

• ema Catalogue

01 series  $\Phi$  16mm control switch

02 series  $\Phi$  22/25/30mm control switch

05 series multi-layer LED light tower

*Linking your system*

More information please visit us: [www.ema-electronic.com](http://www.ema-electronic.com)

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We reserve the right to change technical data without prior notice  
Cata.NO.:C125909CN-A

**ema**

**Switches and Light Tower**

**Catalogue 2010/2011**

**ema**

## Catalogue 2010/2011

- 01 series  $\Phi$  16mm control switch
- 02 series  $\Phi$  22/25/30mm control switch
- 05 series multi-layer LED light tower



CCC CQC S D N FI  
UL US CE RoHS SGS  
[www.ema-electronic.com](http://www.ema-electronic.com)

### RoHS



Laws and rules regarding to the use of chemical raw materials has been gradually regulated in Europe, America, and China since July in 2006. EU(European Union) announced RoHS directive which restricts six kind of harmful substance, lead, mercury, cadmium, chromium , PBB, and PBDE to be applied to any electric and electronic machinery. Products are banned to be sold in those areas if violating the regulations. This directive aims to protect human's health and to recycle the discard motors and electronics equipments handling. Enterprises only focused on environ-ment of producing in the past; however, nowadays many pay attention to the rules of environment security because of the importance of environmental protection consciousness from many countries. With the trend of global green concept, every series of ema meets RoHS directive.

### IP Ranking

The first number Prevention of any solid matter			The second number Prevention of water		
IP	Request		IP	Request	
0	No protection		0	No protection	
1	Protection against penetration of solid bodies with dimensions of more than 50mm.		1	Vertical water droplets. No harmful ingress.	
2	Protection against penetration of solid bodies with dimensions of more than 12mm.		2	Showering at 150. No harmful ingress.	
3	Protection against penetration of solid bodies with dimensions of more than 2,5mm.		3	Showering at 600. No harmful ingress.	
4	Protection against penetration of solid bodies with dimensions of more than 1mm.		4	Splashing from any direction. No harmful ingress.	
5	Protection against dust (no harmful deposit)		5	Water jets from any direction 12.5l/min. No harmful ingress.	
6	Total protection against dust(no penetration)		6	Large volumes of water 100l/min.No ingress.	
			7	Immersion up to 1metre deep.No ingress	
			8	Submersion at specified depths exceeding 1 metre. No ingress.	

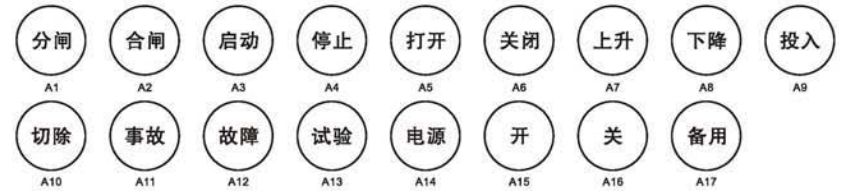
### Certifications



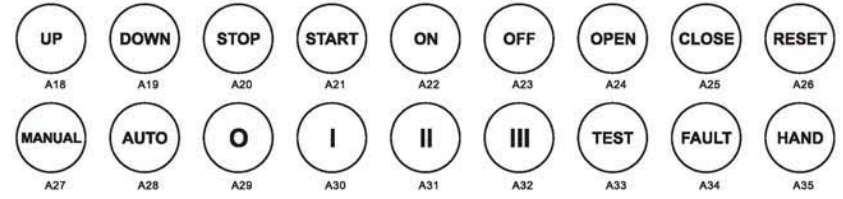
As a reliable partner for our customer, ema test our major products precisely for the safety and obtain related international compliances such as UL, ULC, Semko, Demko, Nemko, Femko, CQC/CCC, and CE as the best guarantee for our products. At the same time, we also acquire the certifications from international quality control system including SGS UKAS and CQC ISO9001:2000, and systemize our quality control method. To follow RoHS directive of EU and the green concept, all products meet RoHS compliance.

01 Series 16mm Control Switches	4-21
02 Series 22/25/30mm Control Switches	22-49
05 Series Multi-Layer LED Light Tower	50-59
Drawing	60

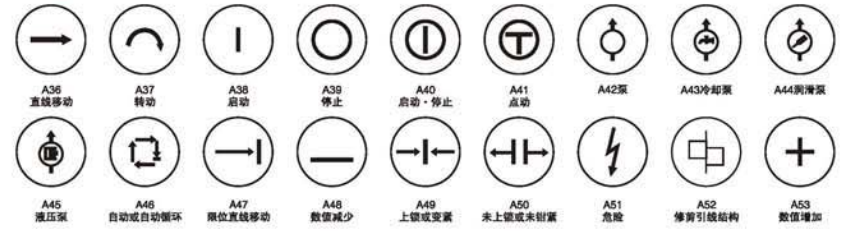
Chinese symbol



Standard symbol



ISO symbol







## 05 Series Multi-Layer Light Tower

Each light element can be mounted or replaced by user easily. No tool is necessary. Use of high-luminance LEDs (Light Emitting Diodes) to enhance the extra brightness for 05 series light tower. It can extend life-time of the operation so as to provide no requirement for maintenance.

### 05 series Multi-Layer Light Tower

Φ 50 mm	56-57
Φ 70 mm	58-59



*Linking your system*

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**Features**

- Size:  $\Phi$ 50mm,  $\Phi$ 70mm
- 5 stands selectable
- Long lifetime and brightness LEDs
- 360° view: excellent visibility with no block and no shadow
- Modular design for installation without tools
- Patent design for advancing brightness and easy installation
- The frequency of alarm: 60~80 times/min
- Buzzer volume: 100~120 dB/M
- Materials of construction: Layer-PC, lampshade-ABS , Stand-Al
- Materials in protection of corrosive
- Confirmative to CE
- Meets EEC RoHS Directive
- Protection rating: IP54, IP65



**The meaning of colors**

According to Machinery Directive IEC/EN 60204-1, the different colors of the light modular elements specify the meaning for the operating status. All selection of the colors are based on the demands of the user.



**Red**  
Dangerous status - immediate action



**Yellow**  
Abnormal status - in monitor or action



**Green**  
Normal status - no action



**Blue**  
Discontinuity status - action mandatory



**White**  
Other status - can be identified by the user

**Max.power**

LED Light Module	0550 ultrabright	Red, Yellow	1.2W	Green, Blue, White	1.7W
	0550 standard	Red, Yellow	0.75W	Green, Blue, White	1W
	0570 ultrabright	Red, Yellow	1.7W	Green, Blue, White	2.3W
	0570 standrd	Red, Yellow	1W	Green, Blue, White	1.2W
Buzzer	0550buzzer	0.5W			
	0570buzzer	0.75W			

**LED makes your products more competitive**

Use of high-luminance LEDs (Light Emitting Diodes) to enhance the extra brightness for 05 series light tower. It can extend life-time of the operation so as to provide no requirement for maintenance.

**Benefits of LED:**

- Long life-time up to 50,000 hours
- Working in high-speed condition
- Anti-shock
- Durable and reliable
- Energy saving



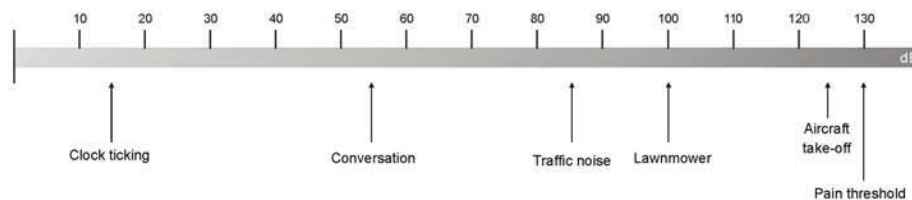
**Table of operating range**

Db is the unit of Volumn, higher Db means louder volumn, if Db increases 10 each time, then volumn will be ten times than that of before. That is, volumn power of 20Db is ten times than that of 10Db, volumn power of 30Db is ten times than that of 20Db. If 10Db sent out by 10 sound source at the same time, then the power will be ten times than that of 10Db, that is 20Db.

		Level of sound dB(A)																																									
		120	118	116	114	112	110	108	106	104	102	100	98	96	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38
Distance(m)	1	120	118	116	114	112	110	108	106	104	102	100	98	96	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38
	2	114	112	110	108	106	104	102	100	98	96	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38			
	3	110	108	106	104	102	100	98	96	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38					
	5	106	104	102	100	98	96	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38							
	10	100	98	96	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38										
	20	94	92	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38													
	30	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38															
	50	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38																	
	100	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38																				
	200	74	72	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38																							
	300	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38																									
500	66	64	62	60	58	56	54	52	50	48	46	44	42	40	38																												
1000	60	58	56	54	52	50	48	46	44	42	40	38																															

**Examples of noise**

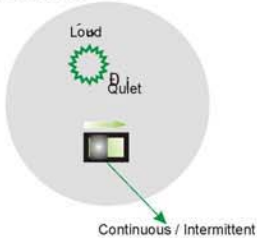
Enviornmental noise comes from four sources 1. Noise Sent out from traffice vehicles. include automobile,train and plane 2. Factory noise. for example,blower, turbine,loom and punching machine 3. Construction noise, like pile driving engine, excavating machineand concrete mixer4.Social life noise, for example, noise sent out from high volumn horn, recorder.



01 Series  
16mm Control  
Switches  
  
02 series  
22/25/30mm  
Control Switches  
  
05 series  
Multi-Layer  
Light Tower  
  
Drawing

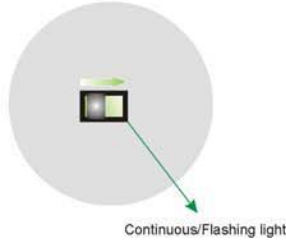
**Buzzer**

Switchable Continuous/intermittent buzzer and adjustable volume up to 100~120dB at a distance of 1 meter which is more helpful for operators even in a noisy environment. The frequency of buzzer is 60~80 beeps per minute.



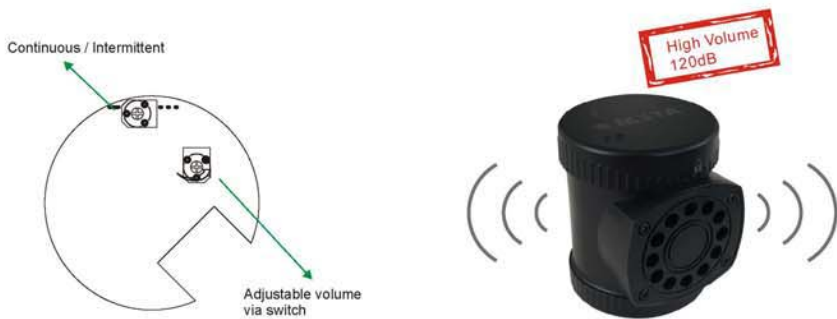
**Switchable continuous/flashing light**

Flashing light module can be switched by user manually to increase its agility and reduce your inventory.



**Innovative 70mm buzzer with high volume**

When using multi-layer light towers in the field with loud area or outdoors, customers express the demand of the buzzer with louder volume. ema develop an innovative  $\Phi 70$ mm buzzer up to 120dB/M with voltage in 24VDC. This new model enhances the volume of buzzer extremely. Moreover, it can be installed in any position and there is no limit to be installed on the top of tower. This new feature provides customers with more flexible, convenient options on installation. The volume and the mode of signaling of this buzzer can be adjusted by a switch inside.



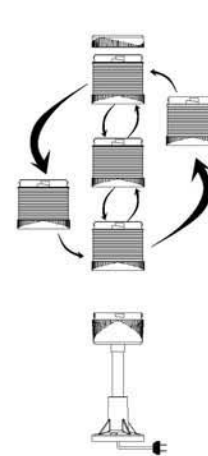
**Wide input voltage**

05 Series with DC voltage offer reversal polarity protection to secure your connection. A wide range rated voltage of 85~275VAC can support you in promotion of your system to worldwide.



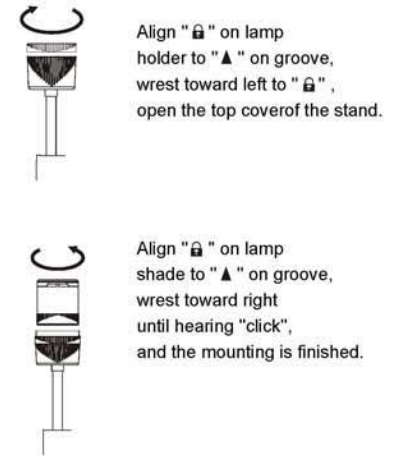
**Modular design**

Each light element can be mounted or replaced by user easily. No tool is necessary.



**Easy installation**

Thanks for modular design, the user can turn the light element slightly until it cannot move.

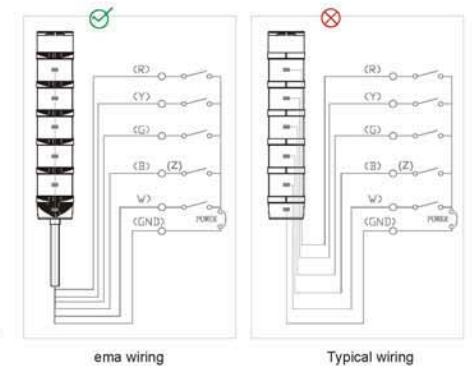
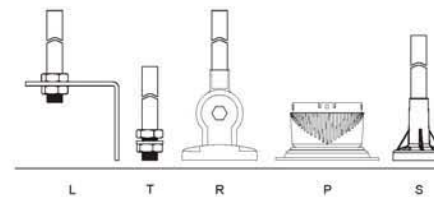


**Easy mounting**

Easy and quick selections of mounting with integrated stands. Custom length of stand is available.

**Easy connection**

No need to wire the cable from the top light element to the end. It is convenient to open the cap of stand for wiring – Save material cost and installation time.





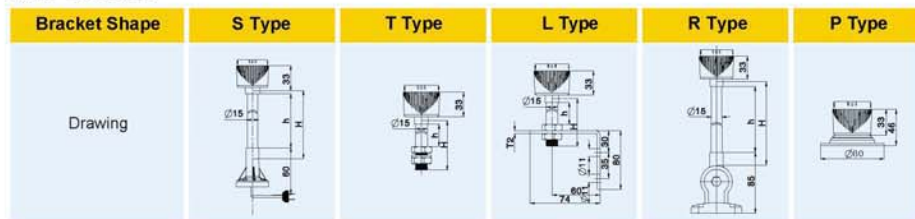


- Long lifetime and brightness LED lamp embedded
- Modular design for installation without tools
- Patent design for advancing brightness and easy installation
- Good looking and well practical stand
- The frequency of alarm: 60~80 times per minute
- Buzzer volume: 100 dB per meter
- Materials in protection of corrosive
- Protection rating: IP54、IP65



For the convenience of your inventory control and the alternation of accessories, you can choose the module. Also it is unnecessary for you to buy the whole set of the product while the circuit or only certain light element is out of work. Our module design makes your inventory and maintenance expense lowest.

Type of Stand



LED Light Module Drawing NO.:M3(60P)

05	50	Y	24	L	E	H
Series	Size	Layer color	Power supply	Type of light	LED brightness	Protection
05	Φ50mm	<b>R=Red</b>	12=12VDC	L=Continuous	Skip=brighter	H=IP65
		<b>Y=Yellow</b>	24=24VDC	F=Flashing	E=standard	Skip=IP54
		<b>G=Green</b>	AW=85~275VAC			
		<b>B=Blue</b>				
		<b>W=White</b>				

Light Module

05	50	Y	24	L	S	H
Series	Size	Layer color	Power supply	Type of light	Mode of light	Protection
05	Φ50 mm	<b>R=Red</b>	12=12VDC	L=Continuous	S=Economic (LED BA15S)	H=IP65
		<b>Y=Yellow</b>	24=24VDC	F=Flashing	D=Incandescent lamp (BA9S) 仅供应长亮	Omission=IP54
		<b>G=Green</b>	11=110 VAC			
		<b>B=Blue</b>	22=220VAC			
		<b>W=White</b>				

Buzzer Module Drawing NO.:M4(60P)

05	50	Z	12	F	K	H
Series	Size	Buzzer	Power supply	Type of Tone	Layer color	Protection
05	Φ50mm	<input type="checkbox"/> Z	12=12VDC	F=Continuous, intermittent can be adjusted	W=White	H=Protection
			24=24VDC		K=Black	Skip=IP54
			AW=85~275VAC			

Stand Module

05	50	TB	S	01	K	H
Series	Size	Stand	Type of Stand	Length	Layer color	Protection
05	Φ50mm	TB	S=S Type	01=10mm	W=White	H=Protection
			T=T Type	10=100mm	K=Black	Skip=IP54
			L=L Type	25=250mm		
			R=R Type			
			P=P Type			

Light Tower Module Drawing NO.:M1(60P)

05	50	RYG	24	S10	W	L	H
Series	Size	Layer color	Power supply	Type of Stand	Layer color	Type of light	Protection
05	Φ50mm	<b>R=Red</b>	12=12VDC	S01、S10、S25	W=White	L=Continuous	H=Protection
		<b>Y=Yellow</b>	24=24VDC	T01、T10、T25	K=Black	F=Flashing	Skip=IP54
		<b>G=Green</b>	AW=85~275VAC	L01、L10、L25			
		<b>B=Blue</b>		R01、R10、R25			
		<b>W=White</b>		P			
		<input type="checkbox"/> Z=Buzzer					

01 Series 16mm Control Switches  
 02 series 22/25/30mm Control Switches  
 05 series Multi-Layer Light Tower  
 Drawing



- Long lifetime and brightness LED lamp embedded
- Modular design for installation without tools
- Patent design for advancing brightness and easy installation
- Good looking and well practical stand
- The frequency of alarm: 60~80 times per minute
- Buzzer volume: 100 dB or 120 dB per meter
- Materials in protection of corrosive
- Protection rating: IP54、IP65



For the convenience of your inventory control and the alternation of accessories, you can choose the module. Also it is unnecessary for you to buy the whole set of the product while the circuit or only certain light element is out of work. Our module design makes your inventory and maintenance expense lowest.

**Type of Stand**

Bracket Shape	S Type	T Type	L Type	R Type	P Type
Drawing					

**LED Light Module** Drawing NO.:M5(60P)

05	70	Y	24	L	E	H
Series	Size	Layer color	Power supply	Type of light	LED brightness	Protection
05	Φ70mm	R=Red	12=12VDC	L=Continuous	Skip=brighter	H=IP65
		Y=Yellow	24=24VDC	F=Flashing	E=standard	Skip=IP54
		G=Green	AW=85~275VAC			
		B=Blue				
		W=White				

**Light Module**

05	70	Y	24	L	S	H
Series	Size	Layer color	Power supply	Type of light	Mode of light	Protection
05	Φ70 mm	R=Red	12=12VDC	L=Continuous	S=Economic (LED BA15S)	H=IP65
		Y=Yellow	24=24VDC	F=Flashing	D=Incandescent lamp (BA9S) 仅供成长亮	Omission=IP54
		G=Green	11=110VAC			
		B=Blue	22=220VAC			
		W=White				

**Buzzer Module** Drawing NO.:M6(60P)

05	70	Z	12	F	K	H
Series	Size	Buzzer	Power supply	Type of Tone	Layer color	Protection
05	Φ70mm	Z=100dB	12=12VDC	F=Continuous, Intermittent can be adjusted	W=White	H=Protection
		X=120dB	24=24VDC		K=Black	Skip=IP54
			AW=85~275VAC			

Notice: The 70mm buzzer with 120dB is only available in 24VDC type.

**Stand Module**

05	70	TB	S	01	K	H
Series	Size	Stand	Type of Stand	Length	Layer color	Protection
05	Φ70mm	TB	S=S Type	01=10mm	W=White	H=Protection
			T=T Type	10=100mm	K=Black	Skip=IP54
			L=L Type	25=250mm		
			R=R Type			
			P=P Type			

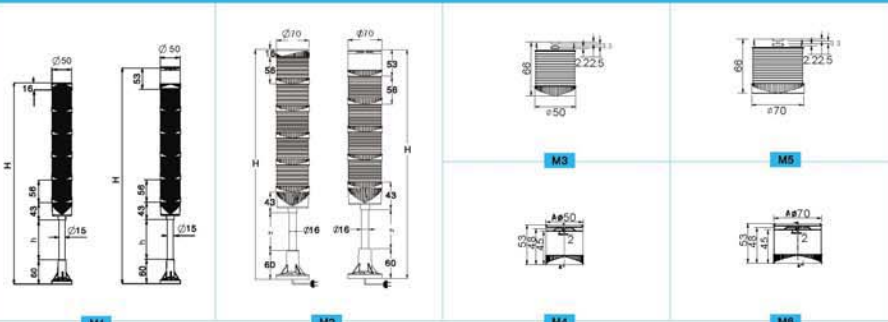
**Light Tower Module** Drawing NO.:M2(60P)

05	70	RYG	24	S10	W	L	H
Series	Size	Layer color	Power supply	Type of Stand	Layer color	Type of light	Protection
05	Φ70 mm	R=Red	12=12VDC	S01、S10、S25	W=White	L=Continuous	H=Protection
		Y=Yellow	24=24VDC	T01、T10、T25	K=Black	F=Flashing	Skip=IP54
		G=Green	AW=85~275VAC	L01、L10、L25			
		B=Blue		R01、R10、R25			
		W=White		P			
		Z=Buzzer					

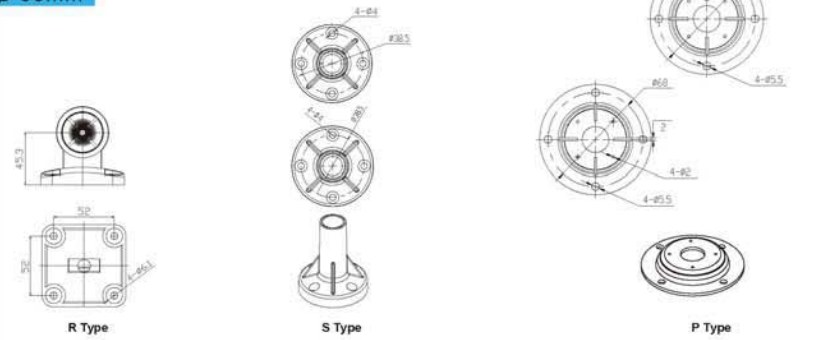
01 Series 16mm Control Switches  
02 series 22/25/30mm Control Switches  
05 series Multi-Layer Light Tower  
Drawing



05 Series Multi-Layer Light Tower



Ø 50mm



Ø 70mm

