



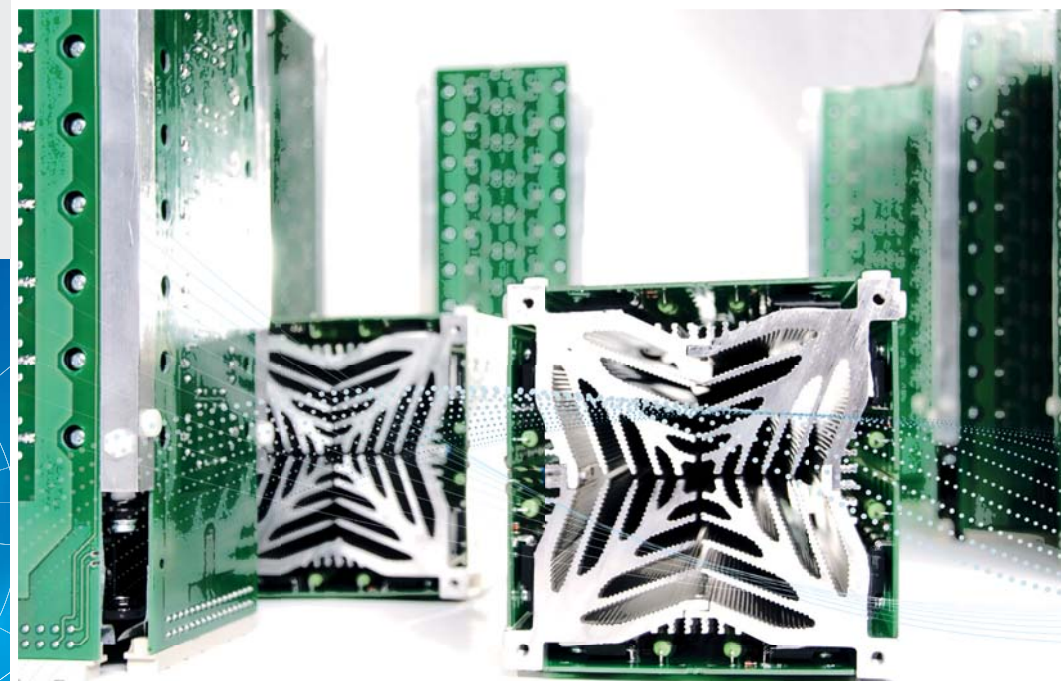
APS
4-QUADRANT VOLTAGE AMPLIFIER

ACS
4-QUADRANT CURRENT AMPLIFIER

POWER CAPABILITY 1000VA ... 100kVA
SOURCE AND SINK MODE
BIDIRECTIONAL FIBER OPTIC PHIL INTERFACE

4-QUADRANT POWER AMPLIFIERS VOLTAGE AND CURRENT FOR PHIL

POWER HARDWARE IN THE LOOP - POWER MODULES
REAL 4-QUADRANT OPERATION - SOURCE AND SINK MODE
AUTOMATED TESTING SOFTWARE MODULES



PHIL

**WIR BRINGEN SPANNUNG IN FORM
WE GET VOLTAGE INTO SHAPE**



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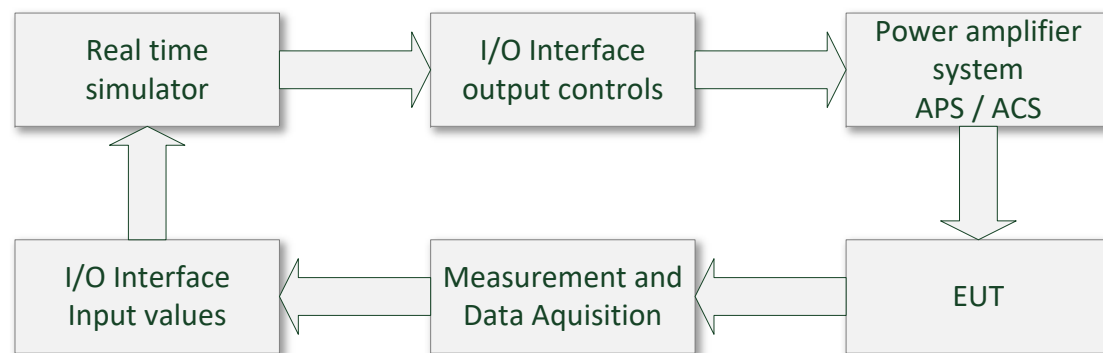
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WE GET VOLTAGE INTO SHAPE

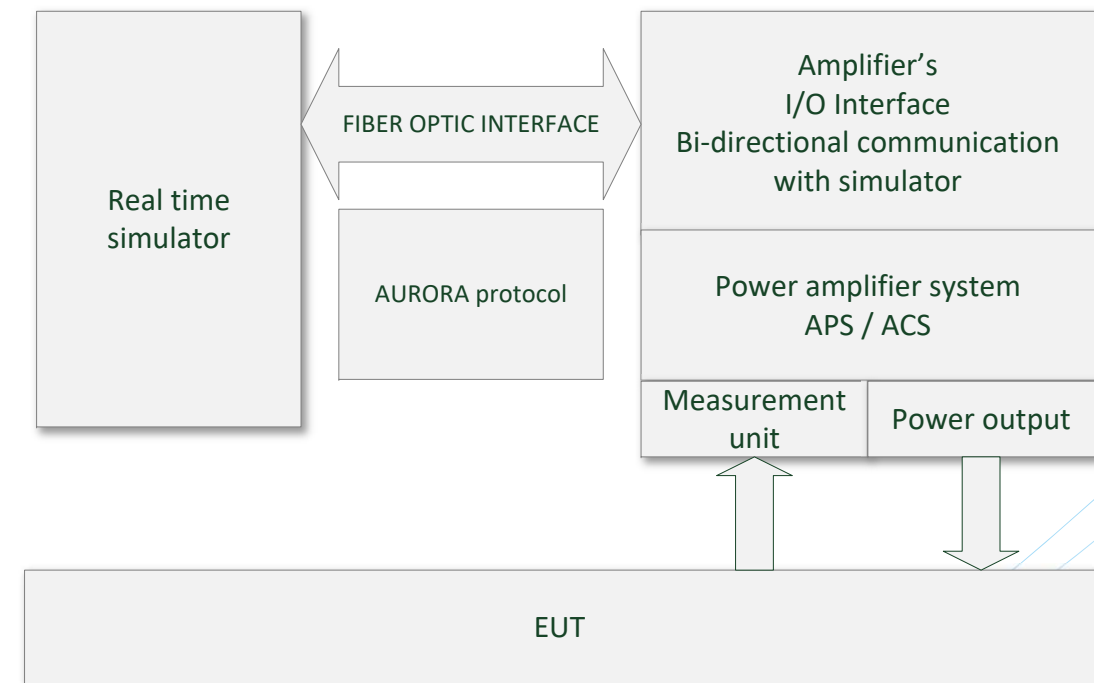
PHIL APPLICATIONS

APS AND ACS – VOLTAGE AND CURRENT AMPLIFIERS

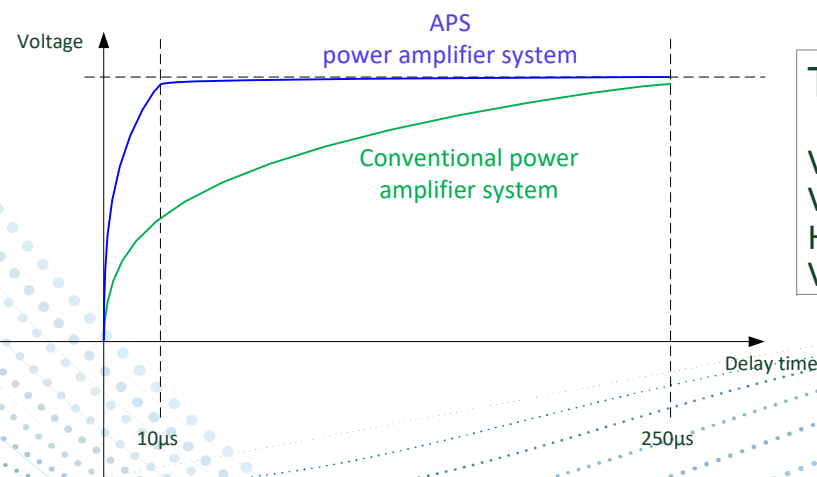
THE PHIL SIMULATOR AND THE POWER HARDWARE IN THE LOOP



THE HARDWARE CONCEPT



THE LINEAR AMPLIFIER ADVANTAGE: VERY LOW DELAY TIME

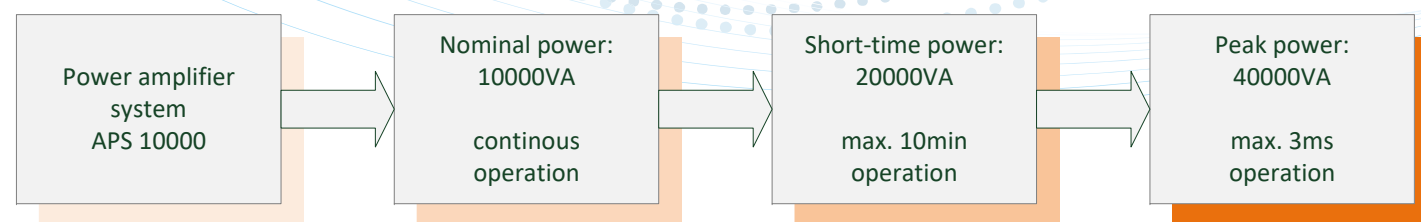


THE IDEAL POWER SOURCE

Very fast risetime
Very good stability
High signal resolution
Very low internal impedance

THE TEST SYSTEM CAPABILITIES

THE LINEAR AMPLIFIER POWER CAPABILITIES



TYPICAL POWER ELECTRONICS PHENOMENA

Voltage drops
Voltage variations and fluctuations
Voltage unbalance
Frequency variations
Harmonics and interharmonics
Ripple on DC
Non-linear loads

TYPICAL SIMULATION MODELS

Dynamic behaviour
Motor/generator simulation
Very fast response – very low delay time
Controlled current source

SIMULATION OF SUPPLY NETWORKS

SIMULATION OF VOLTAGE AND CURRENT FLOW

