Fault Tolerant 200-Watt DC-DC Converters Internal Dual/Redundant Design

Features

- Two independent converters internally configured as a fault-tolerant/redundant unit
- 24, 48 or 130 Vdc Input with provision for separate feeds for each converter
- Isolated, regulated output
- Convection cooled (no fans)

Series 1721

Designed for critical lower-power applications requiring the back-up/redundant features often found in larger dc power systems, Series 1721 dc-to-dc converters provide redundant-power reliability in a small, economical package. Two independent converters are housed in a single 1.75"-high rack-mount enclosure, with integral output OR-ing diodes for each converter to prevent faults within one converter from affecting the other.

Table 1

Input Voltage Range (VDC)[1]	Input Current (ADC)[2]	Output Voltage (VDC)	Output Current (ADC)	Model Number
21-29 (24 nominal)	9.2	13.3	0-15	1721-24-13-15
	9.1	24	0-8	1721-24-24-8
	9.1	48	0-4	1721-24-48-4
42-58 (48 nominal)	4.6	13.3	0-15	1721-48-13-15
	4.5	24	0-8	1721-48-24-8
	4.5	48	0-4	1721-48-48-4
105-145 (130 nominal)	1.7	13.3	0-15	1721-130-13-15
	1.7	24	0-8	1721-130-24-8
	1.7	48	0-4	1721-130-48-4

[1]Can be connected as a positive or a negative ground, or no ground, due to galvanic isolation between the dc input, dc output, and the chassis
[2]Typical current at full load and nominal input voltage

Specifications

INPUT VOLTAGE (VDC)	See Table 1 on Page 1
INPUT CURRENT (ADC)	See Table 1 on Page 1
OUTPUT VOLTAGE (VDC)	See Table 1 on Page 1
OUTPUT CURRENT (ADC)	See Table 1 on Page 1
OUTPUT POWER (W)	Up to 200 continuous
OUTPUT VOLTAGE REGULATION	±0.5% versus dc input line; ±3% 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, short-circuits and output overvoltages is provided electronically. Recovery to normal operation is automatic upon removal of the overload or short-circuit fault. An overvoltage fault will disable the output until input power is cycled for about 10 seconds. Protection against accidental reversal of dc-input voltage polarity provided by a shunt diode working in conjunction with the front-panel circuit breaker
EFFICIENCY	Reaches 85% at approximately 20% of full load and remains above 85% for most of the load range. The no-load input power is approximately 8 watts.
AMBIENT TEMPERATURE RANGE	Operating: -30°C to +60°C (convection cooling) Storage: -40°C to +95°C
HEAT DISSIPATION (at full load)	Approximately 110 BTU/hour
FRONT-PANEL CONTROLS	Two combination circuit breakers and ON/OFF switches provided, one for each internal converter.
FRONT-PANEL INDICATORS	A green LED indicates the presence (ON) of proper output voltage for each of the converters.
REAR-PANEL OUTPUT STATUS INDICATOR	Auxiliary Form C contacts (i.e., both Normally Open and Normally Closed) indicate improper output from either (or both) internal converters (often referred to as a "converter fail alarm").
REAR-PANEL CONNECTIONS	Each of the two internal converters is provided with its own input power connector (see Figure 1). The converters' outputs are paralleled internally (through OR-ing diodes) and brought out to a single output connector. The auxiliary Form C contacts are accessible via a separate connector. All connectors are two-part (header and plug) wire-clamp connectors. A #8-32 screw is provided for chassis-ground connection.
DIMENSIONS INCHES (MM)	17.0 (432)W x 1.72 (44)H x 11.1 (282)D, excluding mounting brackets
WEIGHT LBS	Approximately 10 lbs.
ACCESSORIES INCLUDED	Mating connectors, user information guide, mounting brackets for 19-inch rack mounting (flush mounting or 5-inch front offset mounting); brackets for 23-inch mounting are available upon request.

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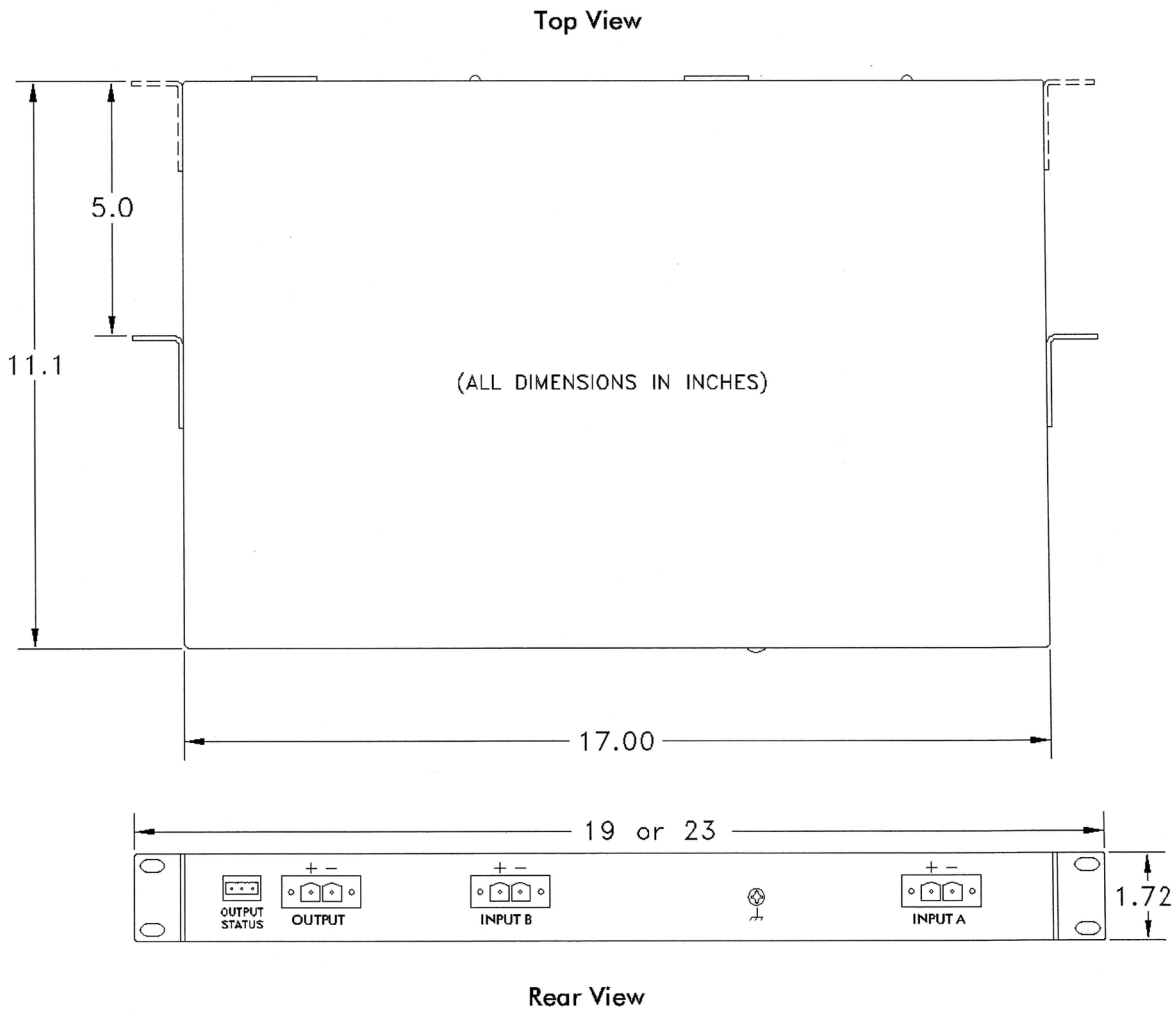
Figure 1



MODEL NUMBERING INFORMATION	
1721 - 48 - 24 - 8 1 2 3 4	1. Series 1721 2. Input Voltage (24, 48 or 130Vdc nominal) 3. Output Voltage (13, 24, or 48Vdc nominal) 4. Output Current (Maximum Amperes-See Table 1 on Page 1)

Model Numbering Information

Series 1721 converters are identified by four groups of numbers. In sequence, these give the basic series number, (1721), the nominal input voltage, the nominal output voltage and the maximum rated load current. For example, Model 1721-48-24-8 is a 48-volt to 24-volt dual/redundant converter with an 8-ampere maximum load rating.

Products

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

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