

Ø8mm AP8M Series

Ø10mm AP1M Series

LED Illuminated Miniature Pilot Lights

Super LED achieves high brightness

- New blue and pure white LED lamps
- 12V and 24V types can be used on both AC/DC voltages



Lens color: S (blue)



Lens color: PW (pure white)



AP8M series



AP1M series



ø8/ø10

AP Series LED Illuminated Miniature Pilot Lights

Specifications

Input Type	Full voltage		
Operating Voltage	5V DC	12V AC/DC	24V AC/DC
Rated Current	9 mA (yellow: 15 mA)		
Illumination Color (code)	A (amber), G (green), R (red), PW (pure white), S (blue), W (white), Y (yellow)		
Operating Temperature	-20 to +55°C (no freezing)		
Operating Humidity	45 to 85% RH (no condensation)		
Insulation Resistance	Between live and dead parts: 100 MΩ minimum (500V DC megger)		
Dielectric Strength	Between live and dead parts: 1000V, 1 minute		
Reverse Withstand Voltage	100V	—	—
Solder Terminal	Soldering 350°C maximum (3 seconds)		
Applicable Wire	ø1.0mm or 0.75 mm ² maximum		
Weight	AP8M: 2.0g, AP1M: 2.5g		
Degree of Protection	AP8M: dustproof (IP40) AP1M: watertight (IP65), oiltight (according to IEC 60529)		

Internal Circuits

Operating Voltage	Circuit Diagram
5V DC	
12V AC/DC 24V AC/DC	

LED Chip
 Protection Diode
 Zener Diode
 Resistor

Standards

Safety Standards	File No. or Organization
UL508	UL Recognized, File No. E68961
CSA C22.2, No. 14	CSA Certified File No. LR107101, LR92374
EN60947-5-1	European Commission's Low Voltage Directive

RoHS directive compliant (2002/95/IEC)

The AP series LED illuminated miniature pilot lights do not contain lead, cadmium, mercury, hexavalent chromium, PBB, or PBDE.

Types

• AP8M Series (ø8mm)

Shape	Operating Voltage	Type No.	Package Quantity	Lens Color (code)
 	5V DC ±5%	AP8M255*	1	Specify a lens color code in place of * in the Type No. A (amber) G (green) PW (pure white) R (red) S (blue) W (white) Y (yellow)
		AP8M255*PN10	10	
	12V AC/DC ±10%	AP8M211*	1	
		AP8M211*PN10	10	
24V AC/DC ±10%	AP8M222*	1		
	AP8M222*PN10	10		
 	5V DC ±5%	AP8M155*	1	
		AP8M155*PN10	10	
	12V AC/DC ±10%	AP8M111*	1	
		AP8M111*PN10	10	
24V AC/DC ±10%	AP8M122*	1		
	AP8M122*PN10	10		

- The lens or LED cannot be removed or replaced.
- Degree of protection: IP40

• AP1M Series (ø10mm)


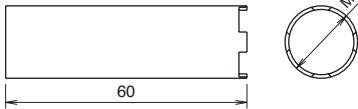

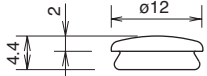
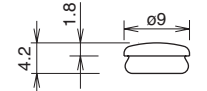
Shape	Operating Voltage	Type No.	Package Quantity	Lens Color (code)
 	5V DC ±5%	AP1M255*	1	Specify a lens color code in place of * in the Type No. A (amber) G (green) PW (pure white) R (red) S (blue) W (white) Y (yellow)
		AP1M255*PN10	10	
	12V AC/DC ±10%	AP1M211*	1	
		AP1M211*PN10	10	
24V AC/DC ±10%	AP1M222*	1		
	AP1M222*PN10	10		
 	5V DC ±5%	AP1M155*	1	
		AP1M155*PN10	10	
	12V AC/DC ±10%	AP1M111*	1	
		AP1M111*PN10	10	
24V AC/DC ±10%	AP1M122*	1		
	AP1M122*PN10	10		

- The LED cannot be removed. The lens can be removed and replaced.
- Degree of protection: IP65



AP Series LED Illuminated Miniature Pilot Lights

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Accessories

Shape	Type	Material	Ordering Type No.	Package Quantity	Dimensions (mm)
	ø10	Nickel-plated brass	MT-003	1	<ul style="list-style-type: none"> Used to tighten the locking ring when installing the AP unit onto a panel. Tightening torque: 0.29 N·m 
	ø8		MT-004		
	ø10	Nitril rubber (black)	AL-B1PN05	5	 
	ø8		AL-B8PN05		

Replacement Parts for AP1M

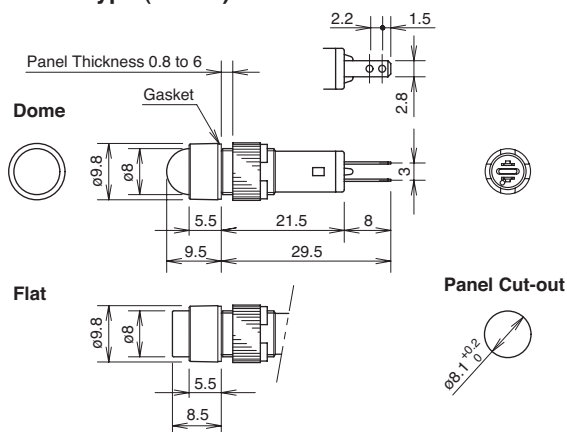
Shape	Type	Ordering Type No.	Package Quantity	Lens Color Code (Specify in place of * in the Ordering Type No.)
 	Dome Lens	AP1M-L2*PN05	5	A (amber), G (green), R (red), S (blue), W (white), and Y (yellow) (Note 1)
	Flat Lens	AP1M-L1*PN05		A (amber), C (clear), G (green), R (red), S (blue), and Y (yellow) (Note 2)
Marking Plate	Flat Lens	AP1M-PN1WPN05		White
Diffusion Plate	Dome Lens	AP1M-PN2WPN05		White

Note 1: On the dome lens type, use a white (W) lens for white (W) or pure white (PW) illumination.

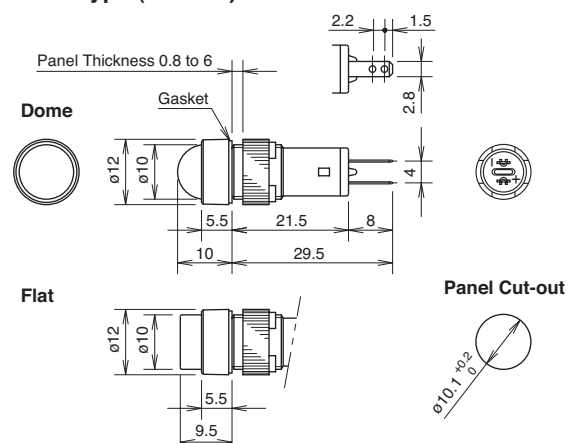
Note 2: On the flat lens type, use a clear (C) lens for white (W) or pure white (PW) illumination.

Dimensions

• AP8M Type (ø8mm)

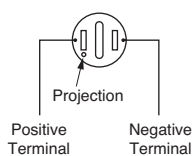


• AP1M Type (ø10mm)

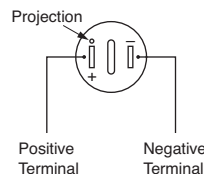


Terminal Arrangement (Bottom View)

• AP8M Type (ø8mm)

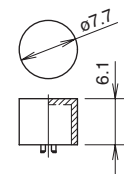


• AP1M Type (ø10mm)



Marking Plate

• AP1M Type (ø10mm)



Engraving depth: 0.5 mm maximum
Marking plate material: White acrylic

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AP Series LED Illuminated Miniature Pilot Lights



Safety Precautions

- Turn off the power to the AP series pilot lights before starting installation, removal, wiring, maintenance, and inspection. Failure to turn power off may cause electrical shocks or fire hazards.
- For wiring, use wires of a proper size to meet the voltage and current requirements and solder correctly. Improper soldering may cause overheating and fire.

Instructions

• Panel mounting

When mounting the AP series pilot lights onto a panel, use the optional locking ring wrench (MT-003 or MT-004) to tighten the locking ring. Tightening torque must not exceed 0.29 N·m. Do not use pliers. Excessive tightening will damage the locking ring.

• Wiring

1. Note the polarity when wiring the 5V DC versions.
2. A built-in current limiting resistor eliminates the need for external resistors.
3. Solder the terminals using a 60W soldering iron at 350°C within 3 seconds. Sn-Ag-Cu type solder is recommended. When soldering, be sure to keep the soldering iron as far away from the housing as possible. Also ensure that no tensile force is applied to the terminal. Do not bend the terminal or apply excessive force to the terminal. Use non-corrosive liquid rosin as soldering flux.

• Marking

The AP1M flat version contains a white marking plate underneath the lens.

The AP1M dome series contains a diffusion plate underneath the lens. The diffusion plate can be removed from the AP1M series, however, this reduces the degree of protection to IP40. Lenses cannot be removed from the AP8M series.

Specifications and other descriptions in this brochure are subject to change without notice.



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Cat. No. EP1117-0 APRIL 2006 15.5DNP PRINTED IN JAPAN