



AUTOMATION



IT



AUTOMOTIVE



RESEARCH/  
DEVELOPMENT



SEMICONDUCTORS



AVIONICS



SOLAR/WIND



INDUSTRY

## TECHNOLOGY | TEST | RESEARCH | DEVELOPMENT

**DC and Arbitrary Power Supplies  
Arbitrary and Function Generators  
4-Quadrant and Broadband Amplifiers  
Special Instruments**

Developed and manufactured in  
**Germany**

For more information, please contact:  
**Contact now!**



**ELECTRO SYSTEMS  
ASSOCIATES PVT. LTD.**

toellnersales@esaindia.com, www.esaindia.com  
BANGALORE: 098451 49926; 098450 05268  
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**SHORT FORM**  
**TOELLNER®**

# Applications

Industry, Automotive, Research, Aviation, Aerospace, Railways, IT Sector, Automation, Photovoltaics, Laser, Particle Accelerator, General Electronics.

## Product Range:

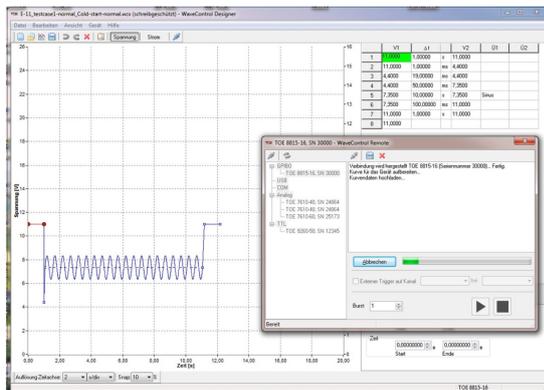
Device Series	Highlights
Laboratory Power Supplies	Linear and switch mode 150 W to 400 W
High-Performance Power Supplies	1 kW to 10 kW
Arbitrary Power Supplies	160 W to 5200 W – includes WaveControl software
Function Generators	Up to 63 W output power – DC to 44 MHz
Arbitrary Generators	1 million sampling points – DC to 40 MHz
Broadband Amplifiers	DC to 5 MHz – up to 63 W output power
4-Quadrant Power Supplies	160 W to 3200 W source and sink power – DC to 100 kHz/400 kHz
Electronic Switches	Up to 60 V / 100 A – rise/fall time < 500 ns

# Systems For Performing Standardized Tests

## Comprehensive Test Bench For Automotive Testing

TOELLNER offers flexible solutions for on-board network simulation and testing of components, e.g. for the automotive and avionics industries. The Software WaveControl provides waveforms and controls the TOELLNER system components at the test station, which can be individually tailored to your requirements. Using a DAQ-Card, any signal waveform can be provided with Arbitrary Power Supplies or 4-Quadrant Amplifiers with outputs from 160 W to 5200 W. For fast interruptions, TOELLNER offers electronic switches with switching times below 500 ns.

WaveControl Software includes a comprehensive library of waveforms supporting these standardized automotive industry tests:



The Software WaveControl provides

- ✓ Extensive Waveform Libraries for Normative Tests, e.g.
  - LV 124, LV 148
  - VDA 320
  - VW 80000-1
  - VW 82148
  - GMW 3172
  - MBN 10615
  - ISO 16750-2
  - BMW GS 95024-2-1
  - BMW GS 95026
- ✓ Import and Export of recorded Data
- ✓ Visual Generation of individual Waveforms
- ✓ Sequence Controlling and Timing

- Electronic Switch for short interruptions up to 60V / 100A; tr / tf < 500 ns
- 4-Quadrant-Power-Supply up to ± 100 V / ± 40A; > 100 kHz, 320W / 1kW, modularly expandable up to 6,4 kW / 20 kW
- Arbitrary Power Supply up to 100 V / 320 A, AC-superimposition up to 70 kHz, 320 W / 1 kW up to 5.2 kW / 16 kW
- Software to create arbitrary waveforms, an extensive library of normative waveforms included
- All instruments can also be used individually



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# Laboratory, High-Performance and Arbitrary Power Supplies 4-Quadrant Power Supplies Function and Arbitrary Generators

State-of-the-art technology and sophisticated circuitry satisfy all requirements in cutting edge equipment. Ingenuity in detail, finishing and assembly carried out by hand, with unmatched mechanical and electronic precision.

Series	Image	Number of outputs	Max. W total	Max. V per output	Max. I per output	Interface (partially optional)	Highlights
TOE 8730		2 – 5	150 W	48 V	5 A	Analog	Dual, triple and quintuple output power supplies Linear control Extremely low residual ripple: 50 µV Compact design
TOE 8850		1 – 2	320 W	130 V	20 A	GPIB RS 232 Analog	Single and dual-output, system compatible power supplies V & I settings via dial control knob Sensing as standard Linear control, low residual ripple
TOE 8950		1 – 2	400 W	130 V	40 A	GPIB USB + LAN RS 232 Analog	Auto-sense for 115 V or 230 V line voltage Autoranging Front and rear outputs Compact Numerous safety functions Arbitrary mode with WaveControl software
TOE 8870		1	1,500 W	400 V	100 A	GPIB RS 232 Analog	Autoranging Active PFC System compatible High slew rates Best EMC characteristics Arbitrary mode with WaveControl software
TOE 8805 to TOE 88165		1	160 W to 5,200 W	100 V	320 A	GPIB Analog	High-speed arbitrary power supplies Generate any V and I combination Accepts real-time signals High slew rate: approx. 2 V/µs Brief load currents up to 1000 A Internal sink up to 16,000 W AC superimposition up to 70 kHz User-friendly WaveControl software
TOE 7621		1	320 W	± 100 V	± 40 A	Analog	320 W source and sink power Brief load current 3 x I <sub>rated</sub> (optional) Analog control input Rise/fall time < 2.5 µs in CV mode Sensing Front and rear outputs Great for testing component immunity to vehicle electric system ripple. ***Power expandable to 3200W via paralleling up to 10 devices
Series	Image	Frequency		Max. V	Max. W	Interface	Highlights
		Min.	Max.				
TOE 7761		1 µHz	40 MHz	20 V <sub>SS</sub>	0.5 W	GPIB RS232	Arbitrary function generator with 1M data points, 80 MS/s sampling rate and 14-bit resolution.

# Vehicle / Avionics Electric Systems Simulation

TOELLNER®

System components e.g.

- Arbitrary power generators 160 W – 5,200 W
- 4-quadrant power supplies/amplifiers 320 W – 3,200 W
- Microswitch for brief interruptions < 500 ns (LV124: E10+E13)
- Reference resistance kit etc.

**WaveControl software** – intuitive operation – comprehensive library of waveforms for controlling the power supplies, amplifiers and switches

## New High-Speed Switch

For Brief Interruptions in Power Supply and Ground Lines

- Input voltage Up to 60 V
- Output current Up to 100 A
- Interruption of supply and ground lines
- Rise and fall time < 500 ns
- Short-circuit-proof
- Discharging of load current circuit
- 4 signal line switches
- Control by any signal generator (TTL level)

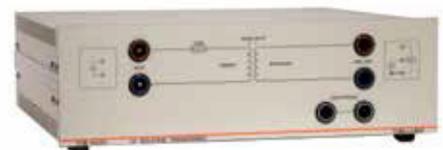


Particularly Suitable for Automotive Tests

12 V vehicle electric system	48 V vehicle electric system
BMW GS 95024-2-1	BMW GS 95026
LV124	LV148
Mercedes-Benz MBN 10615	VDA 320
Mercedes-Benz MBN LV 124-1	VW82148
VW 80000-1	

## Coupling Network

Superimposition of an AC signal on a power supply circuit  
e.g. for LV123, MIL-STD-461F/CS 101, Ford EMC-CS-2009-1/CI 250 etc.



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