Most reliable VI Module ! the ultimate solution for ensuring long-term stable and reliable testing of low-voltage and low-current signals!

The VI source is the core module of an analog test system and can be regarded as its “heart.” The performance of the VI source largely determines the overall class and capability of the analog tester. As is well known, the VI source may drift with changes in temperature and humidity as well as long-term operation, leading to accuracy deviations. This can result in mis-testing and trim errors (especially in wafer testing), which we refer to as test escapes.

SineTest’s proprietary VI source features an on-board, real-time self-diagnostic function (patent protected), ensuring that the VI source can operate within the user-defined accuracy range over long periods of time. This eliminates concerns about test escapes and delivers maximum value to customers.

Practical Example: Utilizing FOVI on-board real-time self-checking functions in wafer testing to prevent test escapes (test escape prevention).

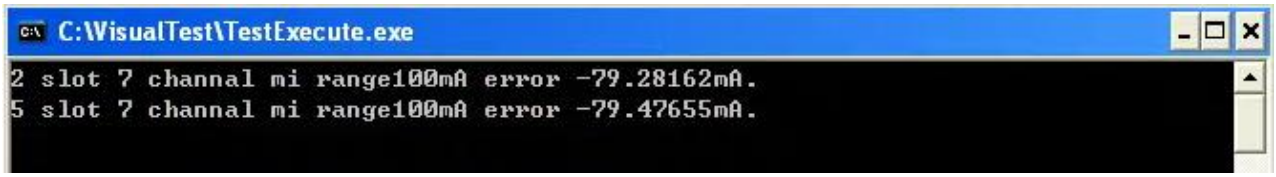
FOVI is our eight-channel general-purpose VI source (±50V/300mA, 1A pulse), which integrates two self-checking functions: selftest(int SiteNo); VsmTest(double volt, int SiteNo), capable of conducting full self-checking of a specific VI channel and single-voltage point self-checking (such as real-time inspection of trim voltage). The self-checking accuracy of selftest is 0.1%, while VsmTest has an accuracy of 0.05%.

Sample program：（part code）

```
FOVI V2,V1,V3,TV;
QTMU TMU1;
CBIT K1,K2,KF6,KF1,KF2,KF3,KF4,KF5,KF7,KF8;
BOOL CTESTFUN::OnUserLoad( )
{    parallel_type = GetParallelType( );
          V2.Locate(2,1,1);
          V1.Locate(2,2,1);
          V3.Locate(2,3,1);
          TV.Locate(2,4,1);
     V2.selftest( ); //full range check of the VI（accuracy 0.1%）
     V1.selftest( ); // full range check of the VI（accuracy 0.1%）
     V3.selftest( ); // full range check of the VI（accuracy 0.1%）
     TV.selftest( ); // full range check of the VI（accuracy 0.1%）
}
STT_TESTFUNC vcu(CFunction *pFunction, int nSiteNo, int nTestFlag, vcu_params* ours)
{
     V2.fv(0,Range_1V,Range_100mA,100,-100,Fast,R_Close);
     V1.fv(0,Range_5V,Range_100mA,100,-100,Fast,R_Close);
     V3.fv(0,Range_10V,Range_100uA,0.1,-0.1,Fast,R_Close);
     delayms(1);
     V1.VsmTest(5.0); //check the 5.0v (accuracy 0.05%）
     V2.VsmTest(1.0); //check the 1.0v (accuracy 0.05%）
     delayms(2);
     V1.fv(5.0);
```

```
    V3.fv(5);
    delayms(3);
    V2.fv(1.0);
}
```

If there's a deviation in the full-range self-check selftest(), it will prompt out the following message:



As an example, full-range SelfTest detected -80mA, with a set accuracy of ±0.1%. The qualified data range is (-80.08mA, -79.92mA), but the test results show that two channels of the VI source have currents exceeding the specification, measuring at -79.28162mA and -79.47655mA, resulting in an error and requiring correction.

If there's a deviation in the single-point self-check VsmTest(), it will prompt out the following message:

For instance, when VsmTest checks for 5.0V voltage with a set accuracy of ±0.05%, the qualified data range is (4.9975V, 5.0025V). However, the actual measured value is 4.996903V, which exceeds the specified range, triggering a warning.

Similarly, when VsmTest checks for 1.0V voltage with a set accuracy of ±0.05%, the qualified data range is (0.9995V, 1.0005V). But the actual measured value is 0.999307V, exceeding the set 0.05%, resulting in a warning prompt.

If users have particularly high accuracy requirements, they can set the accuracy to ±0.03% (customized). This means demanding that the VI source maintains a voltage deviation of no more than ±0.3mV when working for an extended period. Our VI source can also meet such stringent accuracy requirements.

This feature is not only useful for wafer testing of analog chips but also applicable in any situation requiring high testing accuracy, such as automotive standard testing, where VI sources need to maintain high accuracy for extended periods.

This feature is also available in our other VI source such as FVI16 (16-channel VI source)/FPVI120, etc.

More information you can go to our website: www.sinetest.com