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# Electronic Heater Valves Testing

Application Note 1270-4



## Description

Production testing of automotive heater/air-conditioning system valves requires high volume testing on high speed, economical test systems.

## Problem

Some 600,000 automotive heater/air-conditioning system valves per year must be tested on an easy to operate pass-fail test system. The test results must be clearly indicated to the system operator and transmitted to the facilities overall CIM management and reporting system.

## Solution

A turnkey system was integrated with measurement instruments and computer control, based on HP VXI components. The system was delivered with test software and custom fixturing. The system is capable of testing the required 600,000 valves per year on a pass-fail criteria with a test cycle time of 45 seconds per two valves, tested in parallel. The test operator interacts with the test system via a single on-off button. The pass-fail test result is displayed to the operator. The test result, and the bar-code scanned part identification, is transmitted, via the facilities LAN network to the central CIM system, for capture in the statistical data base.

## Applications

Automobiles  
Trucks and Vans

## Departments

Production

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## Key System Features

Minimum Operator Interaction  
CIM System Connected

## Typical System Configuration

Data Acquisition System	Qty
7 Slot Mainframe	1
High-Speed	
Integrating Voltmeter	1
Universal Counter	1
Programmable Power Supply	2
FET Multiplexer Channels	32
Relay Driver Channels	72

## Computer/Software

PC Embedded Controller  
Workstation/Controller  
Keyboard, Monitor and Mouse  
Software - HP ITG  
HP BASIC  
HP FTM

## Other Equipment

Custom Interface Board  
with Sense Resistors  
Optical Sensor Interface