Wilmore ELECTRONICS CO., INC.
P. O. Box 1329, Hillsborough, N. C. 27278, U.S.A.

SERIES 1500
DC-DC CONVERTERS

BULLETIN NO. 0052

130-VOLT INPUT DC-DC CONVERTERS

Model 1502-130-13-30

FEATURES

- **400-WATT and 200-WATT MODELS**
- **HEIGHT 3.45" (2 RACK SPACES)**
- **REGULATED, ADJUSTABLE OUTPUT VOLTAGE**
- **83%-90% EFFICIENCY**
- **INPUT-OUTPUT ISOLATION**
- **-30°C TO +60°C TEMPERATURE RANGE**
- **VERY LOW RIPPLE AND NOISE**

Series 1500 dc-to-dc converters provide a well-regulated dc output voltage from station batteries or other widely fluctuating dc sources. This output is galvanically isolated from the source and chassis and, therefore, may be connected either as a positive or a negative output. Applications include powering radio transceivers, telecommunications equipment, supervisory control systems and other critical electronic loads.

Designed for relay rack mounting, these state-of-the-art converters achieve superior electrical performance in a low profile enclosure. Conservatively rated and very efficient, Series 1500 converters will operate continuously at any load within their rating over a wide ambient temperature range with simple convection cooling. Exceptionally effective noise suppression and filtering allow these converters to be used in many applications considered too noise-sensitive for other transistor-switching power converters. Standard options let users adapt converters to specific system requirements, including paralleling for redundancy and for additional power.

Eight 130-volt input versions are available with different combinations of dc output voltage and output power.

Table 1

Input Voltage Range (VDC)	Input Current[1] (ADC)	Output Voltage Adjustment Range (VDC)	Output Current (ADC)	Model Number[2]
105-140	1.9	12-14 (13 nominal)	0-15	**15xx-130-13-15**
	3.6		0-30	**15xx-130-13-30**
	1.8	22-26 (24 nominal)	0-8	**15xx-130-24-8**
	3.4		0-16	**15xx-130-24-16**
	1.7	44-52 (48 nominal)	0-4	**15xx-130-48-4**
	3.3		0-8	**15xx-130-48-8**
	1.7	123.5-136.5 (130 nominal)	0-1.5	**15xx-130-130-1.5**
	3.3		0-3	**15xx-130-130-3**

[1]Typical current at full load, nominal input and output voltages
[2]See reverse side for complete model numbering information

SPECIFICATIONS

Input Voltage
105 Vdc to 140 Vdc
(130 Vdc nominal)

Output Voltage and Current
The nominal output voltage, the adjustable output voltage range and output current for standard models are shown in Table 1.

Output Voltage Regulation
Versus line: ±0.1%
Versus load: ±0.5%

Output Voltage Ripple and Noise
3 millivolts rms (typical)
30 millivolts peak-to-peak (typical)

Isolation and Grounding
Mutual electrical isolation is provided between the input circuit, the output circuit and chassis ground.

Protection
Protection against overloads, short-circuits and output overvoltages is provided electronically. Recovery to normal operating conditions is automatic upon removal of the overload or short-circuit fault. Following an overvoltage shutdown, input power to the converter must be removed and reapplied to resume converter operation. Protection against accidental reversal of the dc input-voltage polarity during installation is provided by a shunt diode working in conjunction with the front-panel circuit breaker.

Ambient Temperature Range
Operating: -30ºC to +60ºC
(convection cooling)
Storage: -40ºC to +95ºC

Efficiency
The efficiency reaches 83% at approximately 15% of full load and remains above 83% for most of the load range. The no-load input current is approximately 30 milliamperes. Heat dissipation is approximately 275 BTU/hour for 400-watt models and 140 BTU/hour for 200-watt models.

Front-Panel Controls and Indicators
A combination circuit breaker and ON/OFF switch is provided for input power. A potentiometer shaft with locking nut is provided to adjust the output voltage level. An optional voltmeter and ammeter display the dc output.

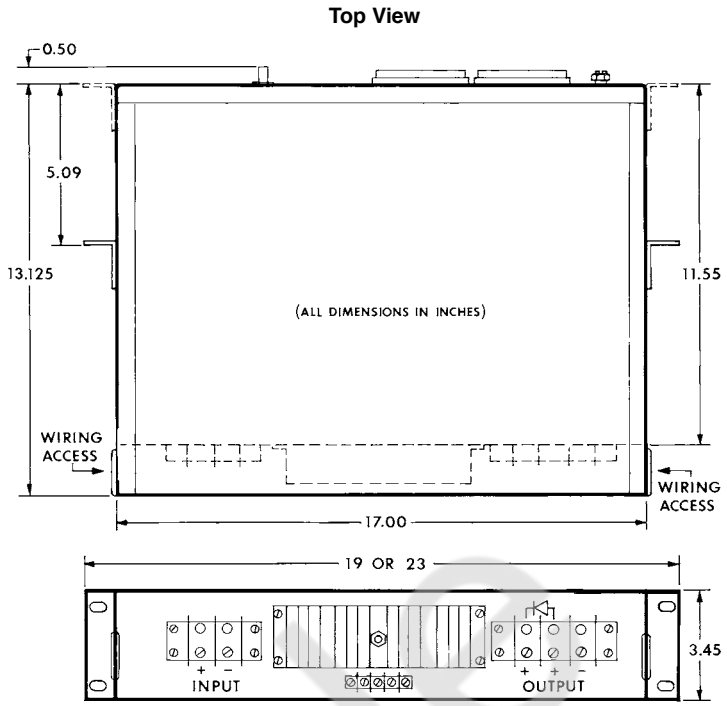

Fig. 1 Converter shown with optional meters, auxiliary contacts and paralleling diode with heatsink.

Physical Characteristics
Refer to Fig. 1 for overall dimensions. Weight is less than 15 pounds. Brackets are provided for 19-inch or 23-inch relay rack mounting. A cover panel protects the recessed rear panel and wiring connections.

STANDARD OPTIONS

- Output voltmeter and output ammeter
- Output series diode for parallel-redundant operation of multiple converters
- Auxiliary Form C contacts for remote indication of improper output (converter fail)
- Balanced load sharing between converters being paralleled for additional power

MODEL NUMBERING INFORMATION

Series 1500 converters are identified by four numbers. In sequence, these give the basic model number, (**1501** for plain front panel, **1502** for output meter option), the nominal input voltage, the nominal output voltage and the maximum load current. Standard options other than meters are specified by an additional suffix: **M1** designates paralleling diode plus auxiliary contacts, **M2** designates load sharing and **M3** combines paralleling diode, auxiliary contacts and load sharing. For example, **Model 1502-130-48-8-M3** is a 130-volt to 48-volt converter with an 8-ampere maximum load rating. It is provided with output meters, paralleling diode, auxiliary contacts and load sharing capability.

OTHER WILMORE PRODUCTS

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

Information provided in this bulletin is subject to change without notice.

WILMORE ELECTRONICS COMPANY, INC.
P. O. Box 1329, Hillsborough, N. C. 27278 • Telephone (919) 732-9351 • FAX (919) 732-9359
www.wilmoreelectronics.com