

MODEL 1641 CURRENT PREAMPLIFIER

DL Instruments, LLC

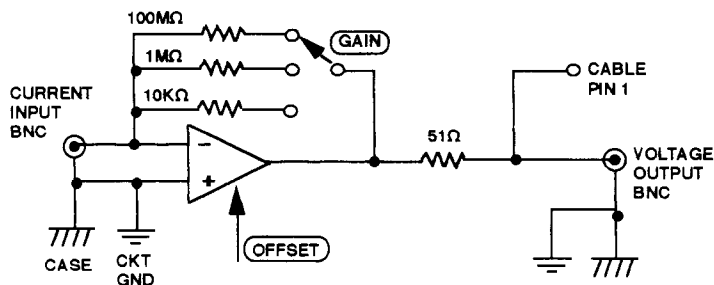
725 West Clinton Street, Ithaca, N.Y. 14850 Phone 607-277-8498 FAX 607-277-8499

The Model 1641 Current Preamplifier is a simple, low cost, wideband gain block for use with photomultipliers, photodiode detectors and other current source type transducers. Like the Model 1211 the Model 1641 is relatively heavily damped for operation with higher capacitance input devices, such as large area photodiodes. It operates with an input virtual ground to mitigate the effects of source and cabling shunt capacitance and to prevent loading effects on non-linear transducers such as photodiodes. A three position switch allows the selection of a 100 MΩ, 1 MΩ or 10 KΩ feedback resistor for conversion of input current to output voltage with gains of 10⁸, 10⁶ and 10⁴ volts per ampere, respectively.

An input offset trimpot can be used to prevent unwanted current from upsetting the zero bias voltage condition of a quiescent photodiode detector, or alternatively to trim the output voltage to zero.

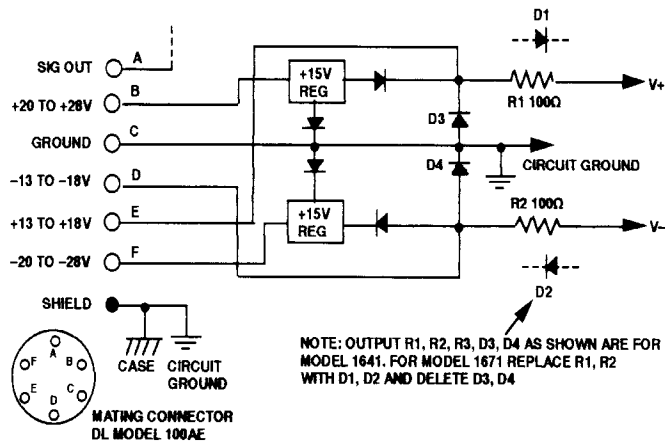
SPECIFICATIONS

SENSITIVITY	10 ⁴	10 ⁶	10 ⁸ V/A
BANDWIDTH	600 kHz	60 kHz	1 kHz
NOISE @ 1kHz	5pA/√Hz	130fA/√Hz	13fA/√Hz
RECOMMENDED			
SOURCE IMPED	>10 KΩ	>100 KΩ	>1 MΩ
INPUT OFFSET	Trimpot nullable to zero		
AMPLIFIER COUPLING	dc only		
OUTPUT POLARITY	Inverting		
OUTPUT MAX	20 V peak-peak		
OUTPUT IMPEDANCE	50 Ω, unbuffered		
dc SUPPLY REQUIREMENT	±13 to ±18V @ 10 mA or ±20 to ±28 V @ 15 mA		
TEMPERATURE AND HUMIDITY			
Operating	0 to 45°C, 10 to 90% R.H.		
Storage	-20 to +60°C, 10 to 80% R.H.		
DIMENSIONS (Exclusive of Connectors)	94 x 65 x 43mm (3.3" x 2.3" x 1.5")		
WEIGHT	110 grams (3.9 ounces)		



Model 1641 Current Preamplifier Block Diagram

1600 SERIES CABLES (2 meter length)
391V1M7 Power cable for 399 Lock-In
4200V1 Signal and power cable for 450 Series Amplifiers and 4000 Series Electronic Filters



1600 Series Preamplifier Power and Grounding

For more information contact

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