

CA0010

Click Analyzer



Main Features

- Discontinuous disturbance (click) analysis
- Four independent frequency channels measuring simultaneously
- Each channel with embedded preselector, attenuator and preamplifier
- Designed to fully meet CISPR 16-1-1 and CISPR 14-1 Standards
- Highly flexible selection of number of rates, quartiles and runs
- Test duration reduced to the minimum theoretically achievable
- Built-in two-lines 16A Line Impedance Stabilization Network (LISN)
- User port for optional external LISNs
- Embedded switch operation counting unit
- CISPR 16-1-1 embedded click and pulse generator output for internal or external use
- Autocheck and calibration
- Stand alone or PC driven operations
- Free PCA PMM Click Analysis software
- Free PCG PMM Click Generation software
- Full IF and QP history 500us resolution
- Compact yet sturdy construction
- 140 dB μ V (2 W) maximum input level without damage

The innovative CA0010 is the full compliance click analysis companion for the 9010F, ER8000 and ER9000 EMI FFT receivers. Used with any of the above receivers, the CA0010 can make four simultaneous measurements at 150 kHz, 500 kHz, 1.4 MHz and 30 MHz and can work as a standalone setup for compliance tests. In addition, when the click analyzer is connected to a PC, dedicated software produces a complete log with additional graphs such as IF, QP time, and detected clicks per channel. Offline rewind-play-pause-forward capability makes this information available for post analysis.

The software can also run a unique internal click calibrator that generates all the signals required to make sure the analyzer is performing in compliance with CISPR 16-1-1. The user can set all the click-relevant parameters, such as their amplitude, duration, spacing, number, repetitions and, last but not least, the amplitude of CISPR pulses. Indeed, the CA0010 calibrator is the only one on the market that embeds a full compliance B-Band CISPR 16-1-1 pulse generator so that tests #2 and #3 of CISPR 16-1-1 Table 14 can be performed without an external generator.

The internal click generator is fully compliant with CISPR 16-1-1 and can be used to self-calibrate the CA0010 or any other external click meter.

The product's remarkable versatility extends to the user-selectable operating modes: two rates/two upper quartiles, two rates/four upper quartiles, four rates/four upper quartiles, and single run/double run.

The CA0010 is fully compliant with all old and new click standards: CISPR 16-1-1:2019 Ed. 5 and previous editions, CISPR 14-1:2020 Ed. 7 and previous editions equivalent to CENELEC EN 55016-1-1/EN 55014-1. It also features an internal 16 ampere LISN (as well as a port for an external LISN) and a switching operations counting unit.

The CA0010 has an outstanding dynamic range and saturation control, thanks to the tailored internal preselection, ensured by its CISPR-compliant RF front end.

CA0010

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SPECIFICATIONS

Frequency range	150 kHz; 500 kHz; 1.4 MHz; 30 MHz
RF Input	Zin 50 Ω, Internal switch from LISN or BNC fem.
VSWR	< 1,2
Attenuator	0 dB to 35 dB (5 dB steps) one per channel, independent setting
Preamplifier	15 dB one per channel, independent setting
RF Output	Zout 50 Ω, BNC fem.
VSWR	< 1,2
Max input level (without equipment damage)	140 dBμV (2 W)
Preselector (Permanent built-in)	(four BP filters) 150 kHz / 60 kHz BW@6dB 500 kHz / 120 kHz BW@6dB 1.4 MHz / 220 kHz BW@6dB 30 MHz / 180 kHz BW@6dB

Insertion loss (Att 0 dB) < 10 dB

RF generator

CW	
Frequency range	150 kHz to 30 MHz
Frequency resolution	100 Hz
Accuracy	10 ppm
Amplitude range	20 to 95 dBμV
Amplitude resolution	0.1 dB

Click (OOK)

Minimum ON time	100 us
Minimum separation	100 us
Time resolution	10 us

CISPR PULSES

Spectral density range	80 to 101 dBμV/MHz
Amplitude resolution	0.1 dB
Flatness	1.8 dB from 150 kHz to 30 MHz
PRF	1 to 500 Hz
PRF resolution	1 Hz

RF output

Internal switch or BNC fem.

Autocalibration

Embedded generator for autocalibration and system test

CISPR conformity

CISPR 14-1, CISPR 16-1-1, CISPR 16-1-2

I/O Interface

USB 2.0, RS-232

Application software

PCA PMM Click Analysis software. Four channels IF and QP time diagram with click detection and analysis
Measurement log and report

PCG PMM Click Generation software. CISPR 16-1-1 standard, annex F and user's definable test generation

Operating temperature

-5° to +45°C

Power supply

12 Volt DC, 0.7 A (AC universal adapter)

Built-in LISN (compliant to CISPR 16-1-2)

Frequency range 150 kHz to 30 MHz

Continuous rated output current 16 A

Max permissible operating voltage 250 Vac – 350 Vdc

EUT supply frequency range DC to 60 Hz

CISPR equivalent circuit 50 Ω // 50 μH

EUT power connector Schuko 2P+E

Line plug IEC 60320 C20

Artificial hand 4 mm socket

RF Output Internal switch or BNC fem.

Dimensions (W x H x D) 235 x 105 x 335 mm

Weight 4,1 kg



Ordering information:

CA0010 Click Analyzer

Includes: LISN mains cable, DB9 male - DB9 male cable for 9010F, USB cable, BNC-BNC cable, AC/DC power adapter, PCA PMM Click Analysis software, PCG PMM Click Generation software, soft carrying case, user's manual, standard calibration certificate

Optional accessories:

LISN service kit (AC-BNC adapter for LISN verification and calibration)

Related products and services

Generators/Receivers/Systems

- 1008: Magnetic field generator system
- 7010/01: EMI Receiver 9 kHz to 1 GHz
- 7010/02: EMI Receiver 9 kHz to 30 MHz
- 7010/03: EMI Receiver 9 kHz to 3 GHz
- ER8000/00 EMI Receiver 9 kHz to 30 MHz
- ER8000/01 EMI Receiver 9 kHz to 3 GHz
- ER9000/00 EMI Receiver 10 Hz to 30 MHz
- ER9000/01 EMI Receiver 10 Hz to 3 GHz
- 9010F: EMI Receiver 10 Hz to 30 MHz
- 9010/03P: EMI Receiver 10 Hz to 300 MHz
- 9010/30P: EMI Receiver 10 Hz to 3 GHz
- 9010/60P: EMI Receiver 10 Hz to 6 GHz
- 9030: EMI Receiver 30 MHz to 3 GHz
- 9060: EMI Receiver 30 MHz to 6 GHz
- 9180: EMI Receiver 6 GHz to 18 GHz
- FR4003: Field Receiver 9 kHz to 30 MHz
- COND-IS: RF Conducted Immunity System
- RAD-IS: RF Radiated Immunity System
- AUT-IS: Automotive Immunity System

Antennas/Calibration services

- BC-01: Biconical Antenna 30 to 200 MHz
- BL-01: Biconical Log Periodic Antenna 30 MHz to 6 GHz
- DR-01: Double-ridged horn Antenna 6 to 18 GHz
- LP-02: Log Periodic Antenna 200 MHz to 3 GHz
- LP-03: Log Periodic Antenna 800 MHz to 6 GHz
- LP-04: Log Periodic Antenna 200 MHz to 6 GHz
- TR-01: 60-180 cm wooden extendable tripod
- VDH-01: Van der Hoofden Test Head 20 kHz to 10 MHz
- Antenna Set AS-02 (BC01+LP02+TR01)
- Antenna Set AS-03 (BC01+LP02+LP03+TR01)
- Antenna Set AS-04 (BC01+LP04+TR01)
- Antenna Set AS-05 (BC01+LP04+DR01+TR01)
- Antenna Set AS-06 (BC01+LP-02+LP03+DR01+TR01)
- Antenna Set AS-07 (BL01+TR01)
- Antenna Set AS-08 (BL01+DR01+TR01)
- RA-01: Rod Antenna 9 kHz to 30 MHz
- RA-01-HV: Rod Antenna 150 kHz to 30 MHz
- RA-01-MIL: Rod Antenna 9 kHz to 30 MHz
- Ansi 63,5 Antenna Factor
- SAE ARP 958-D
- Free-Space Antenna Factor
- CAL-6630: Traceable calibration
- LAT-6630: Accredited calibration

LISNs/Probes

- L2-16B: single phase AMN, 16 A
- L3-32: 4 lines, 3-phase AMN, 32 A
- L3-64: 4 lines, 3-phase AMN, 63 A
- L3-64/690V: 4 lines, 3-phase AMN, 63 A
- L3-100: 4 lines, 3-phase AMN, 100 A
- L1-150M: single-path, 50 Ohm AMN, 150 A
- L1-150M1: single-path, 50 Ohm AMN, 150 A
- L1-500: single phase AMN, 500 A
- L3-500: 4 lines, 3-phase AMN, 500 A
- RF-300: Van Veen Loop
- SBRF4: RF Switching Box
- SHC-1/1000: Voltage probe, 1000 Vac, 35 dB
- SHC-2/1000: Voltage probe, 1000 Vac, 30 dB



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