

Preferred Module NPA

IP-BASED PUBLIC ADDRESS MODULE

READY FOR USE OUT OF THE BOX AND FULLY INTEGRATED

Preferred Modules is a special and prioritized **INDUSTRONIC** product line. These solutions secure the well-known quality of our PA, PAGA, Intercom and Siren Systems. Especially designed for use in industrial environments, our years of experience have made these modules the number one choice of our Energy, Chemical and Pharmaceutical, Metal and Transportation customers.

One of our **Preferred Module** is the IP-based Public Address Unit of the NPA series.



- Decentralized PA unit controlled by the **INDUSTRONIC** system
- Up to 600 W amplification in up to 8 integrated, selectively addressable speaker circuits
- Surge protection inclusive
- Single circuit breaker for each rectifier
- Intelligent backup control
- Redundant network interface
- Class-D amplifier technology
- All cables (network, power, Ethernet) already included
- All mounting accessories included
- Easy installation with our guideline

BENEFITS

- Well-selected products for an outstanding system performance
- Secured availability and faster delivery
- Faster project execution
- Optimized for Local Assembly
- Easy assembly
- Cost reduction
- Comprehensive and intelligible documentation

OUR PREFERRED IP PUBLIC ADDRESS MODULES

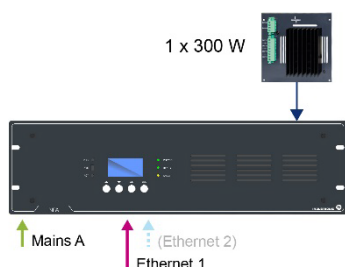
The multi-channel, IP-based PA Modules of the NPA series are used to control up to 8 selectively addressable speaker circuits.

Via Ethernet/IP network the decentralized unit can be connected to the INDUSTRONIC system.

Via the integrated speaker monitoring system there is the option to continuously monitor speaker circuits for short circuit, ground leakage, line interruption, and impedance changes.

It is possible to use the intelligent backup control by operating the entire NPA unit redundantly with a backup amplifier in N+1 configuration.

With the INTRON-X Service Tool you can make various adjustments. Simplified commissioning and maintenance functions are also available right at your fingertips.



Type

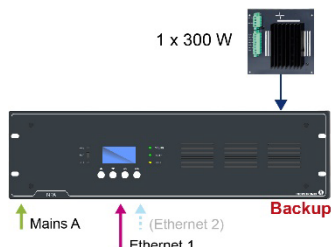
PMOD IP-PA 300W 01

Description

NPA unit with 300 W output power (1 x 300 W), up to 4 speaker circuits (monitoring as option), 1 amplifier channel, circuit breaker, screw type terminals with surge protection, 5 m (5.47 yd) power cord, 3 m (3.28 yd) Ethernet cable, slide-in support, mounting accessories

Type number

325-310-001



Type

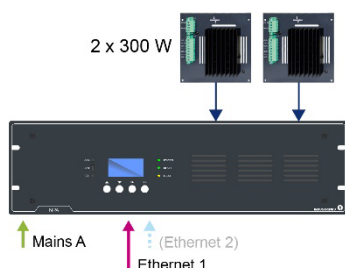
PMOD IP-PA 300W 01/BA

Description

NPA unit with 300 W output power (1 x 300 W) as backup amplifier for PMOD IP-PA 300W 01, circuit breaker, 5 m (5.47 yd) power cord, 3 m (3.28 yd) Ethernet cable, slide-in support, mounting accessories

Type number

325-310-002



Type

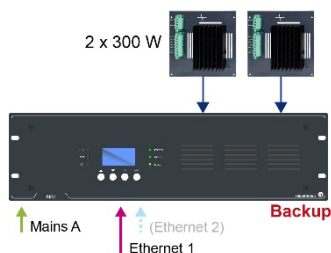
PMOD IP-PA 600W 01

Description

NPA unit with 600 W output power (2 x 300 W), up to 8 speaker circuits (monitoring as option), 2 amplifier channels, circuit breaker, screw type terminals with surge protection, 5 m (5.47 yd) power cord, 3 m (3.28 yd) Ethernet cable, slide-in support, mounting accessories

Type number

325-310-003



Type

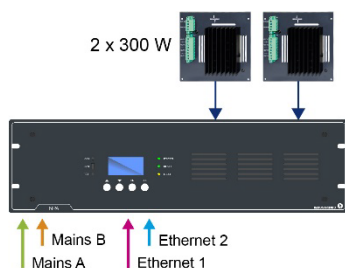
PMOD IP-PA 600W 01/BA

Description

NPA unit with 600 W output power (2 x 300 W) as backup amplifier for PMOD IP-PA 600W 01, circuit breaker, 5 m (5.47 yd) power cord, 3 m (3.28 yd) Ethernet cable, slide-in support, mounting accessories

Type number

325-310-004



Type

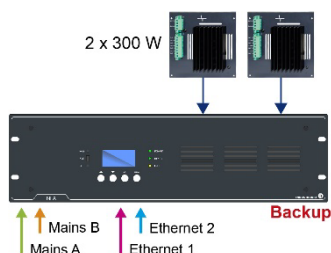
PMOD IP-PA 600W 01/2

Description

NPA unit with 600 W output power (2 x 300 W), redundant network and power supply connection, up to 8 speaker circuits (monitoring as option), 2 amplifier channels, circuit breaker, screw type terminals with surge protection, two 5 m (5.47 yd) power cords, two 3 m (3.28 yd) Ethernet cables, slide-in support, mounting accessories

Type number

325-310-005



Type

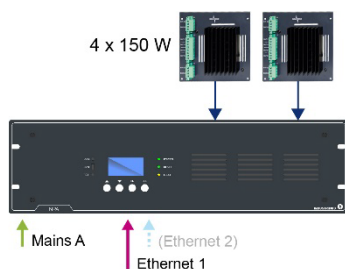
PMOD IP-PA 600W 01/2/BA

Description

NPA unit with 600 W output power (2 x 300 W) as backup amplifier for PMOD IP-PA 600W 01/2, circuit breaker, screw type terminals with surge protection, two 5 m (5.47 yd) power cords, two 3 m (3.28 yd) Ethernet cables, slide-in support, mounting accessories

Type number

325-310-006



Type

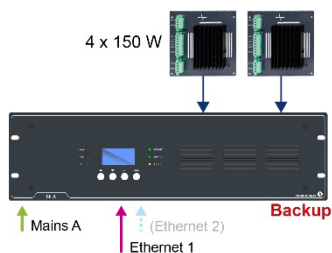
PMOD IP-PA 600W 21

Description

NPA unit with 600 W output power (4 x 150 W), up to 8 speaker circuits (monitoring as option), 4 amplifier channels, circuit breaker, screw type terminals with surge protection, 5 m (5.47 yd) power cord, 3 m (3.28 yd) Ethernet cable, slide-in support, mounting accessories

Type number

325-310-007



Type

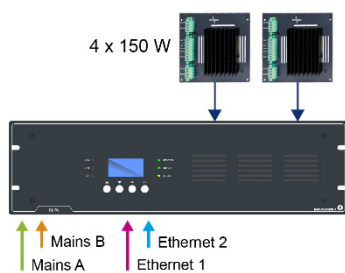
PMOD IP-PA 600W 21/BA

Description

NPA unit with 600 W output power (4 x 150 W) as backup amplifier for PMOD IP-PA 600W 21, circuit breaker, screw type terminals with surge protection, 5 m (5.47 yd) power cord, 3 m (3.28 yd) Ethernet cable, slide-in support, mounting accessories

Type number

325-310-008



Type

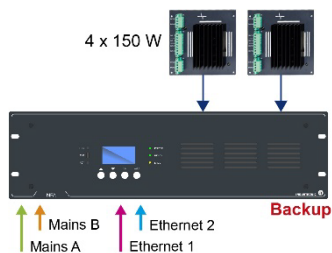
PMOD IP-PA 600W 21/2

Description

NPA unit with 600 W output power (4 x 150 W), redundant network and power supply connection, up to 8 speaker circuits (monitoring as option), 4 amplifier channels, circuit breaker, screw type terminals with surge protection, two 5 m (5.47 yd) power cords, two 3 m (3.28 yd) Ethernet cables, slide-in support, mounting accessories

Type number

325-310-009



Type

PMOD IP-PA 600W 21/2/BA

Description

NPA unit with 600 W output power (4 x 150 W) as backup amplifier for PMOD IP-PA 600W 21/2, circuit breaker, screw type terminals with surge protection, two 5 m (5.47 yd) power cords, two 3 m (3.28 yd) Ethernet cables, slide-in support, mounting accessories

Type number

325-310-010

APPLICATION EXAMPLE

The permanent availability of the devices used is crucial especially when initiating alarms or voice announcements in emergency systems.

For redundant power supply, two AC inputs can be used. Each power supply unit has its own mains connection so that it can also be powered by different supply mains.

There are two network interfaces available which allow for a redundant network access. If one network interface fails, data is transmitted via the second one.

Completely redundant NPA units which are configured in N+1 redundancy always provide one backup device which takes on the function of the device which failed. N means 1 to 4 for NPA units with 2 x 300 W and 1 to 2 for NPA units with 4 x 150 W.

As an option you can use the ring topology for speaker circuits.

Every project has individual requirements. Together we will find the redundancy solution that best fits your needs.

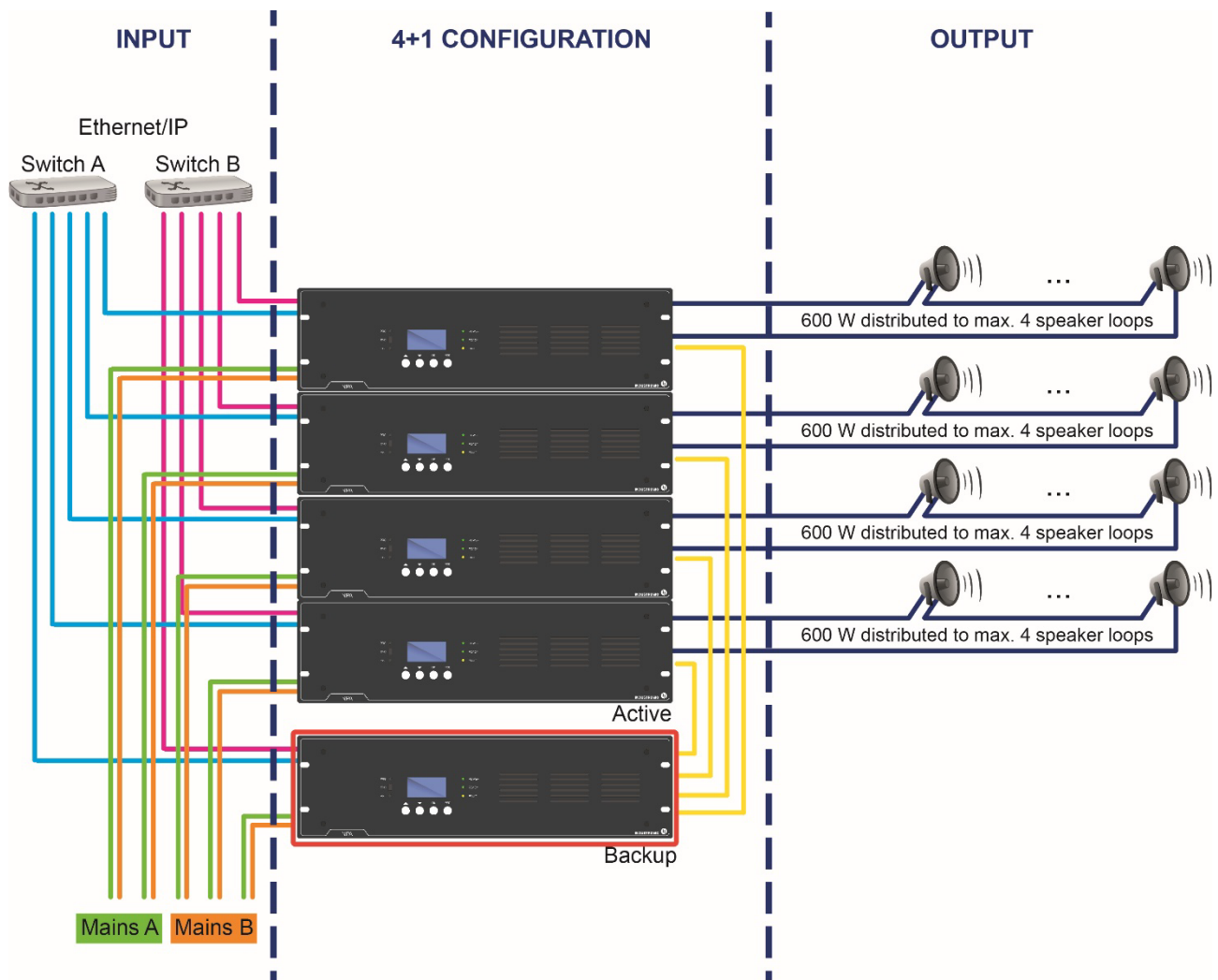


Fig. 1: Maximum configuration with 4 x PMOD IP-PA 600W 01/2 and 1 x PMOD IP-PA 600W 01/2/BA

INCLUDED ACCESSORIES



Type	1 NCK 01
Description	Connection kit for NPA types with 300 W, including 5 m (5.47 yd) power cord, 3 m (3.28 yd) Ethernet cable, slide-in support and mounting accessories
Type number	302-149-010



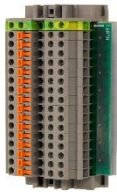
Type	2 NCK 01
Description	Connection kit for NPA types with 600 W, including two 5 m (5.47 yd) power cords, two 3 m (3.28 yd) Ethernet cable, slide-in support and mounting accessories
Type number	302-149-012



Type	1 PSK 01
Description	Power supply connection kit incl. circuit breaker and terminals
Type number	218-073-100



Type	8 SB 01/5
Description	Cable harness with 8 single wires, 100 V, 5 m (5.47 yd), open cable end, halogen-free, flame-retardant
Type number	218-814-100/5



Type	8 OVDT 01
Description	Terminal block for 8 twin wires with surge protection and disconnecting function, clamping range 0.14 mm ² to 4 mm ²
Type number	218-810-100



Type	Mounting and installation instructions, parametrization manual
Description	UMN-325-310-001, PMN-325-310-001

CONNECTIONS AND INTERFACES

1 x analog PTT audio and control input
1 x fault message output
1 x Ethernet port LAN1
1 x Ethernet port LAN2 for redundant connection
1 x fault message input
4 x open collector outputs
1 x USB service interface
1 x control voltage output 48 V DC / 0.5 A
2 x mains voltage input
1 x DC voltage input

NETWORK REQUIREMENTS

IPv4 network
Support of UDP-, SCTP-, RTP- und RTCP protocols
Quality of Service (QoS) Ideal latency value: < 20 ms (max. 50 ms) Jitter max. 10 ms
10Base-T/100Base-TX Ethernet (IEEE 802.3), 100 MBit/s recommended
200 kBit/s basic bandwidth and 100 kBit/s per active amplifier channel

TECHNICAL DATA

See also the general data sheet of the NPA series for further information (Doc. no. DAT-302-144-100).

MECHANICAL DATA

Design	19" rack mounting, 3 RU
Width x height x depth	482 mm x 132 mm x approx. 330 mm (19.02" x 5.20" x approx. 12.99")
Display	128 x 64 screen resolution
Weight	Max. 13.5 kg (max. 29.76 lbs) (depending on device type)

ELECTRICAL DATA

AC supply voltage	100 V AC to 276 V AC
AC power consumption	Quiescent 14 VA, max. 850 VA
Power frequency	47 Hz to 63 Hz
Power factor correction (PFC)	0.95
DC supply voltage	42 V DC to 72 V DC
DC current consumption at 48 V DC	Type 300 NPA: quiescent 0.12 A, max. 8.1 A Type 600 NPA: quiescent 0.15 A, max. 16 A
Output power	Type 300 NPA: max. 300 W Type 600 NPA: max. 600 W
Output voltage	100 V _{RMS}
Frequency range	150 Hz to 16 kHz (+/-3 dB)
Efficiency	> 80 %
Signal-to-noise ratio	> 80 dB
Distortion factor	< 0.5 %
Control voltage output	48 V / 0.5 A

ENVIRONMENTAL REQUIREMENTS AND STANDARDS

Ambient temperature during operation	-5 °C to +50 °C (+23 °F to +122 °F)
Relative humidity (non-condensing)	Max. 95 %
EMC	IEC/EN 61000-6-2 IEC/EN 61000-6-4

TYPE OVERVIEW

The table below shows the different modules: the resulting number of power supplies, independent amplifier channels, speaker circuits, mounting material, cables, etc.

Type	PMOD IP-PA 300W 01	PMOD IP-PA 600W 01	PMOD IP-PA 600W 01/2	PMOD IP-PA 600W 21	PMOD IP-PA 600W 21/2
Amplifier slot 1	1 x 300 W	1 x 300 W	1 x 300 W	2 x 150 W	2 x 150 W
Amplifier slot 2	-	1 x 300 W	1 x 300 W	2 x 150 W	2 x 150 W
Total output	300 W	600 W	600 W	600 W	600 W
Amplifier channels	1	2	2	4	4
Speaker circuits	4	8	8	8	8
AC power supply	1	1	2	1	2
DC power supply	1	1	1	1	1
Power supply connection kit 1 PSK 01	1	1	2	1	2
Terminal block with surge protection 8 OVDT 01	1	1	1	1	1
Cable harness 8 SB 01/5	1	2	2	2	2
Connection kit 1 NCK 01	1	1	-	1	-
Connection kit 2 NCK 01	-	-	1	-	1
Type number	325-310-001	325-310-003	325-310-005	325-310-007	325-310-009

For each of these modules, a specific backup version is available: These types are labeled with the suffix "/BA" (e.g. PMOD IP-PA 300W/BA).

Please note:

You require INDUSTRONIC activations to start up the modules!

Required Activations	ACT-IP-Device	ACT-IP-Device connected redundantly*	ACT-NPA Speaker Circuit Monitoring
PMOD IP-PA 300W 01	x	(optional)	(optional)
PMOD IP-PA 300W 01/BA	x	(optional)	-
PMOD IP-PA 600W 01	x	(optional)	(optional)
PMOD IP-PA 600W 01/BA	x	(optional)	-
PMOD IP-PA 600W 01/2	x	(optional)	(optional)
PMOD IP-PA 600W 01/2/BA	x	(optional)	-
PMOD IP-PA 600W 21	x	(optional)	(optional)
PMOD IP-PA 600W 21/BA	x	(optional)	-
PMOD IP-PA 600W 21/2	x	(optional)	(optional)
PMOD IP-PA 600W 21/2/BA	x	(optional)	-
Type Number	101-100-002	101-100-004	101-200-101

*depending on system design

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