

Title (en)  
ELECTRO-OPTIC VOLTAGE SENSOR

Title (de)  
ELEKTROOPTISCHER SPANNUNGSFÜHLER

Title (fr)  
VOLTMETRE ELECTRO-OPTIQUE

Publication  
**EP 0866975 A1 19980930 (EN)**

Application  
**EP 96944754 A 19961205**

Priority  

- US 9619346 W 19961205
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Abstract (en)  
[origin: WO9722012A1] An electro-optic voltage sensor for achieving voltage measurement without significant error contributions from neighboring conductors or environmental perturbations. The voltage sensor includes a transmitter (1), a sensor (4), a detector (43, 44) and a processor (62). The transmitter (1) produces a beam of electromagnetic radiation which is routed into a sensor (4). Within the sensor (4), the beam undergoes the Pockels electro-optic effect. The electro-optic effect produces a modulation of the beam's polarization, which is in turn converted to a pair of independent conversely-amplitude-modulated signals, from which the voltage of the E field is determined by the processor (62). The use of converse AM signals enables the signal processor (62) to better distinguish signal from noises. The sensor (4) converts the beam by splitting the beam in accordance with the axes of the beam's polarization state (an ellipse whose ellipticity varies between -1 and +1 in proportion to voltage) into at least two AM signals. These AM signals are fed into a signal processor (62) and processed to determine the voltage between ground conductor and the conductor (2) on which voltage is being measured.

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