



Small optical-fibre sensor set for EMC measurements

The new AS 300 sensor has an immunity of 200 V/m at a transmission rate of 150 Mbps and a bandwidth of 5 MHz.

The A 100, A 200 and A 300 analogue optical-fibre sensor sets measure electrical analogue signals under the influence of extreme electromagnetic stress such as capacitive / inductive and conducted RF interference.

The electromagnetic compatibility (EMC) of electrical devices must be tested and examined to ensure their trouble-free operation. Special measurement technology is not only required to carry out EMC tests such as radiated RF tests according to EN 61000-4-3 in an anechoic chamber, TEM cell or under a stripline or conducted RF tests according to EN 61000-4-6, but also for preliminary tests at the developer's workplace to obtain additional information from the device under test. Small sensors can be used in the electronic system to detect signals such as: supply voltages (e.g. switching and linear controllers), reference voltages and analogue signals (e.g. operation amplifiers, ADC, DAC).

Because of the optical signal transmission to the oscilloscope, no additional disturbance current path or disturbance diversion is created if analogue optical-fibre sensor sets are used to monitor the analogue signals in the device under test. An optical receiver is installed at the oscilloscope's input to convert the optical signals back into TTL signals. The maximum transmission distance of 20 m even allows the use of the analogue optical-fibre sensor sets in anechoic chambers.

The increasing processing speed of electronic products and the higher requirements on their interference immunity place much higher demands on these systems' transmission bandwidth and interference resistance in many modern applications.

The new analogue A 300 measurement system meets these demands.

Thanks to this measuring method, the development phase until certification can be significantly shortened and expensive redevelopment avoided. This also results in a quick time-to-market, taking the products' shortening life cycles into account, and thus meets the companies' desire for a better competitive position.

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Optical analogue Sensors

Bandwidth



5 MHz



500 kHz



25 kHz

Technical data of AS300:

Resolution:	10 bit
Conversion rate	12,5 Msps
Transmission rate (optical fibre):	150 Mbps
Bandwidth:	DC - 5 MHz
Measurement range	±10V
Transfer factor	10 - 1

Operating voltage:	4,5-15V
Current input:	65-20mA
Reachable space (fibre optic):	1 - max. 20 m

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