## CLAIMS

What is claimed is:

1. An apparatus comprising:

a bulkhead connector configured to be positioned within a tool body of a completion or intervention tool for use in a wellbore and to provide a fluid seal between one or more fluids present in the wellbore and a sealed area within the tool body where one or more downhole tools are located,

wherein the bulkhead connector includes one or more electrical switches positioned on a tool side of the bulkhead connector and positioned within the sealed area when the bulkhead connector is positioned with the tool body, the one or more electrical switches configured to be actuated by magnetic force(s) provided by one or more magnetic elements positioned on a fluid side of the bulkhead connector opposite the tool side, and

wherein the fluid side of the bulkhead connector includes a slot configured to receive a mating connector that includes a mating connector magnetic element, wherein a power switch located on the tool side of the bulkhead connector is configured to actuate to a closed position when the mating connector including the mating connector magnetic element is fully received in the slot.

2. The apparatus of claim 1, wherein the bulkhead connector further comprises one or more fluid seals, the one or more fluid seals configured to provide the fluid seal between the fluid side and the tool side of the bulkhead connector when the bulkhead is installed within the tool body.

3. The apparatus of claim 1, wherein the bulkhead connector is configured to receive a comms connector at the fluid side of the bulkhead connector, the comms connector configured to provide one or more electrical communication pathways between one or more devices coupled to the comms connector and one or more devices positioned on the tool side of the bulkhead connector, and to allow removal of the comms connector without disturbing the fluid seal between the bulkhead connector and the tool body.

4. The apparatus of claim 1, wherein the power switch is configured to electrically couple a power supply located on the tool side of the bulkhead connector to one or more downhole

tools located on the tool side of the bulkhead connector when the power switch is actuated to the closed position.

5. The apparatus of claim 1, wherein the power switch includes a biasing member configured to apply a biasing force to actuate the power switch to an open position when the mating connector including the mating connector magnetic element is not fully received in the slot.

6. The apparatus of claim 1, wherein the bulkhead connector further includes a plurality of pins that are electrically conductive and that extend through the bulkhead connector from the tool side to the fluid side of the bulkhead connector, each of the plurality of pins being electrically coupled to an individual one of the one or more electrical switches.

7. The apparatus of claim 6, wherein the fluid side of the bulkhead connector is configured to receive a comms connector that includes a plurality of receptors, each of the plurality of receptors including a corresponding comms magnet,
wherein each of the plurality of receptors is electrically coupled to a corresponding comms connector lead and is configured to receive a portion of one of the plurality of pins that extends through to the fluid side of the bulkhead connector to form an electrical connection from the corresponding comms connector lead, the corresponding receptor and the pin coupled to the corresponding receptor and through the bulkhead connector to a corresponding one of the one or more electrical switches positioned on the tool side of the bulkhead connector.

8. The apparatus of claim 7, wherein the corresponding comms magnet is configured to exert a magnetic force through the bulkhead connector in order to actuate a corresponding one of the one or more electrical switches from an open to a closed position when the comms connector including the corresponding comms magnet is received at the fluid side of the bulkhead connector.

9. The apparatus of claim 7, wherein the comms connector is configured to provide one or more electrical communication connections between a smart device coupled to one or more comms leads of the comms connector and one or more devices included on the tool side of the bulkhead connector.

10. A method comprising:

providing a bulkhead connector in a tool body, the bulkhead connector comprising one or more seals configured to provide a fluid seal between a tool side of the bulkhead connector and a fluid side of the bulkhead connector when the tool body is deployed in a wellbore, the bulkhead connector comprising one or more electrical switches positioned on the tool side of the bulkhead connector;

prior to deploying the tool body in the wellbore, the method further comprising:

receiving, at a slot provided on the fluid side of the bulkhead connector, a mating connector including a mating connector magnetic element; and

actuating a power switch of the one or more electrical switches using a magnetic force provided by the mating connector magnetic element, the magnetic force exerted through the bulkhead connector, wherein actuating the power switch includes providing an electrical connection between a power supply positioned on the tool side of the bulkhead connector and one or more downhole tools positioned on the tool side of the bulkhead connector to electrically power the one or more downhole tools through the power switch.

11. The method of claim 10, further comprising:

deploying the tool body, including the bulkhead connector and the mating connector received at the slot of the bulkhead connector, downhole into the wellbore, and

performing one or more downhole operations utilizing the one or more downhole tools while the downhole tools are deployed within the wellbore and while the downhole tools are being powered through the electrical connection provided through the power switch.

12. The method of claim 10, further comprising:

prior to the tool body being deployed downhole in the wellbore, actuating one or more communication switches positioned on the tool side of the bulkhead connector by providing a comms connector on the fluid side of the bulkhead connector, each of the one or more communication switches configured to, when actuated, provide an electrical connection between one or more electrical devices included on the tool side of the bulkhead connector and an individual one of a plurality of communication pins extending through the bulkhead connector from the tool side to the fluid side of the bulkhead connector.

13. The method of claim 12, wherein the comms connector comprises a set of individual magnetic elements, each of the individual magnetic elements corresponding to a respective one of the one or more communication switches,

wherein actuating the one or more communication switches comprises exerting a magnetic force provided by each one of the set of individual magnetic elements onto a respective one of the one or more communication switches through the bulkhead connector in order to activate each of the one or more communication switches to an closed position providing and electrical connection across each the respective one or more communication switches.

14. The method of claim 12, further comprising:

generating an output signal from the one or more downhole tools positioned on the tool side of the bulkhead connector while the one or more tools are being powered through the power switch located on the tool side of the bulkhead connector; and

providing the output signal through the plurality of communication pins to at least one visual display device located on the comms connector, the visual display device providing a visual output based on the output signal, the visual output indicative of one or more statuses associated with the one or more downhole tools.

15. The method of claim 12, further comprising:

while the one or more communication switches are actuating, performing electrical communications between the one or more electrical devices included on the tool side of the bulkhead and a smart device positioned on the fluid side of the bulkhead connector and coupled to the one or more electrical devices through the plurality of communication pins and the one or more communication switches.

16. The method of claim 15, wherein external electrical power is provided and wherein the electrical communications are performed prior to the mating connector being received at the slot on the fluid side of the bulkhead and prior to powering the downhole tools through the power switch.

17. The method of claim 15, further comprising:

upon completion of the electrical communications, removing the comms connector from the fluid side of bulkhead connector, thereby deactivating the one or more communication

switches, wherein deactivating the one or more communication switches causes each of the one or more communicate switch to move to an open position and break the electrical connections between the one or more electrical devices included on the tool side of the bulkhead connector and the plurality of communication pins.

18. A system comprising:

a completion or intervention tool configured to be positioned in a wellbore, the completion or intervention comprising:

a bulkhead connector configured to be positioned within a tool body of a completion or intervention tool for use in the wellbore and to provide a fluid seal between one or more fluids present in the wellbore and a sealed area within the tool body where one or more downhole tools are located,

wherein the bulkhead connector includes one or more electrical switches positioned on a tool side of the bulkhead connector and positioned within the sealed area when the bulkhead connector is positioned with the tool body, the one or more electrical switches configured to be actuated by magnetic force(s) provided by one or more magnetic elements positioned on a fluid side of the bulkhead connector opposite the tool side, and

wherein the fluid side of the bulkhead connector includes a slot configured to receive a mating connector that includes a mating connector magnetic element, wherein a power switch located on the tool side of the bulkhead connector is configured to actuate to a closed position when the mating connector including the mating connector magnetic element is fully received in the slot.

19. The system of claim 18, wherein the bulkhead connector further comprises a plurality of pins that are electrically conductive and that extend through the bulkhead connector from the tool side to the fluid side of the bulkhead connector, each of plurality of pins being electrically coupled to an individual one of the one or more electrical switches, the plurality pins configured to provide an electrical communication pathway between a comms connector received at the fluid side of the bulkhead connector and one or more devices located on the tool side of the bulkhead connector prior to deployment of the completion or intervention into the wellbore and without disturbing the fluid seal.