

## RD-80S Specification

Optical system									
Objective lens	f=82mm F2.5								
Eyepiece lens	View field 5°								
	Diopter adjustment range:±5 diopter								
Photo detector	Photomultiplier tube								
Measurement angle	2°								
Measurement distance	350mm to ∞ (from front of the objective lens)								
Measurement area	Measurement distance(m)	0.54	0.46	0.74	0.94	1.94	4.94	9.94	
	Diameter (mm)	9.7	12.6	19.7	26.7	60.9	165	350	
*These values are slightly changed according to the processing accuracy of aperture mirror. *The measuring distance is the distance from the mounting hole (at the objective lens side) of the instrument.									
Measurement range	Approx. 0.1 – 10,000cd/m <sup>2</sup> (for standard illuminant A)								
	Range	Analog output	Analog output 100mV	Analog output 300mV					
	1	0.1	1	3.3					
	2	0.33	3.3	10					
	3	1	10	30					
	4	3.3	33	100					
	5	10	100	300					
	6	33	330	1000					
	7	100	1000	3000					
	8	330	3300	10000					
The values in the above table are the luminance [cd/m <sup>2</sup> ] of the light A									
Analog output response speed	80μs or less **Analog output response speed* means the time required for the analog output of this instrument to be changed from 10% of its peak to 90% when observing the LED driven to the function generator through square waves.								
Analog output voltage range	Approx. 0 to 3V								
Range to be set	8 ranges (Auto range or manual range)								
Adjustment volumes at the side of this instrument	Over/Under Range adjustment function	It is possible to adjust the voltage level for "Over/Under Range" optionally.							
	Over Range	Approx. 1.5 ~ 3.4V, 2.7V (factory setting default)							
	Under Range	Approx. 0 ~ 1.5V, 0.1V (factory setting default)							
	Photomultiplier tube sensitivity adjustment function	It is possible to adjust the photomultiplier tube sensitivity optionally.							
	Adjustable range	Approx. 0 ~ 1.0V							
	Recommended adjustment range	Approx. 0.2 ~ 0.5V Adjusts the impressing voltage under the following conditions. Conditions: When the light 100cd/m <sup>2</sup> (Light source A) enters in Range 5 Analog output :1.0V ± 0.05V							
	*As the sensitivity rises, the noise level also rises. Please use the instrument in the recommended range.								
	Analog output offset adjustment function	It is possible to adjust the analog output offset.							
Adjustment range	Approx. ±0.5V								
Setting at shipment	"Dark" ± 0.5V								
Calibration standard	TOPCON calibration standard (Standard light A/23°C ± 3°C/65%RH or less)								
Display	Dot matrix LC display (20 characters × 4 lines) with lighting								
Interface	RS-232C: Protocol is fixed as shown below.								
	Communication speed	38,400BPS							
	Data length	7 bits							
	Parity	Odd							
	Stop bit	1 bit							
Power	DC12V is supplied by the dedicated AC adapter. AC100V ~ 240V 50/60Hz								
Power consumption	Approx. 30W								
Operation conditions	Temperature: 20°C ± 50°C Humidity: 50% ± 10%RH or less								
Storing conditions	Temperature: -10°C ~ 50°C Humidity: 65%RH or less								
External dimensions	Approx. 328.5 (L) × 147.8 (W) × 171.5 (H)								

**Note** Make sure to carefully read the "User's Manual" to ensure that you use the product properly and safely.

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## Response Detector

# RD-80SRF

Response speed and flicker speed of display can be measure with easy operation!

The RD-80SRF is composed of the Response detector RD-80S and the Response & Flicker scope RF-8010.

## RF-8010 software

Input	Digital data of analog signal acquired from NI DAQ(Data Acquisition) card
Number of port	1
Measurement function	Response time & Flicker level of display
Measurement mode	Single or Continuous
Output format	Graphic & Text on display
Report format	Microsoft® Excel

## Standard component

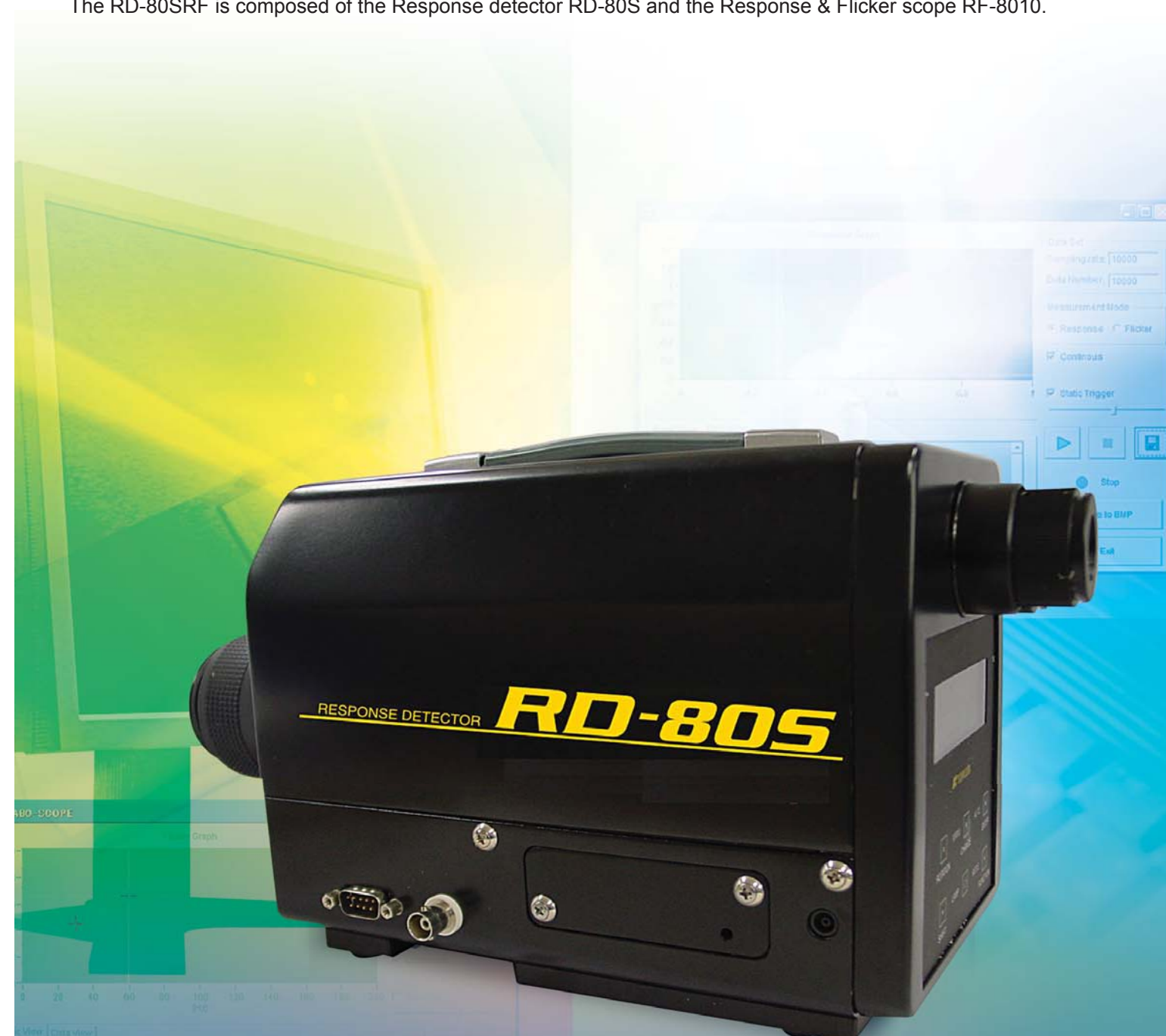
The RD-80SRF is composed of the Response detector RD-80S and the Response & Flicker scope RF-8010.

### ●RD-80S

- RD-80S main body
- AC adapter
- Objective lens cap
- Instruction manual
- Inspection report

### ●RF-8010

- Software
- DAQCard-6062E(PC Card)
- IO Terminal Box
- IO cable
- BNC cable
- Instruction manual

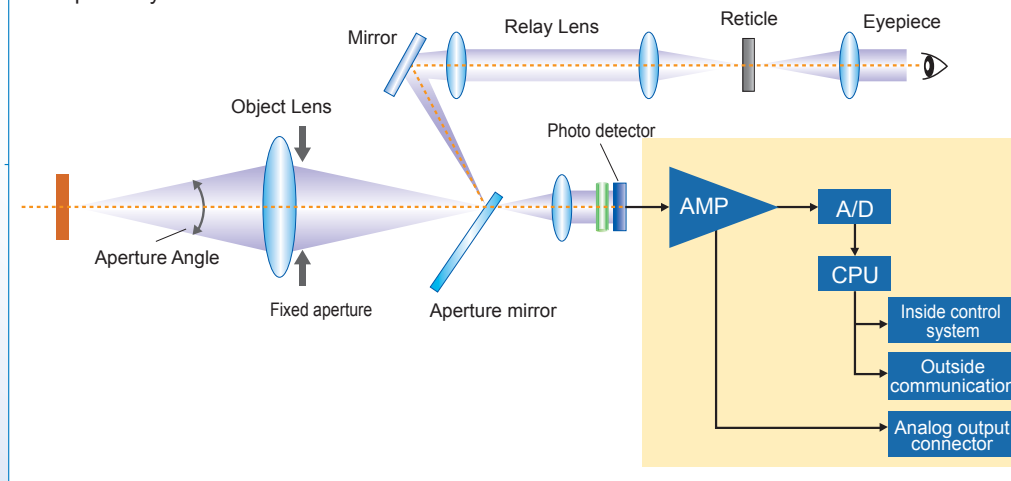


# RD-80S

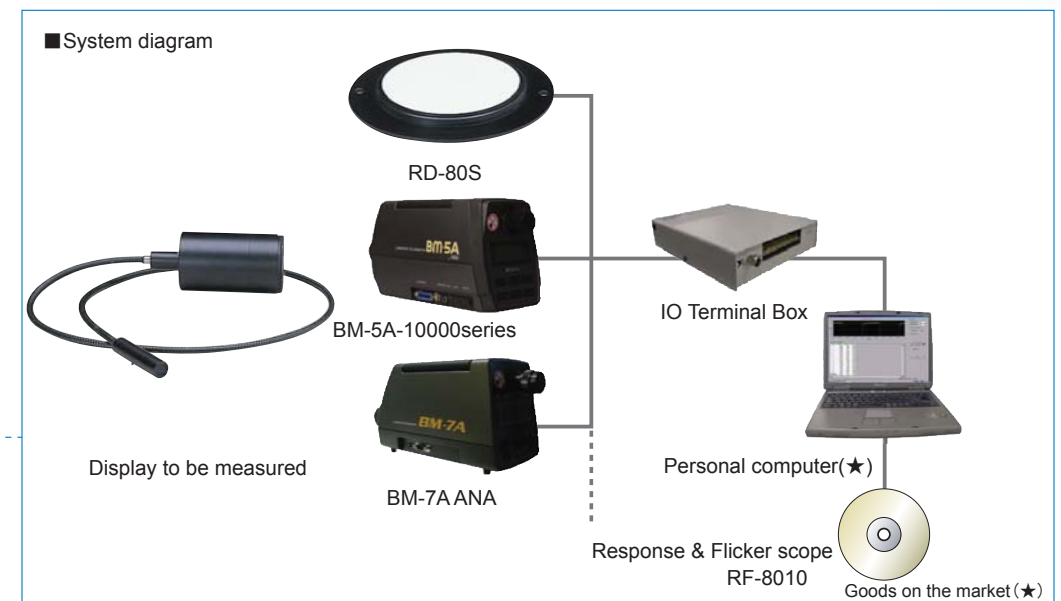


- As small as 0.004 cd/m<sup>2</sup> differential between maximum and minimum luminance level from 0.1 to 10,000cd/m<sup>2</sup> can be detected.  
RD-80S response speed is 80μs.
- The RD-80S is suitable for the measuring of Gray to Gray response speed of Flat Panel Display.
- The RD-80S have high sensitivity to low-luminance level with high speed and high accuracy owing to improvement of efficacy of the entering light.
- RD-80S maintain the same delay time for measurable luminance range thanks to adopting of new entering light control system.

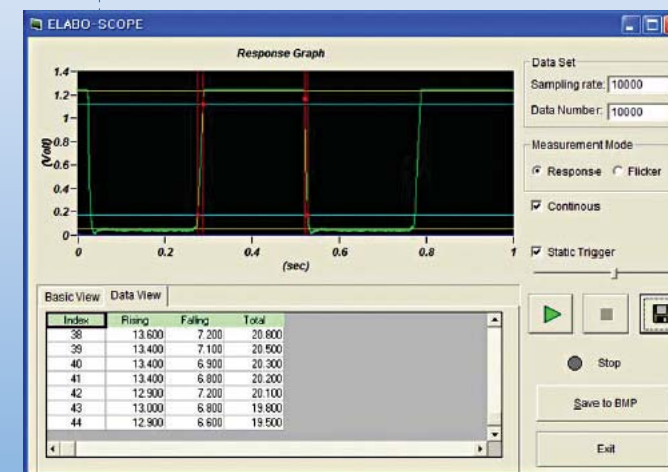
### Optical System



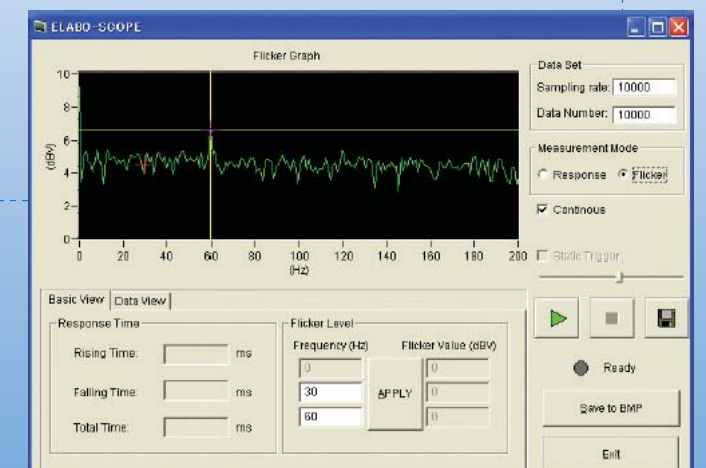
# RF-8010



- High accuracy data can be obtained without complicated setting unlike oscilloscope.
- Real time measuring start by one click operation.
- The RF-8010 can be connect to the analog output of the RD-80S, the BM-5A-10000 series and the BM-7A ANA.  
(Connection cable with the RF-8010 and luminance colorimeter is not included in standard package)
- Measured data is stored with Excel file, which is useful in various way.



Response measurement



Flicker measurement