

Advanced Differential Relay Interface for APTS2 & APTS3



- **New Software and Hardware Accessory for Advanced Testing of all Differential relay types at setting**
- **Converts APTS2/3 Voltage outputs to Current outputs for a total of 6 currents**

Overview

The standard APTS2 & 3 test sets from RES are able to directly test differential relays set up to protect Star-Star connected transformers (vector groups Yy0, Yy2, Yy4, Yy6, Yy8 & Y10).

However, testing differential relays set to protect Star-Delta connected transformers (vector groups Yd1, Yd3, Yd5, Yd7, Yd9 & Yd11) requires six currents. Previously the only way to test these relays using the APTS2/3 was to change the relay's settings to a Yy vector group but changing settings is neither desirable nor always possible.

To enable differential relays set to any vector group to be tested at setting, RES has introduced the *Advanced Differential Relay Interface*. This small accessory is effectively a 'voltage to current' converter, converting the three APTS2/3 voltage outputs to currents, giving six currents in total. This interface, in combination with a totally new Advanced Differential test package within the APTS software adds significant new capabilities to current APTS test set users needing to test all types of differential relays.

Specifications – Advanced Differential Testing Software

Included as part of the APTS Test Set Software V2.10 onwards. Works in combination with the Advanced Differential Relay Interface.

Automatic tests performed:

- Setting level for all 6 current inputs to relay
- Bias curve and table for each phase
- Bias curve modelling from settings and comparison with measured
- Harmonic restraint for each phase

Specifications – Advanced Differential Interface

Converts APTS Voltage outputs to Current Outputs:

- 3 channels, values below are for each channel
- 0-12.5A Range
- 30VA Power
- 0.001A Resolution
- <0.5% Error Typ., 1% Max, <0.15% Distortion

Isolation

Input to Output isolation: 1500V

Internal current sensor:

1V/A sensing output permits software auto-calibration/self-test and ensures accuracy over different loads/burdens.

Input Power

None (all power derived from APTS Voltage Outputs)

Physical

240x105x65mm (LxWxH)
1.5kg Weight

The Company

Relay Engineering Services Limited (RES) develops and markets products for testing power systems protection relays, breakers and batteries. The company is the UK market leader in automatic protection relay test equipment. RES is an ISO9001 registered company and has a long record as an approved supplier to every main Electricity Generation, Transmission, Distribution and Railway Maintenance Company in the UK as well as to over 30 countries worldwide.

Ordering Information

Ordering code: **ifADIFF**



Advanced Differential Relay Interface for APTS2 & APTS3 test sets

Our policy of continuous product improvement may mean that equipment supplied differs slightly from specifications in this publication – check at time of ordering