

Model 7700A

HIGH SPEED VOLTMETER READOUT AND PEAK DETECTOR

FEATURES



- Programmable digital filter, 1 to 500 Hz cutoff.
- All programming and calibration via 5 front panel switches.
- Tare (zero) up to 50% of span with single push button.
- Peak detect and hold with front panel or remote reset.
- 16 bit A/D converter (65000) counts).
- Optional isolated analog output.
- Optional isolated RS232 or RS485 serial interface.
- Front panel switch lockout.
- Easily scaled display.
- Optional two channel input.
- Four limits with isolated open collector outputs.
- Optional two relay outputs. Contact rating 2.5 Amps @ 115VAC.
- Run out display (difference between maximum and minimum readings).
- 115VAC/230VAC power, field programmable.
- 4 pole active ant alias input filter.

MODEL 7700A

The Model 7700A is a new high speed, high resolution panel meter that has the power of a small stand alone computer. The unit can perform 1000 conversions per second with 65000 counts of accuracy. It has an optional two channel input and can check for peak, run out, or update analog output on the two channels 500 times per second. It can detect and store a peak reading or the difference between the peak and valley reading. Limits are programmable via the five front panel switches as well as the span and gain setting. Tare (zero) of up to 50% is done via a single front panel switch. The front panel switches can be disabled to prevent unauthorized access and violation of calibration of unit.

SPECIFICATIONS

Accuracy:

$\pm 0.01\%$ of reading ± 1 count of A/D @ 25 degree Celsius.

Temperature coefficient 50ppm per degree Celsius.

Display:

-32768 to +32767 with programmable decimal points. .56" Red LED.

NMRR: 70bd

A/D Converter:

16 bits (65,536) counts. 1,000 readings per second maximum.

Input Analog Filter:

4 pole active ant alias. 500hz cutoff on single channel unit and 250hz cutoff on dual channel unit.

Rollover Error:

± 2 counts of A/D at 25 degree Celsius.

Input Bias Current:

± 50 NA maximum. ± 100 pA/degree Celsius (per input channel)

Input Impedance:

Range	Input Impedance
0-200mVDC	10^{12} ohms
0-5VDC	1 meg ohm
0-10VDC	1 meg ohm
4-20mA	10 ohm

Excitation:

$\pm 15\text{VDC} \pm .5\text{VDC} @ \pm 50\text{mA}$.

Range Selection:

Selectable by dip switch on rear of unit.

Calibration:

Digital calibration via front panel switches, no potentiometer adjustments. Calibration switches can be disabled with access code to prevent unauthorized access to calibration parameters.

Front Panel Controls:

Five push button switches for programming digital filter, offset, span, limits and recall of peak reading or run out from storage.

Channels:

One channel standard with second channel optional.

Reading Rate:

Limited to 1000 per second divided by number of channels.

Digital Filter:

Programmable cutoff frequency 1hz to 500hz. Display update 3 times per second.

Peak Detect:

Updated at rate selected by digital filter. Peak is normally stored in memory and recalled via front panel switch, over the serial interface,

or by selecting peak detect display mode on rear connector. If peak display mode is selected an internal timer can be programmed limit is reached. This output can be used to reset the peak reading by tying limit #1 output to remote input.

Run Out Mode:

Updated at rate selected by digital filter. Run out is normally stored in memory and recalled via front panel switch, over the serial interface, or by selecting run out display mode on rear connector. If run out display mode is selected an internal timer can be programmed to give limit #1 output up to 100 seconds after a programmed limit is reached. This output can be used to reset the run out reading by tying limit #1 output to remote input.

Analog Output:

0-10VDC, 0-5VDC, 4-20mA, tracks display reading. Voltage outputs will sink or source 1mA. 300V isolation between analog outputs and instruments ground. 12 bit D/A converter updated at selected digital filter rate.

Convert/Hold Input:

Normally high, if pulled low will hold display. Requires 1 millisecond positive pulse for single conversion.

Limit Outputs:

Four isolated open collector transistor outputs rated 30VDC maximum. Will sink up to 50mA. 300V isolation between limit outputs and system ground. Limit #1 can be programmed to be delayed from 1 to 100 seconds in one second increments. Optional: Two form "A" relay contacts, rated 2.5 Amps @ 115VAC. Isolated transistor outputs not available when relays are installed. Limit 1 and limit 2 activate the relay contacts.

I/O Method:

Quick disconnect screw terminal block, RJ-11 Jack for serial interface.

Power:

115/230VAC selectable by switch on rear of unit. 8 watts maximum.
Optional 10-30VDC @ 600mA.

Remote Inputs:

Active low TTL compatible, 50 milliseconds negative pulse required.

Tare.

Display peak reading.

Display run out.

Reset peak reading or run out reading.

Operating Temperature Range:

-20 degrees to +60 degrees Celsius.

Serial Interface:

ASCII RS232 or RS485 compatible (optional). 300V isolation to system ground.

CASE SIZE: "B"