

Westar TRD-100A Temporal Response Detector



Westar TRD-100A

The TRD-100A is a precision light sensor designed to measure the time varying luminance of displays or other electro-optical devices.

What does it do? The TRD-100A measures display response time and flicker. It converts the time-varying luminance of a small measurement spot on the display into an analog voltage signal. The analog signal is digitized and processed to determine response time and flicker using our RT-FL (Response Time & Flicker Kit) or our GL-RT (Gray Level Response Time) System.

Key Features: The TRD-100A capabilities include:

- High-sensitivity PMT-based detector
- Photopic spectral response
- Optional pinhole or slit apertures available
- Microprocessor controlled gain and adjustment
- RS-232 interface for remote gain control
- Analog voltage output on RCA jack
- "Auto protect" shut down if PMT is saturated
- Easy to use, reliable, and accurate

- High-speed instrument for response time and flicker measurements
- Highly sensitive PMT-based light detector
- Controlled using RS-232 command line parameters or PC-based utility
- Wide bandwidth analog output (0~5 volts)
- Several input optics options
- Two PMT bandwidth (speed) options
- Various mounting configurations
- Use with standard oscilloscope or Westar Signal Analyzer / GL-RT Software Apps

Input Optics Options

-STD: The Standard objective lens and pinhole aperture form a ~1 cm circular measurement spot fix-focused at a 66 cm (26") working distance. Use the -STD input optics for most LCD types.

-SAO: The "Slit Aperture Optics" option uses a horizontal line aperture (slit mask emulation) instead of a circular spot. This allows a single display line to be measured and thus avoids Tr and Tf skew due to oversized spots. This adjustable-focus option is for LCDs with Tr and Tf specs less than 5 ms.

-FO: The "Fiber Optic" option uses a SMA-905 standard fiber optic coupler to receive the light signal from a fiber optically coupled (remote) source.

Speed Options

-STD: The Standard TRD-100A has a 20 kHz signal bandwidth and a unit step response time of ~20 μ s. This option is recommended for measuring all LCD types with 500 μ s (or greater) Tr and Tf.

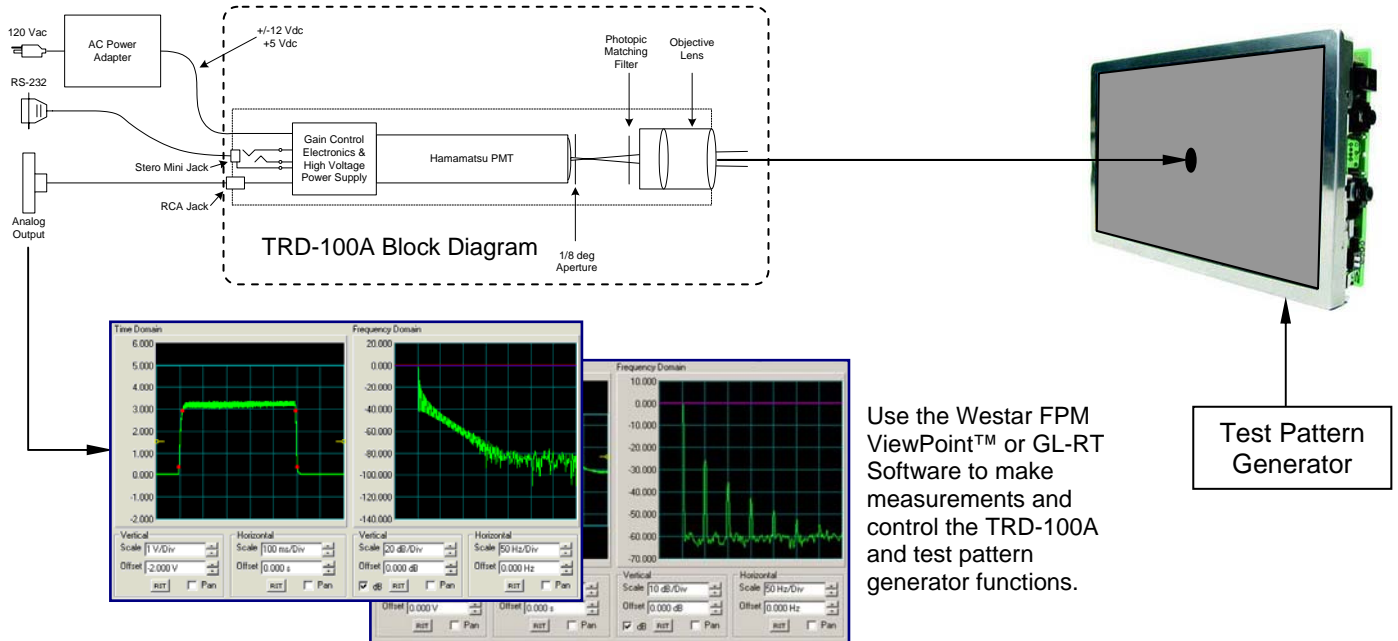
-FAST: The "Fast" version uses a PMT with an 8 MHz wide bandwidth and a unit step response of response time of 700 ns. This option is for OLED and other fast-switching display technologies.

Mount Options

-STD: The Standard mount is an adjustable "AZ-EL" laser mount. This option is used to mount the TRD-100A to the Westar FPM System or other platform requiring sensor alignment or steering.

-SA: The "Stand Alone" mount option is used with our GL-RT system or other stand-alone applications where precise alignment is not needed. This option includes a ring mount with at 1/4" x 20 threaded mounting hole.

Typical TRD-100A Set-Up and Usage:



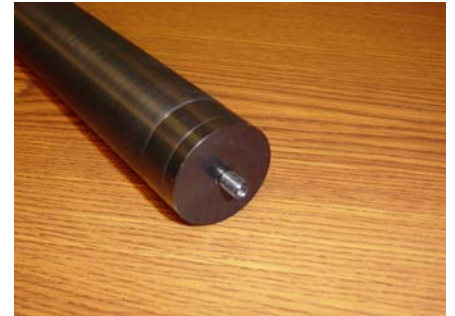
Example TRD-100A Configurations:



TRD-100A-STD-STD-STD



TRD-100A-STD-STD-SA



TRD-100A-FO-STD-SA

Ordering Information:

TRD-100A – OPT – SPD – MTG

INPUT OPTICS
 PMT SPEED
 MOUNT

STD			Circular Spot Aperture
SAO			Slit Aperture Optics
FO			SMA-905 (fiber optic)
	STD		20 kHz bandwidth PMT
	FAST		8 MHz bandwidth PMT
		STD	Adjustable Az-EI mount
		SA	Ring mount



TRD-100A-SAO-STD-STD
 (direct view optics and adjustable focus)