

High Frequency Current Transformers & Radio Frequency Current Transformers

EA Technology's new High Frequency Current Transformers (HFCT) work with current products as well as older products. This document describes the differences and how use the HFCT properly.



Background

Over 15 years ago, EA Technology started offering split core transformers to detect Partial Discharge (PD) that can occur in medium voltage electrical equipment and cables. These transformers are designed to go around grounding straps where they pick up the induced currents from PD.

The first type was the Radio Frequency Current Transformer or RFCT. This was designed to work with EA products like the UltraTEV Locator, UltraTEV Plus², the UltraTEV Monitor, and the CableData Collector. This device is black in color and is held closed with a spring clip. The RFCT was also designed into the RFCT Hotstick

In 2021, EA Technology replaced the RFCT with the High Frequency Current Transformer or HFCT. The HFCT offers higher bandwidth and sensitivity. It also offers enhanced shielding. The HFCT is blue in color and is held closed with a magnetic catch. The HFCT is supplied with a non-metallic BNC connector.

The HFCT 50 is roughly the same size as the RFCT with a bore approximately 50 mm. A larger version (HFCT 100) is available with a 100 mm bore. The HFCT 50 is also available in a weatherproof outdoor version.



RFCT



HFCT 50

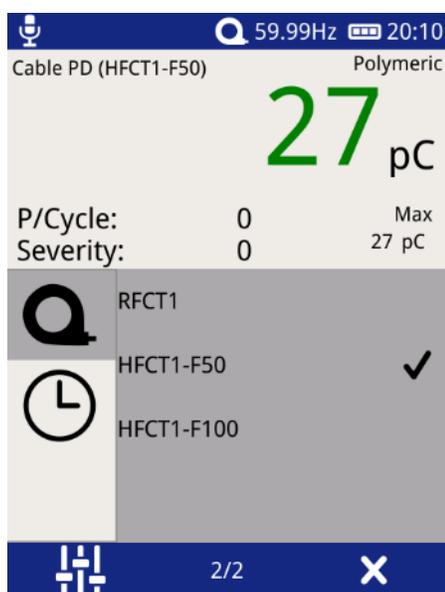


Weatherproof HFCT 50

Compatibility – UltraTEV Plus²

The HFCT works with any UltraTEV Plus² (UTP2) with hardware version 8 or later. This includes most units in the field. The unit must be running firmware version 3.6 or later. This firmware is available as a free update – contact EA for more details.

When an HFCT is connected and a test is selected, the proper CT must be chosen from the context setting menu. Click on the setting slider button twice to bring up the CT selection. (see below) Select the proper CT and proceed to test. The UTP2 will remember the setting so there is no need to select it each time.

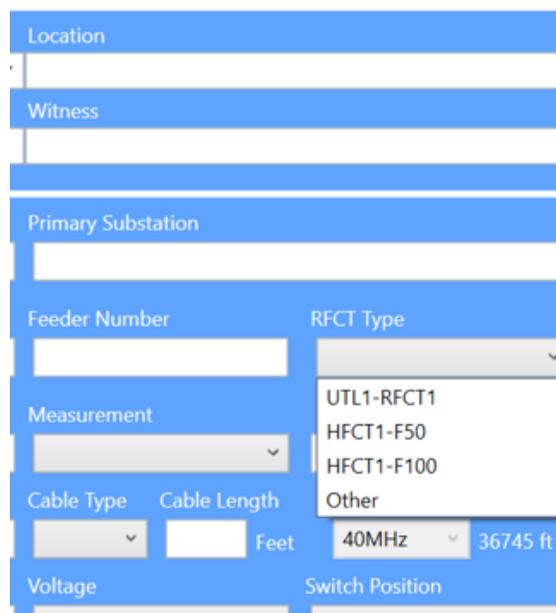


Setting screen showing CT choices

Compatibility – CableData Collector

The HFCT works with the CableData Collector version 3 or later. This can be identified by the CDC3 on the unit label.. If the unit is a CDC2, a hardware update is required to use the HFCT – contact EA for more details. The PC based collection software must be version 4.0 or higher and is available as a free download on the EA website

When CDC3 is connected and a test is started, the proper CT must be chosen test start menu. See below for the selection. The proper CT must be selected each time.



Test start screen showing CT choices