US009410866B2

(12) **United States Patent**
von der Weid et al.

(10) **Patent No.: US 9,410,866 B2**
(45) **Date of Patent: Aug. 9, 2016**

(54) **DEVICE FOR MONITORING AN OPTICAL FIBRE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/424,102**

(22) PCT Filed: **Aug. 29, 2012**

(86) PCT No.: **PCT/SE2012/050919**

§ 371 (c)(1), (2), (4) Date: **Feb. 26, 2015**

(87) PCT Pub. No.: **WO2014/035303**

PCT Pub. Date: **Mar. 6, 2014**

(65) **Prior Publication Data**

US 2015/0241302 A1 Aug. 27, 2015

(51) **Int. Cl.**

G01M 11/00 (2006.01)
H04B 10/071 (2013.01)
H04B 10/291 (2013.01)

(52) **U.S. Cl.**

CPC ***G01M 11/3145*** (2013.01); ***G01M 11/3154*** (2013.01); ***H04B 10/071*** (2013.01); ***H04B 10/291*** (2013.01)

(58) **Field of Classification Search**

None

See application file for complete search history.

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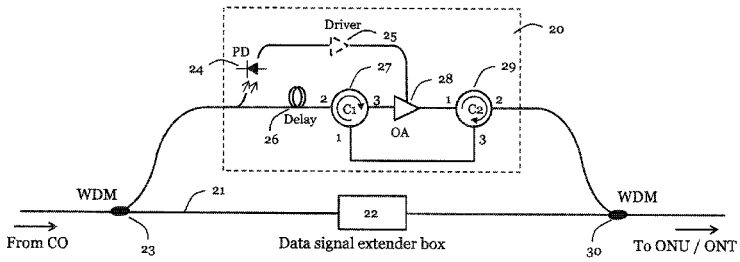
(57) **ABSTRACT**

The present invention relates to a device for monitoring an optical fiber comprising a photo-sensitive device arranged to produce an electric pulse from an optical pulse injected at a first node of the optical fiber, a delay element and a first optical circulator arranged to delay the optical pulse injected at the first node of the optical fiber. Further, the device comprises an optical amplifier arrangement arranged to receive the optical pulse at its input and the produced electric pulse as an operating signal, for producing an amplified optical pulse. Moreover, the device comprises a second optical circulator arranged to receive the amplified optical pulse at a first port and output the amplified optical pulse at a second port connected to a second node of the optical fiber, and to receive an optical signal reflected back from the optical fiber at the second port and outputting the reflected optical signal at a third port.

14 Claims, 8 Drawing Sheets