

# VARIODYN ONE

## Intelligent Network Controller – INC Generation 2

### APPLICATION

The INC (Intelligent Network Controller), is the main controller of the VARIODYN® ONE PAVA system. It is responsible for managing and monitoring all key components of the system including power amplifiers, speaker lines and call stations, etc.

INC supports 8 amplifier channels with the maximum capacity of 5 A current per channel and you can add up to 48 speaker lines using 6 speaker line modules with 8 speaker lines each in a single INC.

INC comes with an inbuilt storage that can be used to store both configuration and audio files. The four different configurations available in INC offer flexibility to choose the controller with the appropriate extension module as per your requirement.

INC supports Relay Matrix mode of operation that ensures that you can design your system efficiently as per your project requirement.



INC - 585000



INC-D - 585000.31



INC Dante - 585000.32



INCA - 585000.33

### FEATURES AND BENEFITS

- Supports minimum 8 to maximum 48 speaker circuits per controller by expanding field mountable Speaker Circuit Modules with 8 speaker circuit/module  
*(INC by default do not have any speaker circuit, hence separate speaker module need to be added from 1 to max 6 in order to expand from 8 to max 48 speaker circuits)*
- Inbuilt Relay Matrix Mode to dynamically allocate amplifier channels to speaker circuits
- Supports up to 8 Amplifier channels
- Supports 8 simultaneous Audio per controller
- Intuitive LED interface ensuring you can easily understand the system status
- INC-D with 8 DAL ports and 14 GPIOs
- INC-A with 6 Audio In/Out with 14 GPIOs
- INC - DANTE with 8 In and 8 Out DANTE port with 14 GPIOs
- User friendly software to provide ease of commissioning
- All INC controllers offer Modbus protocol over Serial link (RS485) to integrate with 3rd Party Modbus interface
- INC Controller offers Advance DSP capability by offering flexibility to change and save following parameters/Amplifier channels:
  - Volume
  - High Pass /Low pass filters
  - Parametric Equalizer
  - Dynamic Range Control
  - Delay

## INC VARIANTS

### INC - 585000



#### Features - INC:

- "Direct Drive" or "Relay Matrix" operating modes provide flexibility
- Built-in memory for configuration and audio files (0.9 GB/ 5 hrs.)
- Manages up to 8 amplifier channels (max. 500 W per channel)
- Up to 48 speaker circuits divided into 6 modules with 8 speaker circuits each (max. 500 W per loudspeaker line)
- 8 simultaneous Audio streams per controller
- Intuitive Display interface ensuring you can easily understand the system status

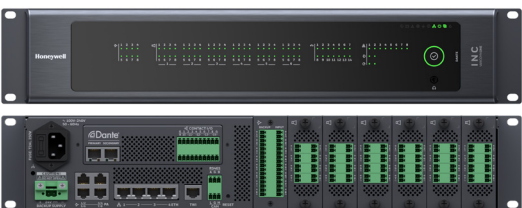
### INC-D G2 (WITH DAL PORTS) - 585000.31



#### Features - INC-D G2:

- "Direct Drive" or "Relay Matrix" operating modes provide flexibility
- Built-in memory for configuration and audio files (0.9 GB/ 5 hrs.)
- Manages up to 8 amplifier channels (max. 500 W per channel)
- Up to 48 speaker circuits divided into 6 modules with 8 speaker circuits each (max. 500 W per loudspeaker line)
- 8 simultaneous Audio streams per controller
- Intuitive Display interface ensuring you can easily understand the system status
- 8 DAL bus inputs for intercoms and UIM
- 14 Contact inputs/outputs
  - 10 ports configurable as input with supervision or output
  - 4 relay outputs (normally open)

### INC-DANTE G2 - 585000.32



#### Features - INC-DANTE G2:

- "Direct Drive" or "Relay Matrix" operating modes provide flexibility
- Built-in memory for configuration and audio files (0.9 GB/ 5 hrs.)
- Manages up to 8 amplifier channels (max. 500 W per channel)
- Up to 48 speaker circuits divided into 6 modules with 8 speaker circuits each (max. 500 W per loudspeaker line)
- 8 simultaneous Audio streams per controller
- Intuitive Display interface ensuring you can easily understand the system status
- Redundant Dante network ports
  - 8 x Dante Audio Inputs and 8 x Dante Audio Outputs
- 14 Contact inputs/outputs
  - 10 ports configurable as input with supervision or output
  - 4 relay outputs (normally open)

### INC-A G2 - 585000.33



#### Features - INC-A G2:

- "Direct Drive" or "Relay Matrix" operating modes provide flexibility
- Built-in memory for configuration and audio files (0.9 GB/ 5 hrs.)
- Manages up to 8 amplifier channels (max. 500 W per channel)
- Up to 48 speaker circuits divided into 6 modules with 8 speaker circuits each (max. 500 W per loudspeaker line)
- 8 simultaneous Audio streams per controller
- 8 hours of audio storage
- Intuitive Display interface ensuring you can easily understand the system status
- 6 potential-free audio inputs/outputs
  - Audio inputs can be connected with microphone or audio source devices.
  - Audio inputs can be connected with microphone sensors for automatic volume control.
  - Audio outputs can be connected with external audio devices/systems.
- 14 Contact inputs/outputs
  - 10 ports configurable as input with supervision or output
  - 4 relay outputs (normally open)

## TECHNICAL DATA

| GENERAL                |  |
|------------------------|--|
| Mains power supply     | AC 115 V - 230 V (-15% ... +10%), 50 ... 60 Hz |
| Backup power supply    | 21.5 V - 28.8 V DC                             |
| Sampling rate          | 48 kHz, 24 bit                                 |
| Encode/Decode          | VARIODYN® ONE ADPCM                            |
| Audio storage          | 0.9 GB   |
| Relative humidity      | <95%, non-condensing                           |
| Operation temperature  | -5°C ... +55°C                                 |
| Storage temperature    | -40°C ... +70°C                                |
| Dimensions (W x H x D) | 483 x 88 x 415 mm                              |
| Weight                 | 11.9 - 12.45 kg                                |

| AF OUTPUT             |                                 |
|-----------------------|---------------------------------|
| Output Type           | Electronically balanced         |
| Audio Output Channels | 8                               |
| Nominal Output Level  | 0 dBu                           |
| Max. Output Level     | +6 dBu                          |
| Frequency Response    | 20 Hz ... 20 kHz, $\pm 1$ dB    |
| THD                   | < 0.03% at 1 kHz                |
| SNR                   | > 85 dB A-weighted              |
| Load impedance        | Min. 5 k $\Omega$ , Max. 500 pF |

| SPEAKER LINES                     |                        |
|-----------------------------------|------------------------|
| Max. voltage of switching contact | 250 V AC               |
| Max. current of switching contact | 5 A continuous current |
| Peak voltage resistance           | Min. 1.5 kV            |
| Slots of speaker line module      | Max. 6                 |
| Number of speaker line per module | 8                      |
| Line voltage                      | 70 V/100 V             |

| AUXILIARY AUDIO INPUT/OUTPUT(OPTIONAL) |  |
|--|--|
| Audio Input Channels                   | 6  |
| Input type                             | Potential-free   |
| Nominal Input Level                    | Microphone: -51 dBu<br>Line: 0 dBu ... +6 dBu                                    |
| Frequency Response                     | Microphone: 100 Hz ... 8 kHz at $\pm 6$ dB<br>Line: 20 Hz ... 20 kHz, $\pm 3$ dB |
| THD                                    | < 0.05% at 1 kHz   |
| SNR                                    | Microphone: > 65 dB, A-weighted<br>Line: > 95 dB, A-weighted                     |
| Input Impedance                        | Typical: 200 $\Omega$  |
| Audio Output Channels                  | 6  |
| Nominal Output Level                   | 0 dBu  |
| Frequency Response                     | 20 Hz ... 20 kHz, $\pm 3$ dB   |
| THD                                    | < 0.05% at 1 kHz   |
| Max. distortion factor                 | 1% in the frequency range  |
| SNR                                    | > 85 dB A-weighted   |
| Output Impedance                       | 200 $\Omega$   |

| DANTE (OPTIONAL)       |  |
|------------------------|--|
| Ethernet               | Primary and secondary Ethernet ports, 100 Mbps |
| Audio Transport Format | Dante audio over IP, AES67 RTP                 |
| Sampling Rate          | 48 kHz/24 bit, PCM                             |
| Input channels         | 8  |
| Output channels        | 8  |
| Audio latency          | <10 ms   |

| CONTACT INTERFACE (OPTIONAL) |                             |
|------------------------------|-----------------------------|
| CONTACT INPUT                |                             |
| Max. Input Voltage           | 24 V DC (Over DAL Bus)      |
| Input Voltage Logical 0      | > 8.5 V DC @ 5.6 k $\Omega$ |
| Input Voltage Logical 1      | < 7.5 V DC @ 4.5 k $\Omega$ |
| Input Resistance             | 10 k $\Omega$               |

| CONTACT OUTPUT                     |            |
|------------------------------------|------------|
| Max. External Voltage              | 24 V DC    |
| Load Current per Output            | Max. 50 mA |
| Short-circuit Proof Against + 24 V | 1 s        |

| RELAY OUTPUT             |              |
|--------------------------|--------------|
| Max. External Voltage    | 24 V DC/ 1 A |
| Surge voltage resistance | > 1.5 kV     |

## ORDER INFORMATION

| MODEL NAME   | PART NO.  | DESCRIPTION   |
|--------------|-----------|---|
| INC          | 585000    | Intelligent network controller without any optional modules                     |
| INC-D G2     | 585000.31 | Intelligent network controller with DAL module (8 DAL ports) and 14 GPIOs       |
| INC-Dante G2 | 585000.32 | Intelligent network controller with Dante module (8x8) and 14 GPIOs             |
| INC-A G2     | 585000.33 | Intelligent network controller with Audio in/out module (6 in/out) and 14 GPIOs |

## ACCESSORIES

| MODEL NAME | PART NO. | DESCRIPTION           |
|------------|----------|-----------------------|
| SPKR-8     | 585020   | 8 Speaker Line Module |