



SANTRAK SOLUTION

Product Catalog

2025/2026



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Faith

ROHDE & SCHWARZ
Make ideas real



KAROGIC

WAVECONTROL

YOKOGAWA



OWON

GRAPHTEC

LANGER
EMV-Technik



PACIFIC
POWER SOURCE



Partner®

CHAPTER 1

DC Power Supplies



FTB 9000 SERIES

Bidirectional programmable DC power supply

- Output voltage: 80 V up to 2250 V
- Output current: up to ± 4500 A
- Output power: standalone 5 kW up to ± 180 kW, parallel up to ± 1800 kW
- CV, CC, CP, CR function



FAITH FTDM SERIES

Modular bidirectional test power source

- Ultra-high power density, up to 3U/60kW
- Output Voltage: 2.5V up to 1000V
- Output current: up to ± 300 A
- Output power: up to 60 kW
- Integrated off-grid and grid-connected switching function



FTP1000 SERIES

Small Bench Programmable DC Source

- Output voltage: 0 V to 3000 V
- Output current: 0 A to 120 A
- Output power:
600W/900W/1200W/1500W/1800W
- Small size; 1U/half 19 inch or full 19 inch
- Standard RS232 and LAN, optional RS485



FTP 9000 SERIES

High-Power programmable DC power supply

- Active Power Factor Correction (PFC) for efficiency
- Output voltage: 80 V up to 2250 V
- Output current: 20 A up to 6120 A
- Output power: 5 kW up to 180 kW, expandable up to 1800 kW
- CV, CC, CP, Operation mode



FAITH FL SERIES

Portable Programmable DC Power Supply

- Voltage levels included: 40V, 80V, 160V
- Current levels included: 4A, 6A, 8A, 12A, 16A
- Single unit power output range: 300W/400W
- Battery charging function
- LCD display with wide viewing angle and high brightness



FTP1200 SERIES

Small Bench Programmable DC Source

- Output voltage: 0 V to 3000 V
- Output current: 0 A to 120 A
- Output power:
600W/900W/1200W/1500W/1800W
- Small size; 1U/half 19 inch or full 19 inch
- Standard RS232 and LAN, optional RS485

CHAPTER 1

DC Power Supplies



FTG SERIES

Modular high-power programmable DC power supply

- Output voltage: 10 V up to 1500 V
- Output current: 0 A to 1200 A
- Output power: 4 kW to 600 kW
- CV, CC, CP operation modes
- High Precision V & I measurement
- Foldback protection



FTP SERIES

Programmable DC power supply

- Output voltage: 40 V up to 1500 V
- Output current: 3.5 A up to 240 A
- Output power: 2 kW, 3.2 kW, 6.5 kW
- CV, CC, CP, Operation modes
- Easy Master-Slave parallel or serial
- Precision V & I measurement



FTL3000 SERIES

Bench linear triple channel DC power supply

- 2U half-rack instrument delivers up to 540 W of power with low ripple and noise, or 180 W per channel
- Linear type high resolution, high precision (1mV/1mA)
- Save and recall up to 40 groups of V/I setups



FTL SERIES

High Precision DC power supply

- Voltage: 15V, 20V, 30V, 36V, 45V, 60V, 80V, 120V, 180V
- Ultra high resolution and accuracy of 1mV/1mA
- Power: 90W to 1500W
- <0.01% low regulation rate
- OCP, OVP, OPP, OTP, reverse polarity protection, etc.



FTLP SERIES

Portable Programmable DC Power Supply

- Output voltage: 0.5 V to 162 V
- Output current: 0 A to 16.4 A
- Output power: 100W, 180W
- Minimum dimension
- CC, CV, CP output modes, automatic crossover between CC and CV modes

FTP 3000 SERIES

Series wide range programmable DC power supply

- Output voltage: 0 V to 600 V
- Output current: 0 A to 80 A
- Output power: 900 W, 1500 W
- Quick call, one-click call test parameters
- CV, CC, CP operation modes

CHAPTER 1

DC Electronic Load

Faith
Technologies



FT68200A/AL/E SERIES

High-power DC electronic load

- Voltage Range: 150 V, 600 V, 1200 V
- Current Range: 100A/kW (150V), 70A/kW (600V), 40A/kW (1200V), 2400A max
- Rated power: 4kW to 60kW
- Master-slave parallel operation, power expandable up to 600kW



FTR9000 SERIES

Regenerative high-power programmable DC

- Single unit: voltage: 0V to 2250V
- Current: 0A to 4500A
- Power: 0kW to 180kW, can reach 1.8MW parallel
- Battery discharge test function
- Voltage precision: 0.05%+0.05% F.S; Current accuracy: 0.1%+0.1% F.S



FT6400A SERIES

Medium-power DC electronic load

- Voltage Range: 120 V, 500 V,
- Current Range: 30 A, 45 A, 65 A, 120A, 240 A
- Rated power: 900 W to 6000 W
- Battery capacity and internal resistance test
- OVP, OCP, OPP, OTP, voltage reverse protections etc.



FT NZ/N SERIES

Ultra low voltage and high current DC load

- Low voltage load capacity can reach 0V@1200A, 0.2V@5000A
- The NZ series supports 0V full current load and reverse pole test
- Battery capacity and battery internal resistance test function
- RS232, RS485, LAN, USB, CAN (optional)



FT63200A/E SERIES

Medium Power Programmable DC electronic load

- Voltage level: 150V, 600V, 1200V
- Single power: 750W ~ 3000W
- High power density design, the whole machine can achieve 3kW/2U
- CC/CV/CR/CP/CRD/CPD/CV+CC/CR+CC/CP+CC operation mode



FT6110 SERIES

Multi-channel electronic Load Array

- Channel modular design is small, can achieve 3U/48CH
- Electrical isolation between channels
- Power Range: 50W to 1080W
- Voltage specifications: 80V, 100V, 500V
- OCP/OVP/OPP/OTP multiple protection

CHAPTER 1

DC Electronic Load

Faith
Technologies



FT63000 SERIES

Small and medium power electronic loads

- Voltage level: 120 V, 500 V
- Scope of power: 150 W, 300 W, 600 W, 900 W, 1350 W, 1800 W
- On-load current range up to 240A
- Dynamic test frequency up to 20kHz
- Quick call, one-key call test function



FT66100A SERIES

Multi-channel DC electronic load

- 8-inch color display, can display 6 channels data and set parameters at the same time
- 5-bit data, 0.05% accuracy, 20kHz dynamic frequency
- Two short-circuit states, switching and delay



FT6200A SERIES

Low-power Bench DC electronic load

- Voltage range: 150 V, 500 V
- Current range: 15 A, 30 A
- Rated power: 150 W, 300 W
- Min resolution: voltage 0.5mV, current 0.05mA
- Fast NG/GO detection to tell if the DUT is within specification
- \pm OVP, \pm OCP, \pm OPP, \pm LVP, OTP

CHAPTER 1

Battery Solutions



FT8330 SERIES

Battery cell simulating power supply

- Voltage output: 0V ~ 6V
- Current output: 0 ~ 1A/0 ~ 2A/0 ~ 3A
- Voltage accuracy, resolution up to 1/10,000
- The number of channels can be up to 36ch
- Professional testing software, supporting data reporting and data analysis



FT8340 SERIES

Bidirectional battery cell simulating power supply

- Voltage range: $\pm 5V/\pm 6V/\pm 15V/\pm 20V$
- Current range: $\pm 1A/\pm 2A/\pm 3A/\pm 5A/\pm 10A$
- Two current ranges, uA level measurement
- Seamless switching between source and load
- The number of channels: 4ch, 8ch, 12ch



FT8350 SERIES

Multi-channel Battery Simulator

- Voltage range: 6V, 15V, 20V
- Current range: $\pm 1A, \pm 2A, \pm 3A, \pm 5A$
- Voltage accuracy up to 0.01% F.S
- Dual current range, automatic switching
- Small size, high integration, 3U/24CH
- Charge/Discharge testing, battery simulation, SOC simulation, pulse function



FT8360 SERIES

Battery charge and discharge equipment

- Modular design, each module for an independent channel
- multi-channel parallel function, parallel current up to 2400A
- High measurement accuracy, voltage, current accuracy of 0.03%F.S
- With fast current response, response time $\leq 3ms$
- High-speed data recording, interval time 10ms
- Each channel can detect different types of batteries, and completely independently work in different modes, without affecting each other

CHAPTER 1

AC Power Supply

Faith
Technologies



FTPF SERIES

Programmable AC power supply

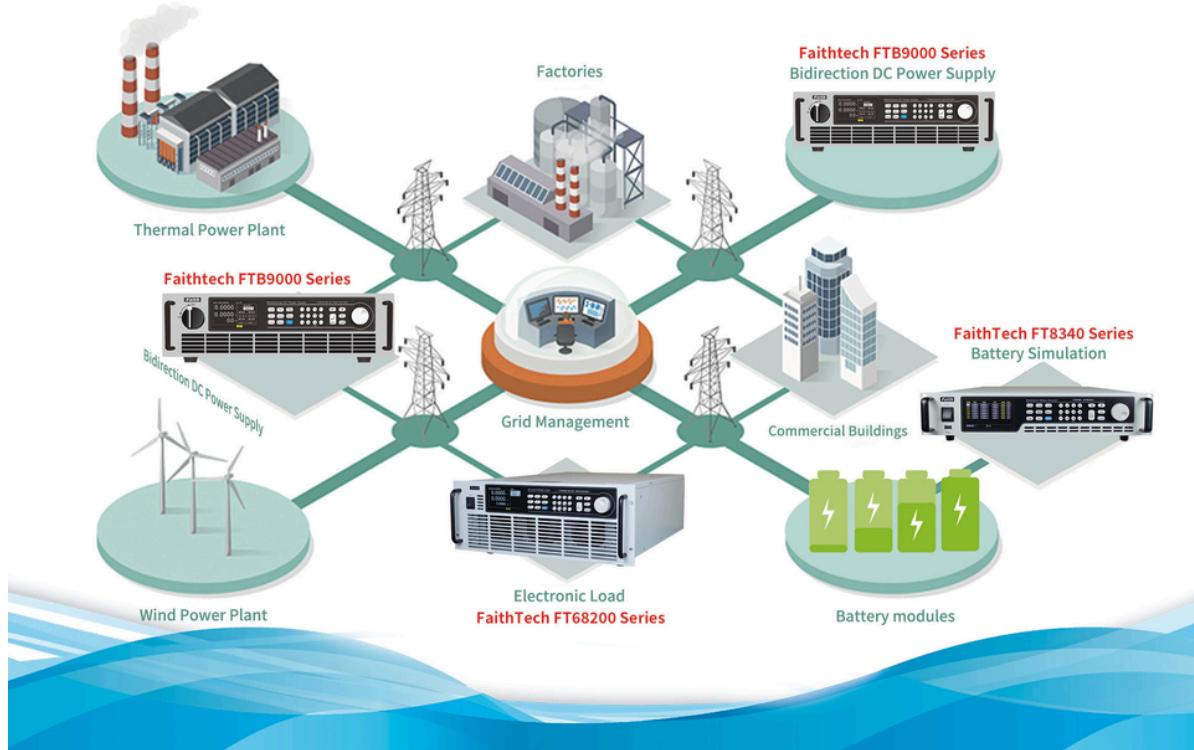
- Adopts modular power supply design, high power density, small size, light weight, is one tenth of the volume of traditional (transformer) power supply
- up to 900kVA, 1Hz - 550 Hz
- Current up to 1356 A
- Touch screen + knob operation, convenient parameter setting
- Provide PC upper computer operating software
- With RS232, RS485, CAN2.0B, LAN communication interface



FT-SCA/SCE SERIES

High Precision Current Sensor

- Current range: $\pm 60A/\pm 200A/\pm 600A/\pm 1000A/\pm 1500A/\pm 2000A/\pm 3000A$
- High precision, current precision 10ppm
- AC/DC universal, which can measure AC, DC and pulse current
- Primary and secondary side isolation measurement
- No warm-up time
- Wide band measurement,
- Low response time, minimum dynamic response time 1us



CHAPTER 1

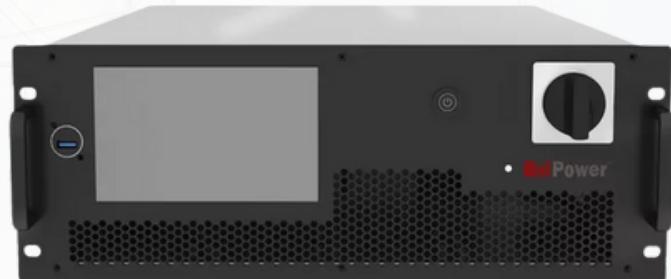
BriPower™

AC/DC Power Source & Load

ZGX SERIES

AC/DC Power Source & Load

- Single-phase and selectable three-phase 208V, 230V, 380V, 400V (L-L) input
- AC, DC, and AC+DC output
- 4-Quadrant Operation
- Regenerative AC/DC source and load
- Regenerative RLC /RCD electronic load
- BiPolar DC power supply
- Single-phase/three-phase/split-phase/reversephase/ multichannel output, each phase independently controllable
- Up to 100th harmonic waveform generation
- Supports low/high voltage ride-through and continuous fault ride-through
- Programmable phase angle jump
- Current-limiting output for short-circuit testing
- TTL trigger signal output with voltage or frequency changes



KGS SERIES

SiC AC/DC Power Source & Load

- Modular design, output power from 15kVA to 1080kVA
- Bi-directional AC/DC power source, seamless transition between source and sink modes
- Regenerative AC/DC load function
- Output: AC, DC, AC+DC
- Independent three-phase output, which can be configured as single-phase output
- Max output 450V L-N within output frequency range from DC to 5kHz
- Frequency Range: DC~ 5kHz maxUp to 100th harmonic waveform generation, inter-harmonic generation
- Trigger out, TL signal output for voltage or frequency change
- AC output, ON/ OFF output phase angle can be programmed
- Using true current feedback control when working in CC mode

AC/DC Power Source & Load

ESA SERIES

High Power AC Power Supply

- Configurable output power, voltage, current, and frequency ranges
- Master-slave parallel operation for system expansion
- Programmable voltage/frequency sequences via GUI with controllable slew rates
- Optional DC output mode
- Built-in soft-start function to suppress inrush current
- Custom waveform output (clipped wave, rectified wave)
- Optional air-cooling or liquid-cooling configurations
- Grid simulator
- Regenerative electronic load RLC electronic load



ESD SERIES

DC Power Supply

- Configurable power, voltage and current ranges
- Maximum output power: 10 MW
- Maximum output voltage: 50 KV
- Master-slave parallel for power expansion
- Operating Modes: Constant Current(CC), Constant Voltage (CV), Constant Power (CP), and Constant Resistance (CR)
- Voltage and current sequences programmable via GUI
- Built-in soft-start function effectively suppresses in-rush current during startup
- Configurable as a bidirectional DC power supply (-Roption), operating in two quadrants for new energy testing (e.g. battery simulation)
- Configurable for fast dynamic response: Current risetime(0%-90%)<1 ms
- Configurable as an energy regenerative DC load function (-LD option)
- PV simulation (-PV option)

CHAPTER 2

YOKOGAWA



Power Measurement



DLM5000 HD

Mixed Signal Oscilloscopes

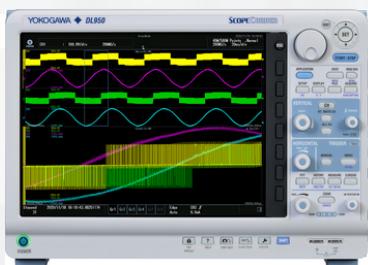
- 4 or 8 analog channels, 16-bit logic + optional additional 16-bit logic
- Bandwidth: 350 or 500 MHz
- Sample Rate: up to 2.5 GS/s
- Vertical resolution: 12 bit
- High resolution mode: up to 16 bit
- Measurement memory: up to 1 GigaPoints
- History waveforms: up to 200,000 triggers
- Synchronization function for up to 16 analog channels
- Logic and Serial Bus Analysis



DLM3000 HD

Mixed Signal Oscilloscopes

- 4 analog channels
- 8-bit logic
- Bandwidth: 350 or 500 MHz
- Sample Rate: up to 2.5 GS/s
- Vertical resolution: 12-bit
- High resolution mode: up to 16-bit
- Measurement memory: up to 1 GigaPoints
- History waveforms: up to 200,000 triggers
- Synchronization function for up to 8 analog channels
- Logic and Serial Bus Analysis



DL 950

Mixed Signal Oscilloscopes & Scope Coder

- 200 MS/s high-speed sample rate
- 8 G points large memory
- Long recording to internal flash memory at 20 MS/s
- 10 Gbps Ethernet high-speed data transfer
- Up to 16-bit analog resolution
- 8 input module slots
- Up to 160 synchronized channels
- A variety of isolated plug-in modules
- 12.1-inch large touch screen



DL 350

Mixed Signal Oscilloscopes & Scope Coder

- A4-sized compact chassis
- Battery power for 3.5 hours
- Resistive touch screen
- Memory recorder mode for easy data logging setup
- Compatible with 20+ different input modules
- Up to 8 channels analog inputs
- Up to 100 MS/s sampling rate/ Up to 16-bit analog resolution
- GPS recording: longitude, latitude, velocity, and more

CHAPTER 2

YOKOGAWA



Power Measurement



WT 5000 SERIES

Power Analyzer

- Up to 7 wattmeters / Modular
- 0.01% of rdg + 0.02% of rng
- DC to 1MHz
- 4 motor inputs
- Harmonics testing to 500th order
- IEC 61000 compliance testing



WT 1800E/R SERIES

Power Analyzer

- Up to 6 wattmeters
- 0.05% of rdg + 0.05% of rng
- DC, 0.1Hz to 1MHz
- 2 motor inputs
- Harmonics to 500th order



WT 500 MID RANGE SERIES

Power Analyzer

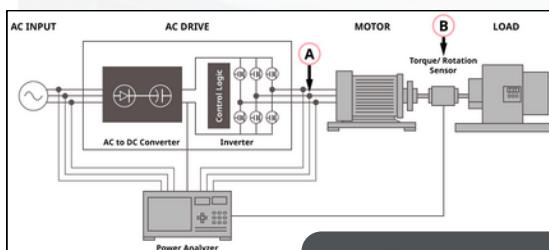
- Up to 3 wattmeters
- 0.1% of rdg + 0.1% of rng
- DC, 0.1Hz to 100kHz
- Independent range controls
- Harmonics to 50th order



WT 300-ECONOMY SERIES

Power Analyzer

- Up to 3 wattmeters
- 0.1% of rdg + 0.05% of rng
- DC, 0.1Hz to 100kHz
- Standby Power, Energy Star®, SPEC Power® and IEC62301/EN50564



The Measurement Challenge



CHAPTER 2

High-end Oscilloscopes

ROHDE & SCHWARZ
Make ideas real



R&S®RTM3000 OSCILLOSCOPE

Low class digital Oscilloscopes

- Bandwidth: 100 MHz to 1GHz
- Sample rate: up to 5 Gsample/s
- Memory depth: up to 80 Msample
- ADC resolution: 10-bit
- Display: 10.1" capacitive touchscreen



R&S®MXO3 OSCILLOSCOPE

Low class digital Oscilloscopes

- Bandwidth: 100 MHz to 1 GHz
- Analog Channel: 4/8 Ch
- Sample rate: up to 5 Gsample/s
- Memory depth: up to 500 Mpts/ch
- 12-bit ADC and 18-bit
- HDDisplay: 11.6" capacitive touchscreen



R&S®MXO 4 OSCILLOSCOPE

Mid class digital Oscilloscopes

- Bandwidth: 200 MHz - 1.5 GHz
- World's first oscilloscope with an update rate > 4.5 million waveforms per second and industry leading spectrum acquisition rate of 45,000 FFT/s, with up to 4 spectra
- Industry-leading system architecture: 18-bit vertical resolution/12-bit ADC, 10-bit ENOB
- Zone trigger on analog, spectrum and math
- Deepest in class standard memory: 400 Mpoints



R&S®MXO 5 OSCILLOSCOPE

Mid class digital Oscilloscopes

- Bandwidth: 4 channel: 350 MHz - 2 GHz | 8 channel: 100 MHz - 2 GHz
- World's fastest oscilloscope with > 4.5 million wfms/s update rate and spectrum with > 45k FFT/s
- Industry-leading architecture: 18-bit vertical resolution/12-bit ADC and 10-bit ENOB
- Zone trigger on analog, spectrum and math
- Deepest in class standard memory: 500 Mpoints



CHAPTER 2

High-End Oscilloscopes



R&S®MXO 5C OSCILLOSCOPE

High class Digital Oscilloscopes

- Bandwidth: 4 channel: 350 MHz - 2 GHz | 8 channel: 100 MHz - 2 GHz
- 2U height which makes it the ideal choice for rack applications
- Integrated e-ink display with key information such as instrument IP and status for fast setup
- Zone Trigger on analog, spectrum, and math
- Same great specs as MXO5 Series oscilloscope:
 - World's fastest oscilloscope: 4.5 million waveforms/sec
 - Industry-leading system architecture: 12-bit ADC, 18 bit HD mode and 10-bit ENOB
 - Deepest in class standard memory: 500 Mpoints
 - Industry leading spectrum acquisition rate of 45,000 FFT/s and up to 4 spectra



R&S®RT06 OSCILLOSCOPE

High class Digital Oscilloscopes

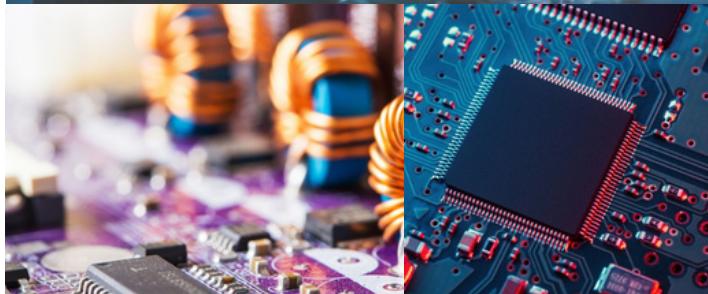
- 6 GHz maximum bandwidth
- 1 million waveforms per second
- 9.4 ENOB for ultimate signal integrity
- 2 Gpoints maximum memory
- Exclusive frequency zone trigger



R&S®RTP OSCILLOSCOPE

High class Digital Oscilloscopes

- Bandwidth: 4 GHz to 16 GHz
- Max. sample rate: 40 Gsample/s
- Max. memory depth: 3 Gpoints per channel
- Up to 16 bit resolution
- All trigger events at full bandwidth



CHAPTER 2

Probe Accessories

ROHDE & SCHWARZ
Make ideas real



PASSIVE PROBE

- Bandwidth: up to 700 MHz
- Dynamic range: up to 1000 V (RMS)



PASSIVE BROADBAND PROBES

- High bandwidth: 8 GHz
- Extremely low input capacitance: 0.3 pF



POWER RAIL PROBES

- High bandwidth: 2 GHz or 4 GHz
- High offset compensation range: +/-60 V
- High sensitivity with 1:1 attenuation ratio



ACTIVE DIFFERENTIAL PROBES

- Bandwidth: 200 MHz to 4.5 GHz
- Input impedance: up to 1 MΩ
- Low input capacitance: less than 1 pF



HIGH VOLTAGE PROBES

- Maximum voltage: up to 6000 V
- Bandwidth: up to 400 MHz
- Integrated high precision DC voltmeter (not available for all models)



CURRENT PROBES

- Non-intrusive DC and AC measurements
- Current range from mA to 2000 A
- Up to 120 MHz bandwidth
- Robust design and easy operation



ISOLATED PROBES

Isolated probing system for SiC/GaN

- 100, 200, 350, 500 MHz and 1 GHz bandwidth, upgradeable
- > 90 dB CMRR at 1 GHz
- ± 3000 V differential input range and offset
- ± 60 kV common mode range
- Dual connectivity with a Rohde & Schwarz probe interface and SMA connector



CHAPTER 2

Oscilloscope - Benchtop

owon®



ADS3000A SERIES

12 bits Multifunction Digital Oscilloscope

- Bandwidth: 100 MHz to 500 MHz
- Sample Rate: 2.5 GS/s
- Vertical Resolution: 12-bits
- Channel: 2CH, 4CH
- Arb Waveform Generator: 50 MHz (2CH) - optional



ADS800A SERIES

12 bits Digital Oscilloscope

- Bandwidth: 70 MHz to 200 MHz
- Sample Rate: 125 GS/s
- Vertical Resolution: 12-bits
- Channel: 2CH, 4CH
- Max. Memory Depth: 50 Mpts
- Max. Waveform Capture Rate: 700,000 wfms/s



ADS900A SERIES

12 bits Digital Oscilloscope

- Bandwidth: 125 MHz / 250 MHz
- Sample Rate: 2 GS/s
- Vertical Resolution: 12-bits
- Channel: 2CH, 4CH
- Optional Signal Source: 30 MHz (1CH)
- Digital Channels: 16 Probe (optional)



ADS3000 SERIES

4th-Generations Digital Oscilloscope

- Bandwidth: 100MHz to 500 MHz
- Sample Rate: 2.5 GS/s
- Channel: 2CH, 4CH
- Arb Waveform Generator: 50 MHz (2CH) - optional



ADS200 SERIES

Digital Oscilloscope

- Bandwidth: 100 MHz / 150 MHz / 200 MHz
- Sample Rate: 1 GS/s
- Record Length: 20 Mpts
- Channel: 2CH



XDS4000 SERIES

Digital Oscilloscope

- Bandwidth: 350 MHz / 500 MHz
- Sample Rate: 5 GS/s
- Record Length: 400 Mpts
- Channel: 2CH, 4CH

CHAPTER 2

Oscilloscope - Portable

owon®



HDS300 SERIES

Digital Oscilloscope

- Bandwidth: 70 MHz to 200 MHz
- Sample Rate: 250 MS/s to 1 GS/s
- Multimeter: 4 1/2 digits
- Signal Generator: Max. 30 MHz



HDS200 SERIES

Digital Oscilloscope

- Bandwidth: 25 MHz to 200 MHz
- Sample Rate: 250 MS/s to 1 GS/s
- Multimeter: 4 1/2 digits
- Signal Generator: Max. 30 MHz



TAO3000 SERIES

Tablet Digital Oscilloscope

- Bandwidth: 70 MHz / 100 MHz / 120 MHz
- Sample Rate: 1 GS/s
- Vertical Resolution: 8/12/14-bits
- Record Length: 40 Mpts
- Channel: 2CH, 4CH



VDS6000 SERIES

PC Oscilloscope

- Bandwidth: 70 MHz / 100 MHz
- Sample Rate: 1 GS/s
- Vertical Resolution: 8/12/14-bits
- Record Length: 10 Mpts
- Channel: 2CH, 4CH



CP024 SERIES

AC/DC Current Probe

- Bandwidth: 200 KHz
- DC Range: 4 A to 400 A
- AC Range: 4 A to 400 A



OD5015/5070/5140 SERIES

Active High Voltage Differential Probe

- Bandwidth: 50 MHz / 100 MHz
- Max. input differential voltage: 1500V, 7000V, 14 kV
- Accuracy: ±1%
- CMMR: -80 dB at 60 Hz, -50 dB at 100 Hz

CHAPTER 2

Spectrum and AFG

owon®



HSA1016/1036/1075 SERIES

Handheld Spectrum Analyzer

- Frequency Range: 9 kHz to 7.5 GHz
- RBW: 10 Hz to 3 MHz
- GPS: Included



HSA2000 SERIES

Multifunction Handheld Spectrum Analyzer

- Frequency Range: 9 kHz to 3 GHz
- Bandwidth: 50 MHz to 200 MHz
- Integrated: Oscilloscope, Multimeter



HSA015/032 SERIES

Handheld Spectrum Analyzer

- Frequency Range: 9 kHz to 3.2 GHz
- RBW: 10 Hz to 3 MHz



DGE 1000/3000 SERIES

Waveform Generator

- Frequency Output: 30 MHz / 60 MHz
- Sample Rate: 125 MS/s / 300 MS/s
- Arb Wave Length: 8k
- Vertical rate: 14 bits



XDG 2000/3000 SERIES

Waveform Generator

- Frequency Output: 30 MHz to 250 MHz
- Sample Rate: 500 MS/s, 1.25 GS/s
- Arb Wave Length: 1 Mpts / 10 Mpts
- extra feature (XDG3000): frequency counter; touch screen LCD

ORF5060 SERIES

Near Field Probe

- Frequency Range: 1 MHz to 6 GHz
- Resolution: 3 mm to 45 mm.
- Impedance: 50Ω
- Adapter: N to SMA

CHAPTER 2

GRAPHTEC

Data Logger



GL7000 SERIES

Modular Data Acquisition Platform

- Channels: Up to 112 (with 10 modules)
- Sampling Speed: Max. 1 MS/s (High-speed module)
- Input Modules: Voltage, High Voltage, Temp/TC/RTD, Strain, Charge, Logic/Pulse, Analog Output
- Memory: 2M samples (RAM), 4 GB flash, SD card (32 GB), optional 128 GB SSD
- Interfaces: LAN (Ethernet), USB 2.0, Web/FTP/NTP support
- Sync: Up to 5 units synchronized
- Operation: PC-free with detachable 5.7" color touch display



GL2000 SERIES

4 Channel Data Logger

- Channels: 4 isolated (CAT III 600 V, True RMS)
- Sampling Rate: Up to 1 MS/s, 16-bit resolution
- Memory: 4M samples/ch RAM, 8 GB internal flash, SD/USB external
- Display: 7" TFT LCD (waveform, XY, past trace, data views)
- Interfaces: USB, LAN, external storage support
- Printer: Compatible with DP-581H thermal printer



GL860/840 SERIES

Multi-CH data LOGGER

- Channels: 20 to 200 (expandable)
- Sampling: 5 ms to 1 hour
- Measurements: Voltage (20 mV–100 V), Thermocouple, RTD, Humidity, 4–20 mA
- I/O: 4 logic/pulse inputs, 4 alarm outputs
- Memory: 8 GB internal flash + SD card (up to 32 GB)
- Display: 7" TFT color LCD (WVGA)
- Interfaces: USB, Ethernet, optional Wi-Fi
- Power: AC, DC, or dual battery packs



GL980 SERIES

8 Channel Data Logger

- Channels: 8 isolated analog inputs
- Sampling Rate: Up to 1 MS/s, 16-bit resolution
- Voltage Range: Up to ±500 V, True RMS supported
- Memory: 4 M samples/ch RAM, ~4 GB internal flash, SD/USB external storage
- Display: 7" TFT LCD (WVGA 800×480)
- Interfaces: Ethernet (Web/FTP/NTP/Email), USB 2.0
- Power: AC, DC, or optional battery (~2 hours, auto switch-over)
- Printer: Supports DP-581H thermal printer

CHAPTER 2

GRAPHTEC

Data Logger



GL260/240 SERIES

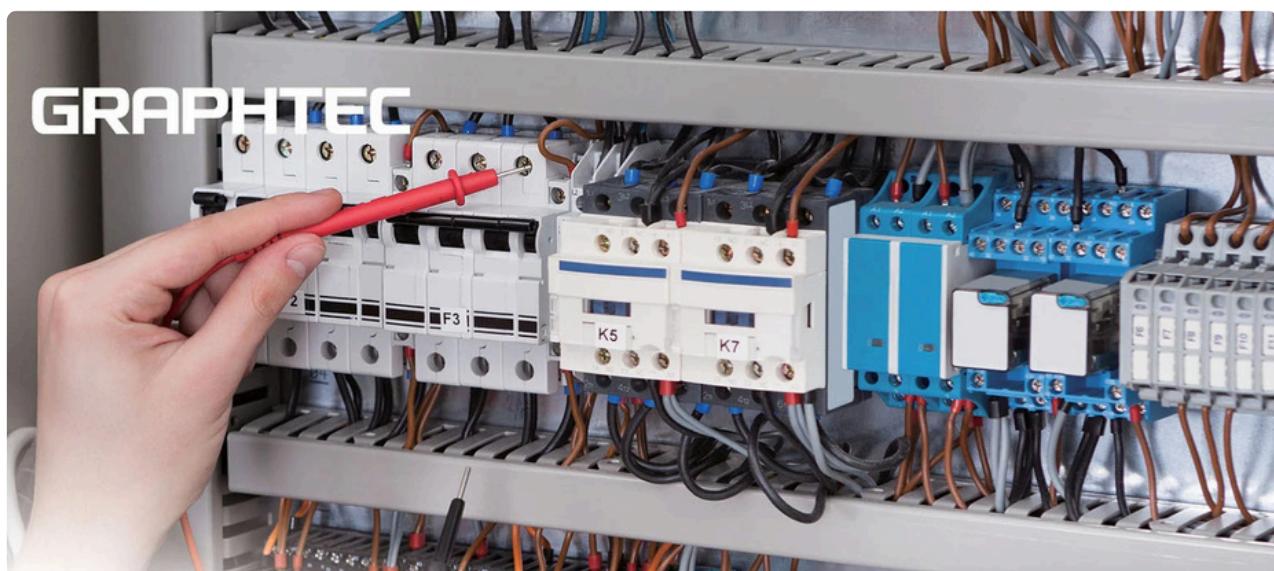
Low-End Multi-channel Data Logger

- Channels: 10 isolated analog inputs
- Sampling: 10 ms to 1 hour
- Measurements: Voltage (20 mV–100 V), Thermocouple, Humidity (optional)
- I/O: 4 logic/pulse inputs, 4 alarm outputs, 1 external trigger input
- Memory: 8 GB internal flash + SD card (up to 32 GB)
- Display: 4.3" TFT color LCD (480x272)
- Interfaces: USB 2.0, optional Wi-Fi (B-568) with cloud support
- Power: AC, DC (8.5–24 V), or optional battery pack

GL100 SERIES

Compact Data Logger

- Inputs: Modular sensor system (Temp/Humidity, Acceleration, Light/UV, CO₂, Voltage/TC, Thermistor)
- Memory: ~4.9 MB internal + micro-SD slot
- Display: 128x64 backlit LCD (real-time values, menus)
- Interfaces: USB (all models), Wi-Fi (GL100-WL version)
- Power: 2xAA batteries or USB bus power
- Size/Weight: 66 x 100 x 27 mm, ~125–130 g



CHAPTER 3

KAROGIC

Spectrum Analyzer

PXE SERIES

Spectrum Analyzer - Benchtop

- IEC IP68 certified
- MIL-STD-810H method-512.6/514.8/516.8 certified
- 2.5 kg lightweight, 10.1-inch multi touchscreen
- Frequency range: 9 kHz to 9.5/20/40 GHz
- 1GHz DANL: -161 dBm/Hz
- 1GHz phase noise: -100 dBc/Hz@10 kHz
- Analysis bandwidth: up to 100 MHz
- Operation Time: 4 Hours (typ.)



PXN-400 SERIES

Spectrum Analyzer - Benchtop

- 1.5 Kg Lightweight, 10.1-Inch Multi Touchscreen
- Frequency Range: 9 kHz to 40 GHz
- 1 GHz DANL: -161 dBm/Hz
- 1 GHz Phase Noise: -107 dBc/Hz@10 kHz
- Analysis Bandwidth: Up to 100 MHz
- Channel Power, Phase Noise and More (std.)
- 3 Hours Operation Time



PXZ EDITION

Spectrum Analyzer - Benchtop

- Windows11 operating system
- 1.2 kg lightweight, 8.8-inch multi touchscreen
- Frequency range: 9 kHz to 9.5/20 GHz
- 1GHz DANL: -168 dBm/Hz
- 1GHz phase noise: -100 dBc/Hz@10 kHz
- Analysis bandwidth: up to 100 MHz
- CPU: high performance AMD Z1 Extreme
- 16 GB RAM and 512 GB SSD

CHAPTER 3

HAROGIC

Spectrum Analyzer

NXN/NXM/NXE/NXN-400 SERIES

Spectrum Analyzer - Network

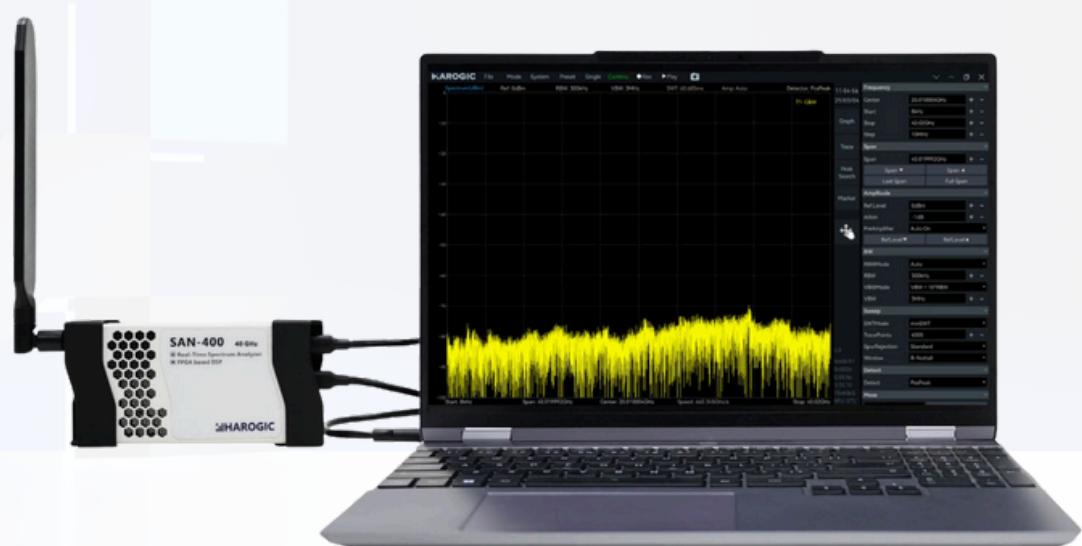
- Frequency Range: 9 kHz To 4.5/6.3/8.5/20/40 GHz
- 1GHz DANL: -162 dBm/Hz
- 1GHz Phase Noise: -110 dBc/Hz@10 kHz
- Analysis Bandwidth: Up to 25 MHz
- 1000M/100M Ethernet Interface
- Highly Compatible API Interface
- Linux and Windows Operating Systems Are Supported



SAN/SAM/SAE/SAN-400 SERIES

Spectrum Analyzer - USB

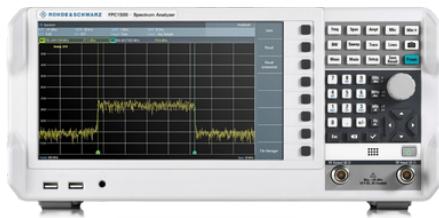
- Frequency Range: 9 kHz To 4.5/6.3/8.5/20/40 GHz
- 1GHz DANL: -162 dBm/Hz
- 1GHz Phase Noise: -110 dBc/Hz@10 kHz
- Analysis Bandwidth: Up to 25 MHz
- USB3.0/2.0 Type C Interface
- Highly Compatible API Interface
- ARM and X86 Processor Are Supported
- Linux and Windows Operating Systems Are Supported



CHAPTER 3

Spectrum & VNA Analyzer

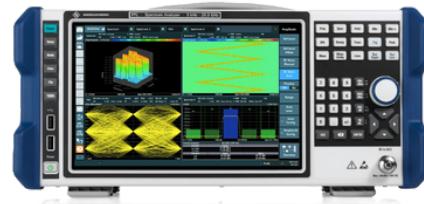
ROHDE & SCHWARZ
Make ideas real



R&S®FPC SPECTRUM ANALYZER

Low class Spectrum Analyzer - Benchtop

- RF performance engineered in Germany
- 10.1" WXGA (1366 x 768 pixel) display – largest and highest resolution in class
- Tracking generator and independent CW signal generator
- Built-in VSWR bridge
- One port vector network analyzer with Smith chart display



FPL SPECTRUM ANALYZER

Mid class Spectrum Analyzer - Benchtop

- Frequency range 5 kHz to 26.5 GHz
- SSB phase noise: typ. -108 dBc (1 Hz) at 10 kHz
- DANL with preamplifier: typ. -163 dBm from 10 MHz to 2 GHz
- Lightweight with small footprint
- 40 MHz analysis bandwidth (option)



R&S®FSV3000 SIGNAL AND SPECTRUM ANALYZER

High class Spectrum Analyzer - Benchtop

- Frequency range from 10 Hz to 4, 7.5, 13.6, 30, 44, 50 GHz
- Analysis bandwidth up to 200 MHz
- SSB phase noise at 10 kHz offset (1 GHz): -114 dBc/Hz
- GUI with multi-touch, SCPI recorder and event based actions
- Options for analog and digital signal analysis, including 5G NR



FSW SIGNAL AND SPECTRUM ANALYZER

High class Spectrum Analyzer - Benchtop

- Frequency range from 2 Hz to 8, 13.6, 26.5, 43.5, 50, 67, 85 GHz
- Unparalleled low phase noise and best sensitivity on the market
- 8.3 GHz internal analysis bandwidth
- 800 MHz real-time analysis bandwidth
- SCPI recorder simplifies code generation
- High dynamic range enables outstanding EVM performance

CHAPTER 3

Spectrum & VNA Analyzer

ROHDE & SCHWARZ
Make ideas real



FSWX SIGNAL AND SPECTRUM ANALYZER

High class Spectrum Analyzer - Benchtop

- Frequency range 26.5/44 GHz
- Multichannel signal analysis
- Novel internal multipath architecture with cross-correlation
- Preselected I/Q analysis in the microwave range
- 8 GHz internal analysis bandwidth
- Highest level accuracy over the full frequency range



R&S®FPS SIGNAL AND SPECTRUM ANALYZER

High class Spectrum Analyzer - Low Profile

- Frequency range up to 4/7/13.6/30/40 GHz
- Up to 160 MHz signal analysis bandwidth
- 0.4 dB level measurement uncertainty up to 7 GHz
- Measurement applications for GSM/EDGE (including EDGE Evolution), WCDMA/HSPA+, LTE, 5G, WLAN, vector signal analysis



R&S®ZNB VECTOR NETWORK ANALYZER

High class VNA - Benchtop

- Frequency range from 9 kHz to 43.5 GHz
- Two or four ports
- Wide dynamic range of up to 140 dB
- Short sweep times of 4 ms for 401 points
- Wide power sweep range of 98 dB



R&S®ZNH HANDHELD VECTOR NETWORK ANALYZER

High class VNA - Portable

- Frequency range from 30 kHz to 4/8/18/26.5 GHz
- One-port cable and antenna measurement with basic instrument
- S-parameter (S_{11} , S_{12} , S_{21} , S_{22}) measurement with basic instrument
- 100 dB (typ.) dynamic range for filter and antenna isolation measurements
- Non-reflective display, small form factor, ruggedized housing (IP51)

CHAPTER 3

Spectrum & VNA Analyzer

ROHDE & SCHWARZ
Make ideas real



R&S®ZNA VECTOR NETWORK ANALYZERS

High class VNA - Benchtop

- 10 MHz to 26.5/43.5/50/67 GHz (R&S®ZNA26/43/50/67) 10 MHz to 110 GHz (R&S®ZNA67EXT)
- Two or four port models available
- Excellent RF-performance
- Up to four integrated sources
- Unique and intuitive touch-only operation



R&S®SMA100B RF AND MICROWAVE SIGNAL GENERATOR

Signal Generator

- Frequency range: 8 kHz to 3, 6, 12.75, 20, 31.8, 40, 50 and 67 GHz (overrange up to 72 GHz). Frequency extension from 50 GHz to 170 GHz with the R&S®SZM frequency multiplier
- SSB phase noise of -132 dBc (typ.) at 10 GHz and 10 kHz offset
- Wideband noise of -162 dBc (meas.) at 10 GHz and 30 MHz offset
- Maximum output power exceeds 30 dBm across wide frequency ranges
- Diverse functions such as user correction, closed loop power control and high dynamic uninterrupted level sweep. For more details please see "features and benefits" and the videos below



R&S®SMW200A VECTOR SIGNAL GENERATOR

Vector Signal Generator

- Frequency range up to 67 GHz (dual path: up to 44 GHz)
- 2 GHz modulation bandwidth
- Integrated fading with up to 800 MHz bandwidth and up to 8x8 MIMO
- Excellent signal quality for high accuracy in spectral and modulation measurements
- Advanced GNSS and radar simulator



R&S®SMCV100B VECTOR SIGNAL GENERATOR

Vector Signal Generator

- Multi-standard platform for broadcast, navigation, cellular and wireless applications
- Full software option defined vector signal generator with 5" touchscreen
- Modern RF signal generation concept from 4 kHz up to 7.125 GHz
- High output power up to $+25$ dBm
- Modulation bandwidth up to 240 MHz

CHAPTER 3

DC Power Source

ROHDE & SCHWARZ
Make ideas real



R&S®NGP800 POWER SUPPLY SERIES

High class DC Power Supplies

- Max. output power: 800 W
- Max. voltage per channel: 32 V or 64 V
- Max. current per channel: 10 A or 20 A
- Up to 250 V or 80 A in series or parallel operation
- Intuitive, price-transparent online product configurator



R&S®LCX LCR METER

High class LCR meter

- Frequency range upgradeable to 10 MHz
- Basic accuracy of $\pm 0.05\%$ for impedance measurements
- Basic accuracy of $\pm 0.03^\circ$ for phase measurements
- DC bias up to 40 V
- Data logging function



R&S®NPA POWER ANALYZER

High class Power Analyzer

- Power measurement range: 50 μ W to 12 kW
- Frequency bandwidth: DC to 100 kHz
- Sampling rate: 500 ksample/s
- Supports three switchable crest factors
- Latest Rohde & Schwarz design featuring in-device graphical analysis and compliance evaluation



R&S®NGU SOURCE MEASURE UNITS

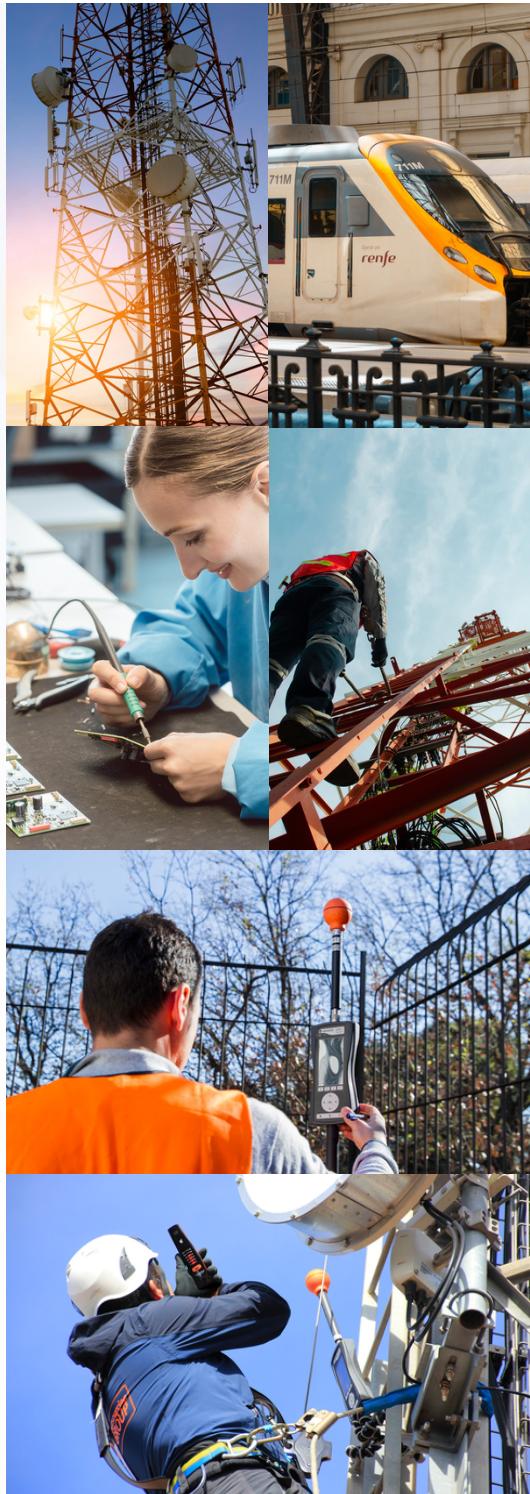
High class Source Measurement Unit

- Two/four quadrants: operates as source and sink
- High speed data acquisition (FastLog function)
- Voltage priority and current priority mode
- High-capacitance mode
- Intuitive, price-transparent online product configurator

CHAPTER 4

EMC/EMF Solution

WAVECONTROL
Safety, Quality, Service



FIELD STRENGTH METER: SMP3

Portable and flexible solution to measure electromagnetic fields

- EMF Exposure : Verify that people's EMF exposure is safe according to worldwide standards
- Product certification: measure that radiated emissions are below specified limits
- Real-time comparison in % with the selected limits up to 10 MHz
- Isotropic and high accuracy probes;
- Electric and Magnetic field
- Probe auto-detect capability
- EU Directive 2013/35, ICNIRP, IEC, EN, IEEE, SC6, etc



CHAPTER 4

EMC
PARTNER 

EMC/EMF Solutions

EMC TEST EQUIPMENT PER STANDARD

Applications

- Transient Test System/ CE
- ESD / EFT / Brust / Surge / Ringewave / DOW/ Magnetic Field Test / Common Mode Testing / Differential Mode Testing / AC / DC dip, Variation & Interrupts
- Capacitor Testing / SPD / GDT
- Power Induction / Power Contact / Lightning Voltage/ Current - Telecom
- Insulation Testing
- Aerospace Testing - Voltage Spike
- Defence Electronic - MIL-461 CS115, CS116, CS06 & CS106 Testing



CHAPTER 4

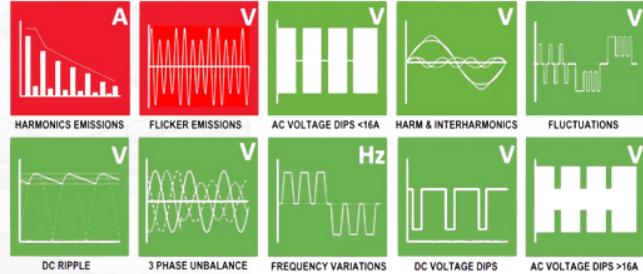


EMC/EMF Solutions

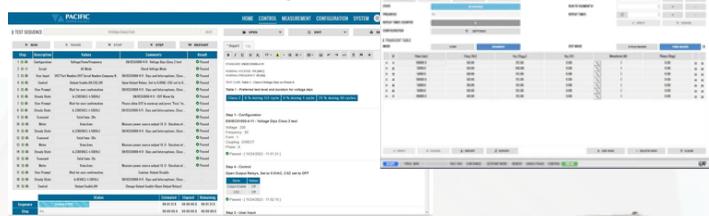
INDUSTRY AC & DC TEST SOLUTION

Applications

- EMC Compliance Test Systems
- Military & Defense Test Solutions
- Satellite, Radar & Electronic Warfare Test Solutions
- Renewable Energy Test Solutions for Grid-Tied Inverter and ESS



Pre-Written Test Standards Sequences



CHAPTER 4

EMC/EMF Solutions

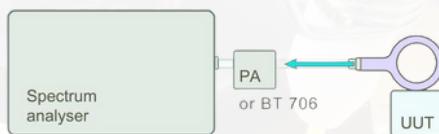
LANGER
EMV-Technik

EMC PRE-COMPLIANCE

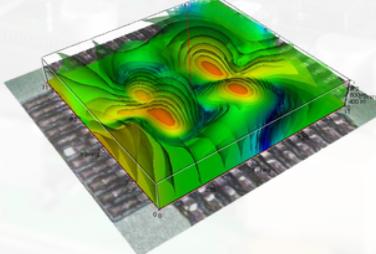
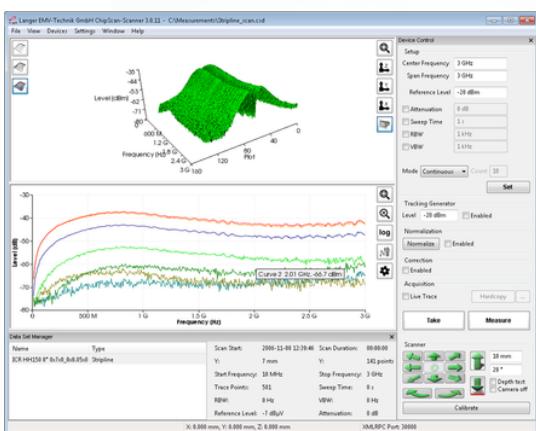
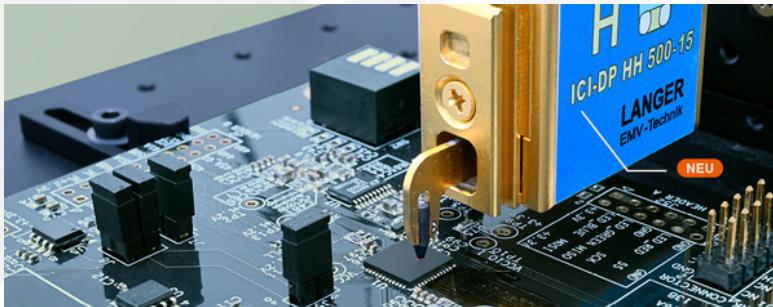
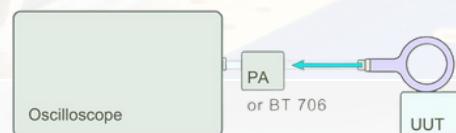
Applications

- PCB Immunity
- PCB Emission
- IC Test System
- IC Security
- Positioning System
- Measurement and Calibration Stations

H field measurement: MFA, XF, RF, LF probes



H field measurement: MFA, XF, RF, LF probes



CHAPTER 5

Partner®

Environment Test Chamber

PARTNER CHAMBER

High and Low Temp. Chamber

- High and Low Temperature Chamber
- Temperature and Humidity Chamber
- Ess Test Chamber
- Thermal Shock Test Chamber (Air/Water Cooling)
- Horizontal Thermal Shock Test Chamber
- Combined Climate Chamber
- Walk-in Climate Chamber
- Thermal Strain Instrument
- Benchtop Test Chamber
- High Temperature Test Chamber
- Heat Aging oven
- Insert Gas Oven
- Clean Oven (Stacked)
- Ice Water Thermal Shock Chamber
- CAC Duct PVT Test Bench
- Battery Test Chamber
- Automotive Motor Test Chamber





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@ Line official

