

ELGAR

AC POWER SOURCE

MODEL

1203SL/2253SL

OPERATION MANUAL

ELGAR ELECTRONICS CORPORATION

9250 Brown Deer Road
San Diego, CA 92121-2294
1-800-733-5427
Tel: (858) 450-0085
Fax: (858) 458-0267
Email: sales@elgar.com
www.elgar.com

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ELGAR TWO-YEAR WARRANTY

Elgar Electronics Corporation (hereinafter referred to as Elgar) warrants its products to be free from defects in material and workmanship. This warranty is effective for two years from the date of shipment of the product to the original purchaser. Liability of Elgar under this warranty shall exist provided that:

- the Buyer exposes the product to normal use and service and provides normal maintenance on the product;
- Elgar is promptly notified of defects by the Buyer and that notification occurs within the warranty period;
- the Buyer receives a Return Material Authorization (RMA) number from Elgar's Repair Department prior to the return of the product to Elgar for repair, phone 800-73-ELGAR (800-733-5427), ext. 2295;
- the Buyer returns the defective product in the original, or equivalent, shipping container;
- if, upon examination of such product by Elgar it is disclosed that, in fact, a defect in materials and/or workmanship does exist, that the defect in the product was not caused by improper conditions, misuse, or negligence; and,
- that Elgar QA seal and nameplates have not been altered or removed and the equipment has not been repaired or modified by anyone other than Elgar authorized personnel.

This warranty is exclusive and in lieu of all other warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness of the product to a particular purpose. Elgar, its agents, or representatives shall in no circumstance be liable for any direct, indirect, special, penal, or consequential loss or damage of any nature resulting from the malfunction of the product. Remedies under this warranty are expressly limited to repair or replacement of the product.

CONDITIONS OF WARRANTY

- To return a defective product, contact an Elgar representative or the Elgar factory for an RMA number. Unauthorized returns will not be accepted and will be returned at the shipper's expense.
- For Elgar products found to be defective within thirty days of receipt by the original purchaser, Elgar will absorb all ground freight charges for the repair. Products found defective within the warranty period, but beyond the initial thirty-day period, should be returned prepaid to Elgar for repair. Elgar will repair the unit and return it by ground freight pre-paid.
- Normal warranty service is performed at Elgar during the weekday hours of 7:30 am to 4:30 pm Pacific time. Warranty repair work requested to be accomplished outside of normal working hours will be subject to Elgar non-warranty service rates.
- Warranty field service is available on an emergency basis. Travel expenses (travel time, per diem expense, and related air fare) are the responsibility of the Buyer. A Buyer purchase order is required by Elgar prior to scheduling.
- A returned product found, upon inspection by Elgar, to be in specification is subject to an inspection fee and applicable freight charges.
- Equipment purchased in the United States carries only a United States warranty for which repair must be accomplished at the Elgar factory.

ELGAR

Committed to Quality...Striving for Excellence

SAFETY NOTICE

BEFORE APPLYING POWER to the System, verify that the Model 1203SL/ or Model 2253SL AC Power Source is properly configured for the user's particular application.

WARNING

HAZARDOUS VOLTAGES IN EXCESS OF 230 VRMS, 400V PEAK MAY BE PRESENT WHEN COVERS ARE REMOVED. QUALIFIED PERSONNEL MUST USE EXTREME CAUTION WHEN SERVICING THIS EQUIPMENT. CIRCUIT BOARDS, TEST POINTS AND OUTPUT VOLTAGES MAY ALSO BE FLOATING ABOVE (BELOW) CHASSIS GROUND.

Installation and servicing must be performed by QUALIFIED PERSONNEL who are aware of properly dealing with attendant hazards. This includes such simple tasks as fuse verification and channel reconfiguration.

Ensure that the AC power line ground is properly connected to the Model 1203SL/2253SL AC Power Source input connector. Similarly, other power ground lines including those to application and maintenance equipment **MUST** be properly grounded for both personnel and equipment safety.

Always ensure that facility AC input power is de-energized prior to connecting or disconnecting the power cable. Similarly, the Model 1203SL/2253SL AC Power Source circuit breaker must be switched OFF prior to connecting or disconnecting output power.

In normal operation, the operator does not have access to hazardous voltages within the chassis. However, depending on the user's application configuration, **HIGH VOLTAGES HAZARDOUS TO HUMAN SAFETY** may be normally generated on the output terminals. The Customer/User must ensure that the output power (and sense) lines be properly labeled as to the SAFETY hazards and any that inadvertent contact with hazardous voltages is eliminated.

Guard against risks of electrical shock during open cover checks by **NOT TOUCHING** any portion of the electrical circuits. Even when power is OFF, capacitors are well known to retain an electrical charge. Use **SAFETY GLASSES** during open cover checks to avoid personal injury by any sudden component failure.

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SECTION I

GENERAL DESCRIPTION

1.1 INTRODUCTION

This manual has been prepared for use with the Elgar Model 1203SL and Model 2253SL Series AC Power Sources. This series of AC Power Sources, although functionally equivalent to previously available units, exhibit several notable improvements. Marked reduction in panel height, overall weight, and overall volume have been achieved. In addition, provisions have been made for incorporation of custom functions without resorting to special designs. The AC Power Sources described herein provide AC power at precise voltages and frequencies for testing, motor operation, and frequency conversion.

1.2 GENERAL DESCRIPTION

The basic power amplifiers consist of two DC power supplies and a direct coupled amplifier driving a tapped output transformer per phase. Nominal output voltages are: 0 to 65 VAC, 0 to 130 VAC, and 0 to 260 VAC. Output power at full rated output voltage and at less than full rated output voltage is illustrated in the derating chart provided in Figure 1-1. Figure 1-2 illustrates a typical harmonic distortion curve.

Output voltages and frequencies are established by an oscillator, including the Elgar Plug-In-Programmable (PIP) oscillator series. The output frequency range for both Model 1203SL and 2253SL is 45 Hz to 5 kHz. In addition, equipment testing to meet military specification operating requirements over the input frequency range of 47 Hz to 63 Hz or from 47 Hz to 425 Hz are facilitated through the use of these Elgar AC Power Sources.

1.3 PHYSICAL DESCRIPTION

The AC Power Sources are contained in standard rack-mountable enclosures. A meter for output voltage monitoring, a power on indicator, an output voltage amplitude control adjustment screw, and a power switch-circuit breaker that applies line power to the unit are located on the front panel. Cooling air for the power amplifier is drawn in through the side panel grills and is exhausted at the rear of the enclosure.

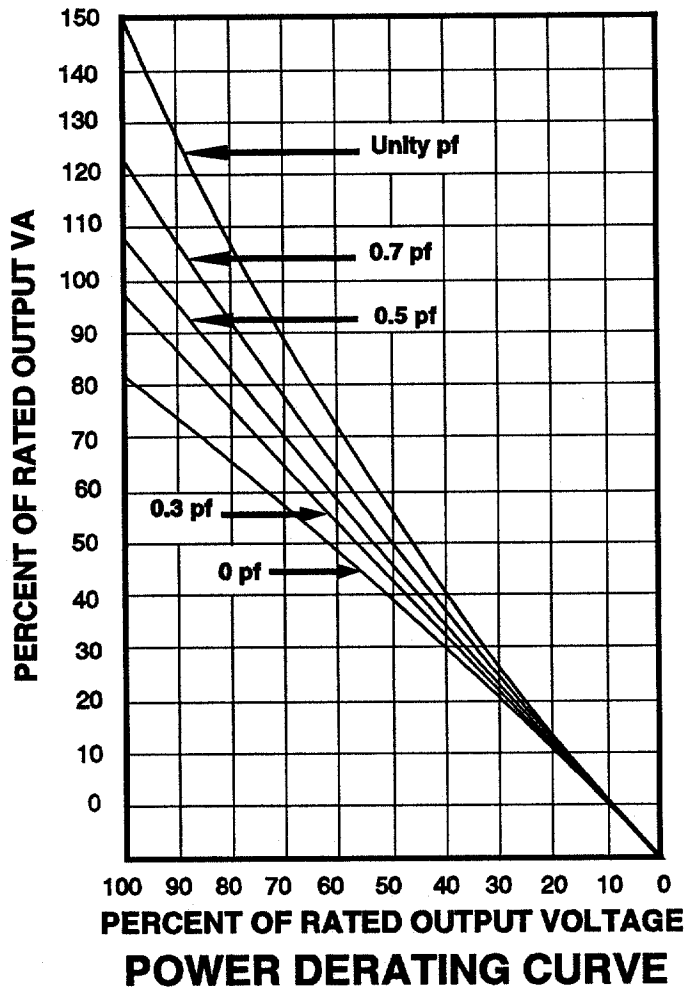
The enclosure contains heatsink assemblies which comprise a two section power amplifier for each phase. Control circuitry for each phase is mounted on three identical plug-in circuit boards with test points and adjustment controls for output voltage regulation. Output voltage is available via the rear panel output power terminal block and also at the front panel binding posts.

1.4 MODEL 1203SL SPECIFICATIONS

1.4.1 Output Characteristics

Output Power: 400VA per phase, 1200VA total. The rated VA is available from 55 to 65 VAC on the low range; from 110 to 130 VAC on the mid range; and from 220 to 260 VAC on the high range with a power factor from unity to ± 0.7 (refer to Figure 1-1 for the power derating curve).

Output Voltage: 0 to 65 VAC RMS; 0 to 130 VAC RMS; and 0 to 260 VAC RMS is available in the standard output transformer.



Typical Output VA for Elgar
SL/SX Series AC Power Sources

Conditions

Fout = Midband (200 Hz to 500 Hz)

Output Distortion $\leq 0.5\%$

Simultaneous Loading of All Phases
for Multiphase Units.

Input Line = Nominal Value

Figure 1-1. Power Output Derating

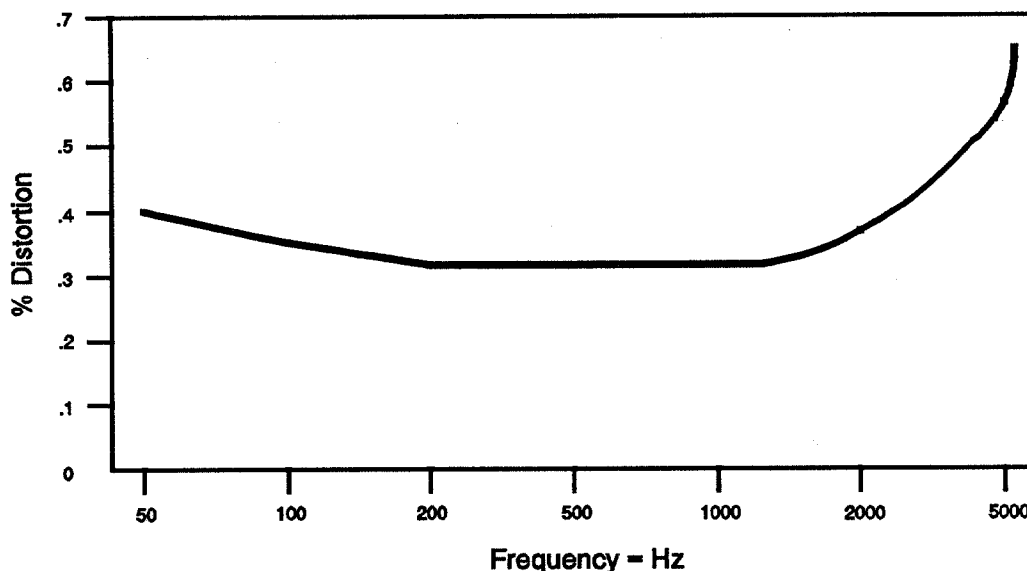


Figure 1-2. Output Power Derating Curve

Output Distortion: 0.4% Total Harmonic Distortion (THD), maximum, from 200 Hz to 1 kHz; 0.6% THD, maximum, from 45 Hz to 5 kHz (refer to Figure 1-2).

Frequency Range: 45 Hz to 5 kHz at full rated power.

Load Regulation: $\pm 1\%$ from 45 Hz to 5 kHz with a unity power factor; $\pm 0.25\%$ for fixed frequency systems between 45 Hz and 1 kHz.

Line Regulation: $\pm 0.25\%$ of full scale output voltage at the rated VA for a 10% input line change within the operating input line range.

Response Time: $< 50 \mu\text{sec}$.

AC Noise Level: 70 dB below full output while measured at full output power when tested with a grounded input.

Voltage Monitor: Available at the front panel of the unit.

Voltage Control: Adjustable output voltage, zero to full scale, either with a locking front panel potentiometer or an optional General Purpose Interface Bus (GPIB) remote.

Overload and Short Circuit Protection: Automatic electronic current limiting senses both excessive load current and/or low power factor. There is automatic instantaneous recovery when the overload is removed (unless the front panel circuit breaker has been activated).

Thermal Protection: An automatic resetting thermal sensor removes the output voltage to prevent damage due to excessive heatsink temperatures.

Gain Stability: $\pm 0.25\%$ for 24 hours at a constant line, load, and temperature after warm up.

1.4.2 Input Characteristics

Input Voltage: 115 VAC, 208 VAC, or 230 VAC, single phase, $\pm 10\%$.

Input Frequency: 47 Hz to 63 Hz continuous; 45 Hz to 70 Hz short term transients.

Input Power: 3400 Watts maximum.

Input Volt-Amperes: 5100VA, maximum.

1.4.3 Automatic Test Equipment (ATE) Features

Range Change Relays: There is provision for optional internal range change relays to switch between 130 VAC and 260 VAC ranges under either GPIB remote control or front panel local control with an optional oscillator (other voltage ranges are available as special options).

Output Relay: There are provisions for an optional internal output relay to connect the load to the output of the power amplifier under either GPIB remote control or front panel local control with an optional oscillator.

Remote Sense: Available with selected Elgar oscillators.

Current Feedback: There are provisions for optional current transformers to provide current feedback to the oscillator.

1.4.4 General

Temperature Range: 0°C to 50°C (32°F to 122°F).

Humidity Range: Up to 95%, non-condensing.

Cabinet Mounting: Standard 19" RETMA rack mounting; optional 20" rack slides.

Dimensions: 8.25" high, 19.0" wide, and 21.0" deep from the front panel mounting surfaces.

Net Weight: 175 lbs.

Shipping Weight: 190 lbs.

Front Panel Finish: Light gray color per FED-STD-595A with black silk screening, color #27038.

Cooling: Single 5.75", 240 CFM fan mounted internally with side air intakes and rear air exhaust.

Front Panel Meter: A 0 to 300 VAC voltmeter with a phase selector switch provides $\pm 3\%$ of full scale accuracy over the 45 Hz to 1 kHz frequency range.

1.5 MODEL 2253SL SPECIFICATIONS

1.5.1 Output Characteristics

Output Power: 750VA per phase, 2250VA total. The rated VA is available from 55 to 65 VAC on the low range; from 110 to 130 VAC on the mid range; and from 220 to 260 VAC on the high range with a power factor from unity to ± 0.7 (refer to Figure 1-1 for the power derating curve).

Output Voltage: 0 to 65 VAC RMS; 0 to 130 VAC RMS; and 0 to 260 VAC RMS is available in the standard output transformer.

Output Distortion: 0.4% Total Harmonic Distortion (THD), maximum, from 200 Hz to 1 kHz; 0.6% THD, maximum, from 45 Hz to 5 kHz. Refer to Figure 1-2.

Frequency Range: 45 Hz to 5 kHz at full rated power.

Load Regulation: $\pm 1\%$ from 45 Hz to 5 kHz at a unity power factor; $\pm 0.25\%$ for fixed frequency systems between 45 Hz and 1 kHz.

Line Regulation: $\pm 0.25\%$ of full scale output voltage at the rated VA for a 10% input line change within the operating input line range.

Response Time: $< 50 \mu\text{sec}$.

AC Noise Level: 70 dB below full output while measured at full output power when tested with a grounded input.

Voltage Monitor: Available at the front panel of the unit.

Voltage Control: Adjustable output voltage, zero to full scale, either with a locking front panel potentiometer or an optional General Purpose Interface Bus (GPIB) remote.

Overload and Short Circuit Protection: Automatic electronic current limiting senses both excessive load current and/or low power factor. There is automatic instantaneous recovery when the overload is removed (unless the front panel circuit breaker has been activated).

Thermal Protection: An automatic resetting thermal sensor removes the output voltage to prevent damage due to excessive heatsink temperatures.

Gain Stability: $\pm 0.25\%$ for 24 hours at a constant line, load, and temperature after warm up.

1.5.2 Input Characteristics

Input Voltage: 208 VAC Line-to-Line, three phase, $\pm 10\%$.

Input Frequency: 47 Hz to 63 Hz continuous; 45 Hz to 70 Hz short term transients.

Input Current: 18 Amps AC, maximum, per phase.

1.5.3 Automatic Test Equipment (ATE) Features

Range Change Relays: There is provision for optional internal range change relays to switch between 130 VAC and 260 VAC ranges under either GPIB remote control or front panel local control with an optional oscillator (other voltage ranges are available as special options).

Output Relay: There are provisions for an optional internal output relay to connect the load to the output of the power amplifier under either GPIB remote control or front panel local control with an optional oscillator.

Remote Sense: Available with selected Elgar oscillators.

Current Feedback: There are provisions for optional current transformers to provide current feedback to the oscillator.

1.5.4 General

Temperature Range: 0°C to 50°C (32°F to 122°F).

Humidity Range: Up to 95%, non-condensing.

Cabinet Mounting: Standard 19" RETMA rack mounting; optional 20" rack slides.

Dimensions: 14.0" high, 19.0" wide, and 21.0" deep from the front panel mounting surfaces.

Net Weight: 230 lbs.

Shipping Weight: 248 lbs.

Front Panel Finish: Light gray color per FED-STD-595A with black silk screening, color #27038.

Cooling: Two 5.75", 240 CFM fans mounted internally with side air intakes and rear air exhaust.

Front Panel Meter: A 0 to 300 VAC voltmeter with a phase selector switch provides $\pm 3\%$ of full scale accuracy over the 45 Hz to 1 kHz frequency range.

SECTION II

INSTALLATION

2.1 INTRODUCTION

The Model 1203SL/2253SL has been configured, calibrated and tested prior to shipment. Therefore, the instrument is ready for immediate use upon receipt.

WARNING

Hazardous voltages are present when operating this equipment. Read the "SAFETY" notices on page ii before performing installation, operation, or maintenance.

2.2 UNPACKING

The AC Power Source has been packed in accordance with industrial standards for safe shipment. Upon receipt of the unit, unpack and inspect the unit as described in the following steps:

1. Inspect the shipping container prior to accepting the container from the carrier. If damage to the container is evident, a description of the damage shall be noted on the carrier's receipt, then signed by the driver of the carrier agent.
2. If damage is not apparent until the contents are unpacked, a claim for concealed damage shall be placed with the carrier. The shipping container(s) and filler material shall be saved for subsequent inspection.
3. Forward a report of any damage to the Elgar Repair Department. Elgar will provide instructions for repair/replacement of the instrument, 1-800-733-5427.

4. If possible, save the container and packing material for subsequent return of the instrument to the factory. If the instrument needs to be shipped and proper packing material is not available, contact Elgar to provide containers and shipping instructions.

2.3 PRE-INSTALLATION INSPECTION

Perform the following:

1. Inspect the AC Power Source for shipping damage such as dents, scratches, distortion, and damaged connectors. There are no mercury relays or other internal components sensitive to chassis tilting for inspection purposes.
2. Check the front panel controls and power switch-circuit breaker for ease of operation.
3. Ensure that the front panel meter is not damaged.
4. Remove the instrument covers and verify that the three circuit boards are securely seated in their respective receptacles. Ensure that individual components are not damaged.
5. Check that the heatsink assemblies underneath the unit are secured in place.
6. Check the harness and leads for broken insulation, cracks, or broken wiring.

**2.4 MODEL 1203SL
INSTALLATION**

The Model 1203SL AC Power Source is designed for installation in a standard 19" instrument rack (refer to Figures 2-1 through 2-3 for outline drawings and mounting dimensions).

NOTE

The Model 1203SL can be provided with a variety of input voltage, output voltage, and standard options. Refer to Table 2-5 at the end of this section to verify the unit's specific configuration.

The Model 1203SL must be installed such that the flow of cooling air into the side panel grills and out the rear panel is not obstructed. For slide out capability, the unit is equipped with threaded inserts located on each side for mounting Zero Mfg. Co. slides, part number CTHRN-122.

2.4.1 Input Power Requirements

The Model 1203SL operates from 115 VAC, 208 VAC, or 230 VAC single phase input power at 47 Hz to 63 Hz only. The input power terminal block is located on the rear panel (refer to Figure 2-2 for location). Table 2-1 provides the pinout for TB1, the input power terminal block, and Figure 2-4 provides input voltage connection options.

2.4.2 Output Power Connections

Output power is provided at a terminal block located on the rear panel of the unit (refer to Figure 2-2 for location). A listing of available output power can be found in Section 1, paragraph 1.4.1. Table 2-2 provides the pinout for TB2, the output power terminal block.

Table 2-1. Model 1203SL Input Power Terminal Block (TB1) Pinout

Pin	Connection
1	Chassis Ground
2	LO Side Input
3	Not Used
4	Not Used
5	HI Side Input

Table 2-2. Model 1203SL Output Power Terminal Block (TB2) Pinout

Pin	Connection
1	Chassis Ground
2	Neutral
3	A Phase Output
4	B Phase Output
5	C Phase Output

2.4.3 Sync Out BNC Connectors

The Model 1203SL can be optionally equipped with BNC-type 'Sync' connectors located on the rear panel of the unit (refer to Figure 2-2 for location).

2.4.4 Installing The Model 1203SL

To install the Model 1203SL AC Power Source, perform the following:

1. Install the AC Power Source in the appropriate rack such that the flow of cooling air into and out of the unit is unobstructed. Allow 6" clearance at the rear of the unit.
2. Position the POWER switch-circuit breaker to OFF.
3. Insert the appropriate Elgar oscillator, which provides control over output voltages and frequencies, into the front panel in accordance with the appropriate oscillator Operating Manual.

4. Connect the output load to the rear panel output terminal block. For initial installation, a dummy load should be used until the unit is completely checked out and verified as operational.

5. Connect the input power to the rear panel input power terminal block (refer to Figure 2-4 for input voltage connection options).

2.4.5 Model 1203SL Preliminary Functional Checkout

To check the Model 1203SL AC Power Source after initial installation, perform the following:

1. Position the POWER switch-circuit breaker to ON. Observe that the Power On indicator is illuminated.
2. Ensure that the fan is exhausting air through the rear panel grill.

3. Set the Elgar oscillator to the desired amplitude and frequency (refer to the oscillator's Operating Manual for specific instructions).
4. Using the Output Voltage Selector switch, select position A. Observe that the Voltage Meter reads the same value as set in the oscillator for the Phase A output voltage.
5. Using the Output Voltage Selector switch, select position B. Observe that the Voltage Meter reads the same value as set in the oscillator for the Phase B output voltage.
6. Using the Output Voltage Selector switch, select position C. Observe that the Voltage Meter reads the same value as set in the oscillator for the Phase C output voltage.
7. Position the POWER switch-circuit breaker to OFF. Observe that the Power On indicator is no longer illuminated and that the fan turns off.

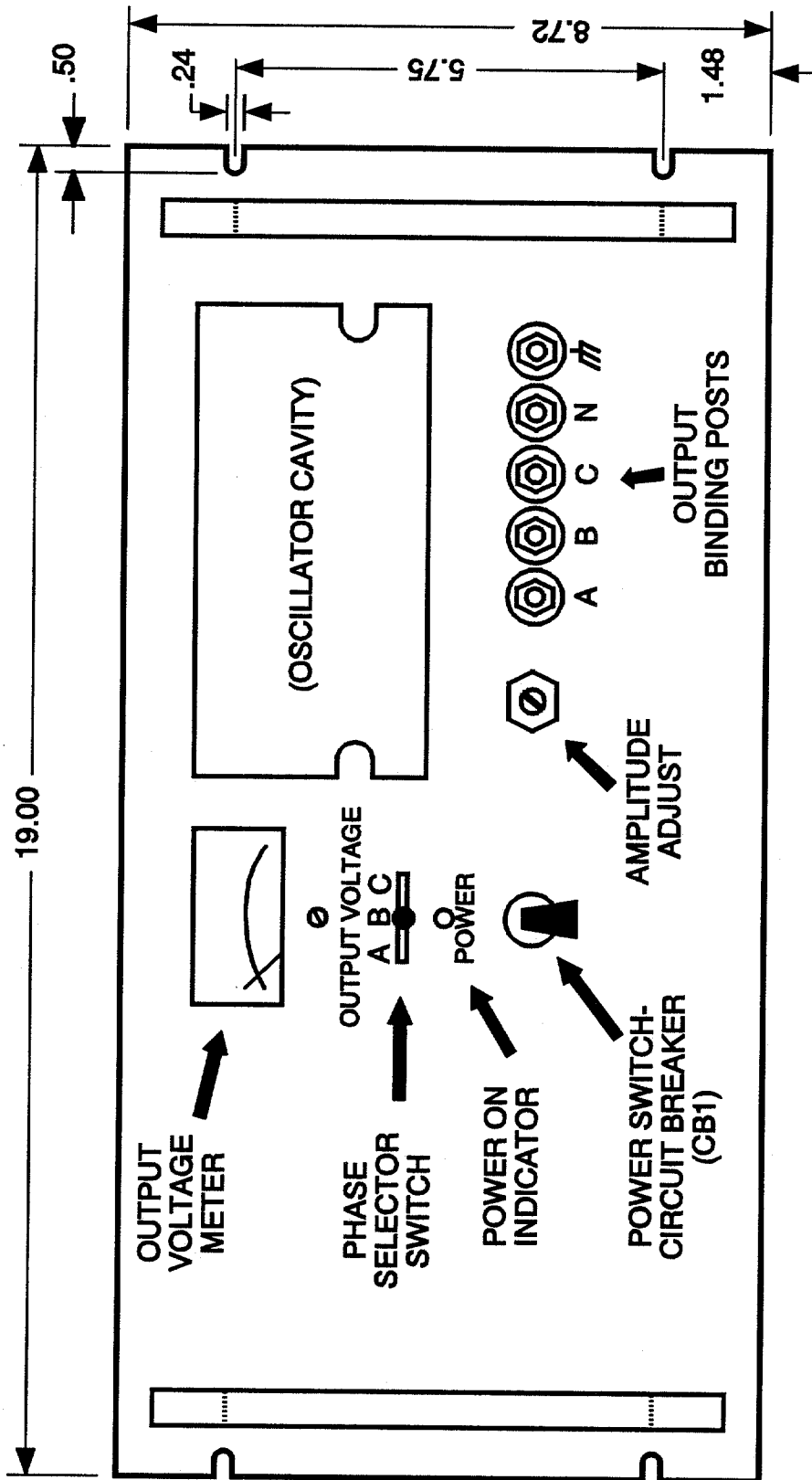


Figure 2-1. Model 1203SL (Front View)

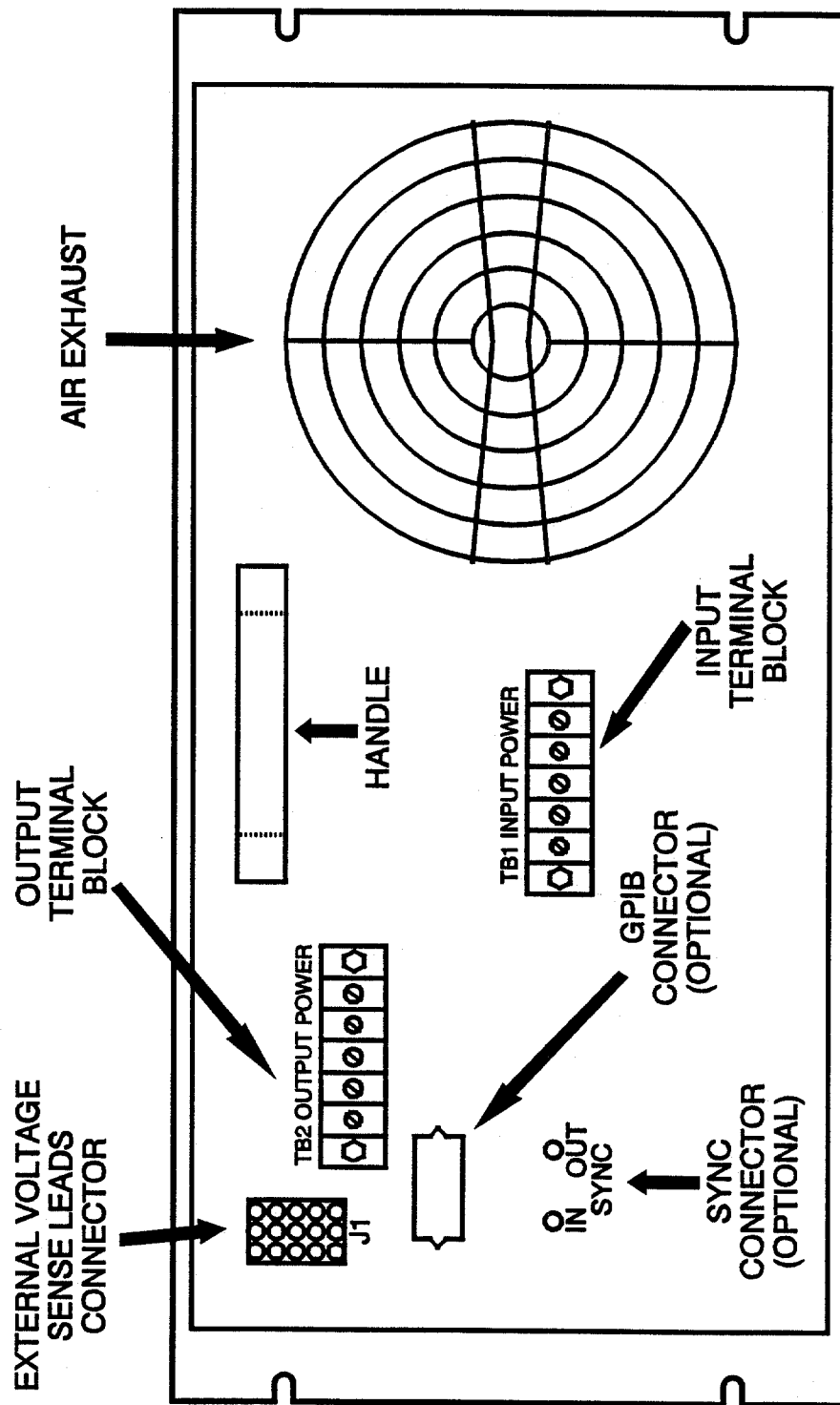


Figure 2-2. Model 1203SL (Rear View)

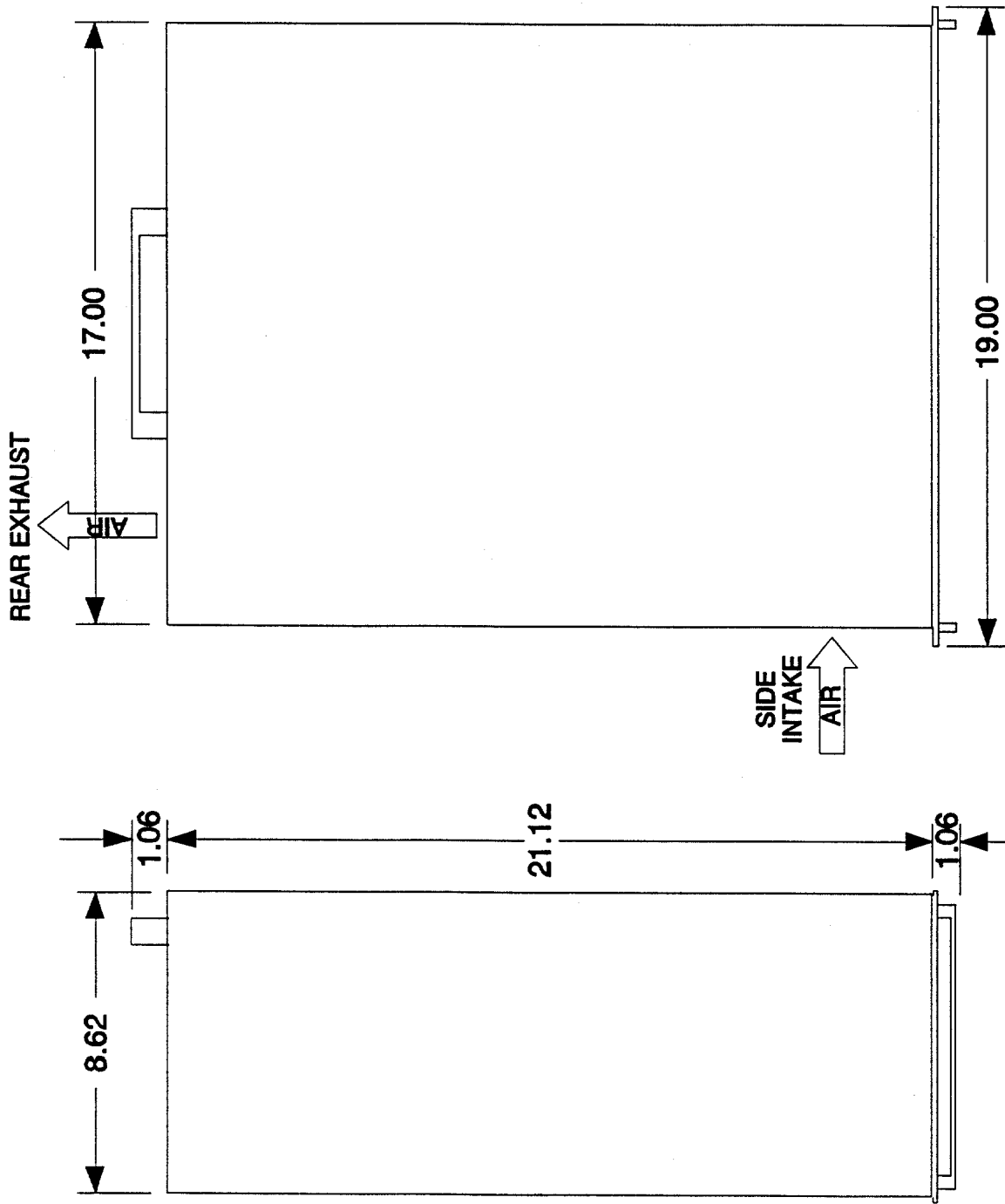
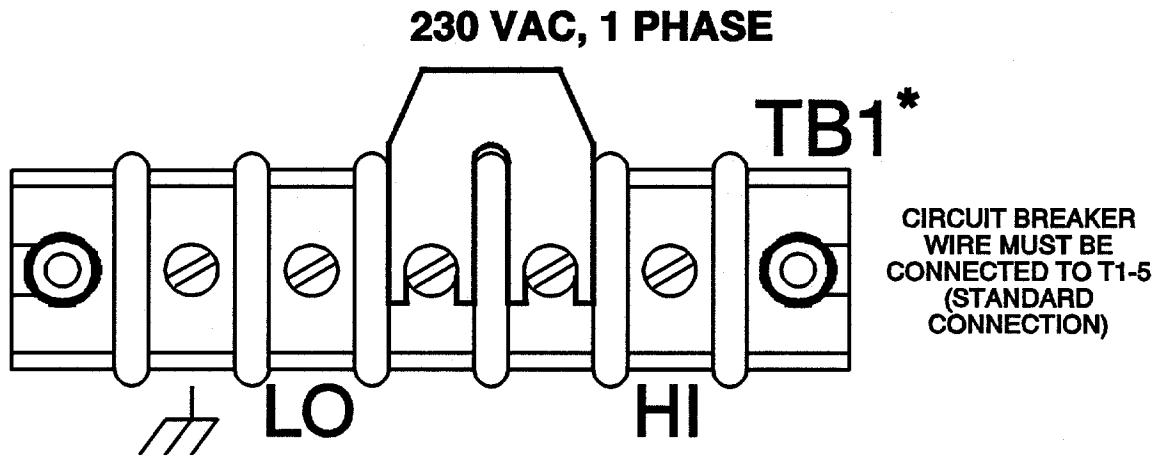
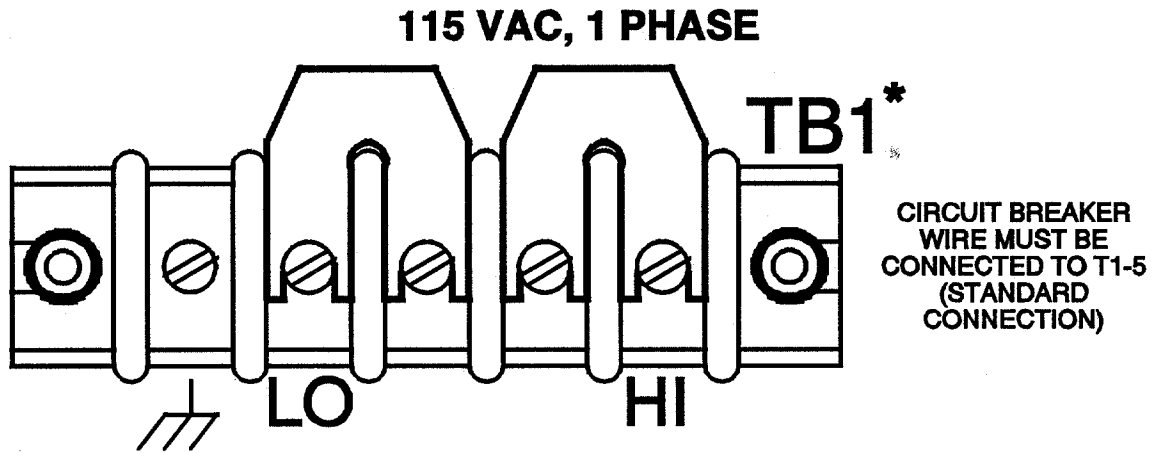


Figure 2-3. Model 1203SL (Installation Dimensions)



208 VAC, 1 PHASE

IF THE AC POWER SOURCE IS SHIPPED FROM THE FACTORY AS A 208 VAC INPUT, THE SERIAL NUMBER TAG WILL SO NOTE.

TO CONNECT FOR 208 VAC, CONNECT AS FOR THE 230 VAC ABOVE PLUS MOVE THE WIRE FROM T1-5 TO T1-4. PLACE AN INSULATING BOOT ON T1-5 AND SLEEVING AT T1-4.

*** TO ACCESS TB1, REMOVE THE BOTTOM COVER.**

Figure 2-4. Model 1203SL Input Voltage Connection Options

2.5 MODEL 2253SL INSTALLATION

The Model 2253SL AC Power Source is designed for installation in a standard 19" instrument rack (refer to Figures 2-5 through 2-7 for outline drawings and mounting dimensions).

NOTE

The Model 2253SL can be provided with a variety of input voltage, output voltage, and standard options. Refer to Table 2-5 at the end of this section to verify the unit's specific configuration.

The Model 2253SL must be installed such that the flow of cooling air into the side panel grills and out the rear panel is not obstructed. For slide out capability, the unit is equipped with threaded inserts located on each side for mounting Zero Mfg. Co. slides, part number CTHRN-122.

2.5.1 Input Power Requirements

The Model 2253SL operates from 208 VAC RMS line-to-line three phase input power at 47 Hz to 63 Hz only. The input power terminal block is located on the rear panel (refer to Figure 2-4 for location). Table 2-6 provides the pinout for TB1, the input power terminal block.

2.5.2 Output Power Connections

Output power is provided at a terminal block located on the rear panel of the unit (refer to Figure 2-6 for location). A listing of available output power can be found in Section 1, paragraph 1.5.1. Table 2-4 provides the pinout for TB2, the output power terminal block.

Table 2-3. Model 2253SL Input Power Terminal Block (TB1) Pinout

Pin	Connection
1	Chassis Ground
2	Neutral
3	A Phase Input
4	B Phase Input
5	C Phase Input

Table 2-4. Model 2253SL Output Power Terminal Block (TB2) Pinout

Pin	Connection
1	Chassis Ground
2	Neutral
3	A Phase Output
4	B Phase Output
5	C Phase Output

2.5.3 Sync Out BNC Connectors

The Model 2253SL can be optionally equipped with BNC-type 'Sync' connectors located on the rear panel of the unit (refer to Figure 2-6 for location).

2.5.4 Installing The Model 2253SL

To install the Model 2253SL AC Power Source, perform the following:

1. Install the AC Power Source in the appropriate rack such that the flow of cooling air into and out of the unit is unobstructed. Allow 6" clearance at the rear of the unit.
2. Position the POWER switch-circuit breaker to OFF.
3. Insert the appropriate Elgar oscillator, which provides control over output voltages and frequencies, into the front panel in accordance with the appropriate oscillator Operating Manual.

4. Connect the output load to the rear panel output terminal block. For initial installation, a dummy load should be used until the unit is completely checked out and verified as operational.
5. Connect the input power to the rear panel input power terminal block.

2.4.5 Model 2253SL Preliminary Functional Checkout

To check the Model 2253SL AC Power Source after initial installation, perform the following:

1. Position the POWER switch-circuit breaker to ON. Observe that the Power On indicator is illuminated.
2. Ensure that the fans are exhausting air through the rear panel grill.
3. Set the Elgar oscillator to the desired amplitude and frequency (refer to the oscillator's Operating Manual for specific instructions).

4. Using the Output Voltage Selector switch, select position A. Observe that the Voltage Meter reads the same value as set in the oscillator for the Phase A output voltage.
5. Using the Output Voltage Selector switch, select position B. Observe that the Voltage Meter reads the same value as set in the oscillator for the Phase B output voltage.
6. Using the Output Voltage Selector switch, select position C. Observe that the Voltage Meter reads the same value as set in the oscillator for the Phase C output voltage.
7. Position the POWER switch-circuit breaker to OFF. Observe that the Power On indicator is no longer illuminated and that the fan turns off.

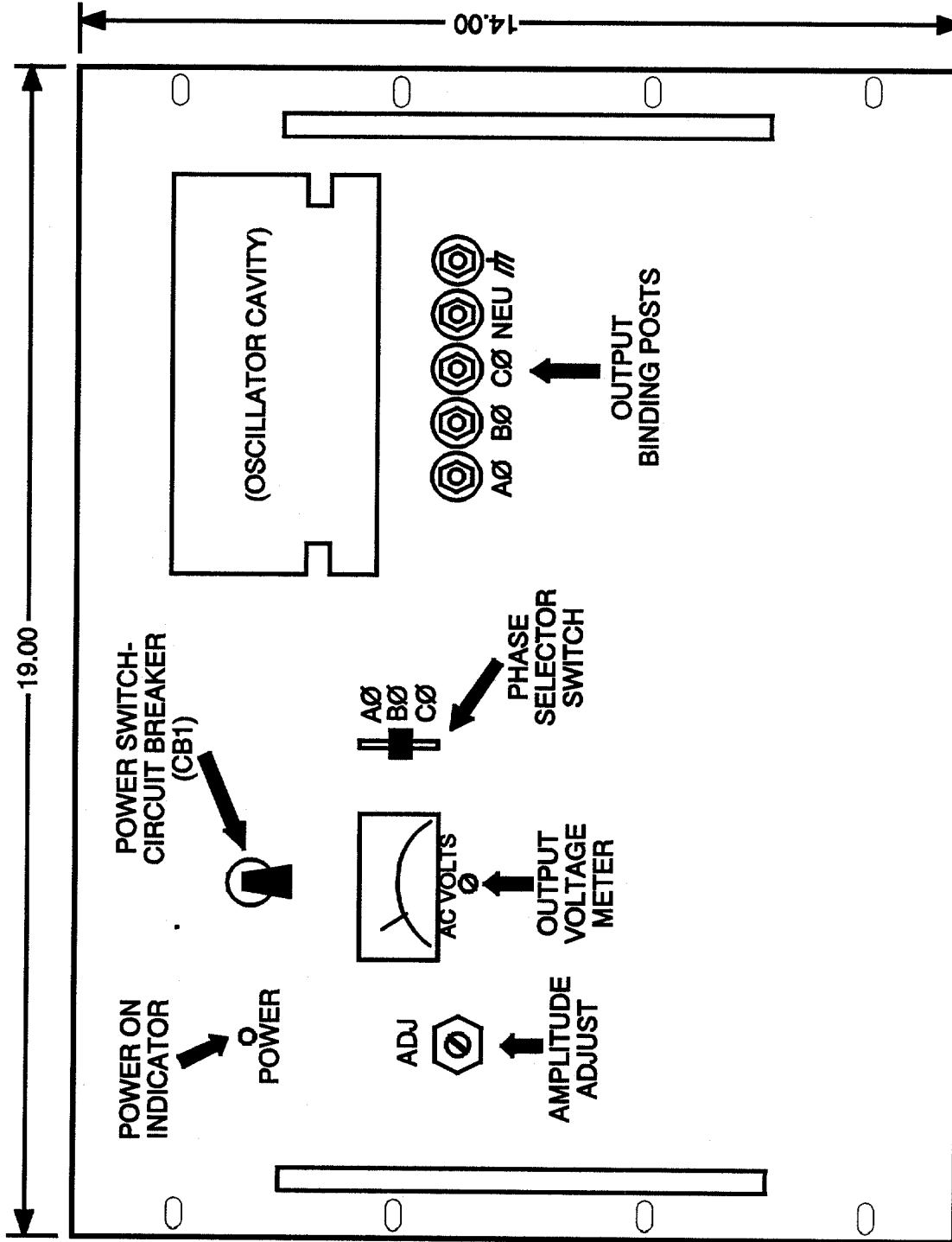


Figure 2-5. Model 2253SL (Front View)

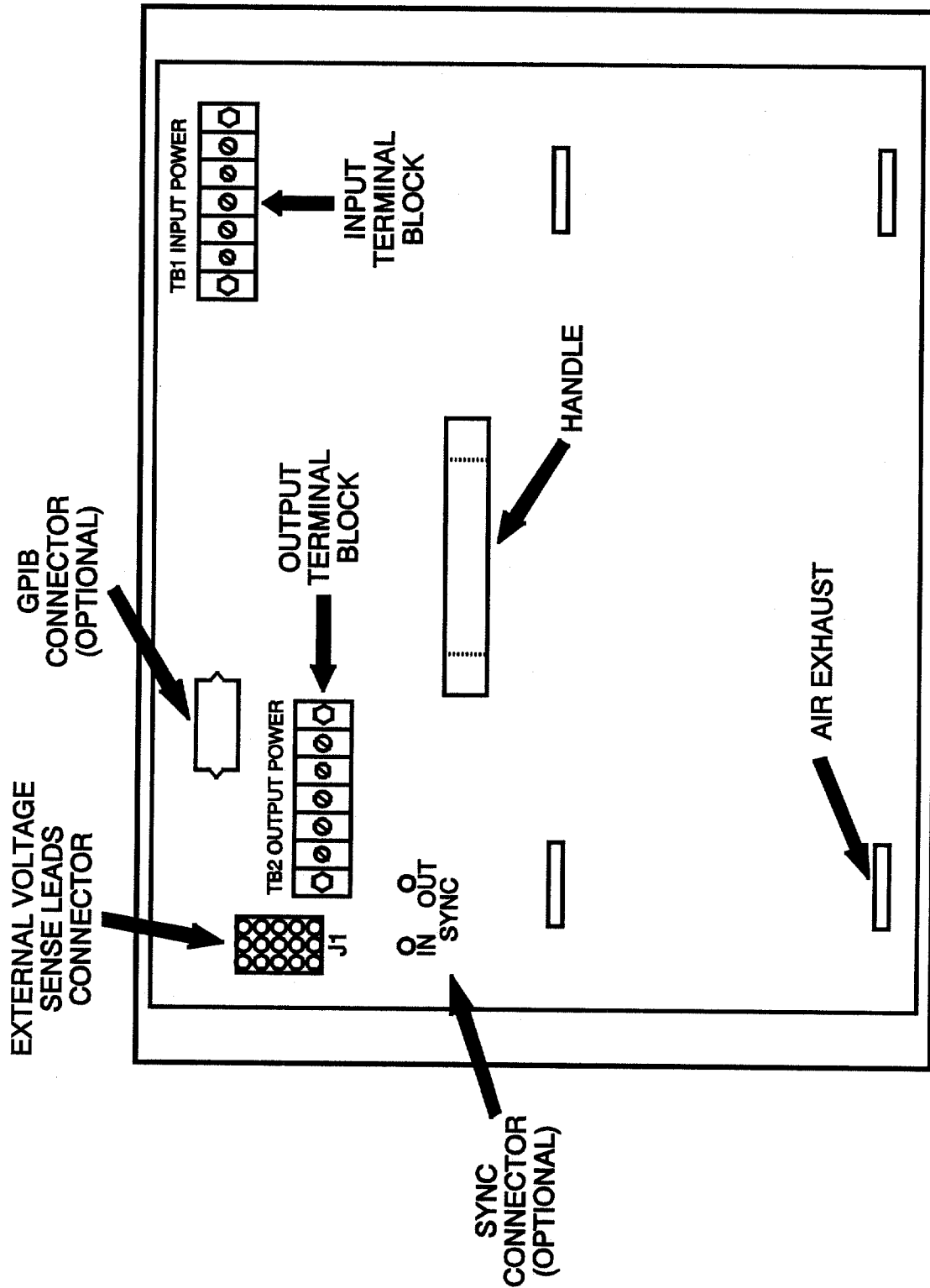


Figure 2-6. Model 2253SL (Rear View)

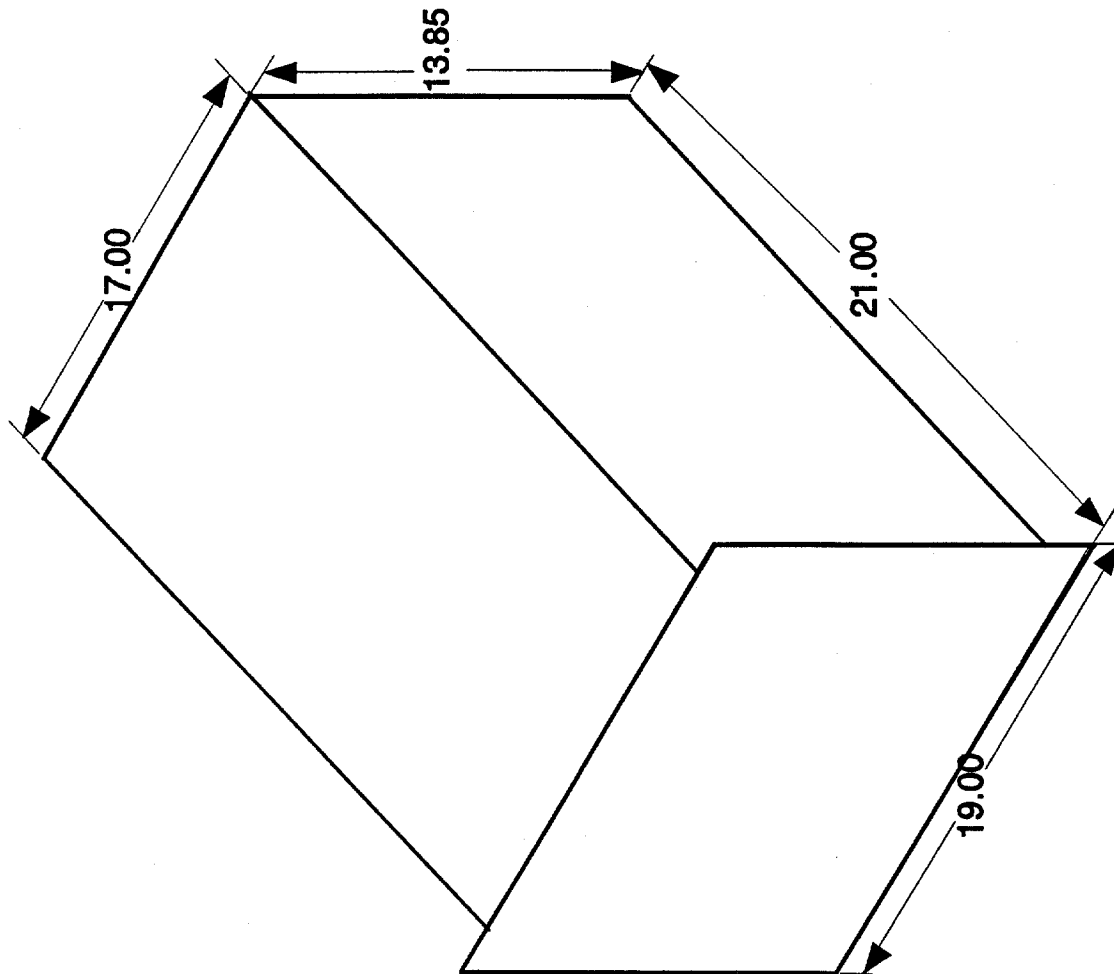


Figure 2-7. Model 2253SL (Installation Dimensions)

Table 2-5. Model 1203SL/2253SL Series Options

Model Serial Number Dash Number					
(First Number)		(Second Number)		(Letter)	
0	208 VAC L-L, 3-Phase, 47 Hz to 63 Hz	1	0 to 130 VAC **	T	Test Option Monitoring and Current Limit via GPIB
1	115 VAC, 1-Phase, 47 Hz to 63 Hz	2	0 to 260 VAC **	D	Disconnect Relay via GPIB
2	230 VAC, 1-Phase, 47 Hz to 63 Hz	3	0 to 65 VAC **	S	Sync In/Out
3	208 VAC, 1-Phase, 47 Hz to 63 Hz	4	130/260 VAC *		
4	115 VAC, 1-Phase, 400 Hz	5	65/130 VAC *		
		6	65/130/260 VAC *		
		7	35 VAC		
		8	65/260 VAC *		
		9	32V & 130 VAC Simultaneous		

* Programmable range change via GPIB.

** Manual range change is accomplished by changing jumpers on the range PCB assemblies located inside the unit. Refer to Assembly Drawing No. 5070015 in Section 4 of the Model 1203SL/2253SL Service Manual for voltage/jumper configurations.

Notes:

The "T" option requires that the output voltage range be set at 130 VAC or 260 VAC. Internal re-connections are required to change the range. Output voltage options 4 through 6 and 8 provide relay range change capability.

An example of a complete model designation would be "1203SL-23T," which would indicate that the unit is configured for 230 VAC input, 0 to 65 VAC output, and has full "T" option capabilities.

NOTES

SECTION III

OPERATION



3.1 INTRODUCTION

The controls and indicators for the Model 1203SL and Model 2253SL AC Power Sources are easily understood after a brief overview.

3.2 CONTROLS AND INDICATORS

Refer to Figure 2-1 for an illustration of the Model 1203SL front panel or to Figure 2-2 for an illustration of the Model 2253SL front panel.

3.2.1 Output Voltage Meter

The Output Voltage Meter indicates either the A, B, or C Phase voltage when connected by the Output Voltage Selector.

3.2.2 OUTPUT VOLTAGE Selector

This three-position switch connects either the A, B, or C Phase voltage to the Output Voltage Meter.

3.2.3 Oscillator Cavity

This cavity is used for installation of the Elgar plug-in oscillator. Refer to the appropriate oscillator Operating Manual for specific installation and operating instructions.

3.2.4 POWER On Switch-Circuit Breaker

This two-position switch applies AC line input power to the unit when in the On (up) position. The switch-circuit breaker safeguards the unit by opening when the input current exceeds the rated value of the circuit breaker.

3.2.5 POWER On Indicator

This indicator is illuminated when AC line input power is present in the unit when the POWER switch-circuit breaker is placed in the On (up) position. The indicator will extinguish when AC line power is removed from the unit.

3.2.6 AMPLITUDE Adjustment Screw

This screw is used to adjust the amplitude when a non-programmable oscillator is used that. Voltage amplitude is controlled by rotating the screw to adjust the output voltage of a selected phase that is read on the voltmeter.

3.3 OPERATING INSTRUCTIONS**3.3.1 Power ON**

Perform the following:

1. Position the POWER switch-circuit breaker to On (up).
2. Observe that the POWER indicator illuminates and remains illuminated.
3. Ensure that the fan(s) are operating.

3.3.2 Frequency Control

Perform the following:

1. Enter the desired frequency into the plug-in oscillator. Refer to the appropriate oscillator Operating Manual for specific procedures.
2. Verify the setting.

3.3.3 Amplitude Control

Perform the following:

1. Enter the desired amplitude into the plug-in oscillator. Refer to the appropriate oscillator Operating Manual for specific procedures.
2. Verify the setting.

CAUTION

Do not continue operation of the AC Power Source if the POWER switch-circuit breaker trips when power is turned on or when the amplitude is increased. The AC Power Source is protected against shorts at the output terminals and recovers immediately when the short is removed. Tripping of the circuit breaker indicates that the unit requires adjustment or repair. Troubleshoot the AC Power Source in accordance with the Model 1203SL/2253SL Service Manual.

3.3.4 Output Voltage Monitoring

Perform the following:

1. Refer to Figure 1-1 for output power derating when operating at less than the full rated output voltage.
2. Using the OUTPUT VOLTAGE selector switch, select the individual A, B, or C Phase output voltage for readout at the front panel voltmeter.
3. Verify that the voltmeter reads the proper voltage for the selected phase.