FT Flexitest™ switch

There is no equivalent

As the original manufacturer with the longest, most successful history, ABB Flexitest’s unmatched quality is the benchmark for the industry.

With more than 50 years of experience, ABB is the test switch manufacturer with the largest installed base in North America. ABB’s Flexitest test switch’s perfected design offers the highest quality, leaving nothing to chance. ABB Flexitest is the original FT - there is no equivalent.

**Features**
- Clear covers that allow for easier visual check on switch status
- Colored switch handles to simply identify circuits
- Rear extended switches for easier, faster access to wiring points
- 14-pole and 19” wide rack mounted test switches (FT-14 and FT-19R) to save space and installation time
- Patented 3D white lettering on the front, and 3D white numbering on the rear of the test switch which allows for easier identification of poles
- Comprehensive family of test plugs including SafePlug™ – individual current test plug with open CT protection
- Online configurator to create and easily order your own, customized switch - spine.abb.com/ftswitch
- FT-1 and FT-14 meet Ingress Protection IP41 for protection against dripping water from the front with shallow clear and black covers installed. FT-1 and FT-14 meet Ingress Protection IP2X for finger safety at the product rear
- FT-1 and FT-14 are RoHS compliant

**Application**

ABB Flexitest™ switches, types FT-1 (10 pole, rear connected), FT-1F (10 pole, front connected), FT-1X (10 pole, extended terminals, rear connected), FT-14 (14 pole, rear connected), and associated Test Plugs, provide a safe, simple, fast and reliable method to isolate, test, and service installed equipment without disturbing the power system.

FT-14D is a new test switch solution for digital switchgear using low-energy voltage and current sensors. The FT-14D switch ties to cutting-edge digital strategies by allowing customers to integrate current and voltage sensors within digital switchgear and Relion® protective relays.

FT-19R, FT-19RX, FT-19RS, and FT-22RS Flexitest switch assemblies for rack and switchboard mounting also permit convenient isolation of switchboard relays, meters, and instruments allowing quick and easy multi-circuit testing by any conventional test method. These assemblies utilize FT-1 and/or FT-14 switches, depending on customer requirements.
### The most complete family of test switches

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
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<tr>
<td>FT-1</td>
<td><strong>FT-1 Standard</strong> 10 pole, rear connected test switch.</td>
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<td>FT-1F</td>
<td><strong>FT-1F</strong> Surface mount switch allows the user to make the same connections as with FT-1 but on the front of the switch.</td>
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<td>FT-1X</td>
<td><strong>FT-1X</strong> Extended length test switch brings the rear terminal connections to the same depth as most panel mounted protective relays and equipment for easier and faster access to wiring points. Length extension of 8 inches or 10 inches depth is available.</td>
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<td>FT-14</td>
<td><strong>FT-14</strong> provides the same features and reliability as FT-1 but with a maximum of 14 individual poles. Although supplying 40% more capacity than the FT-1, the FT-14 only requires 18% more space.</td>
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<td>FT-14D</td>
<td><strong>FT-14D</strong> incorporates a passive electronic module on the rear with RJ45 connection to the Relion® relays with low energy voltage and current sensors inputs. The FT-14D maintains the same front interface as the standard FT-14 test switch.</td>
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<td>FT-19R</td>
<td><strong>FT-19R</strong> accommodates up to three FT-1 switches mounted on a 19” wide, and two-rack unit (2RU), three-rack unit (3RU), or four-rack unit (4RU) high panel suitable for rack or switchboard mounting. These assemblies can be ordered with a full-length clear cover (standard), or optional full-length black, individual black or clear covers.</td>
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<tr>
<td>FT-19RX</td>
<td><strong>FT-19RX</strong> extends the rear terminals of the FT-1 switches to the same depth as most 19” rack mounted equipment thereby providing improved access to the rear terminals. FT-19RX two-rack unit assemblies (2RU) allow the user to mount protective relays or other equipment in the racks directly above and below the FT-19RX, optimizing the space in the rack and reducing the amount of wire required.</td>
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<td>FT-19RS</td>
<td><strong>FT-19RS</strong> assemblies consist of up to two FT-1 switches, two FT-14 switches, or the combination of one FT-1 and one FT-14 switch mounted on a 19” wide, and two-rack unit (2RU), three-rack unit (3RU), or four-rack unit (4RU) high panel suitable for rack or switchboard mounting. Any combination of FT-1 or FT-14 switch styles may be selected with individual black or clear covers. Non-ABB equipment is not included with the assembly.</td>
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<tr>
<td>FT-22RS</td>
<td><strong>FT-22RS</strong> assemblies consists of up to three FT-1 or two FT-14 switches mounted on a 22” wide, two-rack unit (2RU), three-rack unit (3RU), or four-rack unit (4RU) high mounting panel suitable for rack or switchboard mounting. Any combination of FT-1 or FT-14 switches styles may be selected with individual black or clear covers.</td>
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Mounting panels for these assemblies may be of steel or aluminum. Steel panels are commonly available in ANSI 61 gray, ANSI 70 gray, and RAL7035 gray, beige, light sandalwood, thunder blue, black, and white; although panel color or finish, as well as panel height, can be customized to meet the user’s necessities. The three rack unit (3RU) assembly also allows switches to be positioned off-center, in either low or high upper mounting positions in the rack panel, allowing room for special label requirements.
Poles

FT-1, FT-1F and FT-1X switches are available in combinations of 1 to a maximum of 10 individual poles or switch units. FT-14 switches are available in combinations of 1 to a maximum of 14 poles or switch units. Each pole is identified by a letter (A to J or A to N) visible along the top of the base from left to right (front view).

Individual pole designations are used to identify each pole according to its type or function. In order to develop a complete Switch Arrangement, pole designations should be listed sequentially from left to right to account for every pole position on the switch. Unused poles are identified by the letter X.

Each individual pole is of a knife blade type. There are two different types of poles, potential and current.

For quick, easy, user friendly configuration of flexitest switches, please visit spine.abb.com/ftswitch.

Potential poles

Potential poles (P) are configured as single, non-shorting knife blades for use in potential, trip, or control circuits. P designates a potential, trip, or control circuit with a black handle. Potential poles with other color handles are available by replacing the “P” with the appropriate designation.

Each potential pole can also be described with 2 characters (P1 to P9). P indicates Potential and the second character is a numeric color code for the switch handle.

Current poles

Current poles are typically configured in sets of two (C-C), for use with current circuits, and consist of a current test jack, a shorting spring, a shorting blade, and a non-shorting blade (see figure below). The positions of the short circuit springs are always visible from the front of the switch.

C designates a single Current circuit, non-shorting pole, with a current test jack and a black handle. Current poles with other color handles are available by replacing the “C” with the appropriate designation.

Each current pole can also be described with 2 characters (C1 to C9). C indicates Current and the second character is a numeric color code for the switch handle.

Current poles typically span more than one pole position. Pole designations C-C, C-C-C, C-C-C-C and C-C-C-C-C indicate current shorting poles (make-before-break) with black handles. Note that any color handle may be selected for any pole position by using the appropriate pole designation, ex: 5-R or C-9-7 (alternately C5-C2 or C1-C9-C7).
The reversed current shorting pole option positions the current transformer (CT) shorting spring, individual current jack and associated knife blades in reverse. The pole designations for this configuration is available only in sets of 2 and is described with 2 characters (C+C). The “+” sign is the indication for the reversal. Current shorting is performed with the right hand blade versus the traditional left hand blade. Current monitoring is accessed with and individual current test jack in the left hand position.

**FT-1 configurator**

ABB has a web based tool to help build any complete FT Switch Arrangement, select options, view schematic details and get style number information. We strongly recommend the use of the web based tool for quick, easy, and user-friendly configuration of Flexitest switches.

The following products can be easily configured:

- FT-1 (10 Pole)
- Front connected FT-1F
- Extended terminals FT-1X
- Replacement switches for FT-19R
- FT-14 (14 Pole)
- FT-14D
- FT-19R switch panel assemblies
- FT-19RX switch panel assemblies

Please visit ABB’s FT-1 configurator website at spine.abb.com/ftswitch.

**Warranty**

All ABB Flexitest switches and assemblies are backed by a 12-YEAR warranty. The quality of ABB products comes from years of experience and rigorous quality testing programs.