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 Amplifies are :

4XDPS1200

4XDPS1 200 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 500W/100V or 350W/70V power to load.

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 500W/100V.

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

Backup Supply: External 24V 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)



4XDPS1200-585033



4XDPS2000-585034

100V Outputs:
There are 4 nos 100V 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 GNP Controller/ VARIODYN® Dl DOM module.

Audio Input:
The control inputs are via connectors marked 'AUDIO IN PUT at the back of the amplifier, which can be connected to the VARIODYN® ONE INC/ VARIODYN® Dl DOM.

Config Switch:
The 'CONFIG' DIP switch is used to configure the followings:

- Signal LEDs sensitivity
- DC monitoring
- CAN address

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

Output Power:
Rotary Switch The total power of 4XDPS2000 is 2000W , and the maximum power of each channel is 500W/100V. The channel output power can be defined by the channel rotary switch marked 'OUTPUT POW ER' with the switch step at 10% of maximum power. By factory default. rotary switch setting for each channel is at 100% of maximum 500W , which is 500W/l00V/200Ω.

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FEATURES AND BENEFITS

- 4-channel Direct-Drive amplifier for voice alarm application that utilise industry standard 100V speakers
- High efficiency (>80% typical) Class D Amplifiers
- Power Sharing technology that supports configurable allocation of 2000W power, each channel 500W/100V 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 GNP Controller / VARIODYN® Dl DOM module
- Protection against overheating
- Protection against overload & wiring short

TECHNICAL DATA	AMPLIFIER 4XDPS1200	AMPLIFIER 4XDPS2000
Mains Voltage	115V to 250V AC, ± 10%	230V AC, ± 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 500W/100V	Single Channel max 500W/100V
Backup Power Supply	24V DC (-10%+15%)	24V 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 300W / 230V AC	4 x 430W I 230V AC
All channels loaded at nominal DC battery voltage 24V	4x 280W /24V DC	4 x 340W /24V DC
Output voltage	100V and 70V at 0 dBu input	100V 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	90dB (A - weighted)	90dB (A -weighted)
Channel separation	> 80dB	> 80dB
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 kΩ	> 20 kΩ
Input clipping	= +20 dBu	= +20 dBu
Efficiency at a maximum load	≥ 80% typical (Mains powered)	≥ 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 front to rear of the amplifier unit	from front to rear 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)
Dimension	441 x 88x 40 1 mm (2 HU)	441 x 88x 40 1 mm (2 HU)
Approval	ENS4 Part 16	ENS4 Part 16

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POWER CONSUMPTION PER SINGLE CHANNEL FROM 24V DC BACKUP SUPPLY FOR DIFFERENT POWER SETTINGS

POWER SETTING [%]	NORMAL LOAD [OHM]	I [A] @ 1/8 LOAD		I [A] @ 1/3 LOAD		I [A]@ FULL POWER	
		4 CHANNELS ENABLED	2 CHANNELS ENABLED	4 CHANNELS ENABLED	2 CHANNELS ENABLED	4 CHANNELS ENABLED	2 CHANNELS ENABLED
100	20	7.1	6.1	12.6	11.6	29.3	28.3
90	22	6.7	5.7	11.7	10.7	26.6	25.6
80	25	6.2	5.2	10.5	9.6	23.8	22.8
70	28	5.8	4.7	9.7	8.6	21.4	20.3
60	33	5.4	4.4	8.8	7.7	18.6	17.8
50	40	4.9	3.9	7.5	6.5	15.6	14.7
40	50	4.6	3.5	6.6	5.5	12.9	11.8
30	66	4.3	3.2	5.7	4.6	10.5	9.4
20	100	4.0	2.9	4.8	3.8	7.8	6.8
10	200	3.7	2.6	4.1	3.1	5.5	4.5

Channel driven by sine wave 1 kHz and loaded by nominal load for given Power Setting [%].

Maximum Power Setting per single channel [100%] is 500W/100V. Number of enabled channels by RJ-45 interface(s): 4/2 channels.

ORDER INFORMATION

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

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