

Publication

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Application

EP 96911876 A 19960514

Priority

- AU 9600293 W 19960514
- AU PN297195 A 19950515

Abstract (en)

[origin: WO9636276A1] The magnitude of a physical quantity, typically temperature, is measured by launching light from a light source (21) into an optical fibre (10) that incorporates an optical filter (16) in the form of an in-fibre Bragg grating. The operating temperature of the light source (21) is controlled by a thermoelectric regulator (23) and in a manner cyclically to vary the centre wavelength of the spectrum of light emitted by the source (21) to cover a substantial portion at least of the rejection bandwidth of the optical filter (16). A photodetector (26) is employed for detecting light that is reflected back through the optical fibre (10) and, coupled with a processor (28), for detecting the occurrence of peak reflection. The temperature in the region of the optical filter (16) is determined by reference to the operating temperature of the light source (21) when light is emitted that gives rise to the peak reflection. The measurement of temperature, or other physical quantity that has the potential to influence the reflectance of the optical filter (16), does not require a determination to be made of the complete reflection characteristics of the filter (16). Nor is a measure required to be made of the actual centre wavelength at which peak reflection occurs. Detection is made for the occurrence of the peak reflection and a determination is then made as to the magnitude of the temperature, or other physical quantity, by reference to control exercised over the light source (21).

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A61B 5/02

IPC 8 full level

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Citation (search report)

- [X] EP 0050306 A2 19820428 - ASEA AB [SE]
- [X] US 5276501 A 19940104 - MCCLINTOCK JOSEPH A [US], et al
- [A] US 4796996 A 19890110 - BURNS MATTHEW J [US]
- See references of WO 9636276A1

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