

RAPTOR PT

RAPTOR POLARITY TESTER

INTRODUCTION

The Polarity Tester is a lightweight handheld accessory used to check a three-phase installation for correct wiring in a quick and simple way, while the Raptor injects a special polarized signal into the primary side of any transformer (CT, VT, PT, etc). This is especially useful for checking polarity in remote spots and/or those which are difficult to reach.

A single CT supplies secondary current to more than one device (protective relays, meters, etc.) which are installed in switchgear panels, relatively far from the CT itself. The polarity concordance of the secondary current for the various devices is essential to assure proper operation of the secondary scheme; hence, this polarity must be always checked in the commissioning and/or maintenance process. This task is traditionally made using a phase angle meter in combination with an injected current, which could be either primary or secondary, and takes a long time as the meter needs to be connected very carefully to avoid interpretation errors.

APPLICATION

The Polarity Tester makes this task very easy, straightforward and efficient because it saves a lot of time and connection errors. The SMC Raptor primary injector injects a special test current waveform from which the Polarity Tester is able to immediately determine if polarity on each device is correct or not. The operator just needs to inject the test current in the circuit and move around all the connected devices while checking the polarity one by one.

DESCRIPTION

The Raptor-PT has two probes that you connect to points whose polarity is to be tested. By pressing the test button, the result is shown in less than a second by means of the following LEDs:

- **Correct polarity** (green): the Raptor-PT detects signal in phase with the injected by the Raptor.
- **Wrong polarity** (red): the detected signal is in counter-phase to the Raptor's signal.
- **Polarity not detected** (yellow): the Raptor-PT cannot determine polarity.

The most common causes for this are:

- The Raptor system is not injecting, or it has a bad connection.
- The output of the Raptor system is not set to polarized mode.
- The Raptor-PT accessory is not properly connected.
- The injection level is too low.
- **Low battery** (orange): the batteries must be replaced.

The criteria adopted for polarity are:

- When using the pass-through secondary, the positive corresponds to the grey side of the Raptor's casing.
- When using the Raptor's auxiliary output (V or I), the positive corresponds to the output's red connector.



- ✓ EASY TO USE
- ✓ HANDHELD
- ✓ BATTERY OPERATED



TECHNICAL SPECIFICATION

Detection range:	5 mVac - 300 Vac
Indicators:	Polarity OK (green), wrong polarity (red), not detected (yellow), low battery (orange)
Test pushbutton:	Switch on and test < 2 s.
Supply:	2 batteries 1.5 Vdc (AAA type)
Consumption:	5 mA (pressing Test)
Batteries duration:	1 year
Weight:	250 g
Dimensions:	140 x 62.7 x 30.5 mm
Case rating:	IP-64
Positive probe length:	40 mm
Negative probe length:	102 mm

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