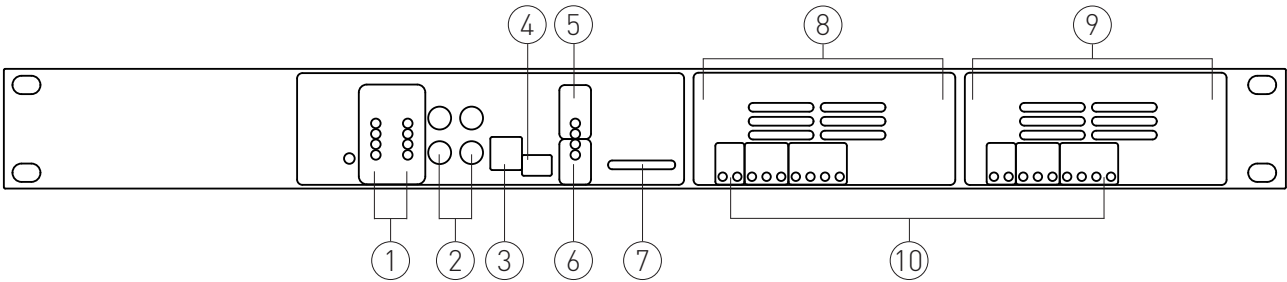
## ANNOUNCEMENT DEVICE

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

## AMPLIFIER

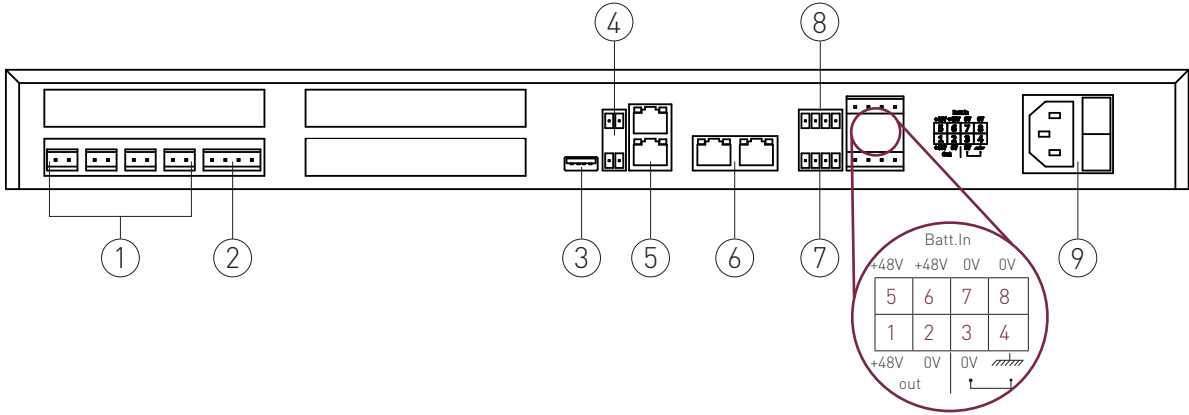| | |
|---|---|
| Amount, class | 2 amplifiers, class D |
| Output power | 250 W per amplifier at 100 V |
| Distortion factor | < = 1% at nominal capacity |
| Monitored output lines | 4 (2 x amplifier with A/B line outputs) |
| Galvanic isolation | one galvanic group per amplifier, the amplifiers are 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 |
|---|---|---|---|---|---|
| 2 | Operatingfield | 6 | Ethernet status | 9 | Amplifier 2 |
| 3 | Address selector | 7 | SD card | 10 | Amplifier status indicator |
| 4 | miniUSB maintenance access | | | | |

Figure 2          Connection designation of the rear view



| 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.

| 3611.000-01124 (CuraG3 – ASG+2Ampl.250W+Ext) | CuraG3 PA system with 2 x 250 W amplifier, expandable (Type Cura42B) |
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