

Claim Listing – U.S. Pat. No. 11,880,075

Claim 1

- [1.p] A fiber optic connector for a multi-fiber ferrule, comprising:
 - [1.a.] a ferrule holder having a central opening extending longitudinally from a first end to a second end
 - [1.b.1] a multi-fiber ferrule housed within the central opening and having at least two optical fibers supported therein
 - [1.b.2] the multi-fiber ferrule being exposed at an opening at the first end of the ferrule holder
 - [1.b.3] the opening at the first end being in communication with the central opening
 - [1.c] a boot extending in a rearward direction from the ferrule holder and supporting the at least two optical fibers
 - [1.d] wherein the ferrule holder has a main body with a top side and a bottom side joined by two opposing side walls
 - [1.e.1] wherein a separation between the top side and the bottom side is more than a separation between the opposing side walls
 - [1.e.2] the opposing side walls being parallel to a fiber alignment axis of the at least two optical fibers at an end face of the multi-fiber ferrule
 - [1.f] wherein a front end of the ferrule holder has a lead-in or a chamfer
 - [1.g] a first projection on a first outside surface on the top side of the main body and extending longitudinally along the top side
 - [1.h] a second projection on a second outside surface on the bottom side of the main body and extending longitudinally along the bottom side
 - [1.i] wherein the first projection has a different shape than the second projection

- [1.j] a latching mechanism on at least one of the top side and the bottom side
- [1.k] wherein the latching mechanism is unconnected to the first projection and the second projection

Claim 2

The fiber-optic connector according to claim 1, wherein the multi-fiber ferrule is an MT type ferrule.

Claim 3

The fiber-optic connector according to claim 1, wherein a top surface of the first projection is rearward of the front end of the ferrule holder.

Claim 4

The fiber-optic connector according to claim 1, wherein a horizontal top surface of the second projection is rearward of the front end of the ferrule holder.

Claim 5

the fiber-optic connector according to claim 1, wherein a top surface of each of the first projection and the second projection is rearward of the front end of the ferrule holder.

Claim 6

The fiber-optic connector according to claim 1, wherein the opposing sidewalls are smooth and solid.

Claim 7

The fiber-optic connector according to claim 1, wherein the opposing sidewalls are flat.

Claim 8

The fiber-optic connector according to claim 1, wherein the first projection and the second projection have different widths.

Claim 9

The fiber-optic connector according to claim 1, further comprising: a spring positioned rearward of the multi-fiber ferrule and configured to bias the multi-fiber ferrule towards the front end of the ferrule holder.

Claim 10

The fiber-optic connector according to claim 9, wherein the spring at least partially surrounds the at least two optical fibers.

Claim 11

The fiber-optic connector according to claim 1, further comprising: a cutout in each of the top side and the bottom side.

Claim 12

The fiber-optic connector according to claim 1, wherein a portion of the multi-fiber ferrule extends forward of the main body.

Claim 13

The fiber-optic connector according to claim 1, wherein the multi-fiber ferrule extends beyond the main body.

Claim 14

The fiber-optic connector according to claim 1, wherein the multi-fiber ferrule is flush with the front end of the main body.

Claim 15

The fiber-optic connector according to claim 1, wherein at least one of the first projection or the second projection extends along a length of the ferrule holder.

Claim 16

The fiber-optic connector according to claim 1, wherein at least one of the first projection or the second projection has a chamfered front end or a lead-in.

Claim 17

The fiber-optic connector according to claim 1, wherein the first and the second projections each have a vertical side surface to align the ferrule holder with a vertical wall to control a horizontal direction of movement of the ferrule holder relative to an adapter.

Claim 18

- [18.p] A fiber optic connector for a multi-fiber ferrule, comprising:
 - [18.a] a ferrule holder having a central opening extending longitudinally from a first end to a second end
 - [18.b.1] a multi-fiber ferrule housed within the central opening and having at least two optical fibers supported therein
 - [18.b.2] the multi-fiber ferrule being exposed at an opening at the first end of the ferrule holder
 - [18.b.3] the opening at the first end being in communication with the central opening
 - [18.c] a boot extending in a rearward direction from the ferrule holder and supporting the at least two optical fibers
 - [18.d] wherein the ferrule holder has a main body with a top side and a bottom side joined by two opposing side walls
 - [18.e.1] wherein a separation between the top side and the bottom side is more than a separation between the opposing side walls
 - [18.e.2] the opposing side walls being parallel to a fiber alignment axis of the at least two optical fibers at an end face of the multi-fiber ferrule
 - [18.f] wherein a front end of the ferrule holder has chamfer
 - [18.g] a first projection extending longitudinally along the top side
 - [18.h] a second projection extending longitudinally along the bottom side

- [18.i] wherein the first projections is on a first outside surface of the top side of the main body and has at least one dimension that is different than the second projection on an opposite second outside surface on the bottom side of the main body; and
- [18.j] a latching mechanism on at least one of the top side and the bottom side
- [18.k] wherein the latching mechanism is unconnected to the first projection and the second projection.

Claim 19

- [19.p] A fiber optic connector for a multi-fiber ferrule, comprising:
 - [19.a] a ferrule holder having a central opening extending longitudinally from a first end to a second end
 - [19.b.1] a multi-fiber ferrule housed within the central opening and having at least two optical fibers supported therein
 - [19.b.2] the multi-fiber ferrule being exposed at an opening at the first end of the ferrule holder
 - [19.b.3] the opening at the first end being in communication with the central opening
 - [19.c] wherein the ferrule holder has a main body with a top side and a bottom side joined by two opposing side walls
 - [19.d.1] wherein a separation between the top side and the bottom side is more than a separation between the opposing side walls
 - [19.d.2] the opposing side walls being parallel to a fiber alignment axis of the at least two optical fibers at an end face of the multi-fiber ferrule
 - [19.e] wherein a front end of the ferrule holder has a lead-in
 - [19.f] a first projection on a first outside surface on the top side of the main body and extending longitudinally along the top side

- [19.g] a second projection on a second outside surface on the bottom side of the main body and extending longitudinally along the bottom side
- [19.h] wherein the first projection has a different shape than the second projection
- [19.i] wherein the first and the second projections each have a vertical side surface to align the ferrule holder with a vertical wall to control a horizontal direction of movement of the ferrule holder relative to an adapter
- [19.j] a latching mechanism on at least one of the top side and the bottom side
- [19.k] wherein the latching mechanism is unconnected to the first projection and the second projection

Claim 20

The fiber optic connector of claim 19, further comprising: a boot extending in a rearward direction from the ferrule holder and supporting the at least two optical fibers.

Claim 21

- [21.p] A fiber optic connector for an MT-type ferrule, comprising:
 - [21.a] a ferrule holder having a central opening extending longitudinally from a first end to a second end
 - [21.b.1] an MT-type ferrule housed within the central opening and having at least two optical fibers supported therein
 - [21.b.2] the MT-type ferrule being exposed at an opening at the first end of the ferrule holder
 - [21.b.3] the opening at the first end being in communication with the central opening
 - [21.c] a boot extending rearward of the ferrule holder and configured to support the at least two optical fibers

- [21.d] wherein the ferrule holder has a main body with a top side and a bottom side joined by two opposing side walls
- [21.e.1] wherein a separation between the top side and the bottom side is more than a separation between the opposing side walls \
- [21.e.2] the opposing side walls being parallel to a fiber alignment axis of the at least two optical fibers at an end face of the MT-type ferrule
- [21.f] wherein a front end of the ferrule holder has a chamfer
- [21.g] a first projection on a first outside surface on the top side of the main body and extending longitudinally along the top side
- [21.h] a second projection on a second outside surface on the bottom side of the main body and extending longitudinally along the bottom side
- [21.i] wherein the first projection has a different height or a different width than the second projection
- [21.j] a latching mechanism on at least one of the top side and the bottom side
- [21.k] wherein the latching mechanism is unconnected to the first projection and the second projection