

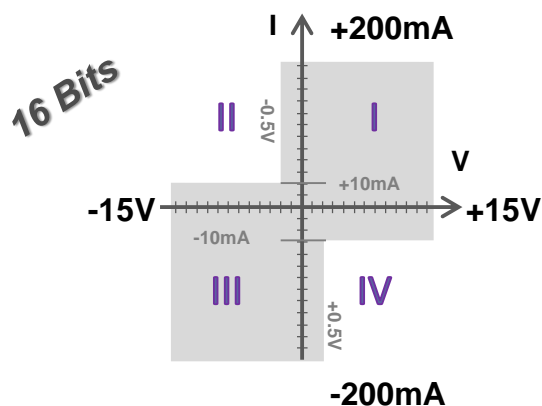
**VOLTAGE to  $\pm 12V$ , CURRENT to  $\pm 200mA$**

- General purpose low noise sources
- Low cost per source

Powered by **itest**

## Main Features:

- **4-quadrant** voltage source with current compliance limit
- **4-wire operation**
- Low noise linear regulation
- 1 bipolar voltage range:  $\pm 15V$
- 2 current ranges: 2mA and 200mA
- **16-bit measurement and setting resolution**
- Accuracy: 0,1% of the range
- Up to 78 sources in a single 13-slot chassis
- Operating area (Grey: DC; Dashed: Transient)



Available accessory:

D-SUB to BNC adapter, whatever length. Reference AT211-xx (xx = length in meter).“



## System description

Six independent ground referenced DC supplies



- Up to 13 BE584 source modules into a 19" Bilt chassis
- Host connections at chassis level including Ethernet, USB, RS422, RS232 and GPIB (optional)
- Complete software package provided, including a turnkey PC software, Labview driver

## Application examples:

- Reliability tests for sensitive components requiring multichannel biasing
- Accurate biasing for test and measurement benches
- Multistage RF Power Amplifier biasing
- Useful for multi-biasing work, RFICs, Optical, LEDs

## System Specifications

### Operating area

Parameters	Conditions/Comments	Min.	Typ.	Max.
Voltage setting range	bipolar operation : continuous voltage setting between polarities, normal operation around 0V	-15V		+15V
Current setting range	% of the range, programmed in absolute value	0,5%		100%
Remote sense operating range	Max. voltage drop in the ground cable when sense connected	-1V		+1V
Voltage output headroom	Max module output voltage for sense compensation	-15V		+16V
Sourced output power	Continuous power, per source			3W
Continuous sink current	Quadrant II and IV,  output voltage  > 0,5V			10mA
Transient sink current	Quadrant II and IV, during less than 100ms			200mA
Operating temperature	Ambiant temperature in front of Bilt's rear fan openings	15°C		30°C

### Range and Accuracy

Voltage range switching by relay in standby mode with automatic range selection capability.  
 Accuracy specified on a 18°C-28°C module temperature range, 15min warm-up.

#### Voltage

Parameter Range	Resolution	2 year Accuracy <sup>(1)</sup>		Ripple & Noise
		Setting	Read-back	10Hz-20Mhz
±15V	0,57mV	±15mV	±7mV	1mVp-p no load, 5mVp-p full load

1) Typical 90 day setting and measurement accuracy: 0,05% of the range

#### Current:

Parameter Range	Resolution	2 year Accuracy <sup>(1)</sup>		Load capacitance	
		Setting	Read-back	Recommended <sup>(2)</sup>	Max <sup>(3)</sup>
± 200mA	7,6µA	±200µA	±200µA	1µF	47µF
± 2mA	76nA	±2µA	±2µA	47nF	470nF

1) Typical 90 day setting and measurement accuracy: 0,05% of the range amplitude

2) For best noise and transient response results; low ESR ceramic capacitor recommended

3) For regulation stability

## System Specifications

### Regulation/measurements

Parameters	Conditions/Comments	Min.	Typ.	Max.
Voltage transient response time <sup>(1)</sup>	1 $\mu$ F output decoupling capacitor		500 $\mu$ s	
Current transient response time	No output decoupling capacitor		100 $\mu$ s	
Voltage to current transient response time <sup>(2)</sup>	No output decoupling capacitor		500 $\mu$ s	
Line regulation	No line regulation error, guaranteed by design			0%
Load regulation	Ground sense line connected, 0 to max. source current			0%
Measurements sampling frequency	For each source, envelope trace capability at this rate		0,33 ks/s	
Measurements bandwidth			4kHz	

1) Response time to a 5% to 50% load step, time to stabilize to within 15mV of setting

2) Time to stabilize from a constant voltage (CV) regulation to a constant current (CC) regulation after a load step

### Safety features

User programmable measurement thresholds: the module is shut down or sends a warning if a threshold is exceeded. Typical response time: 3ms. Current or voltage threshold, monitored after a programmable delay

### Module start/stop

User programmable measurement thresholds: the module is shut down or sends a warning if a threshold is exceeded. Typical response time: 3ms. Current or voltage threshold, monitored after a programmable delay

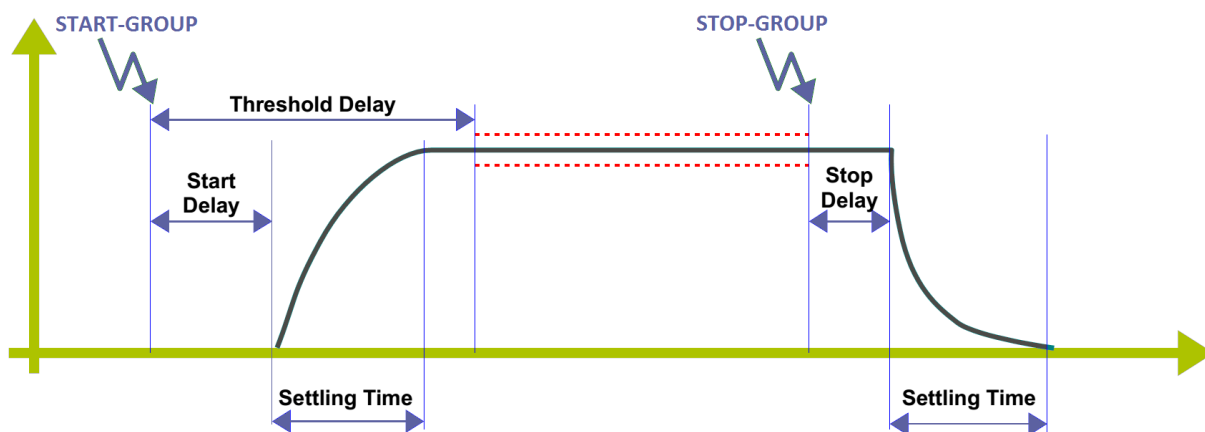
Parameters	Conditions/Comments	Min.	Typ.	Max.
Settling time <sup>(1)</sup>	Source switching on or off, or any setting change, 95% of the step (first order, 2.4ms time constant).		7ms	
Start delay		5ms		250ms
Stop delay		0ms		50ms
Threshold delay	Time after which the measurement thresholds are monitored	0ms		60s
Off output impedance	Source off, max current 1A, impedance of the relay contact		100m $\Omega$	

1) No output transient perturbation during output rise/cut-off and mains Starting/ Stopping, several possibilities for programmable sequences

# System Specifications

## Module Start/Stop

Start-Stop Sequence Overview



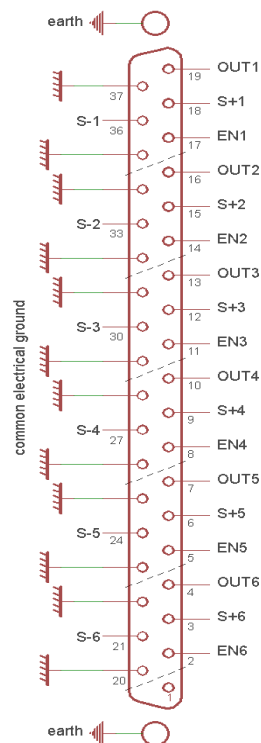
## Connection

1 D-SUB 37 connector. Pinout is compatible for twisted pair ribbon cables

- Ground and power sense signals are available for each source for remote voltage measurement and regulation.
- “Enable” signal allows to install a remote «voltage presence» LED (no resistor needed, 5mA max)

Pinout example for channel 6:

STANDARD CONNECTION			
Pin	Channel	Name	Function
1	-	NC	
2	6	Enable	Channel ON : 5V, channel OFF : 0V.
3	6	Sense+	Remote power sense
4	6	Output	Power Output
...			
20	6	Ground	Power ground
21	6	Sense -	Remote ground sense
22	6	Ground	Power ground
...			



## System Specifications

### Warranty

Any Bilt product comes with a two-year parts and labour warranty, when returned to our workshops. A phone support service is also available for the same period.

At the end of the initial two-year period, a further contract can be subscribed, including:

- a preventive functional check and calibration of the modules (on site or in our workshop)
- a further two-year warranty period

### Quality Regulations & Environment

The Bilt System and all modules are compliant to the applicable European directive and hold the CE mark.

- Products are designed and manufactured in France.
- ISO/CEI 17025 compliant calibration for any DC source or measurement module, calibration certificate provided.
- Serial number based life cycle management
- All products are 100% tested (test reports on demand)
- iTest only uses RoHS compliant components and does not use substances banned by the COSHH regulation.
- iTest complies with the relevant national regulations related to the safety and health of its employees against hazardous substances.
- The protection degree of the Bilt system is IP20 according to CEI 60529.

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