

Selector Guide

Digital Multimeters

Model	197A	2000	2010	2001	2002
Digits	5½	6½	7½	7½	8½
Expansion Channels		10	10	10	10
DC Volts					
Sensitivity	1 µV	100 nV	10 nV	10 nV	1 nV
Maximum Reading	1000 V	1000 V	1000 V	1100 V	1100 V
Basic Accuracy	0.011%	0.002%	0.0018%	0.0018%	0.0006%
Ratio			•	Option	Option
DC Peak Spikes				•	•
AC Volts (TRMS)					
Sensitivity	1 µV	100 nV	100 nV	100 nV	100 nV
Maximum Reading	750 V	750 V	750 V	775 V (1100 V pk)	775 V (1100 V pk)
Basic Accuracy	0.35%	0.05%	0.05%	0.03%	0.02%
Bandwidth	20 Hz–100 kHz	3 Hz–300 kHz	3 Hz–300 kHz	1 Hz–2 MHz	1 Hz–2 MHz
dB, dBm	•	•	•	•	•
Frequency, Period		•	•	•	•
Peak/Avg/RMS				•	•
AC, AC + DC				•	•
THD, Harmonics					
4V Sine Source					
9V Sine Source					
Ohms (2/4 Wire)					
Sensitivity	1 mΩ	100 µΩ	1 µΩ	1 µΩ	100 nΩ
Maximum Reading	220 MΩ	120 MΩ	120 MΩ	1 GΩ	1 GΩ
Basic Accuracy	0.018%	0.008%	0.0032%	0.0032%	0.0007%
Continuity Test		•	•		
Diode Test		•	•		
Offset Compensation			•	•	•
Dry Circuit			•		
Constant Current		•	•	•	•
Open Source Detect					•
DC Amps					
Sensitivity	1 nA	10 nA	10 nA	10 pA	10 pA
Range Span	200 µA–10 A	10 mA–3 A	10 mA–3 A	200 µA–2 A	200 µA–2 A
Basic Accuracy	0.1%	0.03%	0.03%	0.03%	0.027%
In Circuit Current				•	•
AC Amps (TRMS)					
Sensitivity	1 nA	1 µA	1 µA	100 pA	100 pA
Range Span	200 µA–10 A	1 A–3 A	1 A–3 A	200 µA–2 A	200 µA–2 A
Basic Accuracy	0.8%	0.1%	0.1%	0.1%	0.1%
Bandwidth	20 Hz–30 kHz	3 Hz–5 kHz	3 Hz–5 kHz	20 Hz–100 kHz	20 Hz–100 kHz
General Features					
Interface		GPIB, RS-232	GPIB, RS-232	GPIB	GPIB
Reading Hold	Min/Max hold	•	•		
Digital I/O				•	•
Reading Memory	100 rdg.	1024 rdg.	1024 rdg.	Opt to 30,000	Opt to 30,000
Maximum Speed	3 rdg/s	2000 rdg/s	2000 rdg/s	2000 rdg/s	2000 rdg/s
Temperature Meas.		T/C	T/C, RTD	T/C, RTD	T/C, RTD
Language Emulation		8840/42, 196/199	196/199		HP 3458

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Digital Multimeters

Model	2015, 2015-P	2016, 2016-P	2700	2701	2750
Digits	6½	6½	6½	6½	6½
Expansion Channels			80	80	200
DC Volts					
Sensitivity	100 nV	100 nV	100 nV	100 nV	100 nV
Maximum Reading	1000 V	1000 V	1000 V	1000 V	1000 V
Basic Accuracy	0.002%	0.002%	0.002%	0.002%	0.002%
Ratio			Available w/MUX card	Available w/MUX card	Available w/MUX card
DC Peak Spikes					
AC Volts (TRMS)					
Sensitivity	100 nV	100 nV	100 nV	100 nV	100 nV
Maximum Reading	750 V	750 V	750 V	750 V	750 V
Basic Accuracy	0.05%	0.05%	0.06%	0.06%	0.06%
Bandwidth	3 Hz–300 kHz	3 Hz–300 kHz	3 Hz–300 kHz	3 Hz–300 kHz	3 Hz–300 kHz
dB, dBm	•	•			
Frequency, Period	•	•	•	•	•
Peak/Avg/RMS					
AC, AC + DC					
THD, Harmonics	•	•			
Spectrum Peaks	• (2015-P)	• (2016-P)			
4V Sine Source	•				
9V Sine Source		•			
Ohms (2/4 Wire)					
Sensitivity	100 μΩ	100 μΩ	100 μΩ	100 μΩ	1 μΩ
Maximum Reading	120 MΩ	120 MΩ	120 MΩ	120 MΩ	120 MΩ
Basic Accuracy	0.008%	0.008%	0.008%	0.008%	0.008%
Continuity Test			•	•	•
Diode Test	•	•			
Offset Compensation	•		•	•	•
Dry Circuit					•
Constant Current	•	•	•	•	•
Open Source Detect					
DC Amps					
Sensitivity	10 nA	10 nA	10 nA	10 nA	10 nA
Range Span	10 mA–3 A	10 mA–3 A	20 mA–3 A	20 mA–3 A	20 mA–3 A
Basic Accuracy	0.03%	0.03%	0.03%	0.03%	0.03%
In Circuit Current					
AC Amps (TRMS)					
Sensitivity	1 μA	1 μA	1 μA	1 μA	1 μA
Range Span	1 A–3 A	1 A–3 A	1 A–3 A	1 A–3 A	1 A–3 A
Basic Accuracy	0.1%	0.1%	0.15%	0.16%	0.15%
Bandwidth	3 Hz–5 kHz	3 Hz–5 kHz	3 Hz–5 kHz	3 Hz–5 kHz	3 Hz–5 kHz
General Features					
Interface	GPIO, RS-232	GPIO, RS-232	GPIO, RS-232	Ethernet, RS-232	GPIO, RS-232
Reading Hold	•	•	•	•	
Digital I/O	2 in/5 out (TTL)	2 in/5 out (TTL)	2 in/5 out (TTL)		
Reading Memory	1024 rdg.	1024 rdg.	55,000 rdg.	450,000 rdg.	110,000 rdg.
Maximum Speed	2000 rdg/s	2000 rdg/s	2000 rdg/s	3500 rdg/s	2500 rdg/s
Temperature Meas.	T/C	T/C	T/C, RTD, Thermistor	T/C, RTD, Thermistor	T/C, RTD, Thermistor
Language Emulation					

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Plug-In Modules for 2700, 2701, 2750 Integra Mainframes

Module Selector Guide

This selector guide may prove helpful in identifying the best module for a specific application. Install up to five modules at a time in the Model 2750 mainframe or two modules in the Model 2700 or 2701 mainframe.

Module	# Analog Inputs	Configuration	Type of Connector	Max. Voltage	Max. Switched Current	Bandwidth	Contact Life	Switch Speed	Other	
7700	20	Multiplexer w/CJC	1×20 or two 1×10	Screw terminals	300 V	1	50 MHz	10 ⁸	3 ms	Maximum power = 125VA. 2 current measure channels.
7701	32	Multiplexer	1×32 or two 1×16	D-sub	150 V	1 A	2 MHz	10 ⁸	3 ms	Maximum power = 125VA.
7702	40	Multiplexer	1×40 or two 1×20	Screw terminals	300 V	1 A	2 MHz	10 ⁸	3 ms	Maximum power = 125VA. 2 current measure channels.
7703	32	Multiplexer	1×32 or two 1×16	D-sub	300 V	500 mA	2 MHz	10 ⁸	1 ms	Reed relays.
7705	40	Independent SPST	N/A	D-sub	300 V	2 A	10 MHz	10 ⁸	3 ms	Maximum power = 125VA.
7706	20	Multiplexer w/CJC	1×20 or two 1×10	Screw terminals	300 V	1 A	2 MHz	10 ⁸	3 ms	2 analog outputs. 16 digital outputs. Maximum power = 125VA.
7707	10	Digital I/O/Multiplexer	1×10 or two 1×5	D-sub	300 V	1 A	2 MHz	10 ⁸	3 ms	32 digital I/O. Maximum power = 125VA.
7708	40	Multiplexer w/CJC	1×40 or two 1×20	Screw terminals	300 V	1 A	2 MHz	10 ⁸	3 ms	Maximum power = 125VA.
7709	48	Matrix	6×8	D-sub	300 V	1 A	2 MHz	10 ⁸	3 ms	Connects to internal DMM. Daisy chain multiple cards for up to a 6×40 matrix. Maximum power = 125VA.
7710	20	Multiplexer w/CJC	1×20 or two 1×10	Removable screw terminals	60 V	0.1 A	2 MHz	10 ¹⁰	0.5 ms	Solid state relays, 60V max. 500 channels/second scan rate.
7711	8	Multiplexer	Dual 1×4	SMA	60 V	0.5 A	2 GHz	10 ⁶	10 ms	Insertion loss <1.0dB @ 1GHz. VSWR <1.2 @ 1GHz.
7712	8	Multiplexer	Dual 1×4	SMA	42 V	0.5 A	3.5 GHz	10 ⁶	10 ms	Insertion loss <1.1dB @ 2.4GHz.

* Can be disconnected from internal DMM for routing external signals

Integra Plug-In Module Accessories

Module	Connector Type	Supplied Accessories	Available Accessories
7700	Oversized Screw Terminal	Strain Relief	7401 TC wire
7701	50-pin female D-sub & 25-pin female D-sub	7789 connector kit	7790 connector kit, 7705-MTC-2 & 7707-MTC-2 cables
7702	Oversized Screw Terminal	Strain Relief	—
7703	Two 50-pin female D-sub	7788 connector kit	7705-MTC-2 cable
7705	Two 50-pin female D-sub	7788 connector kit	7705-MTC-2 cable
7706	Screw Terminal	Strain Relief	7401 TC wire
7707	50-pin male D-sub & 25-pin female D-sub	7790 connector kit	7789 connector kit, 7705-MTC-2 & 7707-MTC-2 cables
7708	Oversized Screw Terminal	Strain Relief	7401 TC wire kit
7709	50-pin female D-sub & 25-pin female D-sub	7790 connector kit	7789 connector kit, 7705-MTC-2 & 7707-MTC-2 cables
7710	Quick Disconnect Screw Terminal	Strain Relief	7401 TC wire kit
7711	SMA	—	7711-BNC-SMA & 7712-SMA-N adaptors, 7712-SMA-1 & S46-SMA-0.5,-1 SMA cables, 7051-2,-5,-10 BNC cables
7712	SMA	—	7712-SMA-N adaptor, 7712-SMA-1 & S46-SMA-0.5,-1 SMA cables

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Use with Integra Series Mainframes: 2700, 2701, 2750

DMMS, DATA ACQUISITION/
SWITCHING SYSTEMS