

Renewal of HIOKI's world-leading battery tester



BT3563A

The de facto standard for accurate measurement of large battery packs up to 300V



BT3562A

The de facto standard for accurate measurement of large xEV and ESS battery cells, as well as 72V and 96V packs







BT3561A

For high-performance battery cell applications in electric bikes and power tools. Ideal for battery packs of up to 60V

Designing automatic battery testing systems is easier and faster than ever before

- Double the total line resistance, so measurement errors are less likely to occur when using long measurement cables
- Stable operation regardless of increased total line resistance due to probe and relay degradation
- LAN is equipped as a standard for easy system design and layout, and excellent noise resistance for stable operation
- Improved electrostatic resistance as a countermeasure against electrostatic charges during battery transport on a production line

Lineup

Application		Acceptance inspection of general-purpose, small cells installed in a high-speed sorters	Fully automated production line testing of small cells for power motors or small packs of up to 60 V	Fully automated production line testing of large cells for xEVs or mid-size packsup of to 100 V	Fully automated production line testing of large packs for xEVs or large packs up of to 300 V	
Model		3561, 3561-01	BT3561A	BT3562A	BT3563A	
Appearance						
Measurement method		AC four-terminal method	AC four-terminal method	AC four-terminal method	AC four-terminal method	
Measurement frequency		1 kHz ±0.2 Hz	1 kHz ±0.2 Hz	1 kHz ±0.2 Hz	1 kHz ±0.2 Hz	
Measurement parameters	Resistance measurement ranges	3 mΩ	N/A	N/A	3.1000 mΩ, 0.1 μΩ, 100 mA	3.1000 mΩ, 0.1 μΩ, 100 mA
		30 mΩ	N/A	31.000 mΩ, 1 μΩ, 100 mA	31.000 mΩ, 1 μΩ, 100 mA	31.000 mΩ, 1 μΩ, 100 mA
		300 mΩ	310.00 mΩ, 10 μΩ, 10 mA	310.00 mΩ, 10 μΩ, 10 mA	310.00 mΩ, 10 μΩ, 10 mA	310.00 mΩ, 10 μΩ, 10 mA
		3 Ω	3.1000 Ω, 100 μΩ, 1 mA	3.1000 Ω, 100 μΩ, 1 mA	3.1000 Ω, 100 μΩ, 1 mA	3.1000 Ω, 100 μΩ, 1 mA
		30 Ω	N/A	31.000 Ω, 1 mΩ, 100 μA	31.000 Ω, 1 mΩ, 100 μA	31.000 Ω, 1 mΩ, 100 μA
		300 Ω	N/A	310.00 Ω, 10 mΩ, 10 μA	310.00 Ω, 10 mΩ, 10 μA	310.00 Ω, 10 mΩ, 10 μA
	Max. display, resolution, measurement current	3 kΩ	N/A	3.1000 kΩ, 100 mΩ, 10 μA	3.1000 kΩ, 100 mΩ, 10 μA	3.1000 kΩ, 100 mΩ, 10 μA
		Basic accuracy	3 mΩ range 30 mΩ range or more	N/A ±0.5% rdg. ±5 dgt.	N/A ±0.5% rdg. ±5 dgt.	±0.5% rdg. ±10 dgt. ±0.5% rdg. ±5 dgt.
	Voltage measurement ranges	6 V	N/A	6.00000 V, 10 μV	6.00000 V, 10 μV	6.00000 V, 10 μV
		20 V	19.9999 V, 100 μV	N/A	N/A	N/A
		60 V	N/A	60.0000 V, 100 μV	60.0000 V, 100 μV	60.0000 V, 100 μV
		100 V	N/A	N/A	100.000 V, 1 mV	N/A
		300 V	N/A	N/A	N/A	300.000 V, 1 mV
		1000 V	N/A	N/A	N/A	N/A
Max. display, resolution	Basic accuracy	±0.01% rdg. ±3 dgt. *1	±0.01% rdg. ±3 dgt.	±0.01% rdg. ±3 dgt.	±0.01% rdg. ±3 dgt.	
Response time *2		3 ms	10 ms	10 ms	10 ms	
Sampling period *3	Ω or V	4 ms, 12 ms, 35 ms, 150 ms	4 ms, 12 ms, 35 ms, 150 ms	4 ms, 12 ms, 35 ms, 150 ms	4 ms, 12 ms, 35 ms, 150 ms	
EX.FAST, FAST, MEDIUM, SLOW	ΩV	7 ms, 23 ms, 69 ms, 252 ms	8 ms, 24 ms, 70 ms, 253 ms	8 ms, 24 ms, 70 ms, 253 ms	8 ms, 24 ms, 70 ms, 253 ms	
Allowable total line resistance *2,4 (within accuracy)	SENSE line	N/A, N/A, 20 Ω, 20 Ω	N/A, 4 Ω, 30 Ω, 30 Ω	4 Ω, 4 Ω, 30 Ω, 30 Ω	4 Ω, 4 Ω, 30 Ω, 30 Ω	
	SOURCE line	N/A, N/A, 20 Ω, 20 Ω	N/A, 4 Ω, 20 Ω, 40 Ω	4 Ω, 4 Ω, 20 Ω, 40 Ω	4 Ω, 4 Ω, 20 Ω, 40 Ω	
Allowable total line resistance *2,4 (error detection)	SENSE line	N/A, N/A, 20 Ω, 20 Ω	N/A, 6 Ω, 30 Ω, 30 Ω	6 Ω, 6 Ω, 30 Ω, 30 Ω	6 Ω, 6 Ω, 30 Ω, 30 Ω	
	SOURCE line	N/A, N/A, 20 Ω, 20 Ω	N/A, 6 Ω, 20 Ω, 200 Ω	6 Ω, 6 Ω, 20 Ω, 200 Ω	6 Ω, 6 Ω, 20 Ω, 200 Ω	
Open terminal voltage	Ranges: 30 mΩ or less, 300 mΩ, 3 Ω or more	N/A, 7 V, 7 V peak	25 V, 7 V, 4 V peak	25 V, 7 V, 4 V peak	25 V, 7 V, 4 V peak	
Interface	LAN (TCP/IP, 10BASE-T/100BASE-TX)	N/A	✓	✓	✓	
	RS-232C *5 (Max. 38.4 kbps)	✓ (9.6 kbps fixed)	✓	✓	✓	
	USB	N/A	N/A	N/A	N/A	
	GP-IB	✓ (3561-01 Only)	N/A	N/A	N/A	
	EXT. I/O (37-pin Handler interface)	✓	✓	✓	✓	
	Analog output (DC 0 V to 3.1 V)	N/A	✓	✓	✓	
Function	Contact check	✓	✓	✓	✓	
	Zero adjustment (±1000 counts)	✓	✓	✓	✓	
	Pulse measurement	✓	✓	✓	✓	
	Comparator	Hi/ IN/ Lo	Hi/ IN/ Lo	Hi/ IN/ Lo	Hi/ IN/ Lo	
	Statistical calculations	Max. 30,000	Max. 30,000	Max. 30,000	Max. 30,000	
	Delay	✓	✓	✓	✓	
	Average	2 to 16 times	2 to 16 times	2 to 16 times	2 to 16 times	
	Panel saving/loading	126	126	126	126	
	Memory storage	400	400	400	400	
	LabVIEW® driver *6	N/A	✓	✓	✓	
Applicable standards	Safety: EN61010 EMC: EN61326 Class A	Safety: EN61010 EMC: EN61326 Class A	Safety: EN61010 EMC: EN61326 Class A	Safety: EN61010 EMC: EN61326 Class A		
Effect of radiated radio-frequency electromagnetic field (10 V/m) *7		Resistant	Resistant	Resistant	Resistant	
Effect of conducted radio-frequency electromagnetic field	10 V	N/A	Resistant	Resistant	Resistant	
	0.15 MHz to 80 MHz, 80% AM	3 V	Resistant	Resistant	Resistant	
CE		✓	✓	✓	✓	
CSA *8		N/A	Certification in progress	Certification in progress	Certification in progress	

*1: rdg. stands for reading, dgt. stands for digits *2: Typical value *3: When the power supply frequency is 60 Hz

*4: Total line resistance = wiring resistance + contact resistance + DUT resistance *5: Available as printer I/F

*6: LabVIEW® Driver is a registered trademark of National Instruments Corporation *7: Test conditions were 80 MHz to 1 GHz at 10 V/m and 1 GHz to 6 GHz at 3 V/m, all at 80% AM

*8: Canadian Standards Association

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