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# ø22 LED Pilot Light Indicators - AP22M Series

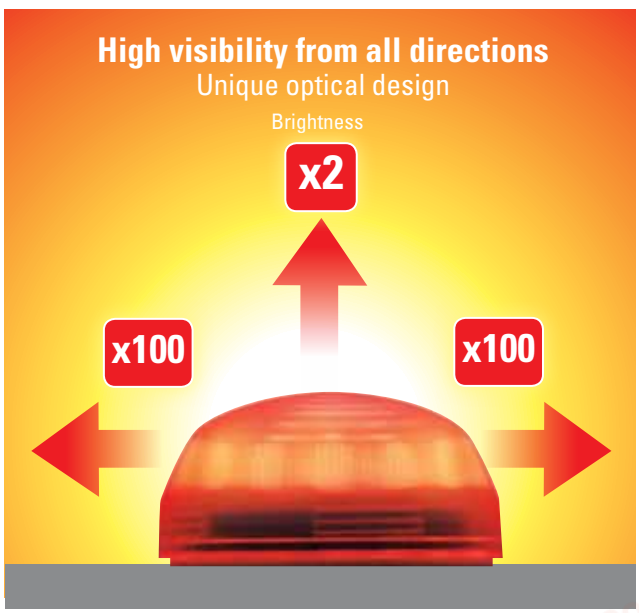
## Sunlight-viewable – Ultra-bright LED Indicators!



Actual Size



Outstanding visibility, even in direct sunlight.




Twice as bright as standard pilot lights when viewed from front, and up to 100 times brighter than standard pilot lights when viewed from side angles.

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# ø22mm Ultra-bright LED Pilot Lights - AP22M Series

## Key Features

- Viewable in direct sunlight.
- Visible from all directions.
- The use of an ultra-bright LED that is not susceptible to external scattered light ensures high visibility and provides for more accurate recognition.
- Integrated terminal cover is IP20 (finger protection), preventing electrical shocks.
- UL and c-UL listed, EN standard compliant.
- Colored and clear lenses are offered.
- UL Type 4X



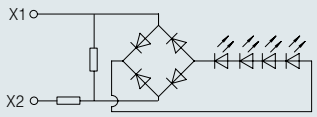
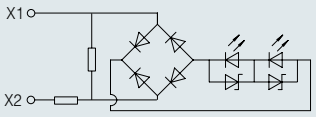
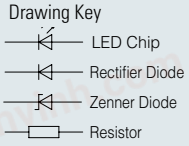
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## Specifications

| | | |
|---|---|---|
| Operating Temperature | | –25 to +55°C (no freezing) |
| Storage Temperature | | –45 to +80°C (no freezing) |
| Operating Humidity | | 45-85%RH (no freezing) |
| Insulation Resistance | | 100MΩ (DC500V megger) |
| Over Voltage Category | | II (IEC60664-1) |
| Impulse Dielectric Strength | | 2.5kV (IEC60664-1, IEC60947-5-1) |
| Pollution Degree | | 3 (IEC60947-5-1) |
| Dielectric Strength | | between terminals of different poles: 2,000V AC, 1 min<br>between live and non-live parts: 2,000V AC, 1 min |
| Vibration Resistance | Operation limit | 5-55Hz half amplitude: 0.5mm |
| | Damage limit | 30Hz half amplitude: 1.5mm |
| Shock Resistance | Operation limit | 100m/s² (10G) |
| | Damage limit | 1000m/s² (100G) |
| Degree of Protection | | Panel front: IP66 (IEC 60529), UL Type 4X<br>Terminals: IP20 |
| Terminal Size | | M3.5 screw |
| Tightening Torque | Terminal Screw | 1.0N•m |
| | Locking Ring | 2.0N•m |
| Wire Size | | AWG16 ~ AWG14, 2 wires max. |
| Weight (approx.) | | 18g |

800.262.4332
www.IDEC.com/switches

## LED Lamp Ratings

| | |
|---|---|
| Rated Voltage | 12V DC, 24V DC* |
| Voltage Range | 12V DC ±5%, 24V DC ±10%* |
| LED Illumination Color | Red (R), Green (G), Yellow (Y), Amber (A), Blue (S), and White (PW) |
| Rated Current | 12V DC: R, A, Y - 21mA; G, S, PW - 22mA<br>24V DC: 24mA (all colors) |
| LED Life (Ref.) | Approx. 30,000 Hrs. at rated voltage @ 25°C in specified environmental conditions (The brightness reduces to 50% of initial value.) |
| Equivalent Circuit | Colors R, A, and Y<br><br>Colors G, S, & PW<br><br>Drawing Key<br> |



*Other voltages to be announced.

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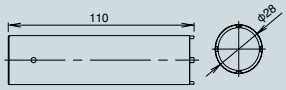
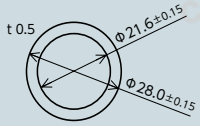
## Part Numbers

### Pilot Lights

| Appearance | Lens | Rated Voltage | Part Number | Lamp Color |
|---|---|---|---|---|
|  | Color | 12V DC<br>24V DC | AP22M-2Q②① | R<br>G<br>Y<br>A<br>S<br>PW |
|  | Clear | | AP22M-2Q②C① | R<br>G<br>Y<br>A<br>S |

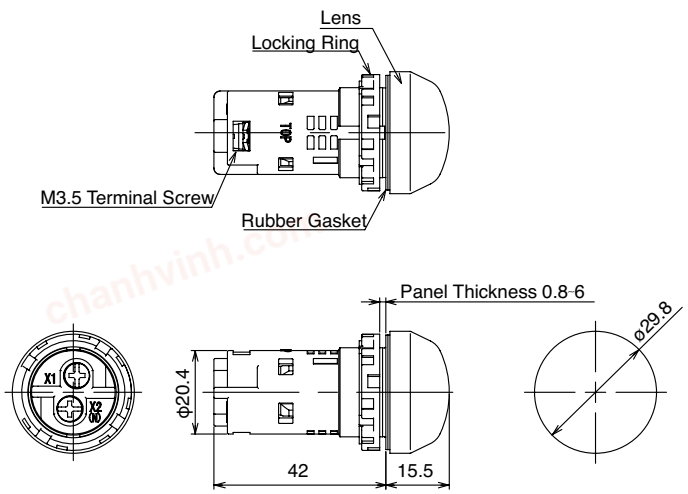
1. In place of ① insert LED color. Red (R), Green (G), Yellow (Y), Amber (A), Blue (S), and White (PW).
2. White (PW) only available as colored lens.
3. In place of ② insert voltage code. For 12V DC use (3), for 24V DC use (4).
4. LED cannot be removed or replaced.

### Accessories & Replacement Parts

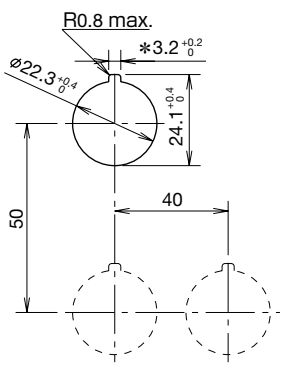
| Appearance | Material | Part Number | Notes |
|---|---|---|---|
| Locking Ring Wrench  | Metal (brass) | MW9Z-T1 | Used for mounting unit into a panel.   |
| Lens  | Resin | YW9Z-PL12① | Dimension: ø29.8 H14.5<br>In place of ① insert color: R (Red), G (geen), Y (Yellow), A (Amber), S (Blue), C (Clear*) |
| Rubber Gasket  | Nitrile rubber | HW9Z-WM |   |

1. Nameplates: HWAM, HWAS-0, and CWAM. Go to www.IDEC.com/usa and review HW and CW Series catalogs for detailed information.
2. *Use a clear lens (C) for a PW (White) LED.

## Dimensions (mm)




## Panel cut-out (mm)




A 3.2mm $^{+0.2}_{0}$ opening (notch) is used to stop rotation.
(Not necessary if a nameplate is not used.)

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## Safety Instructions

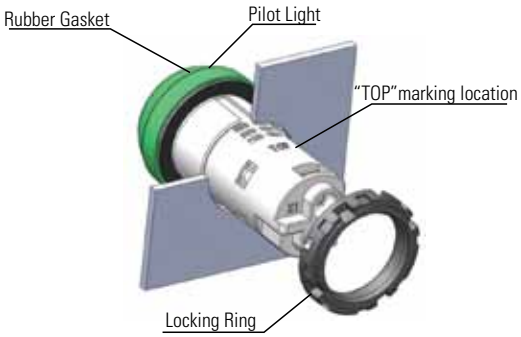
Turn off the power before installation, removal, wiring, maintenance and inspection. Failure to turn off power may cause electrical shocks or fire hazard.

When wiring, use proper size wires (AWG16 - AWG14) to meet voltage and current requirements. Tighten the terminal screws to the recommended tightening torque (1.0N•m). Operating with loose terminal screws may cause overheating and fire.

## Installation Instructions

### Panel Mounting

Remove the locking ring and check if the rubber gasket is properly aligned. Then insert the AP22M unit, align the "TOP" marking with the recess into the panel cut-out, and tighten the locking ring.




When installing the pilot light into a panel cut-out, use locking ring wrench (part number MW9Z-T1) to tighten the locking ring to the recommended torque of 2.0N•m. Do not use pliers and do not tighten excessively, otherwise the unit may become damaged.

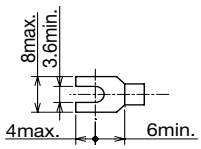
### Mounting Notes

#### Applicable Wires

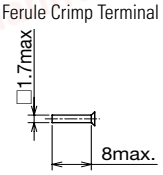
The applicable wire sizes are from AWG14 to AWG16 with 2 wires max. A ring-tongue terminal cannot be used.

#### Applicable Terminal

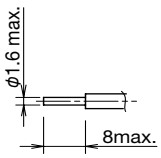
Fork Crimp Terminal




Ferule Crimp Terminal

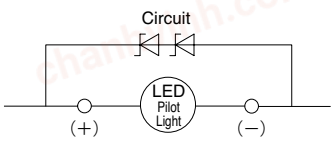



Bare Wire

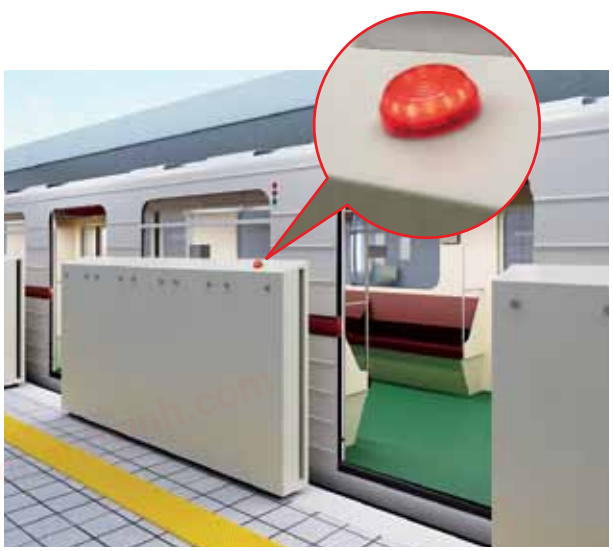



### Noise

External noise may cause the LED chips to deteriorate, leading to a reduction in brightness, a change in color, or malfunction. We recommend the following solution if this problem exists. However, please note that this solution will vary depending on the operating environment and the application.




Zener Diode Reference Value
Zener Voltage: 15V (1W)



Great Visibility - even from inside a train (automatic safety fence on a train station platform)



Compact Size - Perfect for mounting in small or narrow surfaces.

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