

Title (en)
MEASURING DEVICE FOR DETERMINING A DIELECTRIC CONSTANT

Title (de)
MESSGERÄT ZUR BESTIMMUNG EINES DIELEKTRIZITÄTSWERTES

Title (fr)
DISPOSITIF DE MESURE PERMETTANT DE DÉTERMINER UNE CONSTANTE DIÉLECTRIQUE

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Application
EP 20739656 A 20200710

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Abstract (en)
[origin: WO2021028130A1] The invention relates to a measuring device (1) for determining the dielectric constant (DK) of a medium (2). The measuring device (1) is based on two waveguides (11, 12) each comprising a signal port (113, 122) at one end. In this case, the waveguides (11, 12) are arranged in such a manner that the signal ports (113, 122) are opposite one another. A sample compartment for the medium (2) is formed in between, with the result that a high-frequency signal (sHF), which is injected into the first waveguide (11), is transmitted to the second waveguide (12) via the second signal port (122) after passing through the medium (2). Since the transmitted component (THF) and the reflected component (RHF) of the high-frequency signal (sHF) are greatly dependent on the dielectric constant (DK), the latter can be captured thereby in a wide range of values with a high degree of sensitivity depending on the choice of the frequency band and dimensioning of the waveguides (11, 12).

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