CLAIMS

Having described my invention, I claim:

1. An intelligent module for attachment to a fiber strength member, comprising:

(a) a collar configured to be mounted on an exterior of said fiber strength member, said collar including a passage for accommodating said fiber strength member passing longitudinally therethrough;

(b) a measurement element configured for at least a portion of said measurement element to lie within said fiber strength member, wherein said fiber strength member is multi-stranded;

(c) the intelligent module being configured for said measurement element to be held in position by said collar; and

(d) an instrument package configured to monitor a squeezing force placed on said measurement element by said fiber strength member.

2. The intelligent module as recited in claim 1, configured for said measurement element to be mounted transversely to a longitudinal axis of said fiber strength member.

3. The intelligent module as recited in claim 2, further comprising a detachable piercer configured to attach to said transverse measurement element and thereby aid said transverse measurement element's lateral passage through said fiber strength member.

4. The intelligent module as recited in claim 1, wherein said collar is split so that it can be added to said fiber strength member in multiple pieces.

5. The intelligent module as recited in claim 1, wherein said instrument package includes a processor and a memory configured to store strain information measured by said instrument package.

6. The intelligent module as recited in claim 5, wherein said instrument package includes a radio transmitter for transmitting information to an external device.

7. The intelligent module as recited in claim 1, wherein said instrument package includes an externally visible indicator panel for indicating a status of said fiber strength member.

8. An intelligent module for attachment to a fiber strength member, comprising:

(a) a collar configured to be mounted on an exterior of a strand of said fiber strength member;

(b) a measurement element, configured for at least a portion of said measurement element to lie within said strand;

(c) said measurement element configured to be connected to said collar; and

(d) an instrument package configured to monitor a strain placed on said measurement element by a squeezing force applied by said strand.

9. The intelligent module as recited in claim 8, configured for said measurement element to be placed transversely through said strand.

10. The intelligent module as recited in claim 9, further comprising a detachable piercer configured to attach to said measurement element and thereby aid said measurement element's lateral passage through said strand.

11. The intelligent module as recited in claim 8, wherein said collar is split so that it can be added to said strand in multiple pieces.

12. The intelligent module as recited in claim 8, wherein said instrument package includes a processor and a memory configured to store strain information measured by said instrument package.

13. The intelligent module as recited in claim 12, wherein said instrument package includes a radio transmitter for transmitting information to an external device.

14. The intelligent module as recited in claim 8, wherein said instrument package includes an externally visible indicator panel for indicating a status of said strand.

15. An intelligent module for attachment to a fiber strength member, comprising:

(a) a measurement element configured to pass transversely through said fiber strength member, said measurement element having a first end and a second end;

(b) an instrument housing configured to be attached to said first end of said measurement element;

(c) a strain gauge configured to be mounted on said measurement element, said strain gauge configured to measure a strain of said measurement element resulting from a squeezing force applied by said fiber strength element;

(d) an instrument package configured to be mounted in said instrument housing, said instrument package configured to monitor said strain gauge; and

(e) a bracket configured to be attached to said second end of said measurement element.

16. The intelligent module as recited in claim 15, configured for said instrument housing and said bracket to lie outside of said fiber strength member.

17. The intelligent module as recited in claim 16, configured for said instrument bracket and said housing to be secured to said fiber strength member by a plurality of bands.

18. The intelligent module as recited in claim 15, further comprising a detachable piercer configured to attach to said measurement element and thereby aid said measurement element's lateral passage through said fiber strength member.

19. The intelligent module as recited in claim 15, wherein said instrument package includes a processor and a memory configured to store strain information measured by said instrument package.

20. The intelligent module as recited in claim 15, wherein said instrument package includes a radio transmitter for transmitting information to an external device.