DEMAND RESPONSE

DUAL LEVEL HID AREA LIGHTING

Motion activated area lighting reduces energy costs

Gardco Lighting and Emco Lighting are Philips group brands

PHILIPS

Demand Response

Dual Level HID Lighting

Pulse Start Metal Halide and High Pressure Sodium lamps are the most common sources utilized in exterior area lighting applications. They provide high light output, long lamp life, and allow for excellent optical control. However, HID lamps require a warm up time, and after being turned off must cool down prior to restrike. It is impractical to turn HID sources on and off frequently. As a result, areas are often illuminated to full light level when the area is unoccupied or inactive. Gardco Demand Response Dual Level HID lighting solves this problem. Here is how it works:

- The luminaire is ignited and warms up to full brightness, staying on high mode for 15 minutes.
- If no motion is detected by the pole mounted motion sensor, the system goes to the low mode, reducing the energy consumption by up to 50%. (Light output is reduced by a greater amount.)
- When motion is detected, the luminaire returns to full light output, for as long as there is activity.
- If no activity is detected, the luminaire returns to the low mode.
- The time delay before returning to low mode is easily field adjustable from 12 seconds up to 16 minutes.

Saving energy

When the area is unoccupied, the system operates in low mode, using up to 50% less energy. Depending on the percentage of time the system operates on low, the overall savings can be very substantial. The table below shows the energy savings based on the HID source and the percentage of time in low mode.

HID Source	Lamp Wattage	High Mode System Watts[1]	Low Mode System Watts[1]	Average Watts[1] Saved Per Luminaire Based on Percent of Time in Low Mode							
				20%	30%	40%	50%	60%	70%	80%	90%
Pulse Start Metal Halide	175	208	125	17	25	33	42	50	58	66	75
	200	232	139	19	28	37	47	56	65	74	84
	250	288	156	26	40	53	66	79	92	106	119
	320	365	208	31	47	63	79	94	110	126	141
	350	386	193	39	58	77	97	116	135	154	174
	400	460	244	43	65	86	108	130	151	173	194
High Pressure Sodium	150	188	71	23	35	47	59	70	82	94	105
	250	300	111	38	57	76	95	113	132	151	170
	400	465	172	59	88	117	147	176	205	234	264

Saving money

If the area is unoccupied 80% of the time, and using 400 watt Pulse Start Metal Halide, the average watts saved on low is 173 watts. Burning 12 hours per day, the annual savings per luminaire are:

$76 ($.10 per KWH) $114 ($.15 per KWH)

(Note: Average Commercial Electric rate for the USA in 2008 = $.103, for California = $.153)

1. Actual HID system wattage is affected by many factors, including lamp age, lamp manufacturer, burning position, line voltage variation, power condition, ballast age, and more. The wattage values are shown here as a general guideline only. Actual wattage values may vary from the values shown.

Demand Response

System Components

1) Specify the Gardco or Emco luminaire with the GDR option (See back page for luminaire families.) This includes the ballast with dual capacitor, and necessary additional wiring for inside the pole from luminaire to GDR connection j-box. The GDR system requires a magnetic constant wattage autotransformer (CWA) ballast.

2) Specify a pole from Gardco or Emco with the GDR option - provision for Demand Response System, available with Gardco / Emco aluminum poles and steel poles, from 15 feet to 30 feet .

3) Specify the Gardco Demand Response System

- GDR-1 for single luminaire (1-Control Module, 1 Motion Sensor, 1 Shroud)
- GDR-2 for twin luminaires (2-Control Modules , 1 Motion Sensor, 1 Shroud)
- Contact your Gardco Representative for assistance with triple or quad configurations.

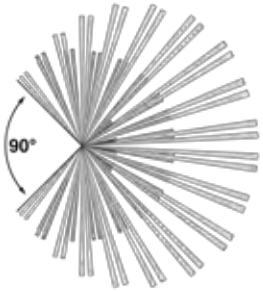
Outdoor Motion Sensor

Features:
- Adjustable time delay settings
- 270° field of view
- Weatherproof and raintight
- Rated for use in temperature range of -40° to 130° F
- Provided in Arctic White color

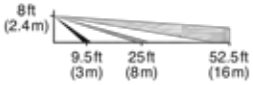
Control Module

Control Modules and Motion Sensors manufactured by WattStopper.

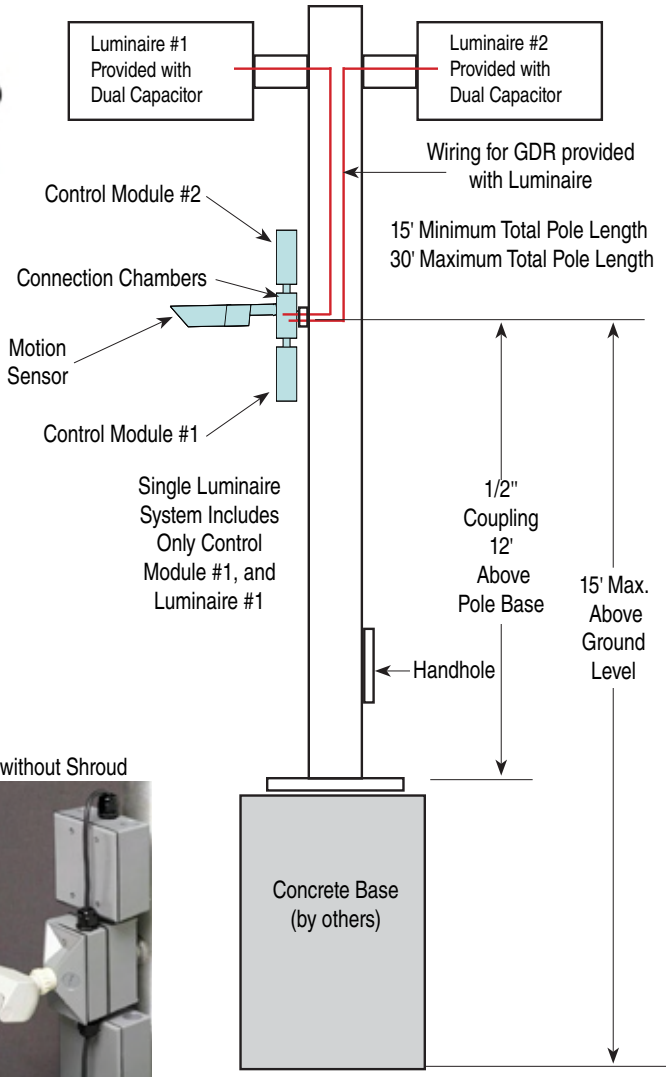
CONTROLLED WITH WattStopper | legrand



270° MOTION SENSOR COVERAGE



Typical Twin Luminaire System



SYSTEM SHROUD

System with Shroud

Shroud painted to match luminaires ordered with the GDR system, if luminaires are ordered with a painted finish.

For luminaires ordered with an anodized finish, the shroud is painted as shown below:

- Luminaire: Bronze Anodized
  Shroud : Bronze Paint
- Luminaire: Black Anodized
  Shroud : Black Paint
- Luminaire: Natural Anodized
  Shroud : Natural Aluminum Paint

Components without Shroud

Consult submittal data sheet on www.sitelighting.com for the most current information, notes and exclusions prior to ordering.

Products Available with Demand Response

A full line of Gardco and Emco area luminaires are available with Demand Response

Gardco Area Luminaires:

Gullwing

Circa

Square Form 10

Round Form 10

Contura

Crown

HPV 19/23

Pyramid

EMCO Area Luminaires:

Avalume

Avaround

Avalume Vertical

Ecolume

Ecoround

Note: Consult submittal data sheets on www.sitelighting.com for information on any specific product family. Not all products are available in all possible Demand Response wattages, Also, some products have limitations on available input voltages. Luminaires require a magnetic constant wattage autotransformer (CWA) ballast for the Demand Response system.

Gardco's Commitment to Sustainability

Gardco incorporates a "green" symbol to help its customers identify products that offer maximized energy savings. This symbol appears on product lines, or configurations within a product line, to help customers more quickly identify products that offer "true" energy consumption reduction.

Gardco has a long history of approaching site lighting with a "less is more" strategy. Minimizing the number of luminaires and poles required on a site through performance optics and other product features was a founding principal of the company.

Use of energy efficient lamps and ballasts has become an important component of all product offerings and of our product engineering strategies. We consider energy consumption in our choice of lamps used with products. For products using fluorescent lamps we seek and encourage the use of lamps with the lowest mercury content possible.

Embracing new energy efficient technologies, such as high light output lamps and LEDs, is at the heart of all current new product development efforts.

Gardco Lighting and EMCO Lighting are Philips group brands

1611 Clovis Barker Road
San Marcos, TX 78666
512/753-1000
800/227-0758
Fax: 512/753-7855
www.sitelighting.com

 © 2008 Philips Group. All rights reserved. International Copyright Secured