

VARIODYN ONE

Direct Drive Power Amplifiers with Power Sharing Technology

APPLICATION

Power amplifiers are used to amplify the audio signal and VARIODYN® ONE offers a range of Class D Power Amplifiers to provide you flexibility to choose an appropriate model as per your project's requirement.

Two different Class D Power Amplifiers are: 4XDPS1200 and 4XDPS2000 are 4 channel amplifiers with Power Sharing technology. They provide total power of 1200 W or 2000 W per amplifier unit respectively.

All amplifier channels are independent from each other allowing use of any one channel as a backup. This could be for the other 3 channels or for amplifier channels in other amplifiers with the same or lower output power.

4XDPS1200

4XDPS1200 is a constant voltage audio power amplifier with direct output to speakers. The amplifier is based on class D amplifier modules technology, improved by Power Sharing feature. Each channel is capable to deliver 500 W/100 V or 350 W/70 V power to load. Currently 70V speaker support is unavailable at VARIODYN® ONE system level.

4XDPS2000

4XDPS2000 is a constant voltage audio power amplifier with direct output to speakers. The amplifier is based on class D amplifier modules technology, improved by Power Sharing feature. Each channel is capable to deliver 500 W/100 V.

Mains Supply: The mains power to the unit is via an IEC connector.

Backup Supply: External 24 V DC backup power supply is connected to the unit at the 'BACKUP SUPPLY' connector. The fully monitored 24V DC stand by backup supply is used in the event of mains supply failure.

General Indicator:

- Mains Power (green LED)
- System Fault (yellow LED)
- Battery Power (yellow LED)
- Signature Ring (green/ yellow LED)

Channel Indicator:

- Power (green LED)
- High (green LED)
- Low (green LED)
- Clip (yellow LED)
- Error (yellow LED)

100 V Outputs:

There are four 100 V outputs available at the connector marked 'SPK 1/2 OUT' and 'SPK 3/4 OUT' at the back of the unit. These outputs are for connection to the VARIODYN® ONE INC.



4XDPS1200-585033



4XDPS2000-585034

Audio Input:

The control inputs are via connectors marked 'AUDIO INPUT' at the back of the amplifier, which can be connected to the VARIODYN® ONE INC.

Config Switch:

The 'CONFIG' DIP switch is used to configure the following:

- Signal LEDs sensitivity
- DC monitoring
- CAN address
- Output voltage (4XDPS1200 only)

By factory default, all config switches are in OFF (bottom) position.

Output Power - Rotary Switch:

The total power of 4XDPS2000 is 2000 W, and the maximum power of each channel is 500 W/100 V. The channel output power can be defined by the channel rotary switch marked 'OUTPUT POWER' with the switch step at 10% of maximum power. By factory default, rotary switch setting for each channel is at 100% of maximum 500 W, which is 500 W/100 V/20 Ω .

The total power of 4XDPS1200 is 1200 W/ 100 V or 840 W/70 V, and the maximum power of each channel is 500 W/100 V or 350 W/70 V. The channel output power can be defined by the channel rotary switch marked 'OUTPUT POWER' with the switch step at 10% of maximum power. By factory default, rotary switch setting for each channel is at 60% of maximum 500 W/350 W, which is 300 W/100 V/20 Ω or 210 W/70 V/ 14 Ω respectively.

FEATURES AND BENEFITS

- 4-channel Direct-Drive amplifier for voice alarm application that utilise industry standard 100 V speakers
- 4 independent amplifier channels
- One of four amplifier channels can be used as a backup channel
- High efficiency (>80% typical) Class D Amplifiers
- Power Sharing technology that supports configurable allocation of 1200 W/2000 W total power, each channel 500 W/100 V at maximum
- Delivers maximum possible power under any overload or overdrive condition to maintain intelligibility of voice messages
- Intuitive front facia/front panel to ensure you easily understand the device status
- Microcontroller based extensive self-monitoring and control
- Temperature management with variable speed fan assisted cooling
- System control and monitoring via VARIODYN® ONE INC
- Protection against overheating
- Protection against overload & wiring short
- Dual redundant power supplies- amplifier unit continues to operate without degradation in performance in single power source fault scenario
- CE Mark EMC Emissions - Class B both at system level and separate unit

TECHNICAL DATA	AMPLIFIER 4XDPS1200	AMPLIFIER 4XDPS2000
Mains Voltage	115 V to 250 V AC, $\pm 10\%$	230 V AC, $\pm 10\%$
Mains Frequency Range	50 to 60 Hz	50 to 60 Hz
Output power EN54-16 (mains powered) Output power EN54-16 (battery powered)	Single Channel max 500 W/100 V	Single Channel max 500 W/100 V
Backup Power Supply	24 V DC (-10% +15%)	24 V DC (-10% +15%)
Operation Modes	Channel Enable/Channel Disable/Power Saving Mode	Channel Enable/Channel Disable/Power Saving Mode
All channels loaded at nominal AC mains voltage 230V	4 x 300 W / 230 V AC	4 x 430 W / 230 V AC
All channels loaded at nominal DC battery voltage 24V	4x 280 W / 24 V DC	4 x 340 W / 24 V DC
Output voltage	100 V and 70 V at 0 dBu input	100 V at 0 dBu input
Distortion at the rated power (resistive load)	< 0,06% THD at 1 kHz sine wave	< 0,06% THD at 1 kHz sine wave
Signal to noise ratio at rated power	90 dB (A - weighted)	90 dB (A - weighted)
Channel separation	> 80 dB	> 80 dB
Frequency response at the rated power	-20 Hz < -1.0 dB; 22 kHz < - 2.0 dB	- 20 Hz < -1.0 dB; 22 kHz < - 2.0 dB
Input impedance (balanced)	> 20 k Ω	> 20 k Ω
Input clipping	= +20 dBu	= +20 dBu
Efficiency at a maximum load	$\geq 80\%$ typical (Mains powered)	$\geq 80\%$ typical (Mains powered)
Ambient operating temperature	-5°C to +55°C	-5°C to +55°C
Storage temperature	-10°C to +55°C	-10°C to +55°C
Relative humidity	Up to 93% (non condensing)	Up to 93% (non condensing)
Air flow direction	from rear to front of the amplifier unit	from rear to front of the amplifier unit
Function	Class D Direct Drive	Class D Direct Drive
Housing	Metal	Metal
Weight (approximate)	11.5 kg	11.5 kg
Overall dimensions in mm	90 height (2U) x 483 width x 402 deep	90 height (2U) x 483 width x 402 deep
Colour	RAL 810-M (Enclosure)	RAL 810-M (Enclosure)
Approval	EN54 part 16	EN54 part 16

ORDER INFORMATION

MODEL NAME	PART NO.	DESCRIPTION	STANDARD HEIGHT
4XDPS1200	585033	4 Channels and 1200 W in total Class D Amplifier with Power Sharing Technology	2 HU
4XDPS2000	585034	4 Channels and 2000 W in total Class D Amplifier with Power Sharing Technology	2 HU