

# 132C, 132F TRMS DIGITAL MULTIMETERS

PART NUMBER

SPEC-132

## DC VOLTS

RANGE	RESOLUTION	ACCURACY (1 YEAR) ±(%rdg + digits) 18°-28°C
200mV	100 μV	±(0.25% + 1d)
2 V	1mV	
20 V	10mV	
200 V	100mV	
1000 V	1 V	

MAXIMUM ALLOWABLE INPUT: 1000V DC or peak AC non-switched, 750V peak switched.

INPUT RESISTANCE: 10MΩ.

NORMAL MODE REJECTION RATIO: Greater than 46dB at 50Hz, 60Hz.

COMMON MODE REJECTION RATIO: Greater than 100dB at DC, 50Hz and 60Hz (1kΩ unbalance).

## TRMS AC VOLTS

RANGE	RESOLUTION	ACCURACY (1 YEAR) ±(%rdg + digits) 18°-28°C	FREQUENCY RANGE
200mV	100 μV	±(1% + 9d)	45Hz-500Hz
2 V	1mV		
20 V	10mV		
200 V	100mV		
750 V	1 V		

MAXIMUM ALLOWABLE INPUT: 1000V peak non-switched, 750V peak switched; continuous except 200mV range: 15s max above 300V.

INPUT IMPEDANCE: 10MΩ shunted by less than 100pF.

RESPONSE: True root mean square; AC coupled.

CREST FACTOR: Up to 3:1 allowable. Less than 2% additional error, 50Hz or 60Hz rectangular pulse train with crest factor of 3:1.

## OHMS

RANGE	RESOLUTION	ACCURACY (1 YEAR) ±(%rdg + digits) 18°-28°C	FULL SCALE VOLTAGE
200 Ω	100mΩ	±(0.5% + 4d)	< 0.5V
2 kΩ	1 Ω	±(0.2% + 1d)	< 0.7V
20 kΩ	10 Ω	±(0.2% + 1d)	> 0.7V
200 kΩ	100 Ω	±(0.2% + 1d)	> 0.7V
20MΩ	10 kΩ	±(2% + 1d)	> 0.7V

MAXIMUM OPEN CIRCUIT VOLTAGE: 1.5V.

MAXIMUM ALLOWABLE INPUT: 300V DC or rms.

## TEMPERATURE

MODEL	RANGE	RESOLUTION	ACCURACY (1 YEAR) 18°-28°C
132C	-20°C to 1370°C	1°C	±(3° + 1d) up to 150°C ±3% of reading over 150°C Chart correctable to ±1.5% of reading over 350°C
132F	0°F to 2000°F	1°F	±(5° + 2 digits) up to 225°F ±3% of reading over 225°F Chart correctable to ±1.5% of reading over 600°F

Accuracy includes NBS conformity, calibration stability, zero and reference junction, but not thermocouple errors.

SENSOR: Type K (NiCr-NiAl) (not included).

INPUT CONNECTIONS: Miniature TC connector.

OVERLOAD PROTECTION: 150V continuous, 300V momentary (10s).

## DC AMPS

RANGE	RESOLUTION	ACCURACY (1 YEAR) ±(%rdg + digits) 18°-28°C	MAXIMUM FULL SCALE VOLTAGE BURDEN
2mA	1 μA	±(0.75% + 1d)	0.25V
20mA	10 μA	±(0.75% + 1d)	0.25V
200mA	100 μA	±(1% + 1d)	0.25V
2000mA	1mA	±(2% + 1d)	0.7 V

OVERLOAD PROTECTION: 2A fuse (250V), externally accessible.

## TRMS AC AMPS

RANGE	RESOLUTION	ACCURACY (1 YEAR) ±(%rdg + digits) 18°-28°C (45Hz-500Hz)	MAXIMUM FULL SCALE VOLTAGE BURDEN
2mA	1 μA	±(2% + 9d)	0.25V
20mA	10 μA	±(2% + 9d)	0.25V
200mA	100 μA	±(2% + 9d)	0.25V
2000mA	1mA	±(3% + 9d)	0.7 V

OVERLOAD PROTECTION: 2A fuse (250V), externally accessible.

RESPONSE: True root mean square, AC coupled.

CREST FACTOR: Less than 1.5% additional error, 50Hz or 60Hz rectangular pulse train with crest factor of 3:1 at 40% of full scale.

## GENERAL

DISPLAY: 0.6" LCD digits with decimal and polarity indications, low battery warning.

OVERRANGE INDICATION: 3 least significant digits blanked.

MAXIMUM COMMON MODE VOLTAGE: 500V peak.

OPERATING ENVIRONMENT: 0° to 50°C; less than 80% relative humidity up to 35°C. Linearly derate 3% RH/°C, 35°C to 50°C.

STORAGE ENVIRONMENT: -35° to 60°C; less than 90% relative humidity up to 35°C. Linearly derate 3% RH/°C, 35°C to 60°C.

TEMPERATURE COEFFICIENT: From 18° to 28°C: Included in accuracy specifications; from 0° to 18°C and 28° to 50°: Less than 0.1 × applicable accuracy specification per °C.

POWER: 9V alkaline or carbon-zinc battery (NEDA 1604).

BATTERY LIFE: 75 hours typical with carbon-zinc cells, 150 hours typical with alkaline cells.

BATTERY INDICATOR: Display indicates BAT when less than 10% of life remains.

DIMENSIONS, WEIGHT: 178mm long × 78mm wide × 42mm thick (7.0" × 3.1" × 1.6"). Net weight 370gm (13 oz.).

ACCESSORIES SUPPLIED: Battery, INSTRUCTION manual, Model 1691 General Purpose Test Lead Set.

## ACCESSORIES AVAILABLE:

- Model 1304: Soft Carrying Case & Stand
- Model 1306: Heavy Duty Carrying Case
- Model 1600A: High Voltage Probe
- Model 1651: 50-Ampere Current Shunt
- Model 1681: Clip-On Test Lead Set
- Model 1682A: RF Probe
- Model 1683: Universal Test Lead Kit
- Model 1685: Clamp-On Current Probe
- Model 1691: General Purpose Test Lead Set
- Model 8700: Carrying Case with Belt Clip and Holster
- Model 8711A: Thermocouple Kit
- Model 8712: Thermocouple Sensor
- Model 8713: General Purpose Probe
- Model 8714A: Penetration Probe with Coiled Cable
- Model 8715: Surface Probe
- Model 8716: Air/Gas Probe
- Model 8717: Hypodermic Probe

Prices and specifications subject to change without notice.

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LTR	REVISIONS	APP.	DATE	DRN. B.K.	DATE
A	REL. #3316	8	8-19-82	CKD.	DATE
				APP. <i>MJL</i>	DATE 8-19-82
				SPECIFICATIONS MODELS 132C & 132F	

**KEITHLEY**

Keithley Instruments Inc.  
Cleveland, Ohio 44139

PART NUMBER

SPEC-132

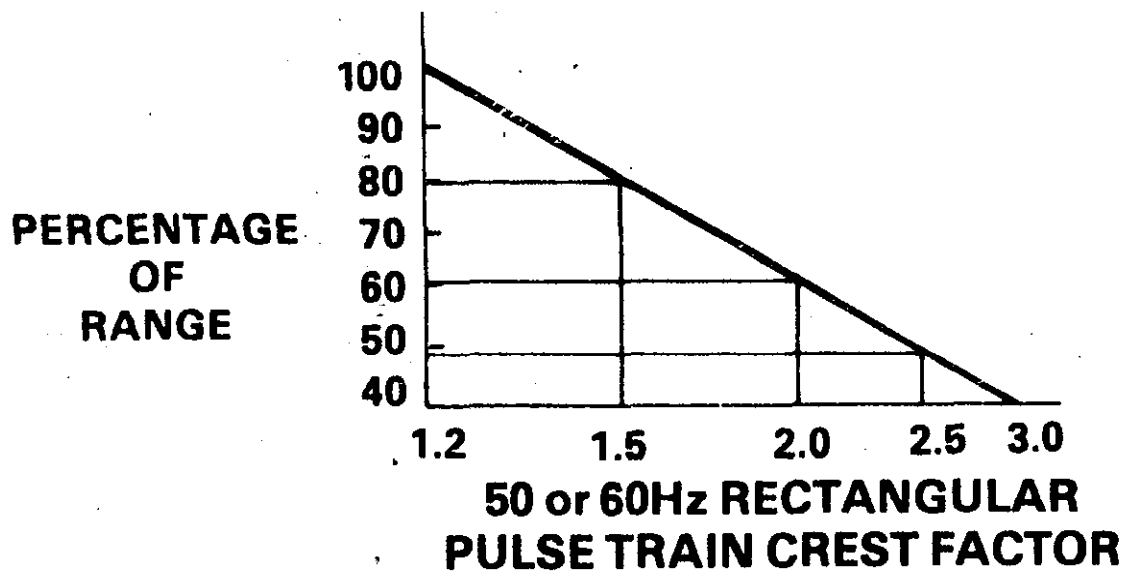
132 Specification Addenda

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The following is supplied as clarification of 132C and 132F specifications:

1. Bandwidth: The specified bandwidth for TRMS AC volts and AC amps is the sine wave accuracy response.
2. AC amps CF: See table 1
3. Temperature Correction: See table 2

Table 1




**Allowable AC Amps Crest Factor for Less Than 1.5% Additional Error. (Error will be less for other types of wave forms.)**

LTR	REVISIONS	APP.	DATE	DRN. B.K.	DATE	Keithley Instruments Inc. Cleveland, Ohio 44139
A	REL. # 8616	Ⓞ	8-19-82	CKD.	DATE	
				APP. <i>MJL</i>	DATE 8-19-82	
SPECIFICATIONS, MODELS 132C & 132F						PART NUMBER <b>SPEC-132</b>

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Table 2. Temperature Correction Factors

Model 132C Reading (°C)	Correction Factor (°C)	Model 132F Reading (°F)	Correction Factor (°F)
350-362	0	600-629	+1
363-395	-1	630-669	0
396-424	-2	670-705	-1
425-451	-3	706-738	-2
452-476	-4	739-768	-3
477-500	-5	769-796	-4
501-524	-6	797-823	-5
525-547	-7	824-850	-6
548-571	-8	851-875	-7
572-595	-9	876-900	-8
596-619	-10	901-924	-9
620-646	-11	925-948	-10
647-674	-12	949-971	-11
675-707	-13	972-995	-12
708-750	-14	996-1018	-13
751-912	-15	1019-1041	-14
913-950	-14	1042-1065	-15
951-978	-13	1066-1089	-16
979-1002	-12	1090-1113	-17
1003-1022	-11	1114-1138	-18
1023-1040	-10	1139-1163	-19
1041-1057	-9	1164-1190	-20
1058-1073	-8	1191-1217	-21
1074-1087	-7	1218-1247	-22
1088-1100	-6	1248-1278	-23
1101-1113	-5	1279-1313	-24
1114-1125	-4	1314-1354	-25
1126-1136	-3	1355-1404	-26
1137-1147	-2	1405-1495	-27
1148-1157	-1	1496-1566	-28
1158-1167	0	1567-1654	-27
1168-1176	+1	1655-1700	-26
1177-1185	+2	1701-1736	-25
1186-1194	+3	1737-1767	-24
1195-1202	+4	1768-1794	-23
1203-1211	+5	1795-1818	-22
1212-1218	+6	1819-1840	-21
1219-1226	+7	1841-1861	-20
1227-1233	+8	1862-1880	-19
1234-1240	+9	1881-1899	-18
1241-1247	+10	1900-1916	-17
1248-1254	+11	1917-1932	-16
1255-1260	+12	1933-1948	-15
1261-1267	+13	1949-1963	-14
1268-1278	+14	1964-1978	-13
1274-1279	+15	1979-1992	-12
1280-1285	+16	1993-2000	-11
1286-1291	+17		
1292-1297	+18		
1298-1302	+19		
1303-1308	+20		
1309-1313	+21		
1314-1318	+22		
1319-1324	+23		
1325-1329	+24		
1330-1334	+25		
1335-1339	+26		
1340-1343	+27		

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A	REL. # 8616	5	8-19-82	CKD.	DATE	
				APP. <i>MJH</i>	DATE 8-19-82	
				SPECIFICATIONS, MODELS 132C & 132F		PART NUMBER SPEC-132