# GSM-20H10

### Source Measure Unit





## **FEATURES**

GW INSTEK

Simply Reliable

- \* Maximum Output ±210V/±1.05A/22W
- \* Built-in 4 Sequence Output Modes (Stair, Log, SRC-MEM, Custom), up to 2500 Points
- \* OVP /OTP Protection Function
- \* 0.012% Basic Measure Accuracy with 61/2-digit Resolution
- \* Variable Sampling Speed
- \* SDM (Source Delay Measure) Cycle
- \* 2-, 4-, and 6-wire Remote V-source and Measure Sensing
- \* Variable Display Digits
- \* Built-in Limit Function
- \* Built-in 5 Calculation Functions
- \* 4.3" TFT LCD, Digital Number Keyboard
- \* Built-in RTC Clock
- \* Interface: RS-232, USBTMC, LAN, GPIB (Optional)

GW Instek GSM-20H10 is a Source Measure Unit that provides highly stable DC power and instrumentgrade 6½-digit multimeter measurements. While operating, it can be used as a voltage source, current source, voltmeter, ammeter, and ohmmeter, which is uniquely ideal for the evaluation of component characteristics and the test applications of production, including nanomaterials and components, semiconductor architecture, organic materials, high-efficiency illumination, passive components and material characteristics analysis, etc.

GSM-20H10 provides four-quadrant operation of ±210V/±1.05A/22W. The first and third quadrants operate as power supplies to supply power to the load. The second and fourth quadrants function as loads to consume power internally. Voltage value, current value and resistance value can be measured while operating the power supply or load function with an accuracy of 0.012% and a resolution of  $1\mu V/10pA/10\mu Ω$ .

With respect to sampling rate, GSM-20H10 supports a sampling rate of up to 50k points/second, which can accurately analyze the characteristics of the DUT. With the large 4.3-inch screen, all measurement settings, parameters and results can be completely displayed on the screen. The SDM (Source Delay Measure) function is provided to delay sampling when the signal changes so as to prevent the unstable signal from being captured and cause misjudgment. There are four built-in sequence output modes (Stair, Log, SRC-MEM, Custom), which can support up to 2500 points of sequence variation output.

Pertaining to protection, GSM-20H10 provides OVP/OTP modes. The design of OVP allows users to self-define the range of OVP. OTP can effectively prevent errors caused by temperature drift during the test process. For interfaces, this product supports standard SCPI commands and provides RS-232, USBTMC, LAN, GPIB (optional) interfaces to meet users' different interface needs.

### **SPECIFICATIONS NOTE:**

- 1. Speed = Normal (1 NPLC). For 0.1 PLC, add 0.005% of range to offset specifications, except 200mV, 1A ranges,
- add 0.05%. For 0.01 PLC, add 0.05% of range to offset specifications, except 200mV, 1A ranges, add 0.5% 2. Required to reach 0.1% of final value after Command is processed. Resistive load. 10μA to 100mA range.
- 3. Overshoot into a fully resistive 100k  $\Omega$  load, 10Hz to 1MHz BW, adjacent ranges : 100mV typical, except 20V/200V.
- 4. Maximum time required for the output to begin to change following the receipt of : SOURce : VOLTage|CURRent <nrf> Command.
- 5. Reading rates applicable for voltage or current measurements, autorange off, filter off, display off, trigger delay 0, and binary reading forma
- 6. Purely resistive lead.  $1\mu A$  and  $10\mu A$  ranges <65ms.
- 7. 1000 point sweep was characterized with the source on a fixed rang.
- 8. Pass/Fail test performed using one high limit and one low math limit.
- 9. Includes time to re-program source to a new level before making measurement.
- 10. Time from falling edge of START OF TEST signal to falling edge of END OF TEST signal.

  11. Command processing time of: SOURce: VOLTage|CURRent: TRIGgered <nrf> Command not included.

### **APPLICATIONS**

- \* Semiconductor Component Characteristic Testing
- \* Energy and Efficiency Characteristic Testing
- \* Organic Material Characteristic Testing
- \* Nanomaterial Characteristic Testing







SPECIFIC														
	Voltage		±210V											
MAXIMUM RANGE	Current Power Voltage Resolution Current Recolution		±1.05A											
RANGE			1µV											
	Current Resolution Output Voltage		10pA ±21V / ±1.05A, ±210V / ±105 mA											
	DC Voltage	Current Limit	Min. 0.1% of range											
		Programming Resolution &	Range Resolution	±200.000r	mV		0000V DμV		±20.000			±200.00	10V	
		Accuracy*1	Accuracy	±(0.02%+60	00μV)		6+600μV)		±(0.02%+2			±(0.02%+2	!4mV)	
SOURCE		Load Regulation Line Regulation	0.01% of range + 0.01% of range	100μV										
		Overshoot		scale step,resistive load,	10mA range)									
		Recovery Time (1000% Load Change)	<250µs (within 0.1% plus load regulation errors, 1A and 100mA compliance.)											
		Ripple and Noise	4mVrms(20Hz~1MHz) / 10mVpp(20Hz~1MHz)											
		Temperature Coefficient Output Current	±(0.15 × accuracy specification)/°C (0°-18°C & 28°-50°C) ±1.05A / ±21V, ±105 mA / ±210V											
	DC Current	Voltage Limit	Min. 0.1% of rang	Min. 0.1% of range										
			Range Resolution	±1.00000μA 10pA	±10.0000μA 100pA	±100.000	ЭμΑ	±1.00000mA		0000mA 0nA	±100.000m	A	±1.00000A 10μA	
			Accuracy	±(0.035%+600pA)	±(0.033%+2nA	) ±(0.031%+	20nA)	±(0.034%+200r	(A) ±(0.045	i%+2μA)	±(0.066%+20	μA) ±	(0.27%+900μA	
			0.01% of range + 0.01% of range	TUUPA										
		Overshoot	<0.1% typical (1mA step, RL = $10k\Omega$ , 20V range)											
		Temperature Coefficient Output Settling Time *2	±(0.15 × accuracy specification)/°C (0°~18°C & 28°~50°C)  100µs typical time											
		Output Rise Time (±30%)	300μs, 200V range, 100mA compliance; 150μs, 20V range, 100mA compliance											
	CI	DC Floating Voltage Remote Sense	Output can be floated up to ±250VDC  Up to 1V drop per load lead											
	General	Compliance Accuracy	Add 0.3% of range and ±0.02% of reading to base specification  Adjacent range changes between 200mV, 2V and 20V ranges, 100mV typical											
		Range Change Overshoot *3 Minimum Compliance Value	Adjacent range ch 0.1% of range	anges between 200mV, 2V	and 20V ranges, 10	omv typical								
		Command Processing Time *4	Autorange On:10ms. Autorange Off: 7ms											
MEASUREMENT		Input Resistance	>10 GΩ Range	±2.0	±2.00000V			±20.0000V		±200.000V				
	Voltage	Measurement Resolution & Accuracy	Resolution 1µV		10μV ±(0.012%+300μV)		100μV ±(0.015%+1.5mV)		1mV ±(0.015%+10mV)					
		Temperature Coefficient	Accuracy ±(0.15 × accuracy	±(0.012%+3) specification)/°C (0°~18°		±(0.0129	νο+ου∪μν)		±(0.015%+1	i.ərriv)		±(0.015%+	romv)	
	Current	Voltage Burden (4-wire mode)	< 1mV	-1.000004	-10.00004	. 100 000	)A	. 1 00000 4	.10.00	2000 4	.100.000		.1.000004	
		Programmed Source Resolution & Accuracy *1	Range Resolution	±1.00000μA 10pA	±10.0000μA 100pA	±100.000	<i>J</i> μΑ	±1.00000mA		0000mA 0nA	±100.000m	A	±1.00000A 10μA	
			Accuracy	±(0.029%+300pA)	±(0.027%+700p	A) ±(0.025%+	-6nA)	±(0.027%+60n	A) ±(0.0359	%+600nA)	±(0.055%+6)	μA) ±	(0.22%+570μA	
		Temperature Coefficient	±(0.1 × accuracy s	pecification) / °C (0°~18°0 <2.00000Ω	C & 28°~50°C) 2.000	000Ω	20.0000	Ω	200.000Ω		2.00000kΩ		20.0000kΩ	
			Resolution	***	10	ιΩ	100μΩ 100mA		1mΩ		10mΩ		100mΩ	
			Test current						10mA		1mA		100μΑ	
			A			. 10	1%+0.003Ω)		08%+0.03Ω), Norn	nal ±(0.07	'%+0.3Ω), Norma	±(0.06	5%+3Ω), Norm	
		Range	Accuracy	Source IACC+Meas.VAC	CC Source IACC-	+Meas.VACC ±(0.07	1%+0.003Ω) ′%+0.001Ω),	, Normal ±(0 , Enhanced ±(0.0	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar	ced ±(0.059	'%+0.3Ω), Norma %+0.1Ω), Enhance			
		Range	Accuracy Resolution			+Meas.VACC $\pm$ (0.07	1%+0.003Ω)	, Normal ±(0 , Enhanced ±(0.0	08%+0.03Ω), Norn	ced ±(0.059	'%+0.3Ω), Norma			
	Resistance	Range	,	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA	2.0000 10 5µ	+Meas.VACC $\pm (0.07)$ $\pm (0.07)$ $\pm (0.07)$ $\pm (0.07)$ $\pm (0.07)$ $\pm (0.07)$	1%+0.003Ω) 7%+0.001Ω) 20.0000M 100Ω 0.5μA	, Normal ±(0.0) , Enhanced ±(0.0)	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar 200.000ΜΩ 1kΩ 100nA	ted ±(0.059	/%+0.3Ω), Norma %+0.1Ω), Enhance >200.000M Ω			
	Resistance	Range	Resolution	Source IACC+Meas.VAC 200.000kΩ 1Ω	2.0000 2.0000 10 5µ al ±(0.11%+30)	$\pm$ (0.07)  Meas.VACC $\pm$ (0.07) $\pm$ (0.07) $\Omega$ A $\Delta$ (0Ω), Normal $\pm$ (0	1%+0.003Ω) 7%+0.001Ω) 20.0000M 100Ω	, Normal ±(0.0 Enhanced ±(0.0 1Ω Normal ±(0.0 )	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar 200.000ΜΩ 1kΩ	±(0.059	%+0.3Ω), Norma %+0.1Ω), Enhance >200.000M Ω 	ed ±(0.049		
	Resistance	Temperature Coefficient	Resolution Test current Accuracy ±(0.15 × accuracy	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA ±(0.07%+30Ω), Norma ±(0.05%+10Ω), Enhance specification)/*C (0°-18°t	2.0000 2.0000 10 51 al ±(0.11%+301 ed ±(0.05%+100 C & 28°-50°C)	$\begin{array}{c c} \pm (0.07) \\ \pm $	1%+0.003Ω) 7%+0.001Ω), 20.0000M 100Ω 0.5μA .11%+1kΩ),	, Normal ±(0.0 Enhanced ±(0.0 1Ω Normal ±(0.0 )	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar 200.000MΩ 1kΩ 100nA .66%+10kΩ), Norn	±(0.059	*%+0.3Ω), Norma %+0.1Ω), Enhance >200.000M Ω 	ed ±(0.049	5%+3Ω), Norma %+1Ω), Enhanc	
	Resistance	·	Resolution Test current Accuracy ±(0.15 × accuracy Total uncertainty	Source IACC+Meas.VAC $\frac{200.000k\Omega}{1\Omega}$ $\frac{1\Omega}{10\mu\text{A}}$ $\pm (0.07\%+30\Omega), \text{Norma}$ $\pm (0.05\%+10\Omega), \text{Enhance}$	2.000( 2.000( 10 10 14 ±(0.11%+30) ed ±(0.05%+100) C & 28°-50°C) easure accuracy (4-w	-Meas.VACC $\pm (0.07)$ 00MΩ $\pm (0.07)$ $\Omega$ A $\pm (0.07)$ A $\pm (0.07)$ $\Omega$ , Normal $\pm (0.07)$ ire remote sense)	1%+0.003Ω) 7%+0.001Ω), 20.0000M 100Ω 0.5μA .11%+1kΩ),	, Normal ±(0.0 Enhanced ±(0.0 1Ω Normal ±(0.0 )	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar 200.000MΩ 1kΩ 100nA .66%+10kΩ), Norn	±(0.059	*%+0.3Ω), Norma %+0.1Ω), Enhance >200.000M Ω 	ed ±(0.049		
	Resistance	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode	Resolution Test current Accuracy ±(0.15 × accuracy Total uncertainty Total uncertainty Available using ac	Source IACC+Meas.VAC 200.000kΩ 10 Ω 10 µA ±(0.07%+30Ω), Norma ±(0.05%+10Ω), Enhances specification)/°C (0°-18'*1 I source accuracy + V me 4' source accuracy + I me dive ohms guard and guard	2.000( 2.000( 10 2.000( 10 4.011%+30i ed ±(0.05%+100 C & 28°-50°C) easure accuracy (4-weasure accuracy (4-	-Meas.VACC $\pm (0.07)$ $\pm (0.07)$ $\Omega$ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ	1%+0.003Ω) 1%+0.001Ω), 20.0000M 100Ω 0.5μA .11%+1kΩ), 5%+500Ω),	, Normal ±(0.0 ±(	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar 200.000MΩ 1kΩ 100nA .66%+10kΩ), Norm 35%+5kΩ), Enhand	±(0.059	*%+0.3Ω), Norma %+0.1Ω), Enhance >200.000M Ω 	ed ±(0.049		
	Maximum Range Cl	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate	Resolution Test current Accuracy ±(0.15 × accuracy Total uncertainty Total uncertainty Available using ac <0.1Ω in ohms mo 75/second	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA ±(0.079%-130Ω), Norma ±(0.05%+10Ω), Enhance specification]/°C (0"-18% 1 source accuracy + V me -V source accuracy + I me tive ohms guard and guarn dde	2.000( 2.000( 10 2.000( 10 4.011%+30i ed ±(0.05%+100 C & 28°-50°C) easure accuracy (4-weasure accuracy (4-	-Meas.VACC $\pm (0.07)$ $\pm (0.07)$ $\Omega$ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ Λ	1%+0.003Ω) 1%+0.001Ω), 20.0000M 100Ω 0.5μA .11%+1kΩ), 5%+500Ω),	, Normal ±(0.0 ±(	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar 200.000MΩ 1kΩ 100nA .66%+10kΩ), Norm 35%+5kΩ), Enhand	±(0.059	*%+0.3Ω), Norma %+0.1Ω), Enhance >200.000M Ω 	ed ±(0.049		
		Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate	Resolution Test current Accuracy ±(0.15 × accuracy Total uncertainty - Total uncertain	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA ±(0.07%+30Ω), Norma ±(0.05%+10Ω), Enhance specification)/°C (0°-18*id- 1 Source accuracy + V me tive ohms guard and guara dde e) *6	CC Source IACC- 2.0000 10 5; al ±(0.11%+30) cd ±(0.05%+100 C & 28*-50*C) assure accuracy (4-w d sense, Max. Guard	-Meas.VACC $\pm (0.07)$	1%+0.003Ω) 1%+0.001Ω), 20.0000M 100Ω 0.5μA .11%+1kΩ), 55%+500Ω),	, Normal ±(0, Enhanced ±(0.0 Ω Normal ±(0.0 Enhanced ±(0.0 A range). Accurace	08%+0.03Ω), Norm 5%+0.01Ω), Enhar 200.000MΩ 1kΩ 100nA .66%+10kΩ), Norm 35%+5kΩ), Enhand	and source	"%+0.3Ω), Norma %+0.1Ω), Enhance -200.000M Ω   IACC+Meas.VAC	±(0.049	%+1Ω), Enhanc	
	Maximum Range Cl	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate	Resolution Test current Accuracy ±(0.15 × accuracy Total uncertainty Total uncertainty Available using ac <0.1Ω in ohms mo 75/second	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA ±(0.079%-130Ω), Norma ±(0.05%+10Ω), Enhance specification]/°C (0"-18% 1 source accuracy + V me -V source accuracy + I me tive ohms guard and guarn dde	CC Source IACC- 2.0000 10 5; al ±(0.11%+30) cd ±(0.05%+100 C & 28*-50*C) assure accuracy (4-w d sense, Max. Guard	-Meas.VACC $\pm (0.07)$	1%+0.003Ω) 1%+0.001Ω), 20.0000M 100Ω 0.5μA .11%+1kΩ), 5%+500Ω),	, Normal ±(0.01 Enhanced ±(0.01 Ω  Normal ±(0.01 Enhanced ±(0.01 A range). Accurace	08%+0.03Ω), Norn 5%+0.01 Ω), Enhar 200.000MΩ 1kΩ 100nA .66%+10kΩ), Norm 35%+5kΩ), Enhand	and source	"%+0.3Ω), Norma %+0.1Ω), Enhance -200.000M Ω   IACC+Meas.VAC	ed ±(0.049	%+1Ω), Enhanc	
	Maximum Range Ci Maximum Measure Sequence Reading	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast	Resolution Test current Accuracy ±(0.15 x accuracy total uncertainty: Available using ac <0.1\Omega in ohms me 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal	Source IACC+Meas.VAC 200,000kΩ 10Ω 10μA ±(0.07%+30Ω), Norma ±(0.05%+10Ω), Enhance specification)/°C (0°-18** - I Source accuracy + 1 me tive ohms guard and guar dde e) *6  Measur TO MEMORY 2081 (2030)	CC Source IACC- 2.0000 10 51 al ±(0.11)%+30 cd ±(0.05)%+100 C & 28"-50"C) assure accuracy (4-w d sense. Max. Guard TO GPIB 1198 (1210)	-Meas.VACC $\pm (0.07)$	1%+0.003Ω) 1%+0.001Ω), 20.0000M 100Ω 0.5μA .11%+1kΩ), 55%+500Ω),  Measure *9 TO C 1000	Normal ± (0.0	08%+0.03Ω), Norm 5%+0.01Ω), Enhar 200.000MΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc vis load dependent	±(0.059   10   10   10   10   10   10   10   1	1%+0.3Ω), Norma %+0.1Ω), Enhance -200.000M Ω	ed ±(0.043	-mory *9 TO GPIB 164 (162)	
	Maximum Range Cl Maximum Measure Sequence Reading Rates*7	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium	Resolution Test current Accuracy ±(0.15 × accuracy) total uncertainty.	Source IACC+Meas.VAC 200.000kΩ 10μ 10μA ±(0.0796-300), Norma ±(0.0596+10Ω), Enhance specification]/°C (0"-18" is specification]/°C	CC Source IACC.  2.0000  10  51  al ±(0.1196+300)  c & 2.8*-50*C)  seasure accuracy (4-w assure accuracy (4-d d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 7%+0.001 Ω) 20.000 M 100 Ω 0.5 μA .11%+1 kΩ), 55%+500 Ω),  Measure *9 TO C 1000   916 (	Normal ±(0, Enhanced ±(0.01)	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ 1kΩ 1kΩ 100nA .66%+10kΩ), Norm 35%+5kΩ), Enhanc vis load dependent vis load dependent 0 MEMORY 100000 100000 100000 100000 100000 100000 100000 100000 1000000 100	s/Fail test *8, * TO GPIB 809 (840) 756 (840) 338 (343)	196+0.3Ω), Norma 64-0.1Ω), Enhance 2200.000M Ω  IACC+Meas.VAC  9  TO ME 165 ( 163 ( 133 ( 133 1)	Measure Me MORY   162)   1160)   126)	mory *9 TO GPIB 164 (162) 162 (160) 132 (126)	
	Maximum Range Ci Maximum Measure Sequence Reading Rates *7	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2	Resolution Test current Accuracy ±(0.15 x accuracy total uncertainty:	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA ±(0.07%+30Ω), Norma ±(0.05%+10Ω), Enhance specification)/°C (0°-18°: 1 source accuracy + V me + V source accuracy + V me + V source accuracy + I me tive ohms guard and guar dde e) °6  Measur TO MEMORY 2081 (2030) 1239 (1200) 510 (433) 438 (380)	CC Source IACC- 2.0000 10 51 al ±(0.11)%+300 cd ±(0.05%+100 c & 28*-50*c) assure accuracy (4-w d sense. Max. Guare TO GPIB 1198 (1210) 1079 (1050) 509 (433) 438 (380)	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1.11%+1kΩ), 5%+500Ω),  Measure *9 TO C 1000 μ 916 ( 470 (	Normal ±(0, Enhanced ±(0.01)   Enhanced ±(0.01)   Normal ±(0.01)   Enhanced ±(0.01)   Enhanced ±(0.01)   Enhanced ±(0.01)   Solution   Solut	08%+0.03Ω), Norm 5%+0.01Ω), Enhar 200.000MΩ 1kΩ 100nA 160%+10kΩ), Norm 35%+5kΩ), Enhand vis load dependent cource-Measure Pas MEMORY 302 (900) 330 (830) 389 (343) 374 (333)	s/Fail test *8,* TO GPI8 809 (840) 756 (780) 338 (343) 374 (333)	1%+0.3Ω), Norma %+0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1126)	mory *9 TO GPIB 164 (162) 162 (160) 132 (126)	
	Maximum Range Cl Maximum Measure Sequence Reading Rates*7	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium	Resolution Test current Accuracy ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty Total uncerta	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0796-300), Norma ±(0.0596+10Ω), Enhance specification]/°C (0"-18" to specification]/°C (	CC Source IACC.  2.0000  10  5  al ±(0.195+300)  ±(0.05%+100)  € 28*-50°C)  28sure accuracy (4-w  28sure accuracy (4-d  d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 7%+0.001 Ω) 20.000 M 100 Ω 0.5 μA .11%+1 kΩ), 55%+500 Ω),  Measure *9 TO C 1000   916 (	Normal ±(0, Enhanced ±(0,0)	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 200.000MΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1	s/Fail test *8, * TO GPIB 809 (840) 756 (840) 338 (343)	196+0.3Ω), Norma 64-0.1Ω), Enhance 2200.000M Ω	Measure Me MORY 162) 126) 125) 338)	mory*9 TO GPIB 164 (162) 162 (166) 131 (125) 44 (38) 44 (38)	
	Maximum Range Ci Maximum Measure Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz) Single Reading	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance tange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal	Resolution Test current Accuracy ±(0.15 x accuracy total uncertainty: Available using ac <0.1\Overline{1} in ohms m 75/second 40ms (fixed sourc NPLC / Trig 0.01 / internal 0.01 / external 0.1 / external 1 / internal 1 / external NPLC/ Trig	Source IACC+Meas.VAC 200.000kΩ 10 10µA ±(0.079×430Ω), Norma ±(0.05%+10Ω), Enhance specification]/°C (0°-18** 1 source accuracy + V me - V source accuracy + I me - V source accuracy +	CC Source IACC- 2.0000 10 5, al ±0.11%+300 ed ±10.05%+100 C & 28*-50*C) easure accuracy (4-w asure accuracy (4-d d sense. Max. Guare TO GPIB 1198 (1210) 1079 (1050) 509 (433) 438 (380) 59 (49) 57 (48) Measure	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Aleasure *9 TO C 1000 916 ( 470 ( 499 (	Normal ±(0, Enhanced ±(0.0)	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 200.000MΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	-9 TO ME 165 (133) (134) (44) (44) (Source-Measu)	Measure Me MORY 162) 125) 138) 138) 140 141 141 141 141 141 141 141 141 141	mory*9 TO GPIB 164 (162) 162 (166) 131 (125) 44 (38) 44 (38)	
	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates	Temperature Coefficient Source I mode, Manual OHMS Source Y mode, Manual OHMS Source Y mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2)	Resolution Test current Accuracy ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty. Total uncertainty Total uncertainty Total uncertainty 40 ns (fixed sourc NPLC / Trig Origin 0.01 / internal 0.1 / external 1 / internal 1 / internal NPLC / Trig Origin 0.01 / external	Source IACC+Meas.VAC 200.000kΩ 10μ 10μA ±(0.0796-300), Norma ±(0.0596+10Ω), Enhance specification]/°C (0"-18" is voice accuracy + I me v Source accuracy + I me v Source accuracy + I me vive ohms guard and guars de e) *6  Measur TO MEMORY 2081 (2030) 1239 (1200) 1239 (1200) 510 (433) 438 (380) 59 (49) 57 (48)	CC Source IACC.  2.0000  10  5,  al ±(0.1754-30)  ±(0.05%+100  € 2.8*-50°C)  seasure accuracy (4-w assure accuracy (4-d d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Aleasure *9 TO C 1000 916 ( 470 ( 499 (	Normal ± (0   Enhanced ± (0.0   Enhanced ± (0	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 200.000MΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	99+0.3Ω), Norma 64-0.1Ω), Enhance 2200.00M Ω  IACC+Meas.VAC  TO ME 165 ( 163 ( 133 ( 131 ( 44 ( Source-Measu	Measure Me MORY 162) 1160 1266 1275 138) 38) 38 179 GGPIB 79 (83)	mory*9 TO GPIB 164 (162) 162 (166) 131 (125) 44 (38) 44 (38)	
	Maximum Range Ci Maximum Measure Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz) Single Reading	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Medium(488.2)	Resolution Test current Accuracy ±(0.15 x accuracy Total uncertainty: Available using ac <0.1\Overline{1} in ohms 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal 0.1 / external 1 / internal 1 / external 1 / external NPLC/ Trig Origin 0.01 / internal 0.01 / internal 0.1 / external 1 / external 1 / external 1 / external 0.1 / internal 0.01 / internal 0.01 / internal	Source IACC+Meas.VAC 200.000kΩ 10μ 10μA ±(0.0796-300), Norma ±(0.0596+10Ω), Enhance specification]/°C (0"-18" is voice accuracy + I me v Source accuracy + I me v Source accuracy + I me vive ohms guard and guars de e) *6  Measur TO MEMORY 2081 (2030) 1239 (1200) 1239 (1200) 510 (433) 438 (380) 59 (49) 57 (48)	2.0000 2.0000 10 51 al ±(0.11%+30) ed ±(0.05%+100 C & 28*-50*C) seasure accuracy (4-w seasure accuracy (4-w seasure accuracy (4-w 100 (198 (198 (198 (198 (198 (198 (198 (198	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	Normal ±(0   Enhanced ±(0.01   Enhanced ±(0.0	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 200.000MΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1kΩ  1	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma (H-0.10), Enhance (200.000 M Ω (1.10), Enhance (200.000 M Ω (1.10)), Enhance (1.10), Enhance	Measure Me MORY 1662 1265 1275 138) 338) 1870 GO GPIB 79 (83) 69 (70)	mory*9 TO GPIB 164 (162) 162 (166) 131 (125) 44 (38) 44 (38)	
	Maximum Range Ci Maximum Measure Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz) Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Medium(488.2) Normal(488.2)	Resolution Test current Accuracy ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty. Total uncertainty Total uncert	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0796-300), Norma ±(0.0596+10Ω), Enhance specification]/°C (0"-18" to specification]/°C (	CC Source IACC- 2.0000  10 5 al ±(0.1795-100)  11 b) ±(0.05%+100)  12 c 28°-50°C)  28sure accuracy (4-w 38sure acc	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  TO G900)  Source-Measur  TO GPIB  79 (83) 72 (70) 34 (31)  Source-PassyFail	08%+0.03Ω), Norm 5%+0.01Ω), Enhar 200.000MΩ 1kΩ 100nA 166%+10kΩ), Norm 35%+5kΩ), Enhanc 1 is load dependent 1 is load dependent 2 is load dependent 3 is load dependent 3 is load dependent 3 is load dependent 4 is load dependent 5 is load dependent	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma (4-0.1Ω), Enhance 200.000M Ω  1ACC+Meas.VAC  1 TO ME 165 ( 163 ( 133 ( 131 (  144 (	Measure Me MORY 162) 1600 1726 1738 38) 338) 370) 99 790 99 79 79 79 79 79 79 79 79 79 79 79 79	mory *9 TO GPI8 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) est *8, *9	
	Maximum Range Ci Maximum Measure Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz) Single Reading Operation Rates (rdg./second) for 60Hz (50Hz) Component Interface Handler	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Medium(488.2) Normal(488.2) Speed	Resolution Test current Accuracy ±(0.15 × accuracy Total uncertainty:	Source IACC+Meas.VAC 200.000kΩ 10μ 10μA ±(0.0798+30Ω), Norma ±(0.0598+10Ω), Enhance specification]/°C (0*-18** - 1 source accuracy + V me - V source accuracy + V me - V source accuracy + I me - V source accura	2.0000 2.0000 10 51 31 4.0.1196+301 6d 4.10.0598+100 6 2.828*-50*C) 8288*-50*C) 8288*-50*C) 8288*-60*C) 8288*-60*C) 8288*-60*C) 8288*-60*C) 8388*-60*C) 849 (210) 1079 (1050) 509 (433) 438 (330) 59 (49) 57 (48) Measure TO GPIB 256 (256) 167 (166) 49 (42) Measure TO GPIB 8	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	Normal ± (0   Enhanced ± (0   C   Enhanced ± (0   C   C   C   C   C   C   C   C   C	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc ris load dependent ris load dependent 35%+5kΩ), Enhanc 33% 43% 34% 4333 356 (47) 356 (47) 359	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma (H-0.10), Enhance (200.000 M Ω (1.10), Enhance (200.000 M Ω (1.10)), Enhance (200.000 M Ω (1.10)), Enhance (1.10), Enhance (	Measure Me MORY 1662 1265 1279 (83) 38) 38) 479 (87) 69 (70) 35 (30) 79 (87) 67 (97) 6	mory *9 TO GPI8 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) est *8, *9	
	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz	Temperature Coefficient Source I mode, Manual OHMS Source Y mode, Manual OHMS Source Y mode, Manual OHMS G-wire OHMS Mode Cuard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal Fast Medium(488.2) Normal Medium(488.2) Normal Medium(488.2) Normal Medium(488.2) Normal Medium(488.2) Normal Medium(488.2) Normal	Resolution Test current Accuracy ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty: Total uncertainty: Total uncertainty: O.10 in ohms me 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal 0.1 / internal 1 / internal 1 / internal 1 / internal NPLC / Trig Origin 0.01 / internal 1 / internal 0.1 / internal 1 / internal 0.1 / internal 0.1 / internal 0.1 / internal	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0796-300), Norma ±(0.0596+10Ω), Enhance specification]/°C (0"-18" to specification]/°C (	CC Source IACC.  2.0000  10  5,  al ±(0.1754-30)  ±(0.05%+100  € 2.8*-50°C)  seasure accuracy (4-w assure accuracy (4-w assure accuracy (4-w 3 (3.8)  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  1070 (1050)  1070 (105	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  A range). Accuracy  A range). Ac	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPI8 164 (162) 162 (160) 131 (126) 44 (38) 44 (38) 851 *8, *9	
	Maximum Range CI Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal[488.2) Normal[488.2) Normal[488.2) Normal[488.2) Speed	Resolution Test current Accuracy ±(0.15 × accuracy ±(0.15 × accuracy Total uncertainty- Total uncertainty Total uncertainty Total uncertainty Only internal 0.1 / external 1 / external 1 / external NPLC / Trig Onigin 0.01 / internal 1 / internal 1 / internal 0.1 / internal 0.1 / internal 0.1 / internal	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0798+30Ω), Norma ±(0.0598+10Ω), Enhance ±(0.0598+10Ω), For (0.0598+10Ω), Indiana tive ohms guard and guard de  Vource accuracy + I me tive ohms guard and guard de    **6   **Measur   **TO MEMORY   **2081 (2030)   **1299 (1200)   **1299 (1200)   **1299 (1200)   **5 (1233)   **438 (330)   **5 (48)   **5	CC Source IACC  2.0000  10  51  al ±(0.11%+50)  ed ±(0.05%+100  6 & 28*-50*C)  assure accuracy (4-w d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  57 (48)  Measure  TO GPIB	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0)	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MoRY 162) 160) 126) 127 183) 183) 187 197 198 198 198 198 198 198 198 198 198 198	mory *9 TO GPI8 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) est *8, *9	
	Maximum Range Ci Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode V:	Temperature Coefficient Source I mode, Manual OHMS Source Y mode, Manual OHMS Source Y mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal Fast Medium(488.2) Normal Fast Medium(488.2) Normal Medium(488.2) Normal Fast Medium(488.2) Normal	Resolution Test current Accuracy ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty:	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0798+30Ω), Norma ±(0.0598+10Ω), Enhance ±(0.0598+10Ω), For (0.0598+10Ω), Indiana tive ohms guard and guard de  Vource accuracy + I me tive ohms guard and guard de    **6   **Measur   **TO MEMORY   **2081 (2030)   **1299 (1200)   **1299 (1200)   **1299 (1200)   **5 (1233)   **438 (330)   **5 (48)   **5	CC Source IACC.  2.0000  10  5,  al ±(0.1754-30)  ±(0.05%+100  € 2.8*-50°C)  seasure accuracy (4-w assure accuracy (4-w assure accuracy (4-w 3 (3.8)  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  1070 (1050)  1070 (105	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  A range). Accuracy  A range). Ac	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPI8 164 (162) 162 (160) 131 (126) 44 (38) 44 (38) 851 *8, *9	
	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vi Common Mode Vol	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS S-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast (488.2) Medium(488.2) Medium(488.2) Medium(488.2) Normal (488.2) Medium(488.2) Medium(488.2) Normal (488.2) Speed	Resolution Test current Accuracy ±(0.15 x accuracy) ±(0.15 x accuracy) Total uncertainty. Uniternal 0.1 / internal 1 / external NPLC / Trig Origin 0.01 / internal 1 / internal	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0798+30Ω), Norma ±(0.0598+10Ω), Enhance ±(0.0598+10Ω), For (0.0598+10Ω), Indiana tive ohms guard and guard de  Vource accuracy + I me tive ohms guard and guard de    **6   **Measur   **TO MEMORY   **2081 (2030)   **1239 (1200)   **1239 (1200)   **1331 (333)   **438 (333)   **59 (49)   **57 (48)   **10.0408+10.0	CC Source IACC.  2.0000  10  5,  al ±(0.1754-30)  ±(0.05%+100  € 2.8*-50°C)  seasure accuracy (4-w assure accuracy (4-w assure accuracy (4-w 3 (3.8)  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  1070 (1050)  1070 (105	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  A range). Accuracy  A range). Ac	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPI8 164 (162) 162 (160) 131 (126) 44 (38) 44 (38) 851 *8, *9	
	Maximum Range Ci Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vi Common Mode Vol Common Mode Iso Over Range	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS S-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast (488.2) Medium(488.2) Medium(488.2) Medium(488.2) Normal (488.2) Medium(488.2) Medium(488.2) Normal (488.2) Speed	Resolution Test current Accuracy ±(0.15 x accuracy) ±(0.15 x accuracy) Total uncertainty: Total uncertainty: Total uncertainty: Total uncertainty: O.10 in ohm of some	Source IACC+Meas VAC 200.000kΩ 10 10μA ±(0.0796+300), Norm ±(0.0596+100), Enhance specification)/*C (0*-18** V source accuracy + I me tive ohms guard and guarded e e) *6  Measur TO MEMORY 2081 (2030) 1239 (1200) 1339 (1200) 510 (433) 438 (380) 57 (48)  1.04 2.55 17.53 pF typical	CC Source IACC.  2.0000  10  5,  al ±(0.1754-30)  ±(0.05%+100  € 2.8*-50°C)  seasure accuracy (4-w assure accuracy (4-w assure accuracy (4-w 3 (3.8)  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  1070 (1050)  1070 (105	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  A range). Accuracy  A range). Ac	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPIB 164 (162) 162 (160) 131 (126) 44 (38) 44 (38) 45 *8 *9	
	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vol Common Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Voltage Drop	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS S-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal (488.2) Speed Fast Medium Mormal Mormal Mormal Mormal Normal Normal	Resolution Test current Accuracy ±(0.15 × accuracy total uncertainty-total uncertain	Source IACC+Meas VAC 200.000kΩ 10 10μA ±(0.0796+300), Norm ±(0.0596+100), Enhance specification)/*C (0*-18** V source accuracy + I me tive ohms guard and guarded e e) *6  Measur TO MEMORY 2081 (2030) 1239 (1200) 1339 (1200) 510 (433) 438 (380) 57 (48)  1.04 2.55 17.53 pF typical	CC Source IACC.  2.0000  10  5,  al ±(0.1754-30)  ±(0.05%+100  € 2.8*-50°C)  seasure accuracy (4-w assure accuracy (4-w assure accuracy (4-w 3 (3.8)  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  1070 (1050)  1070 (105	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  A range). Accuracy  A range). Ac	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPIB 164 (162) 162 (160) 131 (126) 44 (38) 44 (38) 45 *8 *9	
	Maximum Range Ci Maximum Measure Sequence Reading Rates *7 (rdg_/second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg_/second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Res Sense Input Impeds	Temperature Coefficient Source I mode, Manual OHMS Source Y mode, Manual OHMS Source Y mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal 488.2 Speed Fast Medium Normal Normal Normal Normal Normal Normal	Resolution Test current Accuracy ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty: Total uncertainty: Total uncertainty: Online in the interval of the	Source IACC+Meas VAC 200.000kΩ 10 10μA ±(0.0796+300), Norm ±(0.0596+100), Enhance specification)/*C (0*-18** V source accuracy + I me tive ohms guard and guarded e e) *6  Measur TO MEMORY 2081 (2030) 1239 (1200) 1339 (1200) 510 (433) 438 (380) 57 (48)  1.04 2.55 17.53 pF typical	CC Source IACC.  2.0000  10  5,  al ±(0.1754-30)  ±(0.05%+100  € 2.8*-50°C)  seasure accuracy (4-w assure accuracy (4-w assure accuracy (4-w 3 (3.8)  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  1070 (1050)  1070 (105	Meas.VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  A range). Accuracy  A range). Ac	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPIB 164 (162) 162 (160) 131 (126) 44 (38) 44 (38) 45 *8 *9	
PEED*5	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vi Common Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Res Sense Input Impeds Guard Offset Voltag	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS S-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal(488.2) Speed Fast Medium Afficial Medium A	Resolution Test current Accuracy ±(0.15 × accuracy) total uncertainty: Total uncertainty: Available using ac <0.1Ω in ohms m 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal 0.01 / external 1 / internal 1 / external 1 / internal NPLC / Trig Origin 0.01 / internal 1 / internal 2.1 / internal 0.1 / internal	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA ±(0.0796+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Finhance V source accuracy + V me V sourc	CC Source IACC- 2.0000 10 51 al ±(0.1156+30) ded ±(0.055%+100 C & 28°-50°C) seasure accuracy (4-w assure accuracy (4-w assure accuracy (4-w d sense. Max. Guard TO GPIB 1198 (1210) 1079 (1050) 509 (433) 438 (380) 59 (49) 57 (48) Measure TO GPIB 256 (256) 167 (166) 49 (42) Measure TO GPIB ms (1.08 ms) ms (2.9 ms) ms (2.9 ms)	Meas, VACC	1%+0.003 Ω) 7%+0.003 Ω) 20.0000M 100Ω 0.5 μA 1196+1kΩ), 596+500Ω),  Alexante *9 TO C 1000 916 ( 470 ( 499 (	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  A range). Accuracy  A range). Ac	08%+0.03Ω), Norm \$%+0.01Ω), Enhar 200.000MΩ  1kΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhance is load dependent wis load dependent about ce-Measure Pas 0 MEMORY 100000 1330 (330) 1340 (331) 1374 (333) 136 (47) 136 (47) 137 (47) 138 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 139 (47) 149 (47) 159 (47) 159 (47) 159 (47)	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPI8 164 (162) 162 (160) 131 (126) 44 (38) 44 (38) 851 *8, *9	
SPEED*S	Maximum Range Ci Maximum Measure Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Rei Sense Input Impede Guard Offset Voltag Source Output Mod Source Output Mod Source Output Mod Source Wemory List	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Speed Fast Medium Normal Auto Range Time Speed Fast Auto Range Time Speed	Resolution Test current Accuracy ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty: Total uncertainty: Total uncertainty: O.10 in ohmolia of the control of the cont	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0796-130Ω), Norma ±(0.0596+10Ω), Enhance specification)/*C (0"-18" to specification)/*C	CC Source IACC  2.0000  10  51  al ±(0.1195+30)  ded ±(0.05%+100  C & 28*-50°C)  assure accuracy (4-w d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  1256 (256)  167 (166)  49 (42)  Measure  TO GPIB  ms (1.08 ms)  ms (2.9 ms)  ms (2.9 ms)	Meas.VACC	1%+0.003 Ω) %+0.003 Ω) %+0.001 Ω) 20.0000M 20.0	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  S PIB TO (900)  3835) 410) 365) 447) Source-Measur  TO GPIB 79 (83) 72 (70) 34 (31) Source Pass/Fail  TO GPIB 0.5 ms (0.5 m 0.5 ms (0.5 ms 0.5 ms (0.5 m 0.5 ms (0.5 ms 0.5 ms 0.5 ms 0.5 ms (0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms (0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms (0.5 ms 0.5 ms	08%+0.03Ω), Norm \$%+0.01Ω), Enhar \$%+0.01Ω), Enhar 200.000MΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc  is load dependent  wis load dependent  is load dependent  i	s/Fail test *8, TO GPI8 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPI8 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) est *8, *9	
SPEED*S	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vi Common Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Res Sense Input Impedi Guard Offset Voltag Source Output Mod Source Output Mod Source Memory List Memory Buffer	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Speed Fast Medium Normal Auto Range Time Speed Fast Auto Range Time Speed	Resolution Test current Accuracy  £(0.15 × accuracy) £(0.15 × accuracy) Total uncertainty. Total uncertainty. Total uncertainty. Available using ac  <0.1 Ω in ohms mr 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal 0.01 / external 0.1 / external 1 / internal 0.01 / internal 0.1 / internal 1 / internal 0.1 / internal 1 / internal 0.1 /	Source IACC+Meas.VAC 200.000kΩ 1Ω 10μA ±(0.0796+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Norm ±(0.0596+30Ω), Finhance V source accuracy + V me V source accuracy + I me tive Measur TO MEMORY 2081 (2030) 1239 (1200) 1239 (1200) 510 (433) 438 (380) 57 (48)  1.04 2.55 7 (48)  1.05 17.53 pF typical	CC Source IACC.  2.0000  10  51  al ±(0.119k-19c)  ed ±(0.05%+100  c & 28*-50*C)  assure accuracy (4-w d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  57 (48)  Measure  TO GPIB  256 (256)  167 (166)  49 (42)  Measure  TO GPIB  ms (1.08 ms)  ms (2.9 ms)  ms (2.9 ms)  ms (20.9 ms)	Meas.VACC	1%+0.003 Ω) %9+0.001 Ω) 100Ω 100Ω 100Ω 100Ω 100Ω 100Ω 100Ω 10	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0) Enhanced ±(0,0)  A range). Accurace  S PIB TO (900)  3835) 410) 365) 447) Source-Measur  TO GPIB 79 (83) 72 (70) 34 (31) Source Pass/Fail  TO GPIB 0.5 ms (0.5 m 0.5 ms (0.5 ms 0.5 ms (0.5 m 0.5 ms (0.5 ms 0.5 ms 0.5 ms 0.5 ms (0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms (0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms 0.5 ms (0.5 ms 0.5 ms	08%+0.03Ω), Norm \$%+0.01Ω), Enhar \$%+0.01Ω), Enhar 200.000MΩ 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc  is load dependent  wis load dependent  is load dependent  i	s/Fail test *8, TO GPI8 809 (840) 756 (780) 388 (343) 374 (333) 56 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPI8 164 (162) 162 (160) 132 (126) 44 (38) 44 (38) 851 *8, *9	
SYSTEM SPEED *S	Maximum Range Ci Maximum Measure Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Re: Sense Input Impeda Guard Offset Voltag Source Output Mod Source Memory List Memory Buffer Programmability Digital I/O Connect	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Speed Fast Medium Normal  Speed Fast Medium Autorial	Resolution Test current Accuracy  ±(0.15 × accuracy) ±(0.15 × accuracy) Total uncertainty: Total uncertainty: Total uncertainty: Online in the interval of th	Source IACC+Meas.VAC 200.000kΩ 10μ 10μ ±(0.0796-130Ω), Norma ±(0.0596+10Ω), Enhance specification]/°C (0"-18" to specification]/°C (1"-18" to specification]/°C	CC Source IACC.  2.0000  10  5,  al ±(0.11%+5.00)  ed ±(0.05%+100)  C & 28*-50°C)  assure accuracy (4-w d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  57 (48)  Measure  TO GPIB  256 (256)  167 (166)  49 (42)  Measure  TO GPIB  38 (108 ms)  ms (2.9 ms)  ms (2.9 ms)  ms (2.9 ms)  ms (2.9 ms)	Meas.VACC	1%+0.003 Ω) %+0.003 Ω) %+0.001 Ω) 20.0000M 100Ω 100Ω 0.5 μA .1196+1kΩ), 596+500Ω),  hA (except 1)  TO C 1000 ( 470 ( 470 ( 477 ( 57 ( 57 ( 57 ( 57 ( 57 ( 57 ( 57 (	, Normal ±(0, Enhanced ±(0,010)  Normal ±(0,010)  Normal ±(0,010)  Enhanced ±(0,010)  A range). Accurace  Spils T(0,000)  (900)  345)  410)  3465)  48)  47)  Source-Measur  TO GPIB  79 (83)  72 (70)  34 (31)  Source Pass/Pail  TO GPIS  O.5 ms (0.5 m  0.5 ms (0.5 m  0.5 ms (0.5 m	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 5%+0.01 Ω), Enhar 200.000Mn 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc is load dependent is load depen	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 3374 (333) 55 (47) 6 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPIB 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) sst *8, *9	
SPEED*S	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode VI Common Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Res Sense Input Impedi Guard Offset Voltag Source Output Mod Source Memory List Memory Buffer Programmability Digital I/O Connect Remote Interface	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS Source V mode, Manual OHMS 6-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Speed Fast Medium Normal  Speed Fast Medium Autorial	Resolution Test current Accuracy ±(0.15 x accuracy) total uncertainty. Total uncertainty. Total uncertainty. Available using ac <0.1\Omega in ohms mr 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal 0.01 / external 1 / internal 1 / intern	Source IACC+Meas.VAC 200.000kΩ 10 10μA ±(0.0796+300), Norm ±(0.0596+300), Norm ±(0.0596+300), Norm ±(0.0596+300), Norm ±(0.0596+300), Finhance specification)/*C (0°-18** * Source accuracy + V me * V source accuracy + I me tive doe  Measur TO MEMORY 2081 (2030) 1239 (1200) 1310 (433) 438 (380) 57 (48)  1.04 2.55 77 (48)  1.04 2.55 77 (48)  1.05 1.75 1.75 1.75 1.75 1.75 1.75 1.75 1.7	CC Source IACC.  2.0000  10  51  al ±(0.11%+5)  ed ±(0.05%+100  c & 28*-50*C)  assure accuracy (4-w d sense. Max. Guard  TO GPIB  1198 (1210)  1079 (1050)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  256 (256)  167 (166)  49 (42)  Measure  TO GPIB  ms (1.08 ms)  ms (2.9 ms)  ms (2.9 ms)  ms (2.9 ms)  ms (2.9 ms)  Includes se power-up states plu category bits.; +5V(	Meas.VACC	1%+0.003 Ω) %>+0.001 Ω) 100Ω 100Ω 100Ω 100Ω 100Ω 100Ω 100Ω 10	, Normal ±(0, Enhanced ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0)  Normal ±(0,0) Enhanced ±(0,0)  A range). Accuracy  Spila T(0,0) (9835) (9835) (9836) (9836) (9837)	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 5%+0.01 Ω), Enhar 200.000Mn 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc is load dependent is load depen	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 3374 (333) 55 (47) 6 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPIB 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) sst *8, *9	
SPEED*S	Maximum Range Ci Maximum Measure  Sequence Reading Rates *7 (rdg,/second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg,/second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Re: Sense Input Impeda Guard Offset Voltag Source Output Mode Source Memory Buffer Programmability Digital I/O Connect Remote Interface Insulation Operation Environn	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS Source V mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal(488.2) Normal(488.2) Speed Fast (488.2) Medium(488.2) Speed Fast (488.2) Speed Fa	Resolution Test current Accuracy  ±(0.15 x accuracy)  ±(0.15 x accuracy)  total uncertainty: Total uncertainty: Total uncertainty: O.10 in ohms mr 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal 0.1 / external 1 / internal 1 / external 1 / internal 1 / external NPLC / Trig Origin 0.01 / internal 1 / internal 1 / internal 1 / internal 1 / internal 0.1 / internal 1	Source IACC+Meas.VAC 200.000kΩ 10μA ±(0.0796+30Ω), Norma ±(0.0596+30Ω), Norma ±(0.0596+30Ω) 1.00 (433) 438 (380) 59 (49) 57 (48)  1.04 2.55 17.53 pF typical  urce and measure  emory List (mixed function to fiest, a to see the see	CC Source IACC- 2.0000  10 5, al ±(0.195+30)  12 13 14 10.05%+100  15 16 16 17 18 18 198 198 1198 1198 1198 1198 11	Meas.VACC	1%+0.003 Ω) %+0.003 Ω) %+0.001 Ω) 20.0000M 100Ω 100Ω 0.5 μA .1196+1kΩ), 596+500Ω),  hA (except 1) hA (except 1)  409 Ω 409 Ω 470 Ω	, Normal ±(0, Enhanced ±(0,0)   Enhanced ±(0,0)	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 200.000Mα 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc is load dependent is load depen	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 3374 (333) 55 (47) 6 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726, 1738, 1738, 1738, 1739, 1749	mory *9 TO GPIB 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) sst *8, *9	
SPEED*S	Maximum Range Cl Maximum Measure  Sequence Reading Rates *7 (rdg./second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg./second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode VI Common Mode Vol Common Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Res Sense Input Impedi Guard Offset Voltag Source Output Mod Source Memory List Memory Buffer Programmability Digital I/O Connect Remote Interface Insulation Operation Environme Storage Environmers	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS Source V mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium(488.2) Normal(488.2) Normal(488.2) Speed Fast (488.2) Medium(488.2) Speed Fast (488.2) Speed Fa	Resolution Test current Accuracy ±(0.15 × accuracy) total ancertainty. Total uncertainty. Total uncertainty. Available using ac <0.1Ω in ohms mr 75/second 40ms (fixed sourc NPLC / Trig Origin 0.01 / internal 0.1 / external 1 / internal 1	Source IACC+Meas.VAC 200.000kΩ 10 10μA ±(0.0796+300), Norma ±(0.0596+300), Norma ±(0.0596+300), Norma ±(0.0596+300), Norma ±(0.0596+300), Enhance specification)/*C (0*-18** 1 source accuracy + I me tive of the second of the s	CC Source IACC- 2.0000  10 5, al ±(0.195+30)  12 13 14 10.05%+100  15 16 16 17 18 18 198 198 1198 1198 1198 1198 11	Meas.VACC	1%+0.003 Ω) %+0.003 Ω) %+0.001 Ω) 20.0000M 100Ω 100Ω 0.5 μA .1196+1kΩ), 596+500Ω),  hA (except 1) hA (except 1)  409 Ω 409 Ω 470 Ω	, Normal ±(0, Enhanced ±(0,0)   Enhanced ±(0,0)	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 200.000Mα 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc is load dependent is load depen	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 3374 (333) 55 (47) 6 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726 1738 38) 380 37 (30) 37 (30) 76 Passy Fail to TO GPIB T	mory *9 TO GPIB 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) sst *8, *9	
SPEED*S	Maximum Range Ci Maximum Measure  Sequence Reading Rates *7 (rdg,/second) for 60Hz (50Hz)  Single Reading Operation Rates (rdg,/second) for 60Hz (50Hz)  Component Interface Handler Time for 60Hz (50Hz) *8, *10  Load Impedance Differential Mode Vol Common Mode Iso Over Range Max. Voltage Drop Max. Sense lead Re: Sense Input Impeda Guard Offset Voltag Source Output Mode Source Memory Buffer Programmability Digital I/O Connect Remote Interface Insulation Operation Environn	Temperature Coefficient Source I mode, Manual OHMS Source V mode, Manual OHMS Source V mode, Manual OHMS G-wire OHMS Mode Guard Output Impedance nange Rate Auto Range Time  Speed Fast 488.2 Medium 488.2 Normal 488.2 Speed Fast(488.2) Medium Medium Normal Speed Fast (488.2) Normal Normal Normal Normal Speed Fast (488.2) Speed Fast (488.2) Normal Speed Fast (488.2) Normal Normal Normal Speed Fast (488.2) Normal Normal Normal	Resolution Test current Accuracy  ±(0.15 x accuracy)  ±(0.15 x accuracy)  Total uncertainty: Total uncertainty: Total uncertainty: O.10 in ohms mr 75/second 40ms (fixed source) NPLC / Trig Origin 0.01 / internal 0.1 / external 1 / internal 1 / external NPLC / Trig Origin 0.01 / internal 1 / internal 1 / internal 1 / internal 1 / internal 0.1 / internal 0.1 / internal 1 / internal NPLC / Trig Origin 0.01 / internal 1	Source IACC+Meas.VAC 200.000kΩ 10 10μA ±(0.0796+300), Norma ±(0.0596+300), Norma ±(0.0596+300), Norma ±(0.0596+300), Norma ±(0.0596+300), Enhance specification)/*C (0*-18** 1 source accuracy + I me tive of the second of the s	CC Source IACC  2.0000  10  5,  al ±(0.1195+30)  ±(0.05%+100  € 28*-50°C)  28-28*-50°C)  38-28*-50°C)  49-28*-50°C)  TO GPIB  1198 (1210)  509 (433)  438 (380)  59 (49)  57 (48)  Measure  TO GPIB  256 (256)  167 (166)  49 (42)  Measure  TO GPIB  ms (1.08 ms)  ms (2.9 ms)  support purpose the service of the servic	Meas.VACC	1%+0.003 Ω) %+0.003 Ω) %+0.001 Ω) 20.0000M 100Ω 100Ω 0.5 μA .1196+1kΩ), 596+500Ω),  hA (except 1) hA (except 1)  409 Ω 409 Ω 470 Ω	, Normal ±(0, Enhanced ±(0,0)   Enhanced ±(0,0)	08%+0.03Ω), Norm 5%+0.01 Ω), Enhar 200.000Mα 1kΩ 100nA 66%+10kΩ), Norm 35%+5kΩ), Enhanc is load dependent is load depen	s/Fail test *8, * TO GPIB 809 (840) 756 (780) 3374 (333) 55 (47) 6 (47)	196+0.3Ω), Norma 64-0.1Ω), Enhance 200.000M Ω	Measure Me MORY 162) 1600 1726 1738 38) 380 37 (30) 37 (30) 76 Passy Fail to TO GPIB T	mory *9 TO GPIB 164 (162) 162 (160) 132 (126) 131 (125) 44 (38) 44 (38) sst *8, *9	

### ORDERING INFORMATION

GSM-20H10 with GPIB Source Measure Unit GSM-20H10 Source Measure Unit

#### ACCESSORIES

CD User manual x 1, Quick Start manual x 1, Test Lead GTL-207A x 1, Alligator Clip x 2

OPTIONAL ACCESSORIES

SM-01 Digital I/O Adapter, Convert DB15 to DB9 + 8-pin micro-DIN SM-02 Digital I/O Adapter, Convert DB15 to DB37 + 8-pin micro-DIN GTL-246 USB Cable (USB 2.0 A-B Type, approx.. 1200mm)

GTL-248 GPIB Cable, 2000mm

