



Appian

20,000 lumen LED Strobe Light



The Appian strobe illuminator is a high power LED strobe light designed to provide on and off retro illumination for toll road applications for vehicle identification systems. The strobe can be synchronized with the frame rate of a camera or triggered by serial command.

Considering that the unit can replace a 1000 Watt incandescent illuminator, the energy cost savings alone can pay for the unit in a matter of months - especially when the savings of reduced maintenance and fewer lane closures is considered.

Key Features:

- 24VAC power (50/60Hz) - consumes only 35W at full power - replaces a 1000 Watt incandescent illuminator
- Light synchronization to input trigger allows the strobe to be on only during "open shutter"
- Backlight mode allows power savings for lane controller based triggering of full power flash
- Output light power can be automatically adjusted to ambient light conditions according to up to 64 user defined levels.
- Light output timing and general device operation is fully programmable over remote link via RS-422, RS-232, or RS-485
- Each unit can be assigned an address for individual control on a multi-drop RS-485 network
- All non-power inputs are isolated from device ground
- White LED version emits 20,000 lumens, while IR version emits 60 Watts
- Narrow, Medium, and Wide Versions available for both visible and IR operation
- Duo-Strobe operation with 30 Hz video rates allows flicker free operation at 60Hz - minimizing driver annoyance
- Remotely monitor temperature and power consumption to detect possible failures
- Designed to meet IP67 rating (initial certification testing commencing in 2011)
- Unit can be mounted on a tilt plate making alignment easy and secure
- Available with optional analog triggering circuitry for NTSC / PAL cameras
- Weighs only 6.6 lbs (3 kg)
- Made in the United States of America

Appian LED Strobe Illuminator

Absolute Maximum Ratings

Operating temperature	-40 C to 70 C
Storage temperature	-40 C to 80 C
Input pulse duration	1 ms at 60 Hz or 0.5ms at 120 Hz
Input power supply voltage	25 VAC (50/60Hz)
Max external trigger peak voltage	12 V

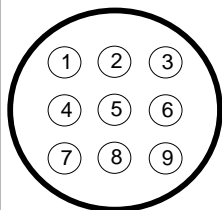
Electrical Parameters

Power Source	24 VAC (50/60Hz) (23 VAC minimum) rated at 2A - isolated transformer
External Trigger input resistance	800 Ω
External Trigger input threshold	4 V

Misc

LED type	Luxeon Rebel 100 lumen White or OSRAM IR Dragon (850nm)
Optic beamwidth (FWHM)	Narrow=9 deg. Medium=19 degrees Wide=24 degrees
Pulse duration and delay increments	1 μ s
LED current adjustment range	100 mA to 2 A
Ambient light sensor range	1 lux to 1023 lux
Serial Protocol	RS422 and RS232 - 115,00 baud N81 RS485 - 9600 baud N81

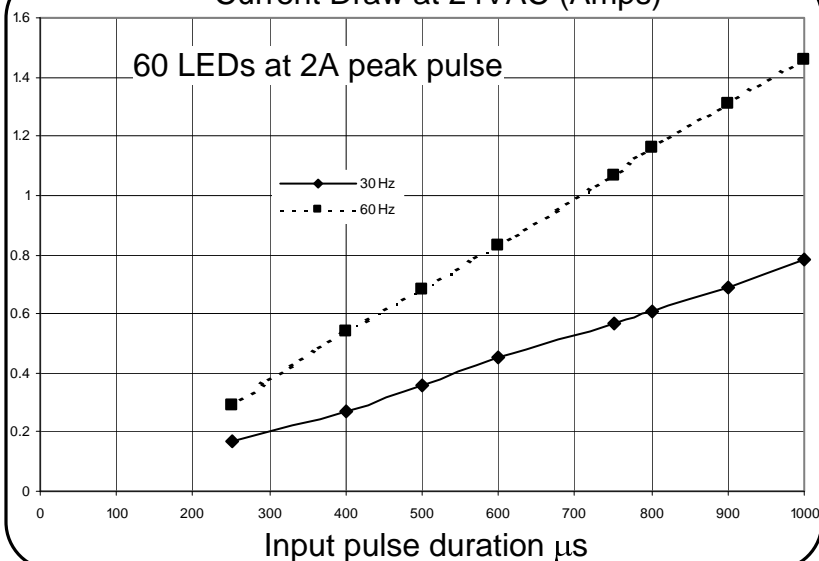
Rear Connector



Pin#	Function
1	RS-422 Tx-
2	24VAC
3	24VAC
4	RS-422 Rx-
5	RS-422 Rx+, RS-232 Rx, RS485-A
6	RS-422 Tx+, RS232 Tx, RS485-B
7	External Trig GND
8	Serial GND
9	External Trig

- Connector on back panel is AMP 788158-2 (IP67 rated)
- Mating Cable should be AMP 788157-2 One Piece Sealed connector using Series 1 pins AMP 1-66101-9 or equivalent and must use a cable entry seal such as AMP 54123-1

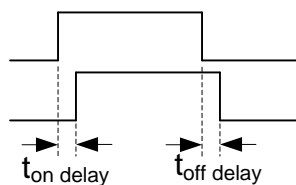
Current Draw at 24VAC (Amps)



There is a delay between assertion of the trigger input (external or video sync) and the actual output of light.

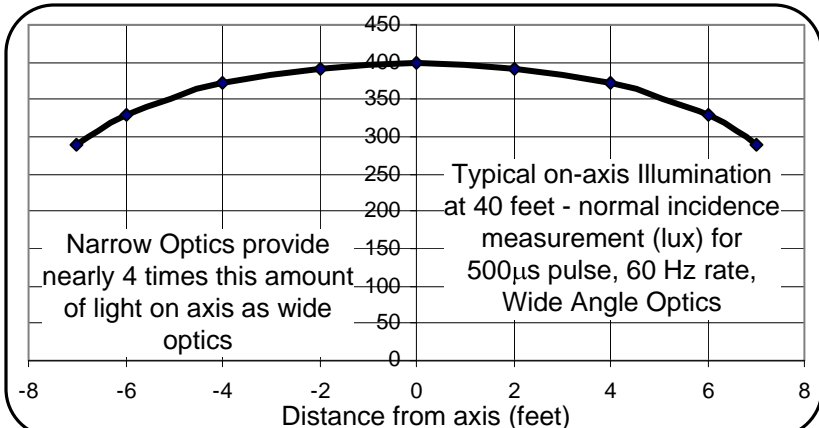
Trig Input

Light Output



$$t_{on\ delay} = 68\ \mu s$$

$$t_{off\ delay} = 38\ \mu s$$



Ordering Information:

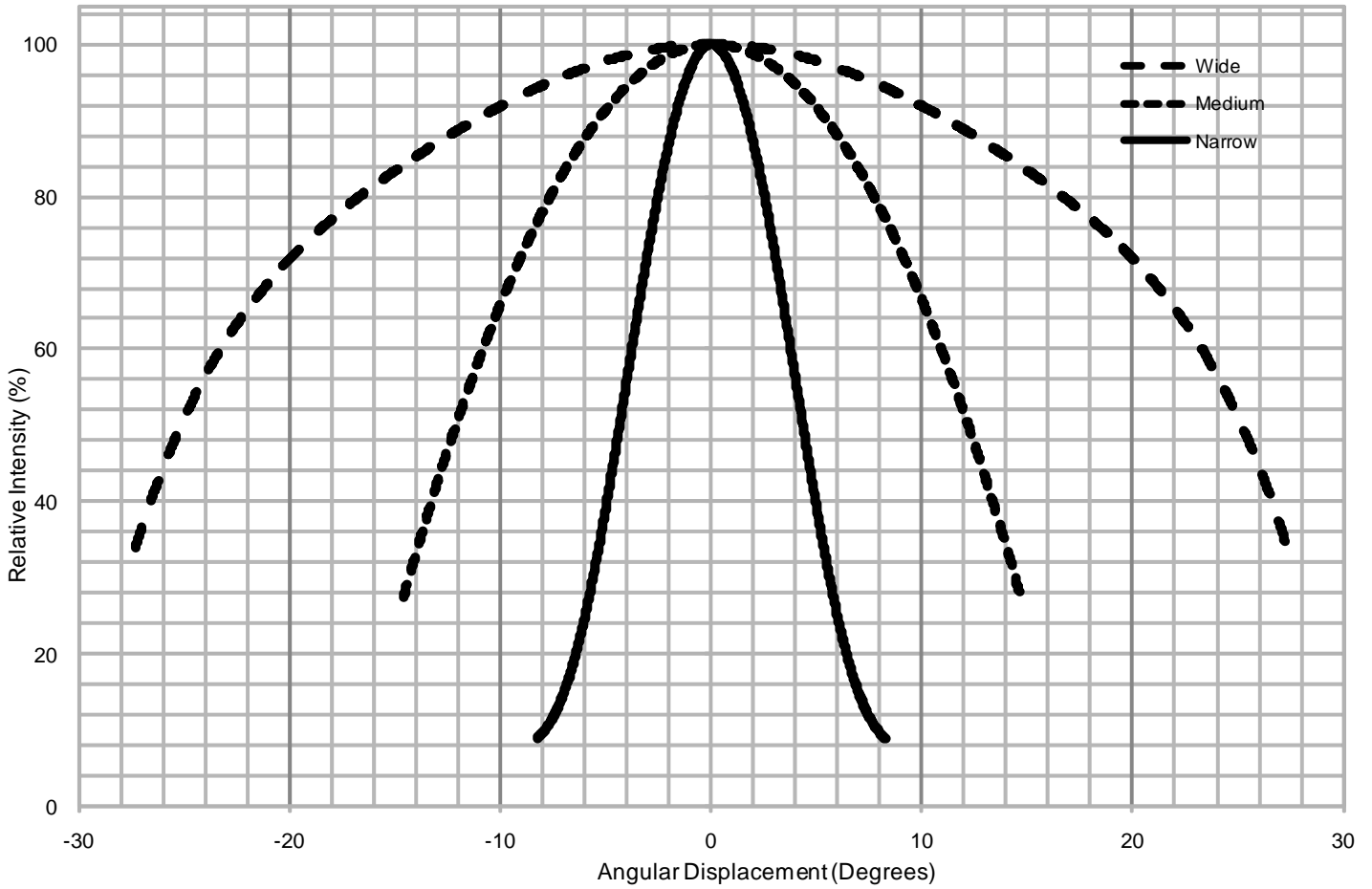
Each configuration has a total of 60 LEDs per unit.

30-1060-9N	100 lumen Luxeon Rebel white LED. Narrow beam is 9 degrees FWHM
30-1060-9M	100 lumen Luxeon Rebel white LED. Medium beam is 24 degrees FWHM
30-1060-9W	100 lumen Luxeon Rebel white LED. Wide beam is 50 degrees FWHM
30-1060-9NL	No lens added. Beamwidth is approximately 120 degrees
30-1060-IRD1N	OSRAM "IR Dragon" 850nm IR LEDs. Narrow Beam 9 deg. FWHM
30-1060-IRD1M	OSRAM "IR Dragon" 850nm IR LEDs. Medium Beam 24 deg. FWHM

FWHM = Full Width Half Maximum



Appian Datasheet Release 3.2



Optic used:	Peak Lux at 20 feet (typical)
Narrow	5440
Medium	1047
Wide	476