

# Technical Specifications



Surface Mount



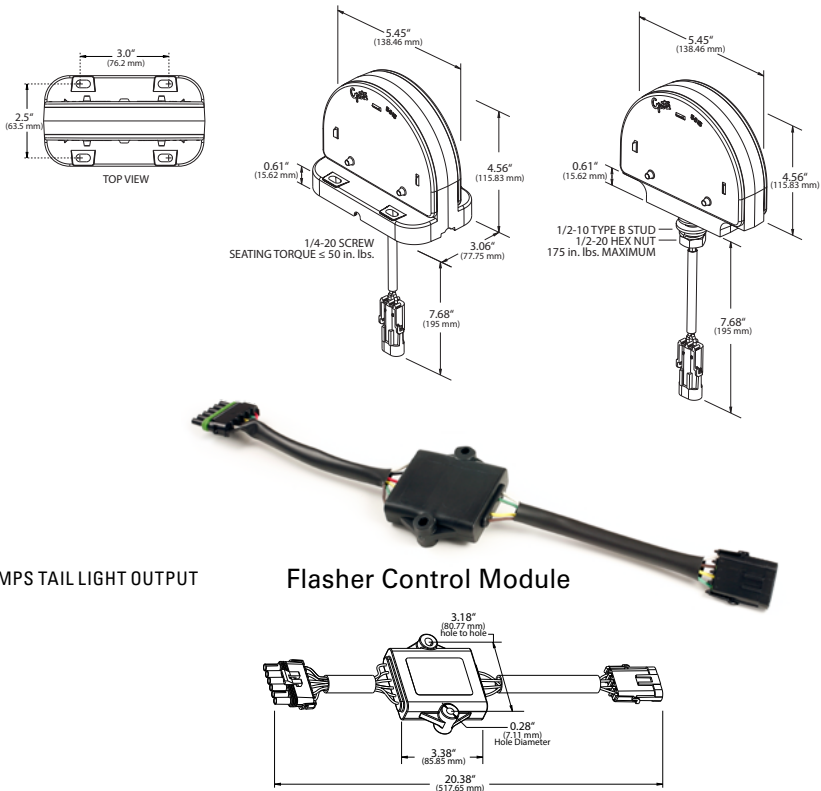
Pedestal Mount

### AMBER AND RED LAMP PRODUCT SPECIFICATIONS

**MATERIAL:** ABS HOUSING/HIGH IMPACT ACRYLIC LENSES  
**FINISH:** AMBER/AMBER; RED/BLACK  
**ASABE:** MEETS ASABE S279 LIGHTING SPECIFICATIONS  
**FMVSS:** SAE VERSIONS MEET ALL FMVSS 108 REQUIREMENTS  
**ECE:** ECE VERSIONS MEET  
REG. 6 (AMBER, REAR DIRECTION INDICATOR)  
REG. 7 (RED, STOP, REAR POSITION)  
**IP67 COMPLIANT**  
**VOLTAGE:** BI-VOLTAGE, 12 AND 24 VOLT  
**WIRING:** 18 GA GPT WITH UV INHIBITOR COMPLIANT WITH SAE J1128

### FLASHER CONTROL MODULE PRODUCT SPECIFICATIONS

**NOMINAL DESIGN VOLTAGE:** 12 VDC - 13.8 VDC  
**HIGH/LOW VOLTAGE LIMITS:** 10 VDC - 15VDC  
**DESIGN CURRENT LOAD:** 4 AMPS HIGH FILAMENT OUTPUT (4 TOTAL), 4 AMPS TAIL LIGHT OUTPUT  
**OVER CURRENT PROTECTION:** REQUIRES MAX 15 AMP CUSTOMER FUSE  
**OPERATING TEMPERATURE:** -30°F TO 150°F  
**HOUSING MATERIAL:** COPOLYMER, POLYPROPYLENE, BLACK  
**MAXIMUM MOUNTING FASTENER SIZE:** 1/4"  
**OPERATION:** OPERATES WITH LED AND INCANDESCENT LIGHTING  
**WIRING:** 16 GA GPT WITH UV INHIBITOR COMPLIANT WITH SAE J1128



Flasher Control Module

AGRICULTURAL LIGHTING SYSTEM

# Grote's Agricultural Lighting System

A COMPLETE ASABE S279 LIGHTING SYSTEM



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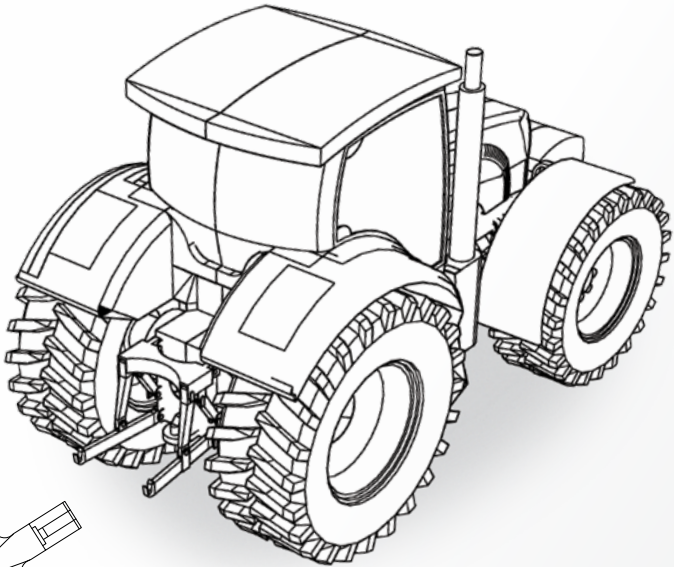
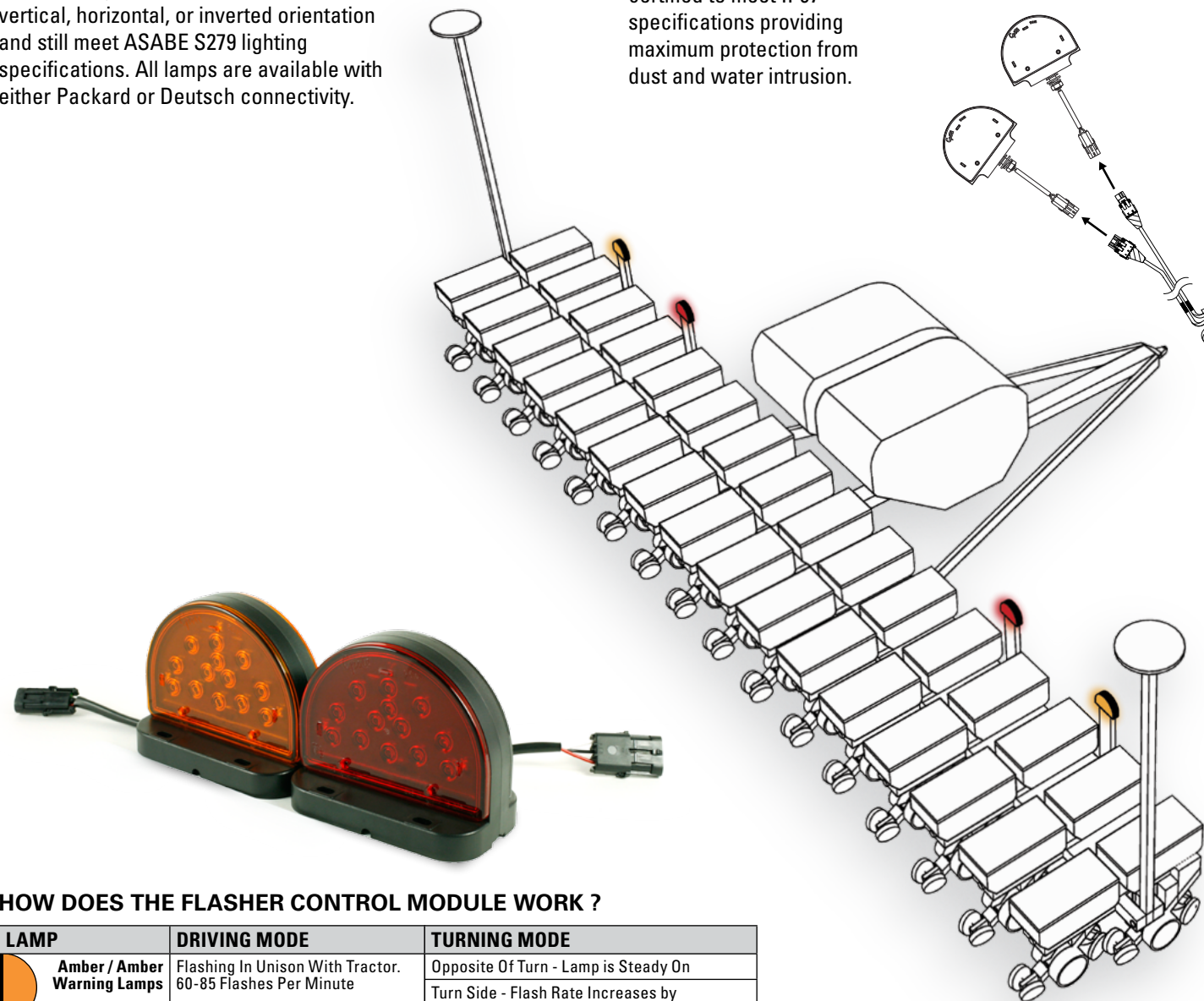
# Grote's Complete Solution

NOW, INCREASED MOUNTING FLEXIBILITY, DURABILITY, AND PRODUCTIVITY ARE AVAILABLE IN A COMPLETE ASABE S279 LIGHTING SYSTEM.

Grote's new crop of LED agricultural lamps are part of a complete system that includes a specially designed family of lamps and flasher control modules that link lighting on towed or mounted equipment to the powered vehicle.

The lamps include a double faced amber warning lamp and a single side red stop/tail/turn lamp, available in pedestal and surface mount models. The surface mount lamps can be mounted in single-lamp or dual-lamp configurations. Either configuration can be mounted in vertical, horizontal, or inverted orientation and still meet ASABE S279 lighting specifications. All lamps are available with either Packard or Deutsch connectivity.

Designed to prevent unplanned downtime, the lighting system provides a new level of power efficiency, mounting flexibility, and shock and vibration resistance. The lamps incorporate advanced lens optics that provide enhanced mounting flexibility while maintaining the required light output to the side. This eliminates the need for extra circuitry specifically dedicated to side illumination. The Grote lamps contain circuitry completely encapsulated in potting to enhance thermal management and improve vibration resistance. In addition, they employ 12/24 bi-voltage circuitry and are certified to meet IP67 specifications providing maximum protection from dust and water intrusion.



Power Harness from Tractor

Flasher Control Module

Harness to Lamps

## Harnesses

- Joins with lamps and control module – creates a total lighting solution
- Helps prevent unplanned downtime
- Custom-designed to meet any lighting configuration
- Splice point over-mold design increases corrosion protection
- Durable harness jacketing protects against weather, abrasion, and corrosive chemicals
- Power Harness receptacle's tough solid core design provides a more consistent connection
- Power Harness's solid brass terminals are corrosion resistant; provide superior current capacity with minimum voltage drop
- Power Harness's weather tight 7-way plug with cable jacket molded into the plug using a patented adhesive seal provides ultimate protection



## Flasher Control Module

- Each flasher control module is specific to an individual customer's system
- Wide diameter mounting holes provide durable attachment points to the vehicle
- Available with Packard or Deutsch connections
- Meets ASABE S279 requirements
- 16 gauge wires contain UV inhibitor compliant with SAE J1128 to prevent fading of wire jacket color

## Lamps

- 12/24 bi-voltage design
- Pedestal and surface mounts available
- Complies with FMVSS 108 and ASABE S279 regulations
- Available with Packard or Deutsch terminations
- Thin, low profile design minimizes chance of damage
- Potted circuitry provides better vibration performance and moisture resistance
- Lamps pass all requirements in horizontal, vertical, and inverted position
- 18 gauge wires contain UV inhibitor compliant with SAE J1128 to prevent fading of wire jacket color

### HOW DOES THE FLASHER CONTROL MODULE WORK ?

LAMP	DRIVING MODE	TURNING MODE
 <b>Amber / Amber Warning Lamps</b>	Flashing In Unison With Tractor. 60-85 Flashes Per Minute	Opposite Of Turn - Lamp is Steady On Turn Side - Flash Rate Increases by 20 Flashes Per Minute
 <b>Red / Black Stop/Tail/Turn Lamps</b>	Tail Function in Steady Burn Mode	Opposite Of Turn - Lamp is Steady On Turn Side - Lamp Flashes High Intensity/Low Intensity in Unison with Amber/Amber Lamp

