Wilmore® ELECTRONICS CO., INC.

Series 1755 & 1756
DC-AC INVERTERS

Bulletin No. 76A0027

500 VA & 1000VA DC-AC SINE WAVE INVERTERS

- 12, 24, 48 OR 130 VDC INPUT
- ISOLATED, REGULATED, FREQUENCY-STABLE OUTPUT
- APPROX. 90% EFFICIENT
- RUGGED, CONSERVATIVE DESIGN
- AVAILABLE WITH INTEGRAL HIGH-SPEED TRANSFER SWITCH FOR UPS/STANDBY-POWER APPLICATIONS

Model 1756-24-120-60-U

Compact and rugged, the 500-VA Model 1755 and the 1000-VA Model 1756 dc-to-ac inverters are designed to perform equally well in stationary and mobile applications. The inverters provide an isolated, regulated 120-Vac, frequency-stable 60-Hz sine-wave output and are available in various dc-input versions. These conservatively rated inverters can operate continuously at maximum rated power over a -10°C to +50°C ambient temperature range. They are well suited for powering a variety of loads, from sensitive electronic equipment to small motors and nonlinear loads normally considered difficult for inverters.

These are available as plain inverters or with built-in automatic load switchover features to permit operation in UPS or standby-power modes.

Table 1

Nominal Input Voltage (Vdc)	Input Voltage Range (Vdc)	Input Current No Load[1] (Adc)	Input Current Full Load[2] (Adc)	Output Power (VA)	Full Load Efficiency[3]	Model Number[4] (see Page 3)
12	10.5-14.5	2.26	54.7	500	87%	1755-12-120-60
24	21-29	1.06	26.4	500	90%	1755-24-120-60
24	21-29	1.0	53.5	1000	90%	1756-24-120-60
48	42-58	0.56	13.2	500	90%	1755-48-120-60
48	42-58	0.4	25.8	1000	92%	1756-48-120-60
130	105-145	0.24	5.22	500	90%	1755-130-120-60
130	105-145	0.18	10.3	1000	92%	1756-130-120-60

[1]Typical plain inverter (-P) at nominal input voltage
[2]Typical at minimum input voltage
[3]Typical at nominal input voltage
[4]See Page 3 for complete model numbering information

Specifications

Input Voltage & Current
The nominal input voltage, the input voltage range, the no-load input current and the full-load input current are shown in Table 1.

Output Voltage
118 Vac nominal, single phase

Frequency
60 Hz nominal (50 Hz optional): ±0.01 Hz maximum variation over the full range of load and input voltage changes (crystal controlled)

Volt-Ampere Rating
500VA continuous duty at 50˚C (Model 1755)
1000VA continuous duty at 50˚C (Model 1756)

Output Voltage Regulation
±1% versus dc input line
±3% versus load

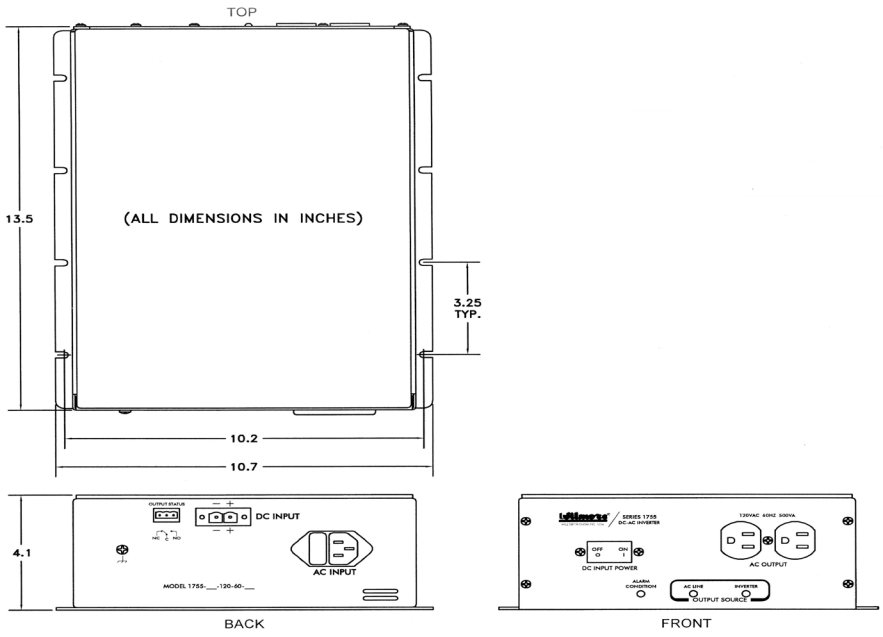
Output Voltage Waveshape
Sine wave with 1%-3% total harmonic distortion (typical)

Efficiency
Typical full-load operating efficiencies and no-load input currents for each model are shown in Table 1

Temperature Range
Operating: -10°C to +50°C
(internal fan cooling)
Storage: -40°C to +95°C

Protection
Protection against output overload (including short-circuit), input under-voltage and input over-voltage is provided electronically. Recovery to normal operation is automatic upon removal or correction of fault conditions. A front-panel circuit breaker is provided in series with the dc input to protect against accidental reversal of dc input polarity during installation.

Front Panel Controls & Indicators
A combination circuit breaker and ON/OFF switch is provided for dc input power. **U** and **L** versions include three LED status indicators (see "U Version" and "L Version" descriptions below) .



Mechanical Description
Figure 1 provides overall dimensions. Weight is approximately 11 lbs. Mounting flange on base accepts eight #10 screws.

Standard Configurations

P VERSION:
Adding the suffix **P** to the basic model designates a plain inverter, i.e. a unit with no internal inverter-to-line or line-to-inverter transfer switching provisions ("line" refers to commercial ac power). This version does not have the front-panel LED status indicators, rear-panel ac-line inlet or rear-panel alarm contacts.

U VERSION:
Adding the suffix **U** to the basic model number designates the inverter-preferred UPS configuration. In this configuration, the inverter normally provides load power. However, if the inverter output is interrupted, an internal transfer switch automatically transfers the load from the inverter to line. The transfer time between inverter and line is less than one ac cycle. Such transfers are normally not detected by even highly sensitive loads. This version includes auxiliary Form C contacts for remote indication of alarm conditions, a fused ac-line inlet and three front-panel LED status indicators.

L VERSION:
Adding the suffix **L** to the basic model number designates a unit which is identical to the "U" version except that, in the L configuration, the load power is normally provided by the line and the inverter operates in the standby mode. If commercial ac power is interrupted, an internal transfer switch automatically transfers the load to the inverter. Upon restoration of commercial ac power, there is a delay of approximately four seconds after which the load is transferred back to commercial ac power and the inverter again operates in the standby mode. Other features such as transfer speed, alarms, indicators, etc. are the same as in the U version.

500 VA & 1000VA DC-AC SINE WAVE INVERTERS

Model 1756-130-120-60-U

MODEL NUMBERING SEQUENCE	
1756 - 130 - 120 - 60 - U 1 2 3 4 5	1. Series 1755 (500VA) or 1756 (1000VA) 2. Input Voltage [12Vdc (1755 only), 24, 48 or 130Vdc] 3. Output Voltage (120Vac) 4. Output Frequency (60 or 50Hz) 5. Configuration (P, U or L Version)

Model Numbering Information

For ordering purposes, Series 1755 and 1756 flange-mount inverters should be identified by a string of product description designators in the following sequence:

- 500 VA sine-wave, inverter (1755) or 1000VA sine-wave, inverter (1756)
- input voltage (12, 24, 48 or 130 Vdc)
- output voltage (120 Vac)
- output frequency (60 or 50 Hz)
- configuration (P, U or L version)

For example, the correct part number for a 1000VA, 60 Hz inverter with a 48-volt input and the inverter-preferred UPS configuration option is Model 1756-48-120-60-U.

Products

For information about other Wilmore dc-to-ac inverters or for information about other power-conditioning products such as dc-to-dc converters or switching power supplies, please contact our sales department.

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