

**3460B SPECIFICATIONS**

Table 1-1

**RANGES**

**Full Range Display:**

- ±1.00000 V
- ±10.0000 V
- ±100.000 V
- ±1000.00 V

**Overranging:**

20% on all ranges.

**Range Selection:**

Manual, automatic or remote.

**PERFORMANCE RATING**

**Accuracy:**

- 90 day calibration cycle:  
±(0.004% of reading +0.002% of range).
- 180 day calibration cycle:  
±(0.007% of reading +0.003% of range).

Accuracy applies over a temperature range of 25°C ±5°C.

**Stability:**

- ±(0.002% of reading +0.001% of range).
- 24 hr, constant temperature ±1°C.

**Temperature Coefficient:**

- ±(0.0002% of reading +0.0001% of range) per°C.
- Derate accuracy specifications by this temperature coefficient for operation in temperature range of 0°C to 20°C and 30°C to 50°C.

**Reading Period:**

- 10,100, 1000 V ranges: < 66 ms.
- 1 V range: < 150 ms.
- Filter adds 725 ms to reading period.

**Integration period:**

1/10 sec (1/60 sec selectable by external contact closure to ground on 10, 100 and 1000 V ranges).

**Response time:**

Reads within specified accuracy when triggered coincident with step input voltage.

**Autorange time:**

- 33 ms per range change.
- Filter adds 363 ms to autorange time.

Remote ranging time: 8 ms.

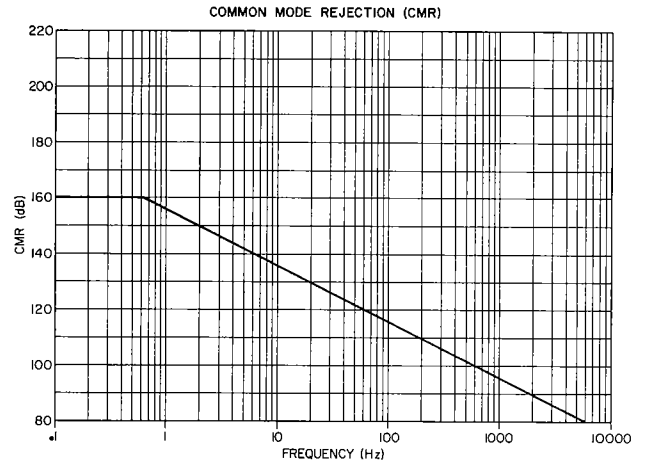
**INPUT CHARACTERISTICS**

**Input Resistance:**

Range	Specification
1V and 10V	> 10 <sup>10</sup> Ω within ±5% of null, otherwise 10M Ω ±0.03%
100V and 1000V	10M Ω ±0.03%

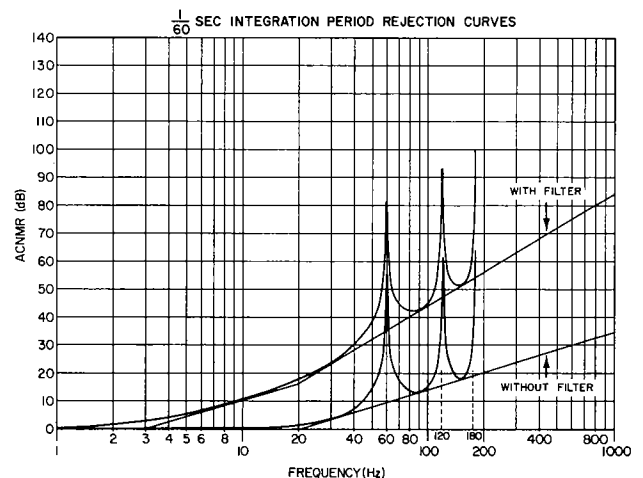
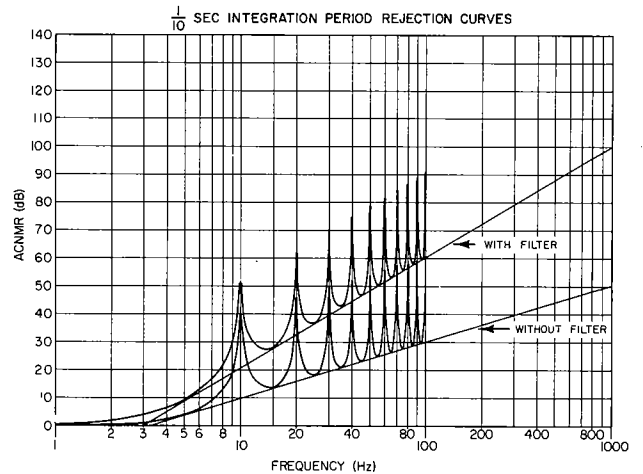
**Common-Mode Rejection (CMR):**

CMR is the ratio of the peak common-mode voltage to the resultant normal-mode signal with 1 kilohm unbalance in either input lead. Applies to all functions.



**AC Normal-Mode Rejection (ACNMR):**

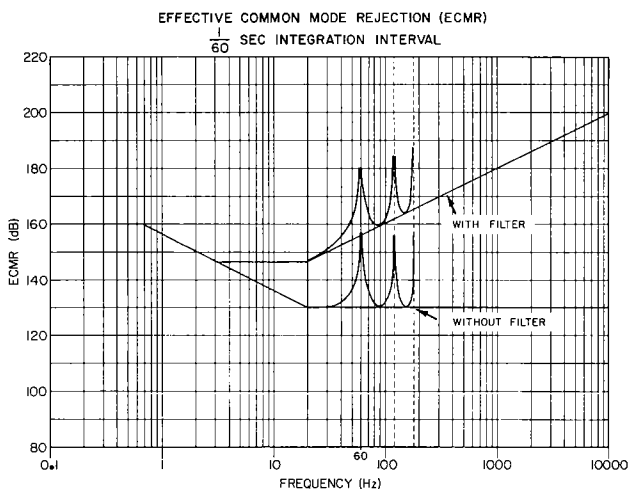
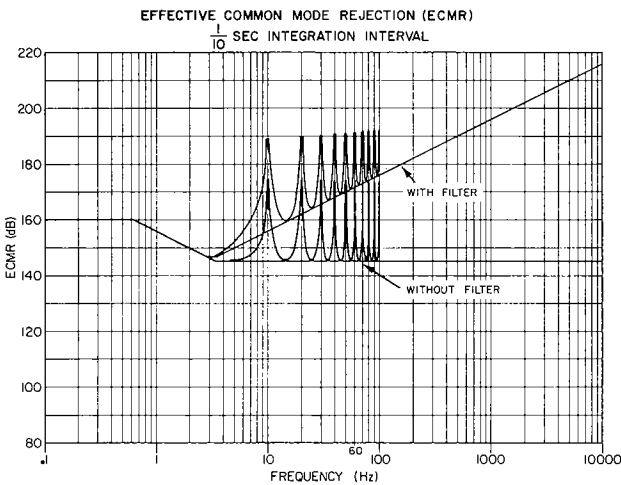
ACNMR is the ratio of the peak ac normal-mode signal to the resultant error in reading. Applies to DC and Ohms functions.



**3460B SPECIFICATIONS (CONT'D)**

**Effective Common-Mode Rejection (ECMR):**

ECMR is the ratio of the peak common-mode voltage to the resultant error in reading with 1 kilohm unbalance in either lead. Applies to DC and OHMs functions.



**Isolation Parameters:**

Floated and guarded input terminals; guard can be operated up to  $\pm 500$  V peak with respect to chassis ground, low can be operated up to  $\pm 50$  V peak with respect to guard.

**REMOTE CONTROL**

**Range Selection:**

Remote: all ranges can be selected by a contact closure to ground with impedance of  $< 100 \Omega$  for a period  $> 100 \mu s$ .

Automatic: automatic mode of range selection can be programmed by a contact closure to ground with impedance of  $< 100$  ohms.

Filter: can be programmed out by a contact closure to ground with impedance of  $< 100$  ohms.

**External Read Command:**

Trigger	Open Ckt Voltage	Trigger Level	Duration	Load
Positive going Direct coupled	-10 V	0 V or contact closure to ground	$100 \mu s$ to 10 ms	1 mA at 0 V 6 mA at +30 V
Negative going Direct coupled	+10 V	-10	$100 \mu s$ to 10 ms	2 mA at -10V, 5 mA at -30 V
AC Coupled		20 V p-p with rise time $\leq 10 \mu s$	$> 100 \mu s$	6 k $\Omega$ in parallel with 25 pF (0.01 $\mu F$ coupling capacitor used)

**Integration Period:**

Voltmeter normally integrates for 1/10 s. Contact closure to ground of  $< 100$  ohms selects 1/60 s integration period on 10, 100 and 1000 V ranges.

**D/A Converter Reset:**

Contact closure to ground of  $< 100$  ohms.

**Trigger Hold-Off:**

Hold-off voltage is +3 to +10 V with a maximum current of 6.3 mA (provided by any external device).

**Input Resistance:**

10 megohms  $\pm 0.03\%$  can be programmed by contact closure to ground of  $< 100$  ohms.

**RECORDER DATA**

**Print Command:**

dc coupled.

Print Level: -1.0 V with 2 kilohms source resistance.

Print Hold-Off Level: -17 V with 7.5 kilohms source resistance (minimum load resistance is 15 kilohms).

**BCD Outputs:**

4-line BCD (1-2-4-8) "1" state positive, 9 columns of information.

1 column for function (polarity),

1 column for decimal location,

1 column for overload indication,

6 columns for digits of data.

(HP 3460B Option 001 available for 1-2-2-4 BCD "1" state positive).

**BCD Reference Levels:**

STATE	VOLTAGE	SOURCE RESISTANCE
0	- 24 V	100 K
1	- 1 V	100 K

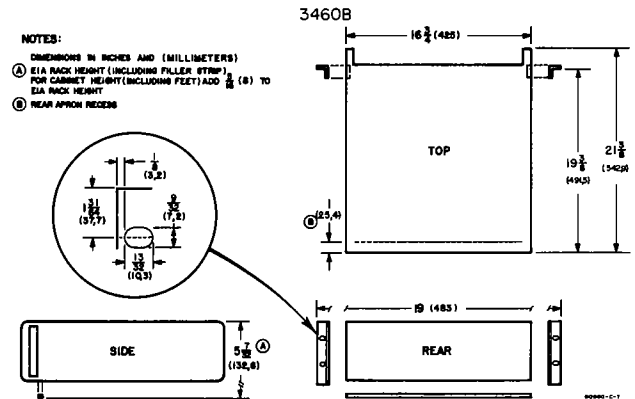
  

REF LEVELS:	VOLTAGE	SOURCE RESISTANCE
POSITIVE:	- 4 V	380 ohms
NEGATIVE:	- 21 V	900 ohms

**3460B SPECIFICATIONS (CONT'D)**

Options	BCD Code "1" State Positive		3461A Compatability	Filter
	1-2-4-8	1-2-2-4		
001		X		
002	X		X	
003		X	X	
004	X			X
005		X		X
006	X		X	X
007		X	X	X

**DIMENSIONS**



**GENERAL**

**Operating Temperature:**

Instrument will operate within specifications from 0°C to 50°C unless otherwise specified.

**Storage Temperature:**

-40°C to +75°C.

**RFI:**

Conducted and radiated leakage limits are below those specified in MIL-1-6181D.

**Power:**

115 V or 230 V ±10%, 50 Hz to 60 Hz, 60 W.

HP 3460B is available on special order for operation with power-line frequencies between 50 Hz and 400 Hz.

HP H50-3460B, optimum noise rejection for 50 Hz line frequency (Same options as 3460B),

**Accessories Furnished:**

- HP 11065A 6-ft rear input cable, guarding preserved;
- HP 11085A remote control cable;

HP Part No. 03460-84402 rack mounting kit (includes rack mounting hardware and printed circuit board extenders).

**Weight:**

Net 38 lb (17,6 kg).

Shipping 52 lb (23,5 kg).

**Accessories Available:**

HP 3461A AC/Ohms Converter · DC Preamplifier,  
 HP 562A/AR Digital Recorder, basic instrument with 11-column capacity; column boards, input connector assemblies and cables required for operation are not included.

HP P76-562A/AR Digital Recorder for use with HP 3460B accepting 1-2-4-8 BCD code. Includes special double-wheel characters, 9 BCD columns, 9-column input connector, printer option 30, and one input cable, printer option 32.

HP 5050B Digital Recorder, basic instrument with 18-column capacity and 3 code discs; column boards and cables required for operation are not included,

HP H024-5050B Digital Recorder, includes special print wheel in function column, 5 BCD column boards and option 32 inter-connecting printer cable,