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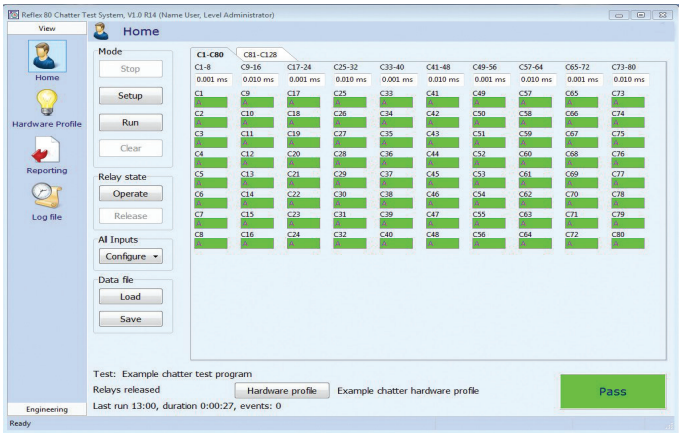
REFLEX 80 – CHATTER TEST SYSTEM



The Reflex 80 is a Contact Chatter Detection system providing all the necessary hardware and software resources to monitor and detect chatter & transfer when contacts are subject to vibration testing as part of the MIL-PRF-83536 and MIL-PRF-22885G test procedures.

Key Features

- Compliant with MIL 83536 & MIL 202: Method 310
- Compliant with MIL 22885G & MIL 202G: Method 207
- Programmable NC contact chatter detection >10 usec (typ.)
- Programmable NO contact close or bridging > 1 usec (typ.)
- Expandable to 128 channels
- High level of noise immunity
- Conditioning modules for inputs > 8 Volts
- Easy to use ArtWorks software
- Full data logging
- Compact or 19" rack mounting systems

Overview

Based on ART's flexible relay testing architecture, the Reflex 80 is a highly configurable, modular test system which can be expanded to test up to 128 contacts simultaneously. Precision analogue and digital filtering techniques are used to provide software programmable filter time constants over a range of 1 micro second to 25 milliseconds. A novel load interface architecture minimises false event detection in the presence to long cable runs to the device under test.

Easy to use Software

Easy to use Windows based software is supplied with the system. This can be used in 'offline' mode with simulated test results for training purposes and to allow test programs to be developed even without access to the hardware.

Channels	16 - 256 (8 - 128 C/O) contacts
Programmable event filter range	1 us - 25 ms (better than 1% accuracy)
Voltage range	0 - 8 V (unbuffered), 0 - 250 Vrms (buffered)
Chatter event counter	0 - 255
Test specifications	MIL-PRF-83536, MIL-PRF-22885G

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REFLEX 80 – CHATTER TEST SYSTEM

Product Features

System architecture

REFLEX 80 Chatter Detector System is designed to reduce the time to create a high performance chatter detector by providing off the shelf modules and software to implement chatter and transfer function testing to meet the requirements defined in MIL-PRF-83536 and MIL-PRF-22885G. The system comprises five main elements:

- System Mainframe
- Chatter Detector Module
- Conditioning Module
- Windows based PC controller
- ArtWorks Software

The Reflex 80 is based around a 10, 12 or 16 slot backplane and PC controller. Compact desktop and 19" rack mounting versions are available. For Chatter detector applications requiring numerous channels, up to 128 chatter channels may be configured in a single system.

Where higher load voltages (>8V) are present, an optional input conditioning module is available to extend the test capability to 250V DC/ AC rms.

An optional sixteen (16) channel power switch controller is available to allow program on/off control of contact load and coil power supplies when used in conjunction with suitable ART solid state AC or DC power switches.

Chatter testing

The chatter detector input comprises of a number of analogue measurement inputs which are designed to monitor the state of one or more relay contacts over a period of time, during which the relay under test is subjected to mechanical vibration.

If an event occurs whereby a normally closed contact opens or a normally open contact closes, then if this exceeds a predefined time, the event is recorded.

The Reflex 80 allows events which are shorter than a user programmed width to be ignored as per the MIL specifications. The system can record up to 255 events per channel and the filter time constants can be programmed in the range of 1us – 25ms.

A combination of digital and analogue filters are used for all but the 1 us setting which is analogue only. The 1 us analogue filter can be accurately calibrated to within 1 % accuracy using the optional calibration module. The digital filters are accurate to 100 ppm and therefore do not require calibrating.

Chatter conditioning modules

These incorporate high power input protection for the rack mounted Chatter Detector Modules. The DUT interface Conditioning Modules can be mounted on a separate 19" 3U front panel, to be close to the vibration table and DUT. Optional solid state switch modules may also be configured to provide load and device coil switching functions as required. Switch modules are controlled by a 16 channel chassis mounted Switch Controller Module via a shielded RJ45 extension cable. The switches are available in single, dual and quad versions and in a variety of voltage and current options chosen to best suit the application.

Self test and calibration

Comprehensive self test and calibration procedures exist to ensure the system is operating within specification when used with the ASY5747 calibration module and ASY5772 adaptor.

Load and coil power supplies

Optional 1U 19" rack mounting programmable DC power supplies can be configured and controlled from the host PC via the RS232 port(s) to provide load, coil or other voltage sources as necessary.

Integrated reporting

Data can be viewed, printed or exported to print or datalog files, and can then be inserted into a wide range of spreadsheet and database packages. The reporting package can be used to automatically generate customised MS Word™ based reports.

Compact case version

See also:
Reflex 51 Life test system

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