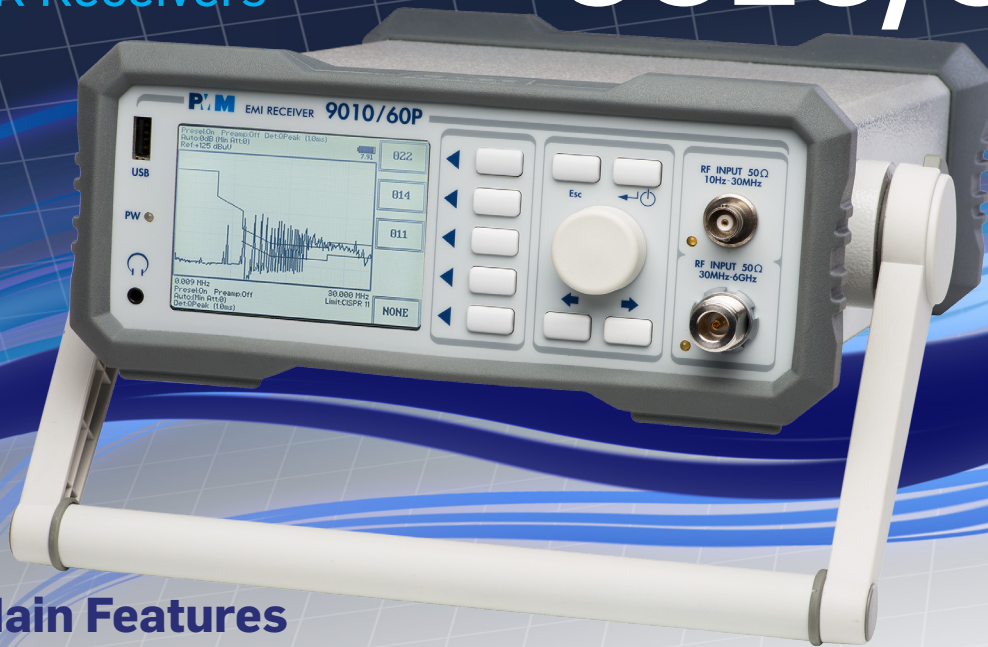


9010/03P

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)	30 MHz to 300 MHz < 8 dBμV (QP) (120 kHz RBW)	30 MHz to 3 GHz < 8 dBμV (QP) (120 kHz RBW)	30 MHz to 300 MHz < 10 dBμV (QP) (120 kHz RBW)
	< - 15 dBμV (AV)	< 4 dBμV (AV)	< 4 dBμV (AV)	< 7 dBμV (AV)
0,15 to 30 MHz	< - 4 dBμV (QP) (9 kHz RBW)			300 MHz to 3 GHz < 13 dBμV (QP) (120 kHz RBW)
	< - 10 dBμV (AV)			< 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, 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 dBμV, < 10dBμV 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	± 1 dB	30 MHz to 1 GHz ± 1,0 dB	30 MHz to 1 GHz ± 1,0 dB
S/N > 20 dB	9 kHz to 30 MHz ± 1,0 dB		1 GHz to 3 GHz ± 1,5 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.), Bluetooth through optional adapter, 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 (8 h 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

Includes: 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-01 Li-ion battery pack, **9010-BTA** serial Bluetooth adapter, **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

- 7010/00: EMI Receiver 150 kHz to 1 GHz
- 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
- 9010: EMI Receiver 10 Hz to 30 MHz
- 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
- 9010/Click4E: Four Channels Click Meter
- FR4003: Field Receiver 9 kHz to 30 MHz

Antennas

- BC-01: Biconical Antenna 30 to 200 MHz
- 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)
- 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
- L2-D: Delta LISN for telecom, 2 A, 150 Ω
- 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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