

# FLICKER IN THE RANGER PM SERIES

## What is Flicker?

Flicker is the name given to changing light intensity caused by fluctuations in the voltage. It is the second most common power quality problem, causing both irritation and possible medical consequences to users exposed to its effects.

## Why are the Ranger Power Masters the best analyzers for measuring and analyzing Flicker?

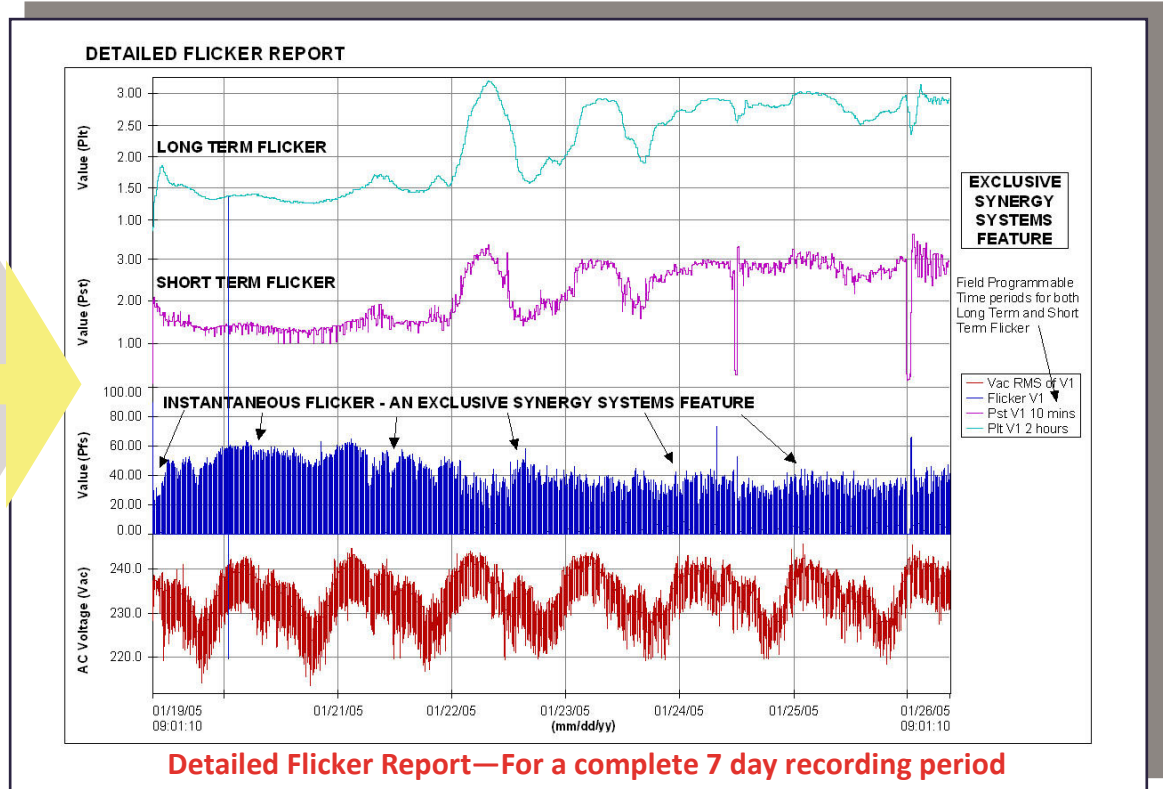
Rangers calculate and record the Instantaneous Flicker Sensation, Short Term Perceptibility, and Long Term Perceptibility. (These are known as Pfs, Pst and Plt respectively.)

A Pfs measurement of 1 is the point at which 50% of the human population becomes aware of the flicker. A Pst of 1 describes the point at which 50% of the population actually becomes irritated by the flicker while Plt indicates the irritation caused by irregular flicker effects over a longer period.

In Ranger PM Products all three parameters are derived using the IEEE 1453 and IEC 61000-4-15 model for human behavior.

The measurement process meets all the Flicker Tests specified in both Standards, and in addition meets the linearity tests being proposed by CIGRE for the highest class of instruments.

**CONFORMS TO IEEE 1453**  
**Our Software Displays & Prints Instantaneous Flicker Sensation For the Entire Length of Recording A Ranger / Pronto Exclusive**  
**Ask our competitors to show you if they can do this for 7 days with 16 channels recording simultaneously**



The above Graph is the True RMS value of the Voltage Channel being tested for FLICKER.

### The Instantaneous FLICKER

(or Flicker Sensation, a Ranger Exclusive) Graph, shows there is continuous Flicker present on the voltage being tested for 7 days.

The Short Term Flicker Graph is based on a 10 minute time period  
(Programmable time period, with PM Products Only)

The Long Term Flicker Graph is based on a 2 hour time period  
(Programmable time period, with PM Products Only)