

Battery tester lineup

Application		Acceptance inspection of general-purpose, small cells installed in 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-sized packs of up to 100 V	Fully automated production line testing of large packs up to 300 V	
Model		3561, 3561-01	BT3561A Enhanced model of the 3561	BT3562A Successor model of the BT3562	BT3563A Successor model of the BT3563	
Appearance			NEW 	NEW 	NEW 	
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
	Max. display, resolution, measurement current	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
		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	N/A	N/A	±0.5% rdg. ±10 dgt.	±0.5% rdg. ±10 dgt.
		30 mΩ range or more	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 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	
Max. display, resolution	300 V	N/A	N/A	N/A	300.000 V, 1 mV	
	1000 V	N/A	N/A	N/A	N/A	
Basic accuracy		±0.01% rdg. ±3 dgt. ¹¹	±0.01% rdg. ±3 dgt.	±0.01% rdg. ±3 dgt.	±0.01% rdg. ±3 dgt.	
Response time ¹²		3 ms	10 ms	10 ms	10 ms	
Sampling period ¹³	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	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 ¹⁴ (within assured conditions)	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 ¹⁴ (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		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	
Ranges: 30 mΩ or less, 300 mΩ, 3 Ω or more						
Interface	LAN (TCP/IP, 10-BASE-T/100-BASE-TX)	N/A	✓	✓	✓	
	RS-232C ¹⁵ (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 ¹⁶ driver	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) ¹⁷		Resistant	Resistant	Resistant	Resistant	
Effect of conducted radio-frequency electromagnetic field 0.15 MHz to 80 MHz, 80% AM	10 V	N/A	Resistant	Resistant	Resistant	
	3 V	Resistant	Resistant	Resistant	Resistant	
CE		✓	✓	✓	✓	
CSA ¹⁸		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 ¹⁶ 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 ⁹: Average function (average of 4 measurements) ¹⁰: 10 mV resolution when 1000.00 V or more

Application		Fully automated production line testing of large packs for xEVs or large packs up to 1000 V	Model with GP-IB	To be discontinued in mid-2021	
Model		BT3564	BT3562-01 BT3563-01	BT3562 BT3563	
Appearance		Custom specifications for fuel cells are available 			
Measurement 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	
Measurement parameters	Resistance measurement ranges	3 mΩ	3.1000 mΩ, 0.1 μΩ, 100 mA	3.1000 mΩ, 0.1 μΩ, 100 mA	3.1000 mΩ, 0.1 μΩ, 100 mA
		30 mΩ	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
		3 Ω	3.1000 Ω, 100 μΩ, 1 mA	3.1000 Ω, 100 μΩ, 1 mA	3.1000 Ω, 100 μΩ, 1 mA
		30 Ω	31.000 Ω, 1 mΩ, 100 μA	31.000 Ω, 1 mΩ, 100 μA	31.000 Ω, 1 mΩ, 100 μA
	Max. display, resolution, measurement current	300 Ω	310.00 Ω, 10 mΩ, 10 μA	310.00 Ω, 10 mΩ, 10 μA	310.00 Ω, 10 mΩ, 10 μA
		3 kΩ	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	±0.5% rdg. ±10 dgt. ⁹	±0.5% rdg. ±10 dgt.	±0.5% rdg. ±10 dgt.
		30 mΩ range or more	±0.5% rdg. ±5 dgt. ⁹	±0.5% rdg. ±5 dgt.	±0.5% rdg. ±5 dgt.
	Voltage measurement ranges	6 V	N/A	6.00000 V, 10 μV	6.00000 V, 10 μV
20 V		9.99999 V, 10 μV	N/A	N/A	
60 V		N/A	60.0000 V, 100 μV	60.0000 V, 100 μV	
100 V		99.9999 V, 100 μV	N/A	N/A	
Max. display, resolution	300 V	N/A	BT3562-01 only: 300.000 V, 1 mv	BT3562 only: 300.000 V, 1 mv	
	1000 V	1100.00 V, 1 mV ¹⁰	N/A	N/A	
Basic accuracy		±0.01% rdg. ±3 dgt. ⁹	±0.01% rdg. ±3 dgt.	±0.01% rdg. ±3 dgt.	
Response time ¹²		700 ms	10 ms	10 ms	
Sampling period ¹³	Ω or V	N/A, 12 ms, 35 ms, 253 ms	4 ms, 12 ms, 35 ms, 150 ms	4 ms, 12 ms, 35 ms, 150 ms	
	EX.FAST, FAST, MEDIUM, SLOW	N/A, 28 ms, 74 ms, 359 ms	8 ms, 24 ms, 70 ms, 253 ms	8 ms, 24 ms, 70 ms, 253 ms	
Allowable total line resistance ¹⁴ (within assured conditions)	SENSE line	2 Ω, 2 Ω, 20 Ω, 20 Ω	2 Ω, 2 Ω, 20 Ω, 20 Ω	2 Ω, 2 Ω, 20 Ω, 20 Ω	
	SOURCE line	2 Ω, 2 Ω, 20 Ω, 20 Ω	2 Ω, 2 Ω, 20 Ω, 20 Ω	2 Ω, 2 Ω, 20 Ω, 20 Ω	
Allowable total line resistance ¹⁴ (error detection)	SENSE line	2 Ω, 2 Ω, 20 Ω, 20 Ω	2 Ω, 2 Ω, 20 Ω, 20 Ω	2 Ω, 2 Ω, 20 Ω, 20 Ω	
	SOURCE line	2 Ω, 2 Ω, 20 Ω, 200 Ω	2 Ω, 2 Ω, 20 Ω, 200 Ω	2 Ω, 2 Ω, 20 Ω, 200 Ω	
Open terminal voltage		25 V, 7 V, 4 V peak	25 V, 7 V, 4 V peak	25 V, 7 V, 4 V peak	
Ranges: 30 mΩ or less, 300 mΩ, 3 Ω or more					
Interface	LAN (TCP/IP, 10-BASE-T/100-BASE-TX)	N/A	N/A	N/A	
	RS-232C ¹⁵ (Max. 38.4 kbps)	✓	✓	✓	
	USB	N/A	N/A	N/A	
	GP-IB	✓	✓	N/A	
	EXT. I/O (37-pin handler interface)	✓	✓	✓	
	Analog output (DC 0 V to 3.1 V)	✓	✓	✓	
Function	Contact check	✓	✓	✓	
	Zero adjustment (±1000 counts)	✓	✓	✓	
	Pulse measurement	✓	✓	✓	
	Comparator	Hi/IN/Lo	Hi/IN/Lo	Hi/IN/Lo	
	Statistical calculations	Max. 30,000	Max. 30,000	Max. 30,000	
	Delay	✓	✓	✓	
	Average	2 to 16 times	2 to 16 times	2 to 16 times	
	Panel saving/loading	126	126	126	
	Memory storage	400	400	400	
	LabVIEW ¹⁶ driver	N/A	✓	✓	
Applicable standards		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) ¹⁷		Resistant	Resistant	Resistant	
Effect of conducted radio-frequency electromagnetic field 0.15 MHz to 80 MHz, 80% AM	10 V	N/A	N/A	N/A	
	3 V	Resistant	Resistant	Resistant	
CE		✓	✓	✓	
CSA ¹⁸		N/A	✓	✓	

Difference between the 3561 and BT3561A

Difference between the 3561, BT3562, and BT3563; and BT3561A, BT3562A, and BT3563A