

TL-70 Signal Tower Lamp 70mm Siemens APT

Selection principles for tower lamp

Based on the usage and working environment, etc., the tower lamps shall be selected according to the following factors:

- Surrounding brightness
- Distance from the observation point
- Service life and use cost of the light source
- Noise level and pollution level of the service environment; if there are violent vibrations or shocks
- Influence on the safety caused by the emergent problems, such as light source damage
- Convenience in usage and maintenance

Therefore, different products are selected based on the operating requirements and the environmental characteristics, while the maintenance convenience and economy shall be considered in any case.

Light source

1. Lamp bulb

The lamp bulb glows by heating the resistance wire during current flows.

The helical tungsten filament is normally used and the inert gas is injected into the bulb.

In general, the lamp bulb is featured by:

(1) If the voltage is 10% lower than the rated voltage of the lamp bulb, the service life can be increased by four times, the consumption power reduces to 85% and the brightness drops to around 30%.

(2) If the voltage is 10% higher than the rated voltage, the service life can be shortened by 30%, the consumption power increases around 16% and the brightness rises around 40%. Normally, the standard service life of the lamp bulb is 1,000 – 1,500 hours.

2. LED

Light-emitting diode (LED) is a solid light-emitting device by use of the semi-conductor electroluminescent effect, mainly made of semi-conductor materials such as GaAs and GaP.

Like the normal semi-conductors, the service life of LED is affected by various factors such as overvoltage and surrounding temperature, etc. However, unlike the lamp bulb whose filament will be thinner caused by volatilization and which will be subject to mechanical wear, it is shock and vibration resistance and longer service life without special aseismic structure. Furthermore, LED has higher photoelectric conversion efficiency, which shall be deemed as an energy-saving clean light source with longer service life.

Normally, the standard service life of LED is 100,000 hours.

3. Xenon lamp

The xenon lamp glows by the gas excited by instantaneous high-energy, with higher brightness.

Compared with the common lamp bulb, xenon lamp requires bringing in extremely high electric energy instantly and letting out enormous light intensity. As the low voltage for exciting xenon and the available accessory materials, Xe gas is used by this light source, hence the name.

The bulb of xenon lamp can be fixed by seismic restraint method, with good seismic resistance. The spectrum of xenon lamp is similar to that of natural light. Its working mode is explosion flashing, which is same with the camera's flash lamp. Therefore, it has extremely strong visuality.

Human perceptive volume

Human perceptive volume is different from the physical intensity of sound pressure (dB).

Under the same sound intensity (dB), if the tone (audio frequency, amplitude) is different, the perceptive volume is different. Generally, the higher the audio frequency is, the more fidget people will get. Therefore, the stronger the sound intensity (dB) is and the higher the tone (vibration and frequency) is, the louder the sound will be. That is, the higher the sound wave frequency is and the larger the amplitude is, the louder the human perceptive volume will be.

The company also provides the products with sound intensity of 115dB. The warning tone with higher frequency is louder, and vice versa.


TL-70 combined tower lamp



Performance features

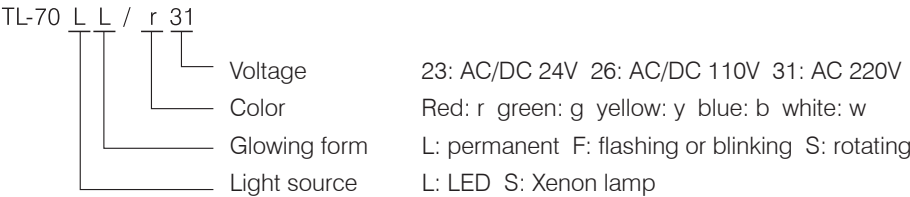
- Protection class: IP65
- It shall combine different glowing forms and light sources as necessary (max. five optical elements or four optical elements plus one acoustic element)
- Glowing forms include permanent, flashing or blinking, rotating
- The lampshade is made of panlite which is heat-resisting and anti-knock
- Buzzer volume > 100dB (10cm from the sound source in the horizontal direction)

Specifications of optical elements

Appearance	Model	Specification	Rated voltage/current	Color
	TL-70LL	LED permanent	24V/40mA、110V/18mA、220V/18mA	Red Yellow Green Blue White
	TL-70LF	LED flashing	24V/40mA、110V/30mA、220V/40mA	
	TL-70LS	LED rotating	24V/30mA、110V/30mA、220V/30mA	
	TL-70SF	Xenon lamp explosion-flashing	24V/140mA、110V/40mA、220V/40mA	


Note: 24V and 110V are available for AC and DC; while 220V is only available for AC.

Model



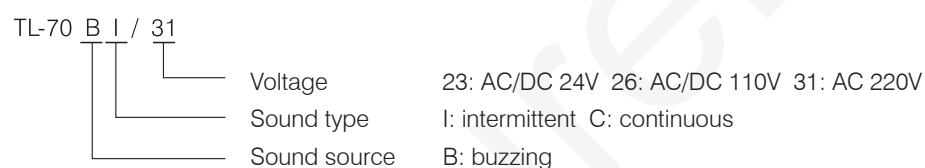
TL-70 tower lamp

Specifications of acoustic elements

Pattern	Model	Specification	Rated voltage/current	Color
	TL-70BI	Buzzing (intermittent)	24V/30mA、110V/30mA、220V/30mA	Black
	TL-70BC	Buzzing (continuous)	24V/30mA、110V/30mA、220V/30mA	

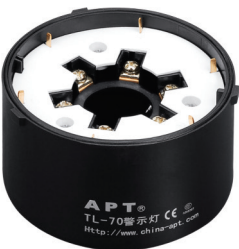
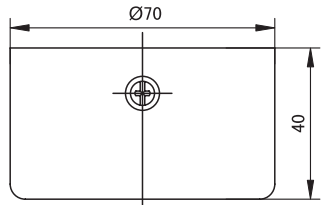
Note: 24V and 110V are available for AC and DC; while 220V is only available for AC.

Model


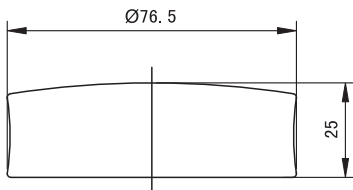


Accessories


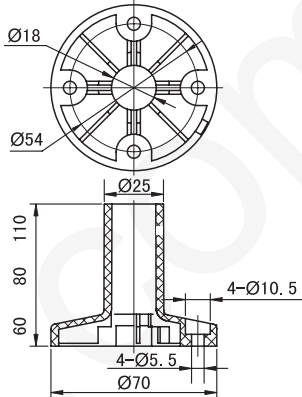
Terminal element TL-70L

Appearance	Appearance Dimension
	


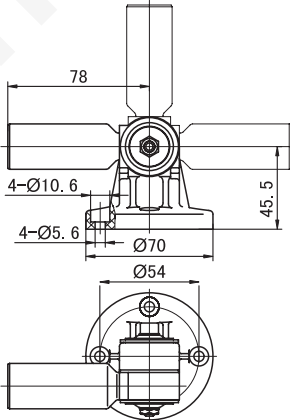
Cover cap TL-70C

Appearance	Appearance Dimension
 Used with the optical elements for protection	


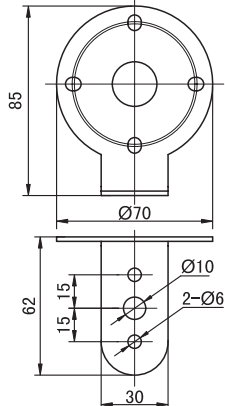
Vertical mounted base TL-SZ-1, TL-SZ-2, TL-SZ-3

Appearance	Model	Height	Appearance Dimension
	TL-SZ-1	60	
	TL-SZ-2	80	
	TL-SZ-3	110	

Folding mounted base TL-SZ-4


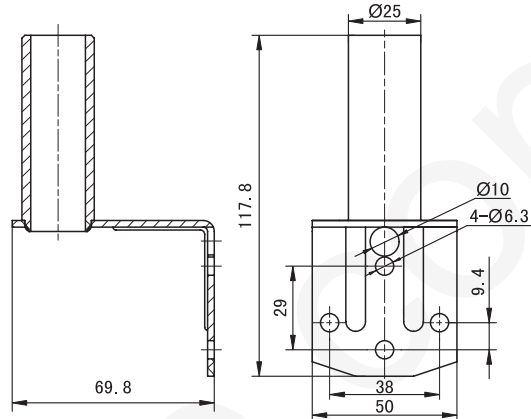
Appearance	Appearance Dimension
	

Side mounted base TL-CZ-1


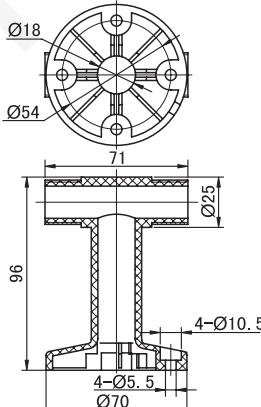
Appearance	Appearance Dimension
 Used with TL-SZ-1, TL-SZ-3 or TL-SZ-4 for side installation	

TL-70 tower lamp


Side mounted base TL-CZ-3

Appearance	Appearance Dimension
	

Side mounted base TL-CZ-4

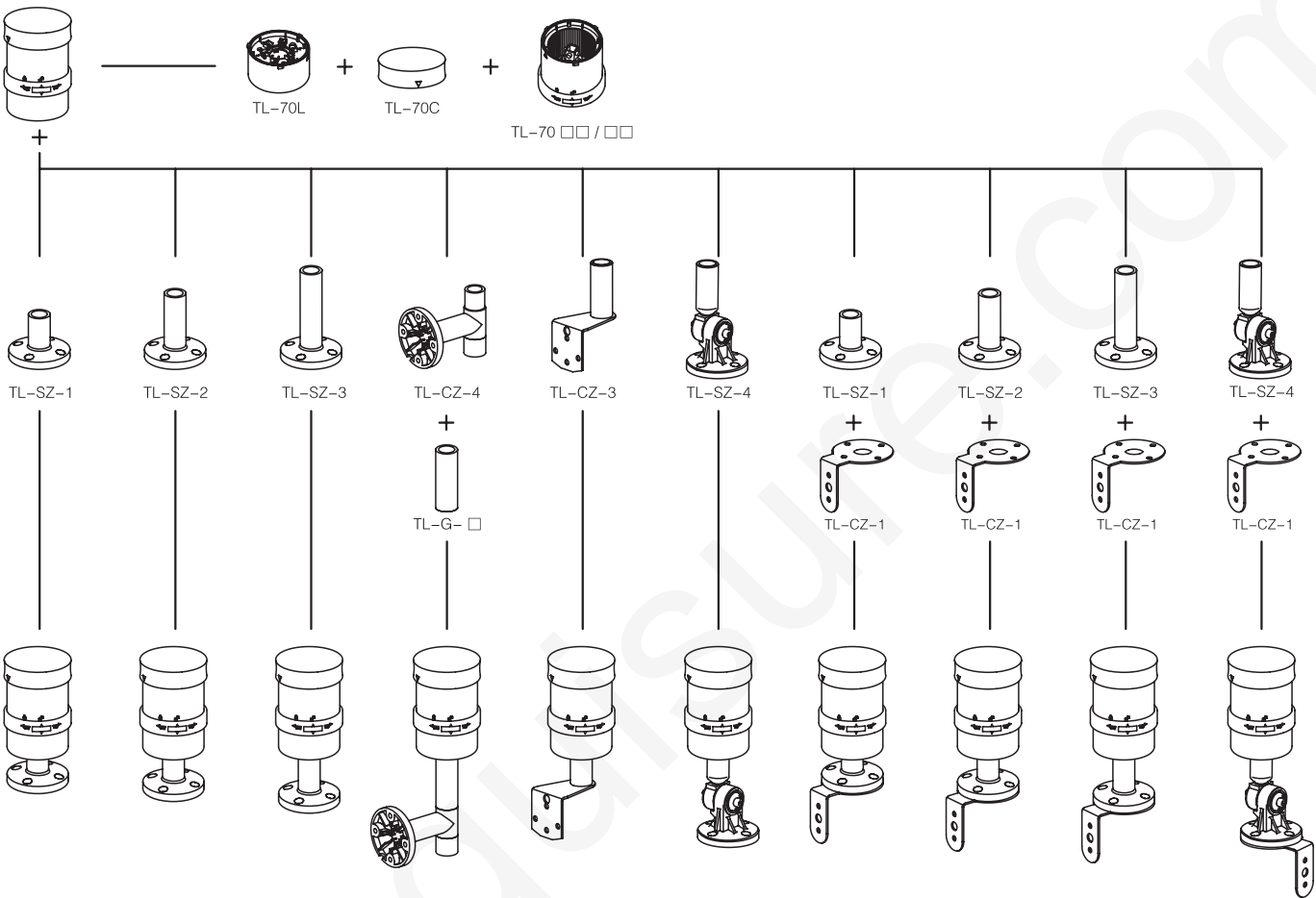
Appearance	Appearance Dimension
 <p>Used with TL-G-□ for side installation</p>	

Side mounted base TL-G-□

Appearance	Appearance Dimension
 <p>Used with TL-CZ-4 for side installation</p>	

Note: Provide the height of the product in the blank " □ "

Schematic diagram for accessory

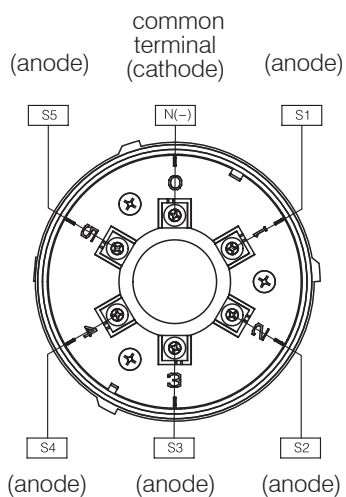


TL-70 tower lamp

Installation instructions

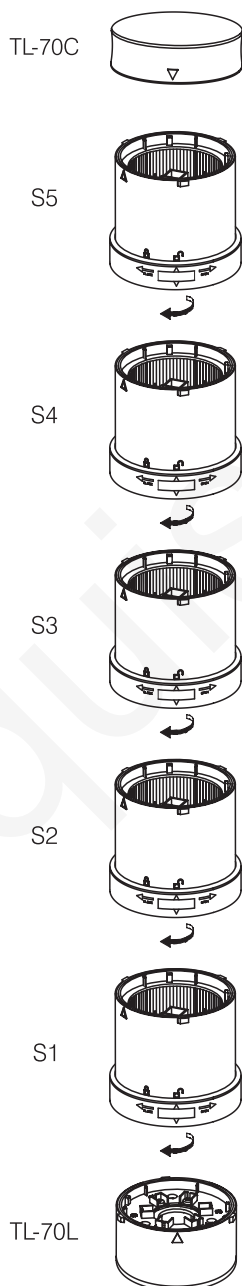
- The optical element combination with the same voltage class and different colors, light sources and glowing forms can be selected
- One tower lamp shall have five combined units in maximum, that is, five optical elements or four elements and one acoustic element
- Different mounting methods are available for different accessories

Wiring diagram

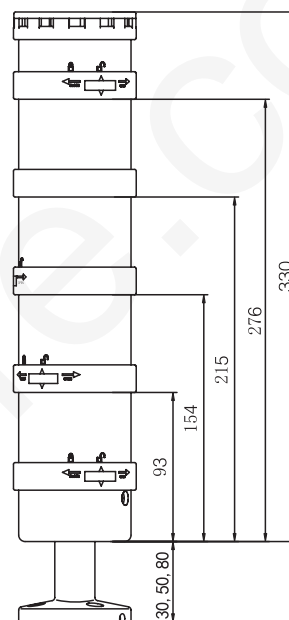


※ Cathode of common terminal, other anode terminal wiring must be through S1-S5

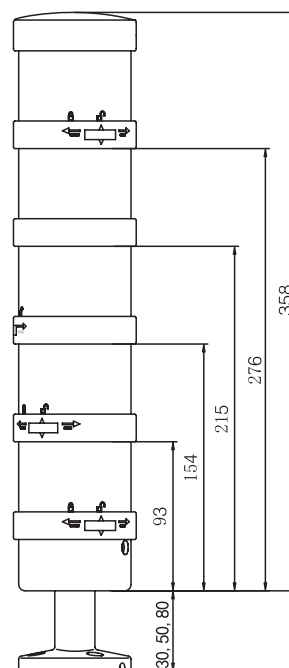
Installation diagram



Dimension



Dimension (4 optical elements + 1 acoustic element)



Dimension (5 optical elements)