Kniel makes the difference

DENIM Meeting

Power supplies - for special applications,
in the change over times

The company Kniel

- Since 1975 we develop and produce power supplies
- approx. 90 employees in Karlsruhe
- Representatives in Benelux, Switzerland, Italy, Sweden, Taiwan...)
- More than 10000 different power supplies in product line
- Standard, modified & user-specific variants
- Customers in industry, research, railway, military, …
- **Philosophy:** We are your consultants for power supplies, you can focus on your application.

Kniel benefits

- 5 years guarantee
- Guaranteed data (not typical, -25°-70°(50))
- 10 years subsequent delivery after advertisement of end of production life cycle
- Failure rate less than 3‰ over 5 years
- All topologies with minimum ripple
- Inhouse development and production
- Flexible by high manufacturing penetration
- User-specific low volume production
- Technical consultation before and after sale
- …

Productrange

- Linear regulator (7,5-240W)
- Primary switched (18-8000W)
- DC/DC-converter (18-1500W)
- Low Emission (18-144W)
- Programmable Analog/Digital (60-8000W)

- 19“ rack-mounting
- Modules
- Wall and DIN-rail mounting
- User-specific power supplies

Project (Ex.: Low Emission)

- Customer is using linear powersupplies since several years
- They have quite sensitive applications (detection of single atoms)
- Increasing problems with dimensions and power losses
- There is no chance to realize the application with a linear power supply
- Customer tests low emission with a critical feeling
- Tests results are very well
- We realize the application with low emission and spare 60% dimensions, 90% power losses and 70% of weight
- Only in extrem applications we need a additional small filter
- **Customer statement: Why didn´t we use low emission sooner**

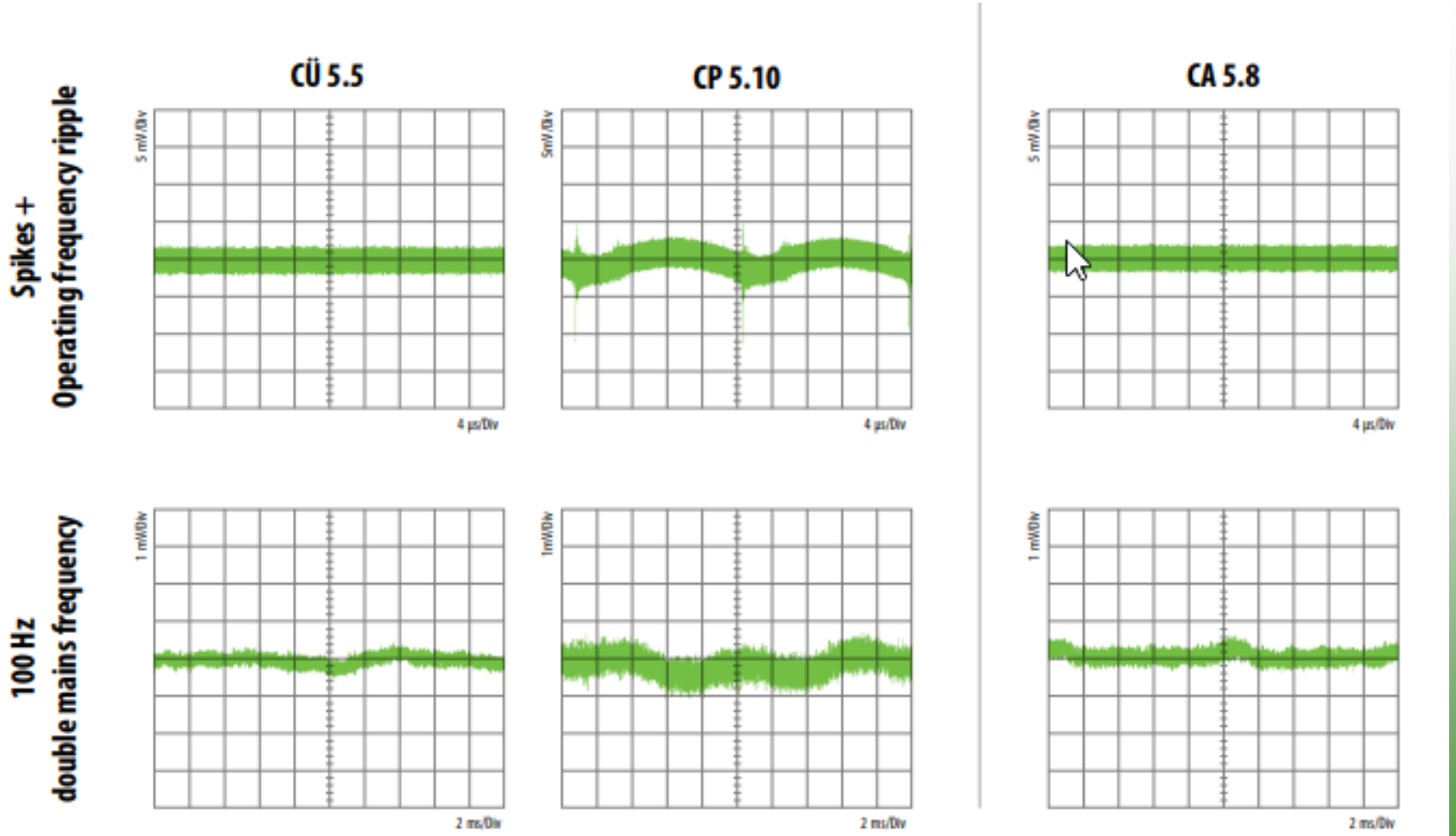
Examples

- **Works in many applications since years with satisfaction**
- Reactor technology: Measuring radiation
- Telescope projects: Amplifying of transmitter signals (from low frequency to optical frequency)
- Compensation of magnetic fields: Amplifying sensor signals and control of inductors
- Biochemistry: Premagnetisation of inductors
- Neuroscience: Powering and analysis of sensors signals
- Research: Fast prototyping in every case
- …

Low Emission

- ✓ Combines the advantages of linear- & switching technology
- ✓ Low spikes and ripple like linear regulators
- ✓ Small dimensions, weight and power losses like switching regulator

Low Emission



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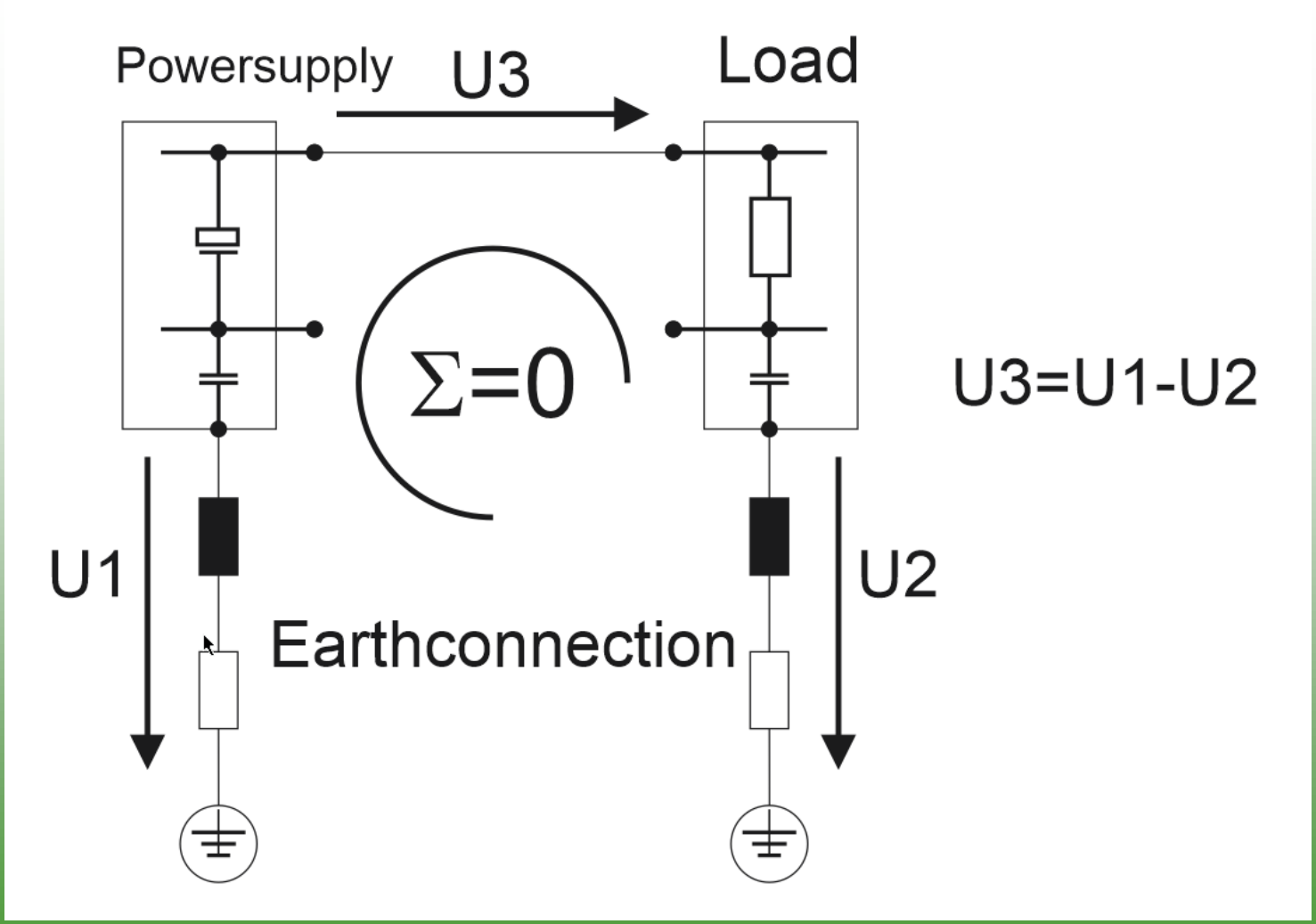
- ✓ Combines the advantages of linear- & switching technology
- ✓ Low spikes and ripple like linear regulators
- ✓ Small dimensions, weight and power losses like switching regulator
- ✓ Very good filtering of mains disturbance
- ✓ NRTL-certified (UL-certified)
- ✓ No fold back current limiting
- ✓ No secundary coupling to earth (even no condensators)

Low Emission



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- ▪ Dynamic behaviour like primary switched power supplies
- ▪ Variable „switching“ frequency

ENERGY Series

- Digital regulated power supplies (Standard and Fast)
- 400/800/1200/1500/3000W over a range.
- 19“ rack mounting and wall-, DIN-rail mounting
- NRTL-certified (UL-certified)
- All terminals are pluggable

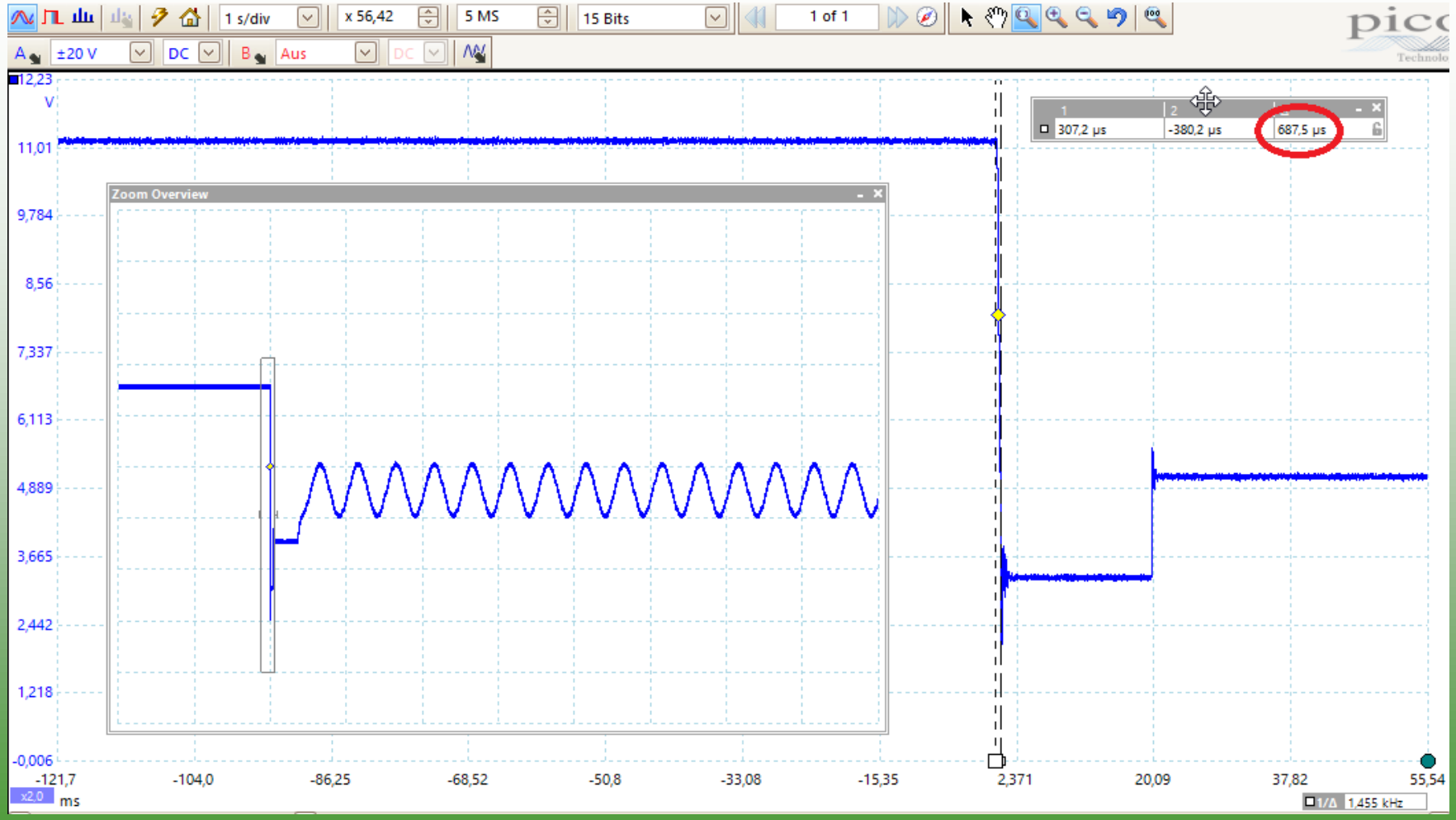
- Potential free input-, output and **interfaces**
- Different interfaces: (USB, CAN, RS232)
- Optional potential free analoge interface and LAN
- 3 configurable hardware signales (in & output)
- In compliance with **PL d / SIL 2**

ENERGY Software

- Identical firmware for entire ENERGY-series
- Set and actual values as real values (not normalised)
- Type control of the power supply, without activating of the output
- Voltage-, current- and power-regulation
- User adjustable ramps, limits and thresholds
- User adjustable positive und negative internal resistance
- User adjustable electronic load
- User adjustable in/out signals
- Communication via CAN normalized (CiA 453)
- 50 parameter sets in storage
- Integrated „smartness“
- Autonomous running of sequences (2 stored, ∞ loadable)

Fast Series

- 0 to Max and Max to ~0 in < 1 msec



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