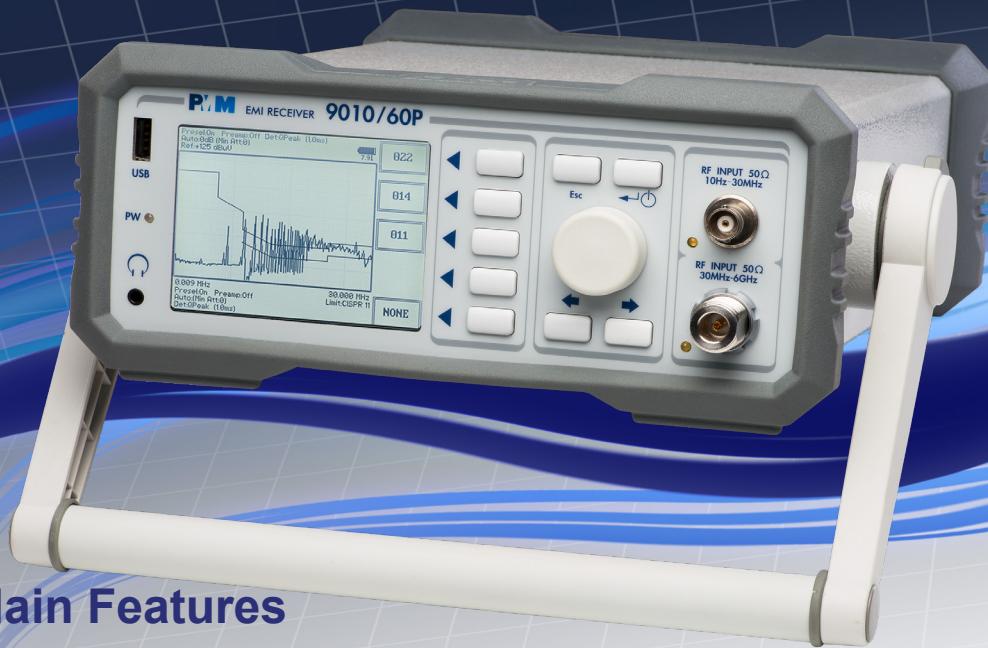


9010/03P

9010/30P

9010/60P

EMI CISPR Receivers



Main Features

- 9010/03P: 10 Hz to 300 MHz frequency range
- 9010/30P: 10 Hz to 3 GHz frequency range
- 9010/60P: 10 Hz to 6 GHz frequency range
- Full compliance with CISPR 16-1-1 Standard up to 30 MHz (A and B band)
- Compliance with CISPR 16-1-1 Standard (PRF \geq 10 Hz) above 30 MHz (*)
- Conducted and radiated emission tests
- User port for driving external LISNs
- Free PES Emission Suite software with Smart Detector function (**)
- Click mode, RMS-AVG detector and MIL-STD RBW filters (options)
- Direct analog to digital conversion up to 30 MHz
- Robust, compact construction

The 9010/03P, 9010/30P and 9010/60P EMI Receivers are perfect tools for compliance conducted and radiated measurements from 10 Hz up to 300 MHz (03P), 3 GHz (30P) or 6 GHz (60P) with the possibility to upgrade from one range to the next.

The compact, rugged design makes it a perfect companion for product designers, in-situ testing, and laboratory EMI measurements.

The EMI Receiver is designed to showcase cutting-edge technology and the finest components. It features a fully digital architecture that immediately follows the analog RF preselector and attenuator required by the CISPR standards, and combines the superior precision and accuracy of a numerical approach with the flexibility and user friendliness of a modern instrument.

*CISPR 16-1-1 compliant for DUTs; does not emit broadband signals of PRF of 20 Hz or lower.

**The innovative Smart Detector function in PMM receivers reduces test time and increases the productivity of the lab.

9010/03P, 9010/30P, 9010/60P

EMI CISPR Receiver

| SPECIFICATIONS | Input 10 Hz to 30 MHz | Input 30 MHz to 300 MHz (9010/03P) | Input 30 MHz to 3 GHz (9010/30P) | Input 30 MHz to 6 GHz (9010/60P) |
|--|---|--|--|--|
| Frequency range | 10 Hz to 30 MHz | 30 MHz to 300 MHz | 30 MHz to 3 GHz | 30 MHz to 6 GHz |
| Resolution, Freq. accuracy | 0,1 Hz, < 1 ppm | 100 Hz, < 2 ppm | 100 Hz, < 2 ppm | 100 Hz, < 2 ppm |
| RF Input | Zin 50 Ω, BNC fem. | Zin 50 Ω, N fem. | Zin 50 Ω, N fem. | Zin 50 Ω, N fem. |
| VSWR 10 dB RF att. | < 1,2 | < 1,2 | < 1,2, < 2,0 over 1 GHz | < 1,2, < 2,0 over 1 GHz |
| 0 dB RF att. | < 2,0 | < 1,2 | < 1,2, < 2,0 over 1 GHz | < 2,0, < 3,0 over 1 GHz |
| Attenuator | 0 dB to 35 dB (5dB steps) | 0 dB to 50 dB (2dB steps) | 0 dB to 50 dB (2 dB steps) | 0 dB to 55 dB (5 dB steps) |
| Pulse limiter | Built in (selectable) | n.a. | n.a. | n.a. |
| Preamplifier gain | 20 dB (after preselector, selectable) | n.a. | n.a. | n.a. |
| Max input level | (without equipment damage) | | | |
| Sinewave AC voltage | 137 dBμV (1 W) | | | |
| Pulse spectral density | 97 dBμV/MHz | | | |
| Preselector | < 9 kHz | | | |
| One lowpass filter | 9 to 150 kHz, 150 to 500 kHz, | n.a. | n.a. | n.a. |
| Six bandpass filters | 500 kHz to 3 MHz, 3 to 10 MHz, 10 to 20 MHz, 20 to 30 MHz | | | |
| IF bandwidth | | | | |
| Standard 3/6 dB | (3 dB BW) 3, 10, 30, 100, 300 kHz | (6 dB BW) 3, 10, 30, 100, 300 kHz, 1 MHz | (6 dB BW) 3, 10, 30, 100, 300 kHz, 1 MHz | (6 dB BW) 3, 10, 30, 100, 300 kHz, 1 MHz |
| CISPR-16-1-1 | 200 Hz; 9 kHz | 120 kHz | 120 kHz | 120 kHz |
| MIL-STD-461 (option) | 10, 100 Hz, 1, 10 kHz | 100 kHz, 1 MHz | 100 kHz, 1 MHz | 100 kHz, 1 MHz |
| Noise level | (Preamplifier ON) 9 to 150 kHz < - 8 dBμV (QP) (200 Hz RBW) < - 15 dBμV (AV) 0,15 to 30 MHz < - 4 dBμV (QP) (9 kHz RBW) < - 10 dBμV (AV) | 30 MHz to 300 MHz < 8 dBμV (QP) (120 kHz RBW) < 4 dBμV (AV) | 30 MHz to 3 GHz < 8 dBμV (QP) (120 kHz RBW) < 4 dBμV (AV) | 30 MHz to 300 MHz < 10 dBμV (QP) (120 kHz RBW) < 7 dBμV (AV) 300 MHz to 3 GHz < 13 dBμV (QP) (120 kHz RBW) < 7 dBμV (AV) 3 GHz to 6 GHz < 15 dBμV (QP) (120 kHz RBW) < 10 dBμV (AV) |
| Measuring detectors | Peak, Quasi-Peak, Average, RMS, RMS-Average(Optional), CISPR-Average, APD and Smart Detector function | | | |
| Level measuring time | 1 ms to 30 s. (CISPR 16-1-1 default) | | | |
| Peak, Quasi-Peak, AVG, RMS (simultaneous detectors) | | | | |
| Display units | dBm, dBμV (as stand-alone); dBm, dBμV, dBμV/m, dBmA, dBmA/m, dBpW (through 9010 SW Utility on PC) | | | |
| Spurious response | < 0 dBuV, < 10dBuV over 150 kHz | < 15 dBμV | < 15 dBμV | < 10 dBμV, < 15 dBμV over 2 GHz |
| Measurement accuracy | 10 Hz to 9 kHz ± 1,0 dB typical 9 kHz to 30 MHz ± 1,0 dB | ± 1 dB | 30 MHz to 1 GHz ± 1,0 dB 1 GHz to 3 GHz ± 1,5 dB | 30 MHz to 1 GHz ± 1,0 dB 1 GHz to 3 GHz ± 1,5 dB 3 GHz to 6 GHz ± 2,0 dB |
| Demodulation | Built-in AM demodulator (headphone jack) | | | |
| RF output (tracking generator) | Zout 50 Ω, BNC fem. | | | |
| Frequency range | 10 Hz to 50 MHz | | | |
| Level | 60 dBμV to 90 dBμV (0,1 dB steps) | | | |
| Level accuracy | ± 0,5 dB (10 Hz to 30 MHz) | | | |
| I/O Interface | USB 2.0 (rear), USB 2.0 (front; only for future implementation), RS-232, high-speed optical link (2 channels; 2nd channel for future implementation), user port (for LISN connection, etc.), IEEE-488 (GPIB) optional | | | |
| Operating temperature | 0 °C to 40 °C | | | |
| Power supply | 10 - 15 Volt DC, 2,5 A; optional Li-ion interchangeable battery (8h use, typical) | | | |
| Dimensions (W x H x D) | 235 x 105 x 335 mm | | | |
| Weight | 4,1 kg | | | |

Ordering information:

9010/03P - 9010/30P - 9010/60P EMI CISPR Receivers include:
RS232 cable, USB-RS232 serial converter, USB cable, BNC-BNC cable, N-m to BNC-f adapter, AC/DC power adapter, PES Emission Suite software, soft carrying case, user's manual, standard calibration certificate.

Optional accessories:

BP-02 Li-ion battery pack, 9010-RMA rack mount adapter for 19" rack.
Options: 9010/MIL, 9010/RAV, 9010/CLICK.
Fully compliant frequency extension modules: 9030, 9060, 9180.
Upgrades: 9010/03P/UP/30P, 9010/03P/UP/60P, 9010/30P/UP/60P.
Accredited calibrations: 9010/UKAS, 9010/UKAS-Click

Related products

Receivers

- 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
- 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

Antennas

- 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
- VDH-01: Van der Hoofden Test Head 20 kHz to 10 MHz
- TR-01: Antenna Tripod
- 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+LP02+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

LISNs

- 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
- 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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