

**KEITHLEY**

# Model 2790 Firmware Revision A02

Release Notes

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## Introduction

The following enhancement have been added to Firmware Revision A02 and later.

## Math calculations

### **m/X + b (reciprocal)**

The Model 2790 goes into an over-range condition whenever the input signal exceeds 120% of the selected measurement range. Typically, the Model 2790 displays the “OVRFLW” message when this over-range condition occurs. An exception is the m/X + b calculation. If the input signal for m/X + b exceeds 120% of the selected range, the “UDRFLW” message will instead be displayed.

As with the “OVRFLW” message, the decimal point is displayed along with the “UDRFLW” message to indicate the selected range. For example, the message “U.DRFLW V” indicates that the Model 2790 is on the 1V range, and the input signal is >1.2V for the m/X + b calculation to cause the over-range condition.

Keep in mind that the SxVohms calculation is actually a shortcut for the m/X + b math function. Therefore, if the input voltage exceeds the selected range, the “UDRFLW” message will be displayed.

For remote programming, the value +9.9e+37 is returned for an “OVRFLW” reading. The value -9.9e+37 is returned for an “UDRFLW” reading.

### **SxIohms**

When using the low ohms calculation (SxIohms), the highest DCV measurement range that can be selected is 1V. Attempting to select a higher range will cause error -222 (Parameter out of range).

Attempting to turn Autoranging on generates error -221 “Settings conflict” over the GPIB or a “NO AUTORANGE” message on the display if done from the front panel AUTO key.

### **SxVohms**

When using the high ohms calculation (SxVohms), the highest DCV measurement range that can be selected is 10V. Attempting to select a higher range will cause error -222 (Parameter out of range).

SxVohms overflow rules: If  $V > -10\text{mV}$  then get overflow. If  $V < -12\text{V}$  then get underflow.

Attempting to turn Autoranging on generates error -221 “Settings conflict” over the GPIB or a “NO AUTORANGE” message on the display if done from the front panel AUTO key.

Specifications are subject to change without notice.

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