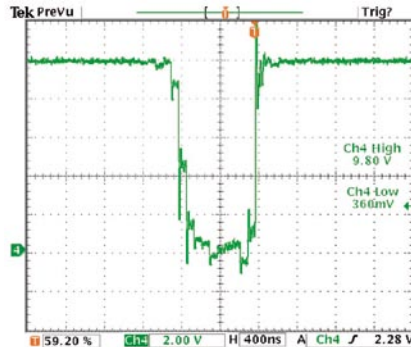


## Critical signals monitoring

The A 100, A 200 and A 300 analog optical fibre sensor sets measure electrical analog 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 in an anechoic chamber, TEM cell, under a stripline or conducted RF tests according to EN 61000-4-6. The developer can also use it

for preliminary tests at his 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 analog 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 analog optical fibre sensor sets are used to monitor the analog signals in the device under test. An optical receiver is installed at the oscilloscope's input to convert the optical signals back into analog signals.

## Measurement setup AS 300 sensor

The closer the sensor with its housing and GND connection is positioned to the GND system of the EUT the higher its disturbance immunity and the fewer disturbances occur.

The bi-directional transfer for signals via optical fibre allow monitoring of highspeed CAN or LIN signals during extreme interference conditions.

## LIN 100 sensor

### Technical data

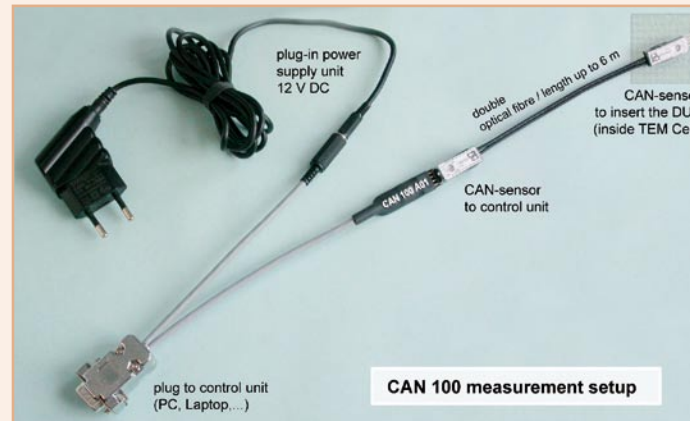
Dimensions: 37x12x8 (mm)  
 Voltage supply: 8 - 15 V (as master)  
 8 - 30 V (as slave)  
 Transmission rate: 1 - 20 kbit/s  
 Operating range: max. 10 m  
 Optical fibre connection: 2x Ø 2.2 mm  
 Current consumption: approx. 30 mA (slave, recessive)  
 approx. 45 mA (master, dominant)



## CAN 100 sensor

### Technical data

Dimensions: 37x12x8 (mm)  
 Voltage supply: 4.5 - 7.0 V  
 CAN transceiver: SN65HVD251  
 Transmission rate: 10 kbit/s - 1 Mbit/s  
 Operating range: max. 10 m of 10 kbit/s  
 max. 6 m of 1 Mbit/s  
 Optical fibre connection: 2x Ø 2.2 mm  
 Current consumption: approx. 40 mA (recessive)  
 max. approx. 80 mA (master, dominant)



# ANALOG

# Potential - free signal analysis



# A 100 set

## AS 100 / 110 / 120 sensors

### Technical data

Dimensions: 34x10x7 (mm)  
 Operating voltage: 3 - 16 V  
 Current consumption: approx. 3 mA  
 Optical fibre connection: Ø 2.2 mm



(full-scale)

### Measuring range (switchable):

AS 100 sensor 50 V / 10 V DC  
 AS 110 sensor 10 V / 1 V DC  
 AS 110 sensor 1 V / 0.1 V AC

## AE 100 receiver

### Technical data

Operating voltage: 12 V via external power supply unit  
 Current consumption: approx. 30 mA  
 Optical input: Ø 2.2 mm optical fibre  
 Output voltage: 0 - 10 V, BNC-plug



# A 200 set

## AS 200 sensor

### Technical data

Dimensions: 34x10x7 (mm)  
 Operating voltage: 3 - 16 V  
 Current consumption: approx. 30 mA  
 Optical fibre connection: Ø 2.2 mm



(full-scale)

### Measuring range (switchable):

AS 200 sensor 50 V / 10 V DC

## AE 200 receiver

### Technical data

Operating voltage: 12 V via external power supply unit  
 Current consumption: approx. 100 mA  
 Optical input: Ø 2.2 mm optical fibre  
 Output voltage: 0 - 10 V, BNC-plug



# A 300 set

## AS 300 sensor

### Technical data

Dimensions: 36x11x6 (mm)  
 Current consumption: 70 mA / 4.5 V  
 30 mA / 15 V  
 Optical fibre connection: Ø 2.2 mm



(full-scale)

### Measuring range:

AS 300 sensor ±10 V DC

## AE 300 receiver

### Technical data

Operating voltage: 12 V via external power supply unit  
 Current consumption: 90 mA  
 Optical input: Ø 2.2 mm optical fibre  
 Output voltage: ±1 V, BNC-plug



## A 100 sets

### Bandwidth: 25 kHz

Conversion rate: 125 ksps  
 Transfer rate (optical fibre): 4 Mbps  
 Operating range (optical fibre): 1 ... 20 m  
 Resolution: 12 Bit

#### A 100-1

1 channel  
 1x AE 100  
 1x AS 1xx  
 1x 1.5 m

#### A 100-2

2 channels  
 2x AE 100  
 2x AS 1xx  
 2x 6 m

Receiver - analog  
 Sensor - analog  
 Optical fibre (plastics)

1 AC power supply 12 V / 300 mA  
 Accessories  
 Instructions for use  
 Case



### Radiated immunity

AS 100: >200 V/m  
 AS 110 / 120: >100 V/m

## A 200 sets

### Bandwidth: 500 kHz

Conversion rate: 3 Msps  
 Transfer rate (optical fibre): 48 Mbps  
 Operating range (optical fibre): 1 ... 20 m  
 Resolution: 12 Bit

#### A 200-1

1 channel  
 1x AE 200  
 1x AS 200  
 1x 1.5 m

#### A 200-2

2 channels  
 2x AE 200  
 2x AS 200  
 2x 6 m

Receiver - analog  
 Sensor - analog  
 Optical fibre (plastics)

1 AC power supply 12 V / 300 mA  
 Accessories  
 Instructions for use  
 Case



### Radiated immunity

AS 200: >100 V/m

## A 300 sets

### Bandwidth: 5 MHz

Conversion rate: 12.5 Msps  
 Transfer rate (optical fibre): 150 Mbps  
 Operating range (optical fibre): 1 ... 20 m  
 Transmission factor: 10 : 1  
 Resolution: 10 Bit

#### A 300-1

1 channel  
 1x AE 300  
 1x AS 300  
 1x 1.5 m

#### A 300-2

2 channels  
 2x AE 300  
 2x AS 300  
 2x 6 m

Receiver - analog  
 Sensor - analog  
 Optical fibre (plastics)

1 AC power supply 12 V / 300 mA  
 Accessories  
 Instructions for use  
 Case



### Radiated immunity

AS 300: 200 V/m