AS7220

CCT and Lumen Maintenace Manager

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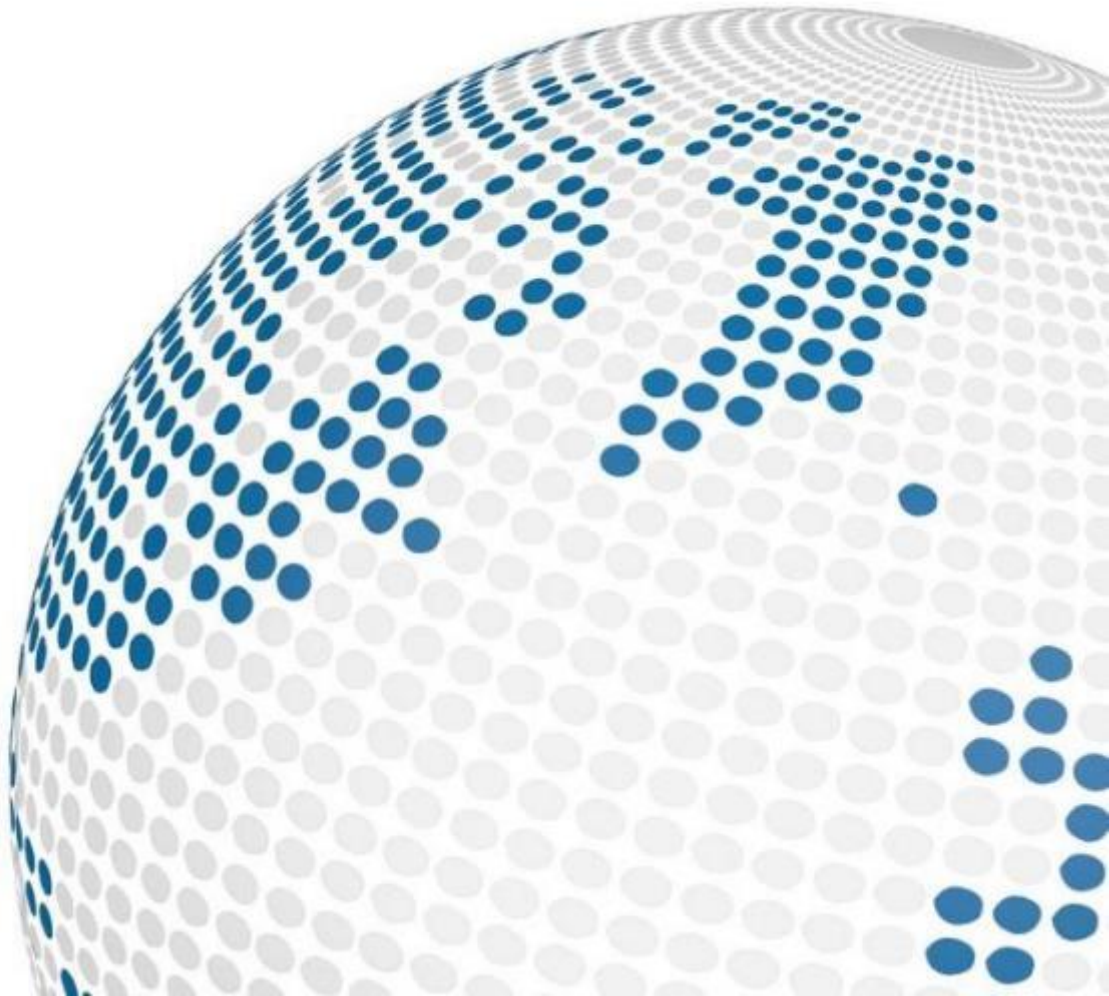
June, 2018



AS7220 CCT/Lumen Maintenance Manager

Standalone Color Point and Lumen Maintenance P/N 191960050

Key Features

- Manages lighting based on daylight & CCT
  - Constant lumen/CCT target output
  - Digital deep dimming 1-100%
  - 0-10V control interface
- Automatic lumen & CCT maintenance
- EPROM or resistor configurable CCT target
- EPROM configurable "100% lumen output" reference

Applications

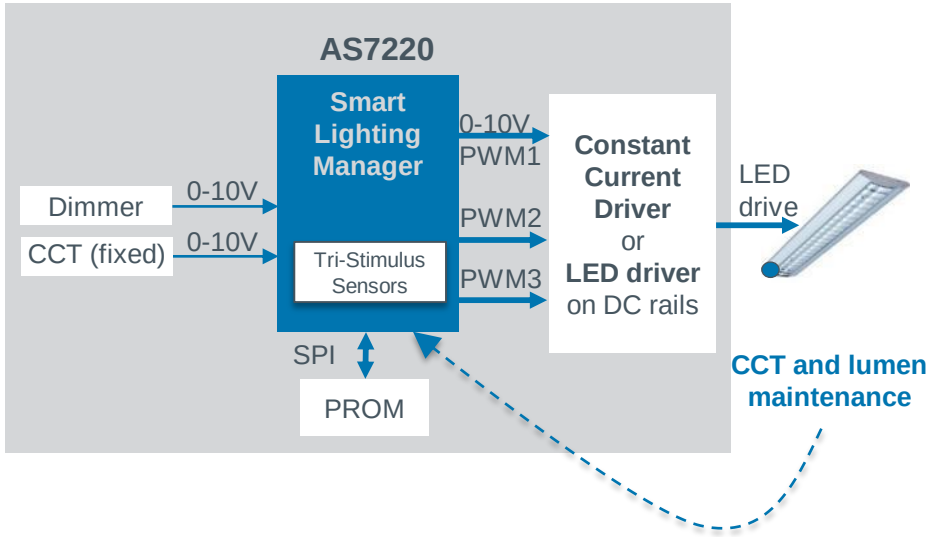
- Lumen maintenance “engine”
- Accurate color temperature lamp to lamp
- Flexible manufacturing… One BOM could support multiple CCT SKUs

For a network-enabled implementation, equivalent functions are available in the AS7221 IoT Tunable White Smart Lighting Manager

Associated Benefits

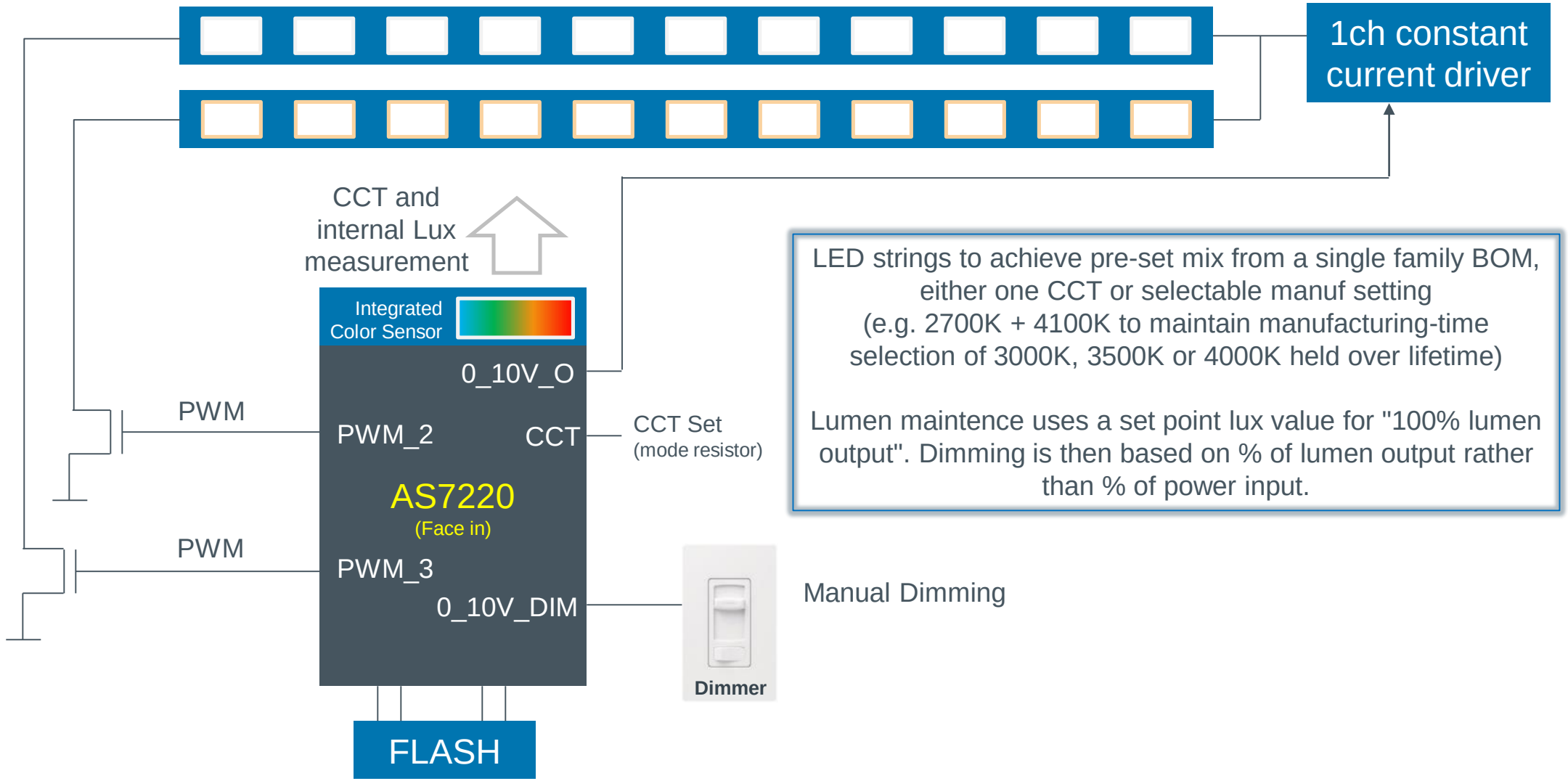
- Lifetime, temperature & lamp-lamp consistency
- Eliminates lumen/color binning penalty
- Significantly reducing cost of quality lighting

Functional Block Diagram



Color and Lumen Maintenance tuning + Dimming

Set a single CCT target into Flash, or configurable via resistor/switch



LED strings to achieve pre-set mix from a single family BOM, either one CCT or selectable manuf setting (e.g. 2700K + 4100K to maintain manufacturing-time selection of 3000K, 3500K or 4000K held over lifetime)

Lumen maintence uses a set point lux value for "100% lumen output". Dimming is then based on % of lumen output rather than % of power input.

System Configurability (Manufacturing)

Selectablity for CCT target into Flash, or configurable via resistor/switch

- Factory-set single CCT
  - Configure into binary file that programs the Flash
  - Uses nearly full output from both LED strings to achieve one specified output
  - Example: 2700K plus 3500K strings to deliver only 3000K

- Resistor/switch set to achieve multiple pre-set mixs from a single family BOM
  - Reduced SKU count → Allows factory or distributor to configure the CCT, add the label and ship it
  - Can also be used to enable variants with customer selectable CCTs from a limited set
    - e.g. Property manager can allow tenants to choose their CCT
  - Example: 2700K + 4100K to maintain configuration-time selection of 3000K, 3500K or 4000K held over lifetime
  - Can also be Flash set by creating a unique binary factory image for each CCT version

- Lumen maintence function uses a set point lux value for "100% lumen output"
  - Dimming is then based on % of lumen output rather than % of power input
  - Example: 10000 lux in the sensor view when output is at full-rated 3000lm
    Closed loop tuning maintains the ratio… 50% dim= 5000lx internal target, 25% dim=2500lx internal target, regardless of % power needed to deliver that as LEDs age

Thank you!

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