

REFLEX 10M – RELAY TEST SYSTEM

Medium Power Test



Reflex 10M is a medium power, high-performance parametric relay test system designed for production testing and detailed engineering analysis of electro-mechanical relays.

Overview

Relays up to 4 poles and two AC or DC coils can be tested, including form A, B, C contact styles. Low level, intermediate and medium power contact load currents up to 10 Amps can be programmed to test in accordance with the MIL-PRF-83536A electrical test procedure.

The Reflex 10M complements the ART range of test equipment to provide low cost, high quality test capability ideally suited to manual production lines and engineering “quick look” analysis. ART’s common user interface provides compatibility across the RT290 and Reflex parametric product ranges. The PC parallel port connection provides portability and allows the system to be shared between test stations.

The system provides four terminal Voltage-Drop based contact resistance measurement and is based on ART’s popular REFLEX 10 architecture with the addition of two major new features:

- AC or DC coil drive capability
- High-current contact load measurement up to 30V / 10 Amps DC

Key Features

- Compliant with MIL 83536A & 6106L
- Form A, B, C contact styles
- Up to four changeover contacts
- Contact Loads up to 30V / 10 Amps DC
- AC and DC coil drive
- Easy to Use Artworks software
- Comprehensive data logging
- Automatic report generation
- Built in functional test.

Low/medium power contact loads	30mV / 10mA, 28V / 100mA or 6V / 10mA
High power contact loads	0 - 30V / 0 - 10A
Max no. contacts	4 pole change over
Coil types	Monostable / single or dual coil latching
DC coil drive	0 – 80V / 400mA (0-370 V and 0-1A options)
AC coil drive	0 – 230Vrms / 20 W @ 50, 60 or 400 Hz

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Product Features

The following comprehensive range of relay test types is provided to meet MIL-PRF-83536A Electrical Characteristics Tests:

- Fixture check
- Coil resistance / current
- Contact resistance (static contact resistance)
- Contact voltage drop
- Operate and release voltage, including:
 - Pick-up voltage
 - Hold voltage
 - Drop-out voltage
- Timing measurement, including
 - Operate / release time
 - Contact simultaneity
 - Break before make
 - Contact bounce
 - Contact break bounce
- Dynamic CR, including
 - Dynamic contact resistance
 - Contact stabilisation time
- Coil back EMF
- Neutral screen
- Coil diode confirm present or absent
- Internal shorts test.

Features

AC & DC Coil Drive: Features both AC and DC coil drive capability.

Contact loads

The system incorporates a high power supply, which is used when measuring contact voltage drop (CVD) at up to 10 Amps. The power supply current and voltage are programmed from within the Artworks test program environment.

Device Interface

The front panel mounted 37 way high power circular connector is used for the four terminal contacts connections and a separate 37 way subminiature D-type connector for the two wire coil connections.

Software

The Artworks operator display presents the user with a clear view of the test data. Test programs can be quickly loaded or new programs created using the test program wizard. Data logging can be enabled or disabled by the operator as required.

Functional Test

A comprehensive set of functional checks are run when the software is initialised. Power rail and system temperature monitoring features are also measured along with basic system measurement functionality.

Fixture Control

The front panel 37 way D Type connector also provides control signals including: Start, Re-Test, Pass and Fail status plus solenoid control.

Fixture Identification

The system provides the ability to interrogate an EEPROM IC within a relay fixture in order that only relay test programs that are compatible with the chosen fixture are displayed when loading test programs.

Built-in manual control tool

Simple to use coil control sliders and contact monitoring to assist manual contact adjustments.

Hardware options list

Manual coil control

An external pot control module TF10-POT integrates with the manual device control page to assist contact adjustment.

Calibration

A semi-automated calibration/self-test module is available



A semi-automated calibration/self-test module ASY0270

Coil temperature correction

Platinum probe to measure ambient temperature to correct coil resistance values back to a defined standard.

External control

Handler interface connection for use in a semi-automated environment.



See also:
Reflex 10 low voltage relay test system