GE Consumer & Industrial
**Lighting**

WORLDWIDE PARTNER

# Natural power from small beginnings

## Miniature CMH lamps

NOW AVAILABLE IN 35W

GE imagination at work

# The power of CMH

NOW AVAILABLE IN 35W

## From the leader in miniature CMH

**GE's miniature CMH lamps have opened new possibilities for lighting design. Combining the power and light quality of far larger lamps from a tiny capsule, they have made it possible to achieve lighting design that could previously only be achieved with less efficient tungsten halogen.**

But there is no compromise. GE's ConstantColor™ technology has been developed to provide high energy efficiency, exceptionally long life and superb lighting quality.

These qualities place GE firmly in the lead for CMH display lighting.

- **Outstanding efficiency: four times better than halogen**
- **Compact capsule, or reflector version**
- **Outstanding long life - up to 12,000 hours**
- **Robust and reliable**
- **Colour uniformity lamp to lamp**
- **Stable colour throughout lamp life**
- **Small size enables better optical design**
- **Simple ballast and lamp holder change**

## 20W & 35W CMH Supermini

### Improved Versatility

- The CMH Supermini, at just 12mm in diameter, is one of the smallest HID lamps available
- Allows miniaturisation of fixtures (only 52mm long)
- 20W available in 830, 35W available in 930 and 942
- Excellent colour rendering
- A robust twist and lock base (GU6.5 under standardisation) enables accurate alignment with optics and is resistant to pin degradation
- 35W & 20W same dimensions & GU6.5 base

## 20W & 35W CMH Precise MR16

### Improved Versatility

- The CMH Precise MR16 offers the benefits of the Supermini, plus high quality dichroic reflector
- World's smallest CMH reflector lamp
- Industry standard GX10 base
- 20W available in 830, 35W available in 930 and 942
- Excellent colour rendering
- Multiple beam spreads: 12°, 25°, 40°
- Suitable for open fixtures
- 35W & 20W same dimensions & GX10 base

## CMH ballast

The miniature CMH ballast completes the GE 20W CMH system. It is designed with the same philosophy as GE CMH lamps - the combination of efficiency with miniaturisation and high quality manufacture.

*NEW miniature remote version with terminals and strain relief available May 2008*

# 35W CMH Precise MR16

## First to market and compatible with existing GX10 HID systems

CMH lamps help to create a vibrant environment in retail facilities and displays

# Advantages of CMH

What do the benefits of GE CMH mean in practice? Apart from energy savings, there are many lighting design advantages, and user benefits, as seen in this comparison.

| Parameter | GE 20W GU6.5 performance | Advantage |
|---|---|---|
| Lamp Power (W) | 20 +/- 1 | Lowest HID power consumption, meets requirements of international standard for 20W HID |
| Lamp Efficacy (lpW)) | 81 | Best efficacy of all miniature HID formats |
| Average rated life (h) | 12000 | 4-6 x life of halogen |
| CRI | 80+ | Excellent colour rendering from miniature HID |
| Ballast Compatibility | 6 brands available | Widest choice of ballast for user, allows optimisation of system efficacy |
| Max ignition (kV) | 4.5 | Allows wide choice of ballast models, interchangeable with other 20W formats |
| Lamp diameter (mm) | 12 | Smallest diameter lamp on market, allows efficient fixture optics |
| Best available ballast efficacy | 92% | System efficacy can be maximised |
| Best possible system watts | 21.7 | Lowest system power consumption possible |
| Lamp manufacturers supporting format | 2 (GE, Osram) | Choice of supply |

## Applications

- Display lighting
- Spot and track lighting
- Mini floodlighting
- Indoor/outdoor

# Huge energy saving possibilities

NOW AVAILABLE IN 35W


## 73% reduction
### in energy costs and $CO_2$!

| Savings | CMH 20W | Halogen 75 W |
|---|---|---|
| System Power consumed | 22W | 81W |
| Burn hours/year | 5000 | 5000 |
| Energy Costs (kWh) | €0.10 | €0.10 |
| Energy Consumption/year | 110 kWh | 405 kWh |
| Energy Costs/year | €11 | €40.5 |
| CO2 emission/year | 59 kg | 217 kg |

## 58% reduction
### in energy costs and $CO_2$!

| Savings | CMH 35 W | Halogen 100W |
|---|---|---|
| System Power consumed | 44W | 106W |
| Burn hours/year | 5000 | 5000 |
| Energy Costs (kWh) | €0.10 | €0.10 |
| Energy Consumption/year | 220 kWh | 530 kWh |
| Energy Costs/year | €22 | €53 |
| CO2 emission/year | 118 kg | 284 kg |

*Assumes conversion rate of 0.536 kg CO2 per kWh and electricity cost €0.1/kWh*

| Watts | Length | Product code | Description | Base | Beam angle | Colour | Initial lumens | CBCP | Average rated life |
|---|---|---|---|---|---|---|---|---|---|
| [W] | [mm] | | | | [°] | | [lm] | [cd] | [h] |
| **Supermini** | | | | | | | | | |
| **20** | 52 | **40399** | CMH20/T/UVC/830/GU6.5 | GU6.5 | — | 830 | 1615 | – | 12000 |
| **35** | 52 | **88656** | CMH35/T/UVC/930/GU6.5 | GU6.5 | — | 930 | 3400 | – | 10000* |
| **35** | 52 | **88657** | CMH35/T/UVC/942/GU6.5 | GU6.5 | — | 942 | 3400 | – | 12000* |
| **MR16 Precise** | | | | | | | | | |
| **20** | 54.5 | **40400** | CMH20/MR16/UVC/830/GX10/SP | GX10 | 12 | 830 | 1000 | 9000 | 12000 |
| **20** | 54.5 | **40401** | CMH20/MR16/UVC/830/GX10/FL | GX10 | 25 | 830 | 1000 | 2900 | 12000 |
| **20** | 54.5 | **42691** | CMH20/MR16/UVC/830/GX10/WFL | GX10 | 40 | 830 | 1000 | 1500 | 12000 |
| **35** | 54.5 | **88658** | CMH35/MR16/UVC/930/GX10/SP | GX10 | 12 | 930 | 2100 | 16000 | 10000* |
| **35** | 54.5 | **88659** | CMH35/MR16/UVC/930/GX10/FL | GX10 | 25 | 930 | 2100 | 5500 | 10000* |
| **35** | 54.5 | **88660** | CMH35/MR16/UVC/930/GX10/WFL | GX10 | 40 | 930 | 2100 | 3000 | 10000* |
| **35** | 54.5 | **88661** | CMH35/MR16/UVC/942/GX10/SP | GX10 | 12 | 942 | 2100 | 16000 | 12000* |
| **35** | 54.5 | **88662** | CMH35/MR16/UVC/942/GX10/FL | GX10 | 25 | 942 | 2100 | 5500 | 12000* |
| **35** | 54.5 | **88663** | CMH35/MR16/UVC/942/GX10/WFL | GX10 | 40 | 942 | 2100 | 3000 | 12000* |

*Initial life claim at launch. Life test continues to establish final rated life.

www.gelighting.com/eu



**Miniature CMH March 2008**