130-VOLT INPUT DC-DC CONVERTERS

- 800 Watts
- Regulated, Adjustable Output Voltage
- Can be Paralleled for More Power or Redundancy
- Exceptional Reliability

Model 1605 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.

Designed for rack mounting, these converters are conservatively rated and very efficient, and will operate continuously at any load within their rating over a wide ambient temperature range with simple convection cooling.

An option (M3) is available for paralleling two or more converters for redundancy and/or additional power. This option includes balanced load sharing and Form C contacts for remote indication of improper output.

Table 1

Input Voltage Range (VDC)	Input Current[1] (ADC)	Output Voltage Adjustment Range[2] (VDC)	Output Current (ADC)	Paralleling Diode and Load Sharing	Model Number
90-160	6.1	22-26 (24 nominal)	30		1605-130-24-30
	6.1	22-26 (24 nominal)	30	✔	1605-130-24-30-M3
	6.4	44-52 (48 nominal)	16		1605-130-48-16
	6.4	44-52 (48 nominal)	16	✔	1605-130-48-16-M3

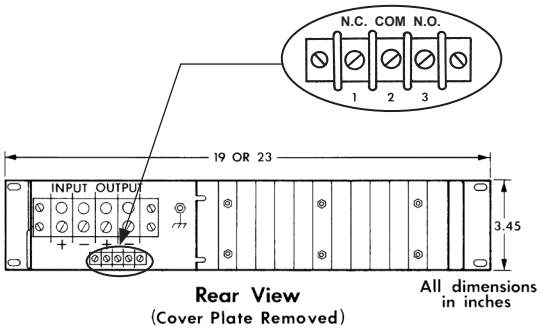
[1]Typical current at full load, nominal input and output voltages

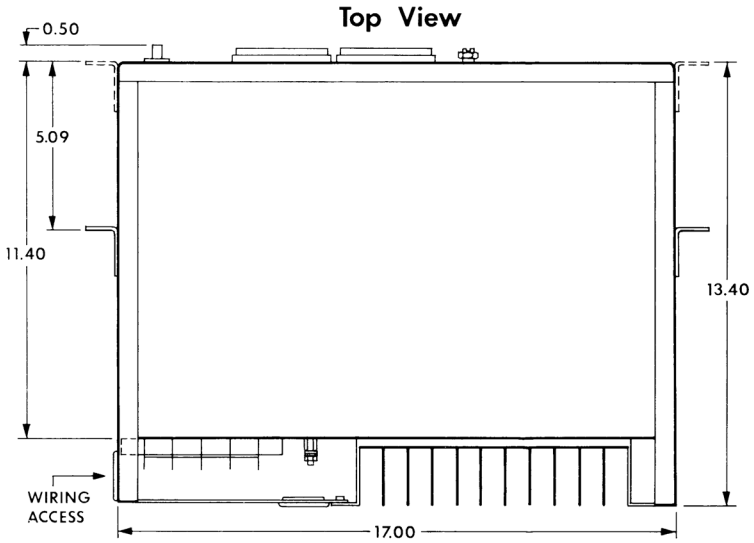
[2]Can be connected as a positive or a negative voltage due to galvanic isolation between the dc input, dc output, and the chassis.

MODEL NUMBERING SEQUENCE

1605	-	130	-	48	-	16	-	M3
1		2		3		4		5

1. Series 1605
2. Input Voltage (130Vdc)
3. Output Voltage (Vdc)
4. Output Current (Adc)
5. Option (M3 or leave blank if standard version with no option is needed)





SPECIFICATIONS

INPUT VOLTAGE RANGE (VDC)[1]	90 to 160 (130 nominal)
INPUT CURRENT (ADC)	See Table 1
OUTPUT VOLTAGE ADJUSTABILITY RANGE (VDC)	See Table 1
OUTPUT CURRENT (ADC)/POWER (W)	See Table 1
OUTPUT VOLTAGE REGULATION	±0.1% versus dc input line; ±0.5% versus load
OUTPUT VOLTAGE RIPPLE	10 millivolts rms (typical) 100 millivolts peak-to-peak (typical)
ISOLATION AND GROUNDING	Mutual electrical isolation provided between the input circuit, the output circuit, and chassis ground
PROTECTION	Protection against output overloads and short-circuits is provided electronically. Recovery to normal operation is automatic upon removal of the fault. An overvoltage fault will trip the front-panel circuit breaker. Protection against accidental reversal of the dc-input voltage polarity provided by a shunt diode working in conjunction with the front-panel circuit breaker.
EFFICIENCY	Reaches 90% at approximately 30% of full load and remains above 90% for most of the load range. The no-load input current is approximately 50mA. Heat dissipation is approximately 320 BTU/hour at full load.
AMBIENT TEMPERATURE RANGE	Operating: -30° C to +50° C (convection cooling) Storage: -40° C to +95° C
FRONT-PANEL CONTROLS	Combination circuit breaker and ON/OFF switch provided for dc-input power. A potentiometer shaft with locking nut provided to adjust output voltage.
FRONT-PANEL INDICATORS	A voltmeter and ammeter display the dc output.
REAR-PANEL OUTPUT STATUS INDICATOR (M3 OPTION ONLY)	Auxiliary Form C contacts (i.e. both Normally Open and Normally Closed) indicate improper converter output
AVAILABLE OPTIONS[2]	Output paralleling diode, Balanced load sharing, and Output Status Form C contacts (all included in M3 Version)
I/O POWER Connection	Barrier-style terminal block with screws that accept lugs for use with #12 hardware
DIMENSIONS INCHES (MM)	17.0 (432)W x 1.72 (44)H x 13.4 (341)D, excluding mounting brackets and front panel features
WEIGHT LBS (KG)	Approximately 14 (6.5)
ACCESSORIES INCLUDED	User information guide, brackets for 19-inch rack mounting (flush mounting or 5-inch front offset mounting); brackets for 23-inch rack mounting available upon request

[1] Can be connected as a positive or a negative voltage due to galvanic isolation between the dc input, dc output, and the chassis.
[2] Some options may affect voltage regulation, ripple and noise, and efficiency specifications.

Wilmore Electronics Company, INC.
P.O. Box 1329, Hillsborough, NC 27278
Telephone 919.732.9351 | Fax 919.732.9359
www.wilmoreelectronics.com