COLNATEC
The Most Advanced Film Thickness Monitors

PRODUCT GUIDE

Copper Indium Gallium Selenide (CIGS)

Problem
- In-line coating systems require long run times to create economical solar cells; the run times cause excessive crystal loading, leading to failure

Solution
- Self-regenerating crystal systems provide extended run times, allowing for full process runs

Recommended Products
- Helios™ self-cleaning, sealed sensor head for selenium depositions
- Tempe™ self-cleaning sensor head for materials other than selenium
- Eon™ temperature-controlling monitor and (▲T) noise correction
- SuperQuartz™ or RC™ quartz crystals

Problem
- High temperature deposition conditions cause rate noise and crystal failure due to the low temperature limitations of quartz
- Layers such as selenium cause high noise due to high dissipation factor

Solution
- Specially-constructed high temperature sensors can operate at temperatures in excess of 500°C with very stable frequency and rate behavior
- Patented, noise-resistant quartz crystals and temperature compensating instrumentation

Recommended Products
- SuperQuartz™, HT™ or RC™ quartz crystals
- Tempe™ or Helios™ sensor head
- Eon™ monitor

Problem
- Heavy buildup of materials, such as selenium, causes crystal failure due to loss of crystal activity

Solution
- Heated crystals increase the crystal lifetime by reducing film stress and increasing crystal activity ("Q")
- Temperature-controlled, self-cleaning sensor heads and instrumentation for regenerating crystals to "like-new" condition

Recommended Products
- Tempe™ or Helios™ sensor head
- Eon™ monitor

The key to perfect coatings.

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