VARIODYN ONE

Direct Drive Power Amplifiers with Battery Charger

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.

4XD125B and 4XD250B are 4 channel amplifiers with inbuilt battery charger. They provide 125 Wand 250 W per channel respectively.

Two different Class D Power Amplifies are:

4XD125B

4 Channel 125W Per Channel with inbuilt Battery Charger

The lU 19inch rack mountable direct drive 4 channel voice alarm amplifier unit provides 4x125W power output. Each channel provides an independent 100V audio output. The unit has an integral battery charger for charging 24V lead acid batteries of up to 65Ah used to provide standby supply in the event of mains failure. It is designed for direct integration and is fully compatible with GNP Controller, VARIODYN® Dl DOM.

4XD250B

4 Channel 250W Per Channel with inbuilt Battery Charger

The 2U 19inch rack mountable direct drive 4 channel voice alarm amplifier unit provides 4x250 W power output. Each channel provides an independent 100V audio output. The unit has an integral battery charger for charging 24V lead acid batteries of up to 105Ah used to provide standby supply in the event of mains failure. It is designed for direct integration and is fully compatible with GNP Controller, VARIODYN®Dl DOM.

Main Supply: The mains power to the unit is via an IEC connector having an integral protection fuse.

External Battery Supply: The external batteries connect to the unit at the 'BATT connector and are charged by the integral temperature compensated charger. The fully monitored 24V standby supply is used in the event of mains supply failure. Leaded temperature sensor connects to the 'BATT TEMP' connector, with the sensor positioned in between the batteries to monitor the temperature of the external batteries for automatic charge voltage adjustment. If using an external standby supply the internal battery charger must be configured as 'disabled' and the temperature sensor MUST NOT be connected to the 'BATT TEMP' connector.



4XD125B - 585030



4XD250B - 585031

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)

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 a connector marked 'CONTROL I/F' at the back of GNP Controller can be connected to the GNP Controller / VARIODYN® Dl DOM module.

Extension Interface:

The 'EXTENSION INTERFACE' provides 'Common Fault' output by voltage free contacts. External input is for system fault reset and automatic fans test. CAN-bus interface is for remote control and monitoring supporting Device Net communication protocol.

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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
- Delivers maximum possible power under any overload or overdrive condition to maintain intelligibility of voice messages
- Integrated tern per a tu re compensated battery charger designed to EN54 Part 4, capable of charging up to 65Ah battery pack for 4x125W Amplifier and 105AH for 4x250W Amplifier
- Intuitive front facia/front panel to ensure you easily understand the device status
- Microcontroller based extensive self-monitoring and control
- Inbuilt battery charger in 4XDXXXB
- System control and monitoring via GNP Controller / VARIODYN® Dl DOM module
- Protection against overheating
- Protection against overload & wiring short

TECHNICAL DATA	AMPLIFIER 4XD125B	AMPLIFIER 4XD250B
Output power EN54-16 (mains powered) Output power EN54-16 (battery powered)	4x125W / channel into a load of 80Ω	4x250W I channel into a load of 40Ω
Weight (approximate)	9.05Kg	12Kg
Heat dissipation (idle) mains powered	60Wmax.	60Wmax.
Battery powered (channels enabled)	21Wmax.	33Wmax.
Battery powered (channels disabled)	5Wmax.	6Wmax.
Mains fuse	F63AH250V	F10AH250V
Nominal mains voltage	230V AC 50 / 60Hz + 10% to -15%	230V AC 50 to 60Hz + 10% to -15%
Battery capacity and type	Valve regulated lead-acid battery: 38AH min-65AH max	Valve regulated lead-acid battery: 65AH min-105AH max
Battery operating voltage range	21,5V DC to 28,5V DC	21,5V DC to 28,5V DC
Battery charger current limit	3.4A	6.5A
Battery source impedance	0.20Ωmax.	0.120Ωmax.
Battery charger start-up	18V DC min. battery voltage	18V DC min. battery voltage
Battery under voltage cut-off protection	20VDC	20VDC
Overall dimensions in mm	45 height x 483 width x 402 deep	90 height (2U) x 483 width x 402 deep
Colour	RAL 810-M (Enclosure)	RAL 810-M (Enclosure)
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, transformerless 1 OOV outputs	Class D, transformerless 1 OOV outputs
Frequency response at the rated power	20Hz to 22KHz ± 3dB	20Hz to 22KHz ± 3dB
Distortion at the rated power (resistive load)	< 0,3% THD at 1 kHz sine wave	< 0,3% THD at 1 kHz sine wave
Signal to noise ratio at rated power	90dB (A - weighted)	90dB (A - weighted)
Maximum load capacitance	200nF #	200nF #
Channel separation	> 75dB	> 75dB
Voltage gain	42dB	42dB
Input sensitivity	OdBu for rated output power	OdBu for rated output power
Input impedance (balanced)	20KΩ	20KΩ
Efficiency at a maximum load	> 80% typical (Battery powered)	> 80% typical (Battery powered)
Self-oscillation frequency at idle	300kHz (± 20kHz)	290kHz (± 20kHz)
Overload protection	Protected against short-circuit or output overload	Protected against short-circuit or output overload
Thermal protection	Protected against overheating by temperature controlled fans	Protected against overheating by temperature controlled fans
Approvals	EN54 part 4 and 16	EN54 part 4 and 16

ORDER INFORMATION

MODEL NAME	PART NO.	DESCRIPTION	STANDARD HEIGHT
4XD125B	585030	4 channels and 4 x 125 W power output.	1 HU
4XD250B	585031	4 channels and 4 x 250 W power output.	2 HU

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