

Claim Listing – U.S. Pat. No. 11,906,794

No.	Claim Limitation
1.P	A fiber optic connector having a boot, a crimp body, and a housing having at least two optical fibers therein, the fiber optic connector comprising:
1.a.1	a front end opening in the housing,
1.a.2	the housing having a pair of short sides forming a top and a bottom and a pair of long sides joining the top and the bottom,
1.a.3	the at least two optical fibers spaced apart between the top and the bottom formed by the pair of short sides,
1.a.4	a separation between the top and the bottom is more than a separation between individual ones of the pair of long sides;
1.b	the crimp body positioned rearward of the front end of the housing, the crimp body having a rear portion; and
1.c.1	the boot receiving the rear portion of the crimp body and having a front extension,
1.c.2	the front extension extending towards the front end of the housing and attached to the housing forward of a center portion of the boot,
1.c.3	wherein the crimp body and the boot each have a respective contiguous longitudinal opening to accommodate the at least two optical fibers having ends terminated forward of the front end opening of the housing, and
1.d	wherein the longitudinal opening extends through a back portion of the boot rearward of the center portion of the boot.
2	The fiber optic connector according to claim 1, wherein the back portion has a ribbed structure with openings on an outside surface along a length of the back portion to provide strain relief to the at least two optical fibers.

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3	The fiber optic connector according to claim 1, wherein the ends of the at least two fibers are terminated in respective two single fiber ferrules.
4	The fiber optic connector according to claim 3, wherein the two single fiber ferrules have respective front ends exposed forward of the front end opening in the housing.
5.a	The fiber optic connector according to claim 1, wherein the boot is movable longitudinally relative to the housing upon application of a pull force, and
5.b	wherein after application of the pull force, the boot and the housing are rotatable relative to each other to change a polarity of the fiber optic connector.
6	The fiber optic connector according to claim 1, wherein the front extension portion has at least one latch.
7	The fiber optic connector according to claim 6, wherein the front extension portion has two latches separated from each other on the front extension.
8	The fiber optic connector according to claim 1, wherein the center portion of the boot engages the rear portion of the housing.
9	The fiber optic connector according to claim 1, wherein a connection of the boot to the housing in a first relative orientation determines a first polarity of the fiber optic connector and a connection of the boot to the housing in a second relative orientation determines a second polarity of the fiber optic connector.
10	The fiber optic connector according to claim 9, wherein the first relative orientation and the second relative orientation differ by 180° about a longitudinal axis of the fiber optic connector.
11	The fiber optic connector according to claim 1, wherein the back portion has a grasping portion at a rear end of the back portion to allow a user to push and pull on the boot.

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12	The fiber optic connector according to claim 1, wherein the boot is slidable relative to the housing.
13	The fiber optic connector according to claim 1, wherein the front extension is an integral part of the center portion.
14	The fiber optic connector according to claim 1, wherein the center portion has sides with cutouts.
15	The fiber optic connector according to claim 1, wherein a material of the boot has a Young's modulus greater than 500 MPa.
16.P	A fiber optic connector having a boot, a crimp body, and a housing having two optical fibers terminated respectively within two fiber optic ferrules therein, the fiber optic connector comprising:
16.a.1	a front end opening in the housing for the two fiber optic ferrules,
16.a.2	the housing having a pair of short sides forming a top and a bottom and a pair of long sides joining the top and the bottom,
16.a.3	a separation between the top and the bottom is more than a separation between individual ones of the pair of long sides,
16.a.4	the two fiber optic ferrules being spaced apart from each other between the top and the bottom but equidistant from each of the pair of long sides;
16.b	the crimp body positioned rearward of the front end of the housing, the crimp body having a rear portion to receive the two optical fibers; and
16.c.1	the boot receiving the rear portion of the crimp body and having a front extension,
16.c.2	the front extension extending towards the front end of the housing and attached to the housing via at least one latch forward of a center portion of the boot,

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16.c.3	wherein the crimp body and the boot have a longitudinal opening to accommodate the two optical fibers having ends terminated forward of the front end opening of the housing, and
16.d	wherein the longitudinal opening extends through a back portion of the boot rearward of the center portion of the boot.
17	The fiber optic connector according to claim 16, wherein the back portion has a ribbed structure with openings on an outside surface along a length of the back portion to provide strain relief to a fiber cable containing the two optical fibers.
18	The fiber optic connector according to claim 16, wherein the boot is movable longitudinally relative to the housing upon application of a pull force, and wherein after application of the pull force, the boot and the housing are rotatable relative to each other to change a polarity of the fiber optic connector.
19	The fiber optic connector according to claim 16, wherein the front extension is an integrally molded with the center portion and has a latch.
20.P	A fiber optic connector comprising:
20.a	a boot;
20.b	a crimp body engaged to the boot forward of the boot; and
20.c.1	a housing having two optical fibers terminated respectively within two fiber optic ferrules therein,
20.c.2	the housing comprising a front end opening for the two fiber optic ferrules,
20.c.3	a pair of short sides forming a top and a bottom and a pair of long sides joining the top and the bottom,
20.c.4	a separation between the top and the bottom is more than a separation between individual ones of the pair of long sides,

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20.c.5	the two fiber optic ferrules being spaced apart from each other between the top and the bottom but equidistant from each of the pair of long sides,
20.d	wherein the crimp body is positioned rearward of the front end of the housing, the crimp body having a rear portion to receive the two optical fibers,
20.e.1	wherein the boot includes: a center portion having a front end and a back end, a first longitudinal opening extending between the front end and the back end to receive a portion of the crimp body and a fiber optic cable having the two optical fibers,
20.e.2	wherein the boot includes: ... a back portion attached to the center portion and extending away from the front end of the center portion, the back portion defining a second longitudinal opening that is in communication with the first longitudinal opening, and
20.e.3	wherein the boot includes: ... a front extension portion connected to the center portion and extending forward and beyond the front end of the center portion, and
20.f	wherein the boot is movable longitudinally relative to the housing upon application of a pull force, and wherein after application of the pull force, the boot and the housing are rotatable relative to each other to change a polarity of the fiber optic connector.