- **Position Sensors**
  - Inductive Proximity Sensors
  - Capacitive Proximity Sensors
  - Valve Proximity Sensors
  - Speed Monitor
- **Control Switches**
  - 16mm Control Switches
  - 22 / 25 / 30mm Control Switches
  - 16 / 22mm Stainless Steel Switches
  - 30 / 50 / 70mm Multi-Layer Light Tower

Linking your system

More information please visit us: **www.ema-electronic.com**

ema Electronics Ltd.
sales@ema-electronic.com

ema reserve the right to chang specifications without prior notice

Cata.NO.:C-FA20-EN-A

Factory Automation

ema electronics

Catalogue

ema®

AKDENİZ MEKATRONİK

Factory Automation

- ***Position Sensors***
- ***Control Switches***

RoHS

www.ema-electronic.com

About ema

ema Electronics Ltd. is an experienced manufacturer in sensors technology and industrial switches, including factory automation, Process automation and Human Machine Interfaces. Owning an outstanding R&D team which focus on core tech-nique as well as being and devoted to development and innovation, we therefore provide our esteemed customers with All-in-One solutions as vertical integration including design, tooling, and production. We believe that the only way to offer the best industrial control system for customers is to be a total solution-provider. Through our enterprise concept, we can make our customers reduce the cost of operation, enhance the efficiency of work, and increase the quality plus the extra value of products.

Technical seminars/Conferences

We are ready to hold technical seminars in your company at any time.

Customization

Under certain situations, only custom design method can satisfy customers and meet their demand of application via our All-In-One solutions as vertical integration including design molding, tooling, assembly and production. turn capacity; we are able to absorb your ideas into design of customized products quickly.

Sales and technical support

Our laboratory could test on product in all kinds of industrial environment and customer's circumstan-ces. Our partners could acquire demo kit、posters and other promotion materials to increase the sales.

After sale service

ema offer quick service and promised quality for all products. Repairs will be done immediately and you will receive a report after examination.

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 environment 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 ema product meets RoHS directive.

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,CCC, and CE as the best guarantee for our products.At the same time, we also acquire the certificationsfrom international quality control system including CQC ISO9001:2015, and systemize our quality control method. To follow RoHS directive of EU and the green concept, all products meet RoHS compliance.

Awards

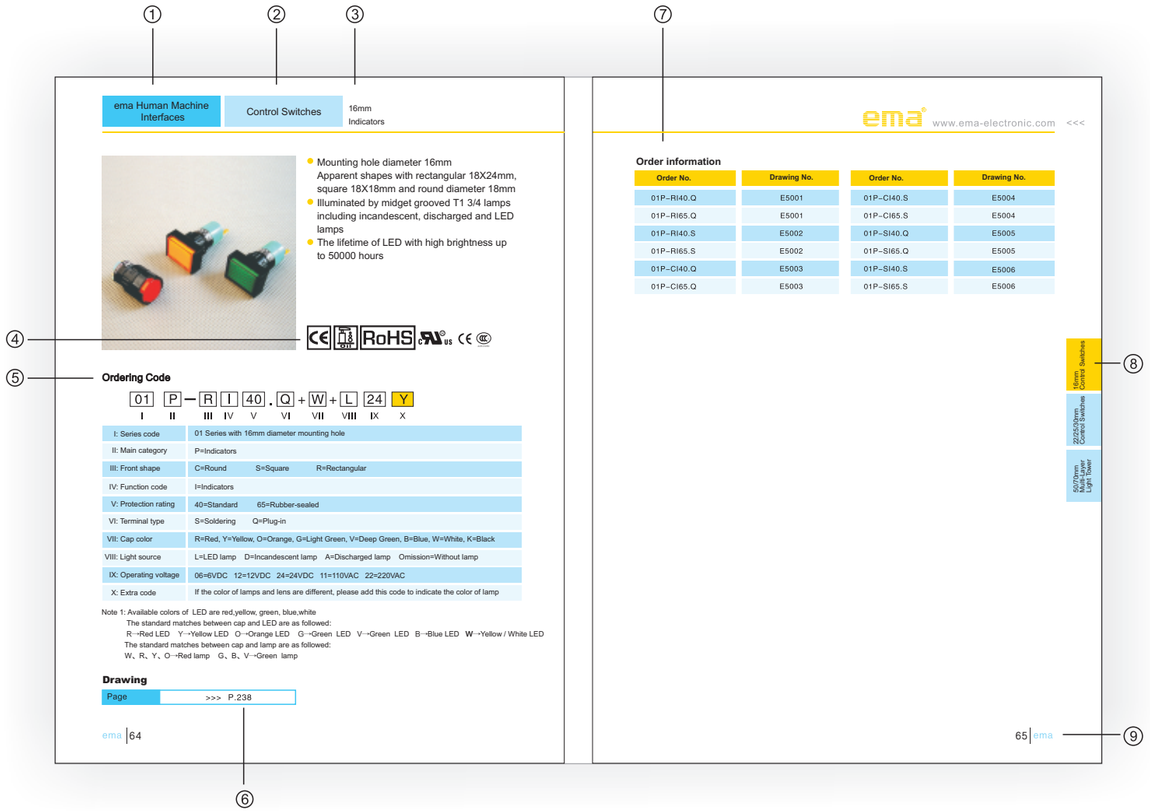
EMA as a professional manufacturer in sensing technology, Flow + Temperature Sensors has been awarded to「iF product design award 2008」which is one of top-three world famous industrial design competition. It is also marked as a “design Oscar” because all judges are composed of international and outstanding designers. In 2008, a jury of specialists evaluated 2771 entries from 35 different nations.

The best of our F+T sensors were selected for an awards because of being able to convinced international judges of the highest caliber, who are extremely critical in the discussion with the standard of criteria, such as design quality, workmanship, degree of innovativeness and environmental compatibility. This award proves that the product of ema could meet customer's need with its workmanship and its innovative design which said “art of technology.” That is why we can get a highly agreement from those professional judges.

IP ranking

The first number Protection against solid bodies		The second number Protection against 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 15°. No harmful ingress.
3	Protection against penetration of solid bodies with dimension of more than 2,5mm.	3	Showering at 60°. No harmful ingress.
4	Protection against penetration of solid bodies with dimension 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.
		9K	Protected against close-range high pressure, high temperature spray downs.

You can easily find the data you are looking for



ema Human Machine Interfaces | Control Switches | 16mm Indicators

- Mounting hole diameter 16mm Apparent shapes with rectangular 18X24mm, square 18X18mm and round diameter 18mm
- Illuminated by midget grooved T1 3/4 lamps including incandescent, discharged and LED lamps
- The lifetime of LED with high brightness up to 50000 hours

Ordering Code

01 P – R I 40 . Q + W + L 24 Y

I II III IV V VI VII VIII IX X

I: Series code	01 Series with 16mm diameter mounting hole
II: Main category	P=Indicators
III: Front shape	C=Round S=Square R=Rectangular
IV: Function code	I=Indicators
V: Protection rating	40=Standard 65=Rubber-sealed
VI: Terminal type	S=Soldering Q=Plug-in
VII: Cap color	R=Red, Y=Yellow, O=Orange, G=Light Green, V=Deep Green, B=Blue, W=White, K=Black
VIII: Light source	L=LED lamp D=Incandescent lamp A=Discharged lamp Omission=Without lamp
IX: Operating voltage	06=6VDC 12=12VDC 24=24VDC 11=110VAC 22=220VAC
X: Extra code	If the color of lamps and lens are different, please add this code to indicate the color of lamp

Note 1: Available colors of LED are red,yellow, green, blue,white
The standard matches between cap and LED are as followed:
R→Red LED Y→Yellow LED O→Orange LED Q→Green LED V→Green LED B→Blue LED W→Yellow / White LED
The standard matches between cap and lamp are as followed:
W、R、Y、O→Red lamp G、B、V→Green lamp

Drawing

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ema 64

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Order information

Order No.	Drawing No.	Order No.	Drawing No.
01P-RI40.Q	E5001	01P-CI40.S	E5004
01P-RI65.Q	E5001	01P-CI65.S	E5004
01P-RI40.S	E5002	01P-SI40.Q	E5005
01P-RI65.S	E5002	01P-SI65.Q	E5005
01P-CI40.Q	E5003	01P-SI40.S	E5006
01P-CI65.Q	E5003	01P-SI65.S	E5006

Sensors Switches
22/25/30mm Control Switches
16/22mm Stainless Steel Switches
30/50/70mm Multi-Layer Light Tower

65 ema

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Left page

① Main classification
② Series classification
③ Model classification
④ Certificates
⑤ Ordering code
⑥ Drawing page

Right page

⑦ Order Information
⑧ Category
⑨ Brand

Position Sensors 6-69

Inductive Proximity Sensors	8-47
Capacitive Proximity Sensors	48-61
Valve Proximity Sensors	62-65
Speed Monitor	66-69

Control Switches 70-157

16mm Control Switches	72-91
22 / 25 / 30mm Control Switches	92-127
16 / 22mm Stainless Steel Switches	128-135
30 / 50 / 70mm Multi-Layer Light Tower	136-157

Position Sensors

- Inductive Proximity Sensors
- Capacitive Proximity Sensors
- Valve Proximity Sensors
- Speed Monitor

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Inductive Proximity Sensors

Inductive proximity sensors are essential to modern applications in the field of industrial automation. Compared to mechanical proximity switches, inductive sensors offers several advantages: Non-contact and non-abrasion working, high switching frequency, and high accuracy. Besides, the units are resistant to shake, dust, and damp. Mostly common application: Position recognition in automation procedure. Inductive proximity sensors can detect all kinds of metals.

IP67 CE SGS RoHS

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Features

- IC smart inductive proximity sensor.Through an orientation mode, user can set the sensing range and the warning point discretionarily
- Sensing objects: Metals
- Output：NPN、PNP、AC、DC、N/O、N/C
- Display：LED
- Electric Protection: Overload, short-circuit, reverse polarity
- Protection Classification:IP67
- Certification:CE and RoHS
- A variety of size and of outputs, easy installation, user-friendly handling
- Ambient temperature:-25~80℃; High temperature type:-25~120℃

Summary

Inductive proximity sensors are essential to modern applications in the field of industrial automation. Compared to mechanical proximity switches, inductive sensors offers several advantages: Non-contact and non-abrasion working, high switching frequency, and high accuracy. Besides, units are resistant to shake, dust, and damp. Mostly common application: Position recognition in automation procedure.

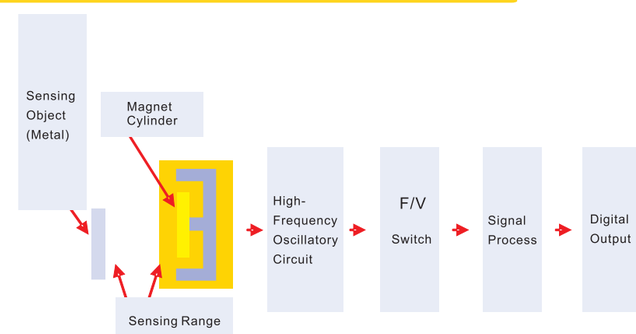
Inductive proximity sensors can detect all kinds of metals.

Operating Principle

Inductive proximity sensors include coils and electromagnets, and these two components are combined to the inductive part of a LC tuned circuit which activates the oscillator. Coils and electromagnets generate a low frequency electromagnetic field (EMF), and it is radiated from the sensing surface of the sensor. When a conductive object such as metals enters EMF, the eddy current starts to be transmitted inside the conductor. By absorbing the energy from EMF, this eddy current increases to the degree which is too large to be outputted by an amplifier so that the oscillator stop working and EMF disappears. It has been a well-known eddy current oscillator in the past.

Inductive proximity sensors are a sort of position sensors and composed of LC high-frequency oscillator and amplified resistor. When the metals approach the oscillatory sensing interface, it can generate an electric magnet field and an eddy current appearing inside the objects. This current retroacts to the proximity sensor and weaken the oscillation amplitude as to change the parameters of internal circuit in order to detect whether any metal approaches and to control the output of switches. The sensing objects for inductive proximity sensors should be all metals or conductive materials.

Operation Procedure of Inductive Proximity Sensors



Application

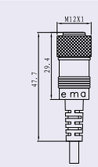
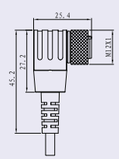
Inductive Proximity Sensors are usually applied to sense metals or conductive materials. Sensing range is determined by the size of sensors objects. The value of energy is determined by the size of the coils inside the sensors. The bigger sensors equip bigger coils which can ossible to offer and are possible to offer the longer sensing range. Therefore, this is better to choose an adequate sensor in size to match the sensing rangeneeded,and it can avoid any unstable condition happened.

Type

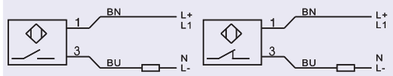
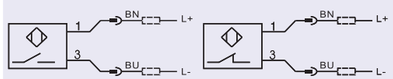
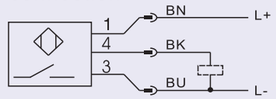
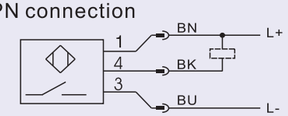
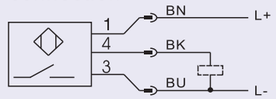
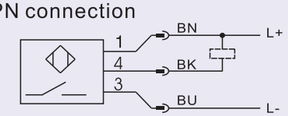
- Inductive Proximity Sensor
  - Flush
    - DC 3 wire NO output sensor
    - DC 3 wire NC output sensor
    - DC 2 wire NO output sensor
    - DC 2 wire NC output sensor
    - AC 2 wire NO output sensor
    - AC 2 wire NC output sensor
    - AC/CD 2 wire NO output sensor
    - AC/CD 2 wire NC output sensor
  - Non-flush
    - DC 3 wire NO output sensor
    - DC 3 wire NC output sensor
    - DC 2 wire NO output sensor
    - DC 2 wire NC output sensor
    - AC 2 wire NO output sensor
    - AC 2 wire NC output sensor
    - AC/CD 2 wire NO output sensor
    - AC/CD 2 wire NC output sensor

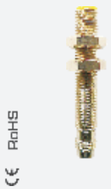
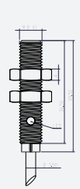
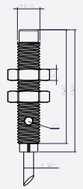
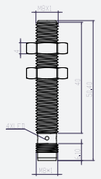
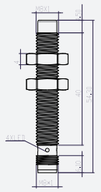
Note: In the following specification of products ,"nf" =non flush, "f"=flush.

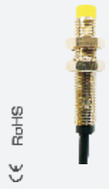
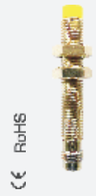
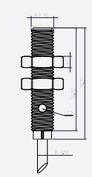
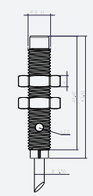
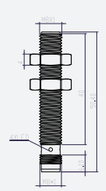
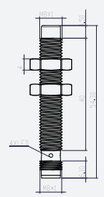
Accessories

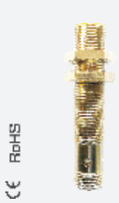
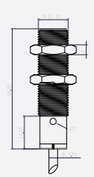
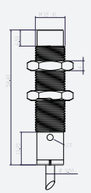
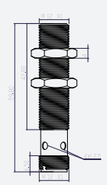
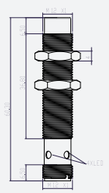
Type	Drawing	Connector Order No.					
		C	02	I	3	C	12
I		C: Cable	Length 02: 2M 05: 5M 10: 10M	Connector I: Straight L: Angled	Pole 2:2pin 3:3pin	Material R:PUR C:PVC S:PVC Shield	Size 8:M8 12:M12
L							

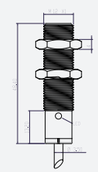
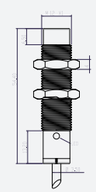
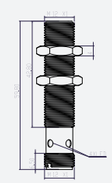
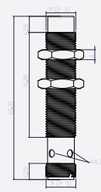
Connection

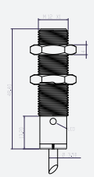
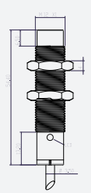
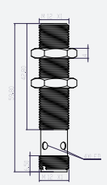
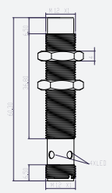
Electric Design	Size	Connection	Wire/Core Color	Wiring
2 Wire	M12	2M Cable	BN Brown BU Blue	
		Socket	WH white ② BN Brown ① ③ BU Blue ④ BK Black	
3 Wire	M8	2M Cable	BN Brown BU Blue BK Black	PNP connection NPN connection
		Socket	WH White ② BN Brown ① ③ BU Blue ④ BK Black	PNP connection  NPN connection 
	M12	2M PVC	BN Brown BU Blue BK Black	PNP connection NPN connection
		Socket	WH White ② BN Brown ① ③ BU Blue ④ BK Black	PNP connection  NPN connection 

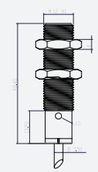
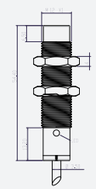
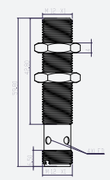
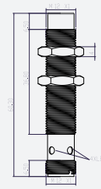
Size	M8 Standard			
Standard	Cable		Connector	
Sensing range	1.5mm	2.5mm	1.5mm	2.5mm
				
3 wire PNP NO	IA1001	IA1005	IA1009	IA1013
3 wire PNP NC	IA1002	IA1006	IA1010	IA1014
3 wire NPN NO	IA1003	IA1007	IA1011	IA1015
3 wire NPN NC	IA1004	IA1008	IA1012	IA1016
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	100	100	100	100
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2	< 2	< 2	< 2
Current consumption[mA]	<10(24VDC)	<10(24VDC)	<10(24VDC)	<10(24VDC)
Real sensing range[mm]	1.5 ± 10%	2.5 ± 10%	1.5 ± 10%	2.5 ± 10%
Operating range[mm]	0...1.2	0...2	0...1.2	0...2
Switch-point drift [%Sr]	-10...10	-10...10	-10...10	-10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	1300	1300	1300	1300
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Ambient humidity [%]	35…95	35…95	35…95	35…95
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.14 mm²		M8 Connector	
Accessories	Two fixed nuts			
Drawing				

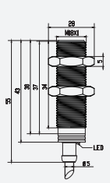
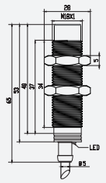
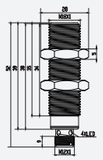
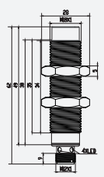
Size	M8 Standard			
Standard	Cable		Connector	
Sensing range	1.5mm	2.5mm	1.5mm	2.5mm
				
2 wire NO	IA1017	IA1019	IA1021	IA1023
2 wire NC	IA1018	IA1020	IA1022	IA1024
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	100	100	100	100
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	<8	<8	<8	<8
Current consumption[mA]	<10(24VDC)	<10(24VDC)	<10(24VDC)	<10(24VDC)
Real sensing range[mm]	1.5 ± 10%	2.5 ± 10%	1.5 ± 10%	2.5 ± 10%
Operating range[mm]	0...1.2	0...2	0...1.2	0...2
Switch-point drift [%Sr]	-10...10	-10...10	-10...10	-10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	1300	1300	1300	1300
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Ambient humidity [%]	35…95	35…95	35…95	35…95
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.14mm²		M8 Connector	
Accessories	Two fixed nuts			
Drawing				

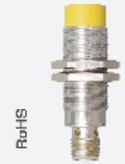
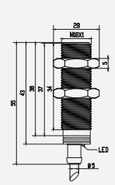
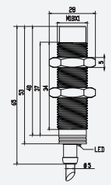
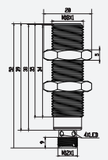
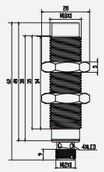
Size	M12 Standard			
Standard	Cable		Connector	
Sensing range	2mm	4mm	2mm	4mm
				
3 wire PNP NO	IB1001	IB1005	IB1009	IB1013
3 wire PNP NC	IB1002	IB1006	IB1010	IB1014
3 wire NPN NO	IB1003	IB1007	IB1011	IB1015
3 wire NPN NC	IB1004	IB1008	IB1012	IB1016
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	100	100	100	100
Short-circuit protection	Pulsed	Pulsed	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	IB1001,IB1002<2.5 IB1003,IB1004<3	IB1005,IB1006<2.5 IB1007,IB1008<3	IB1009,IB1010<2.5 IB1011,IB1012<3	IB1013,IB1014<2.5 IB1015,IB1016<3
Current consumption[mA]	<10(24VDC)	<10(24VDC)	<10(24VDC)	<10(24VDC)
Real sensing range[mm]	2 ± 10%	4 ± 10%	2 ± 10%	4 ± 10%
Operating range[mm]	0...1.6	0...3.2	0...1.6	0...3.2
Switch-point drift [%Sr]	-10...10	-10...10	-10...10	-10...10
Hysteresis [%Sr]	3…20	3…20	3…20	3…20
Switching frequency [Hz]	1000	1000	1000	1000
Ambient temperature [℃/°F]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Ambient humidity [%]	35…95	35…95	35…95	35…95
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3			
Housing material	Stainless steel ; Sensing surface: PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.14mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

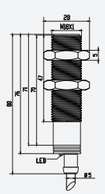
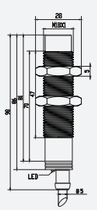
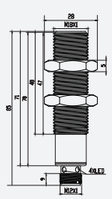
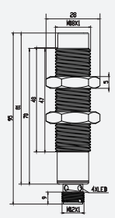
Size	M12 Standard			
Standard	Cable		Connector	
Sensing range	2mm	4mm	2mm	4mm
2 wire NO	IB1017	IB1019	IB1021	IB1023
2 wire NC	IB1018	IB1020	IB1022	IB1024
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	100	100	100	100
Short-circuit protection	Pulsed	Pulsed	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	<4	<4	<4	<4
Leakage current	<0.6(24VDC)	<0.6(24VDC)	<0.6(24VDC)	<0.6(24VDC)
Real sensing range[mm]	2 ± 10%	4 ± 10%	2 ± 10%	4 ± 10%
Operating range [mm]	0...1.6	0...3.2	0...1.6	0...3.2
Switch-point drift [%Sr]	-10...10	-10...10	-10...10	-10...10
Hysteresis [%Sr]	3…20	3…20	3…20	3…20
Switching frequency [Hz]	1000	1000	1000	1000
Ambient temperature [℃/°F]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Ambient humidity[%]	35…95	35…95	35…95	35…95
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3			
Housing material	Stainless steel ; Sensing surface: PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.25mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

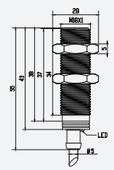
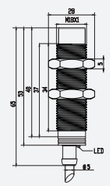
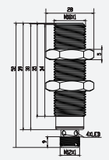
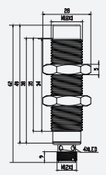
Size	M12 Extra length			
Standard	Cable		Connector	
Sensing range	4mm	6mm	4mm	6mm
3 wire PNP NO	IB1101	IB1105	IB1109	IB1113
3 wire PNP NC	IB1102	IB1106	IB1110	IB1114
3 wire NPN NO	IB1103	IB1107	IB1111	IB1115
3 wire NPN NC	IB1104	IB1108	IB1112	IB1116
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	100	100	100	100
Short-circuit protection	Pulsed	Pulsed	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	IB1101,IB1102<2.5 IB1103,IB1104<3	IB1105,IB1106<2.5 IB1107,IB1108<3	IB1109,IB1110<2.5 IB1111,IB1112<3	IB1113,IB1114<2.5 IB1115,IB1116<3
Current consumption[mA]	<10(24VDC)	<10(24VDC)	<10(24VDC)	<10(24VDC)
Real sensing range[mm]	4 ± 10%	6 ± 10%	4 ± 10%	6 ± 10%
Operating range[mm]	0...3.2	0...4.8	0...3.2	0...4.8
Switch-point drift [%Sr]	-10...10	-10...10	-10...10	-10...10
Hysteresis [%Sr]	3…20	3…20	3…20	3…20
Switching frequency [Hz]	1000	1000	1000	1000
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Operation humidity [%]	35…95	35…95	35…95	35…95
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.14mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

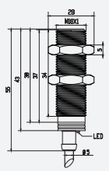
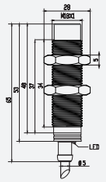
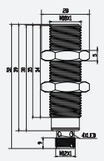
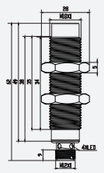
Size	M12 Extra length			
Standard	Cable		Connector	
Sensing range	4mm	6mm	4mm	6mm
2 wire NO	IB1117	IB1119	IB1121	IB1123
2 wire NC	IB1118	IB1120	IB1122	IB1124
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	100	100	100	100
Short-circuit protection	Pulsed	Pulsed	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	<4	<4	<4	<4
Current consumption[mA]	<0.6(24VDC)	<0.6(24VDC)	<0.6(24VDC)	<0.6(24VDC)
Real sensing range[mm]	4 ± 10%	6 ± 10%	4 ± 10%	6 ± 10%
Operating range[mm]	0...2	0...4.8	0...3.2	0...3.2
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	3…20	3…20	3…20	3…20
Switching frequency [Hz]	1000	1000	1000	1000
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Ambient humidity [%]	35…95	35…95	35…95	35…95
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.14mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

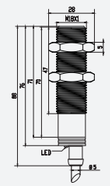
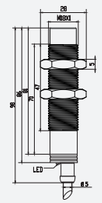
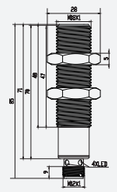
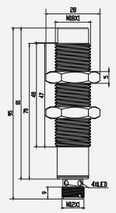
Size	M18 Standard			
Standard	Cable		Connector	
Sensing range	5mm	8mm	5mm	8mm
3 wire PNP NO	IC1001	IC1005	IC1009	IC1013
3 wire PNP NC	IC1002	IC1006	IC1010	IC1014
3 wire NPN NO	IC1003	IC1007	IC1011	IC1015
3 wire NPN NC	IC1004	IC1008	IC1012	IC1016
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	5 ± 10%	8 ± 10%	5 ± 10%	8 ± 10%
Operating range[mm]	0...4	0...6.4	0...4	0...6.4
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	400	400	400	400
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

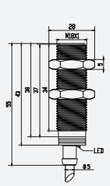
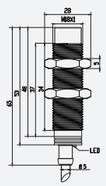
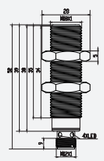
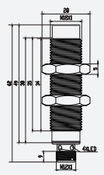
Size	M18 Standard			
Standard	Cable		Connector	
Sensing range	5mm	8mm	5mm	8mm
				
2 wire NO	IC1017	IC1019	IC1021	IC1023
2 wire NC	IC1018	IC1020	IC1022	IC1024
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 4.3DC	< 4.3DC	< 4.3DC	< 4.3DC
Current consumption[mA]	< 1(24VDC)	< 1(24VDC)	< 1(24VDC)	< 1(24VDC)
Real sensing range[mm]	5 ± 10%	8 ± 10%	5 ± 10%	8 ± 10%
Operating range[mm]	0...4	0...6.4	0...4	0...6.4
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	70	70	70	70
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

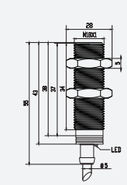
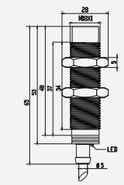
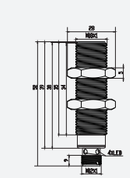
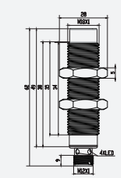
Size	M18 Standard			
Standard	Cable		Connector	
Sensing range	5mm	8mm	5mm	8mm
2 wire NO	IC1025	IC1027	IC1029	IC1031
2 wire NC	IC1026	IC1028	IC1030	IC1032
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC	20...250AC/DC	20...250AC/DC
Current loading[mA]	250	250	250	250
Short-circuit protection	No	No	No	No
Overload protection	No	No	No	No
Voltage drop[V]	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC
Current consumption[mA]	< 2.5(250VAC)/ < 1.3(110VAC)/ < 0.8(24VDC)			
Real sensing range[mm]	5 ± 10%	8 ± 10%	5 ± 10%	8 ± 10%
Operating range[mm]	0...4	0...6.4	0...4	0...6.4
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	25AC/60DC	25AC/60DC	25AC/60DC	25AC/60DC
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

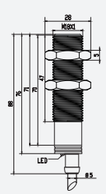
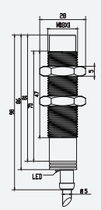
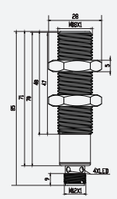
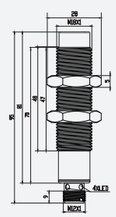
Size	M18 Extra length			
Standard	Cable		Connector	
Sensing range	7mm	12mm	7mm	12mm
3 wire PNP NO	IC1101	IC1105	IC1109	IC1113
3 wire PNP NC	IC1102	IC1106	IC1110	IC1114
3 wire NPN NO	IC1103	IC1107	IC1111	IC1115
3 wire NPN NC	IC1104	IC1108	IC1112	IC1116
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	7 ± 10%	12 ± 10%	7 ± 10%	12 ± 10%
Operating range[mm]	0...5.6	0...9.6	0...5.6	0...9.6
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	400	400	400	400
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

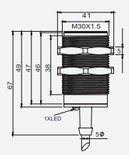
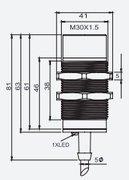
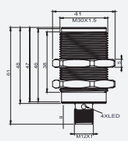
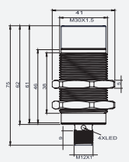
Size	M18 Extra length			
Standard	Cable		Connector	
Sensing range	7mm	12mm	7mm	12mm
2 wire NO	IC1117	IC1119	IC1121	IC1123
2 wire NC	IC1118	IC1120	IC1122	IC1124
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 4.3DC	< 4.3DC	< 4.3DC	< 4.3DC
Current consumption[mA]	< 1(24VDC)	< 1(24VDC)	< 1(24VDC)	< 1(24VDC)
Real sensing range[mm]	7 ± 10%	12 ± 10%	7 ± 10%	12 ± 10%
Operating range[mm]	0...5.6	0...9.6	0...5.6	0...9.6
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	70	70	70	70
Ambient temperature [℃/°F]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface: PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

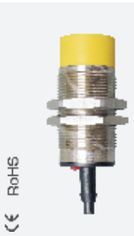
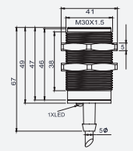
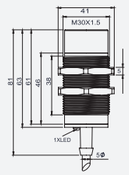
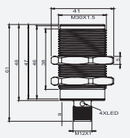
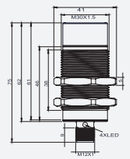
Size	M18 Extra length			
Standard	Cable		Connector	
Sensing range	7mm	12mm	7mm	12mm
2 wire NO	IC1125	IC1127	IC1129	IC1131
2 wire NC	IC1126	IC1128	IC1130	IC1132
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC	20...250AC/DC	20...250AC/DC
Current loading[mA]	250	250	250	250
Short-circuit protection	No	No	No	No
Overload protection	No	No	No	No
Voltage drop[V]	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC
Current consumption[mA]	< 2.5(250VAC)/ < 1.3(110VAC)/ < 0.8(24VDC)			
Real sensing range[mm]	7 ± 10%	12 ± 10%	7 ± 10%	12 ± 10%
Operating range[mm]	0...5.6	0...9.6	0...5.6	0...9.6
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	25AC/60DC	25AC/60DC	25AC/60DC	25AC/60DC
Ambient temperature [℃/°F]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface: PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

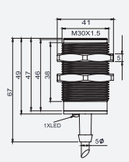
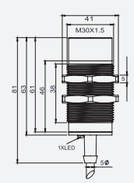
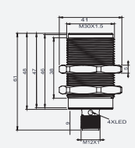
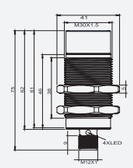
Size	M18 High temperature			
Standard	Cable		Connector	
Sensing range	5mm	8mm	5mm	8mm
3 wire PNP NO	IC1201	IC1205	IC1209	IC1213
3 wire PNP NC	IC1202	IC1206	IC1210	IC1214
3 wire NPN NO	IC1203	IC1207	IC1211	IC1215
3 wire NPN NC	IC1204	IC1208	IC1212	IC1216
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)	<15 (24VDC)	< 15(24VDC)
Real sensing range[mm]	5 ± 10%	8 ± 10%	5 ± 10%	8 ± 10%
Operating range[mm]	0...4	0...6.4	0...4	0...6.4
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	400	400	400	400
Ambient temperature [℃/℉]	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

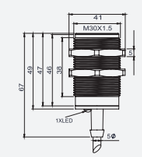
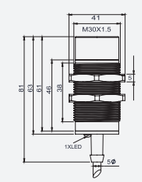
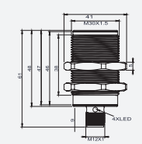
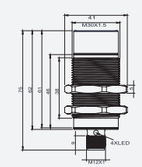
Size	M18 High temperature			
Standard	Cable		Connector	
Sensing range	5mm	8mm	5mm	8mm
2 wire NO	IC1217	IC1219	IC1221	IC1223
2 wire NC	IC1218	IC1220	IC1222	IC1224
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	4.3DC	4.3DC	4.3DC	4.3DC
Current consumption[mA]	< 1(24VDC)	< 1(24VDC)	< 1(24VDC)	< 1(24VDC)
Real sensing range[mm]	5 ± 10%	8 ± 10%	5 ± 10%	8 ± 10%
Operating range[mm]	0...4	0...6.4	0...4	0...6.4
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	70	70	70	70
Ambient temperature [℃/℉]	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

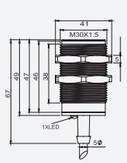
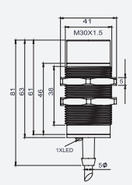
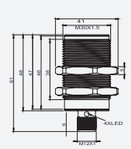
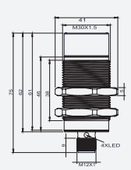
Size	M18 High temperature			
Standard	Cable		Connector	
Sensing range	5mm	8mm	5mm	8mm
2 wire NO	IC1225	IC1227	IC1229	IC1231
2 wire NC	IC1226	IC1228	IC1230	IC1232
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC	20...250AC/DC	20...250AC/DC
Current loading[mA]	250	250	250	250
Short-circuit protection	No	No	No	No
Overload protection	No	No	No	No
Voltage drop[V]	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC
Current consumption[mA]	< 2.5(250VAC)/ < 1.3(110VAC)/ < 0.8(24VDC)			
Real sensing range[mm]	5 ± 10%	8 ± 10%	5 ± 10%	8 ± 10%
Operating range[mm]	0...4	0...6.4	0...4	0...6.4
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	25AC/60DC	25AC/60DC	25AC/60DC	25AC/60DC
Ambient temperature [℃/℉]	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

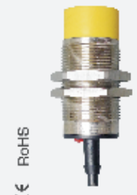
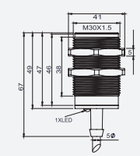
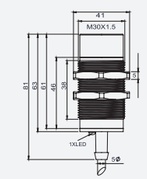
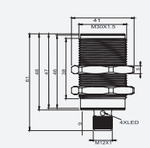
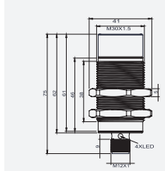
Size	M30 Standard			
Standard	Cable		Connector	
Sensing range	10mm	15mm	10mm	15mm
3 wire PNP NO	ID1001	ID1005	ID1009	ID1013
3 wire PNP NC	ID1002	ID1006	ID1010	ID1014
3 wire NPN NO	ID1003	ID1007	ID1011	ID1015
3 wire NPN NC	ID1004	ID1008	ID1012	ID1016
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	10 ± 10%	15 ± 10%	10 ± 10%	15 ± 10%
Operating range[mm]	0...8	0...12	0...8	0...12
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	100	100	100	100
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

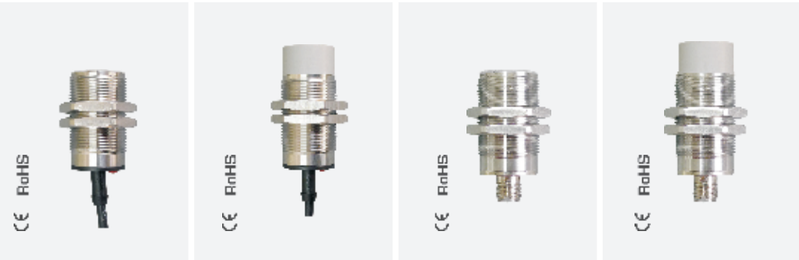
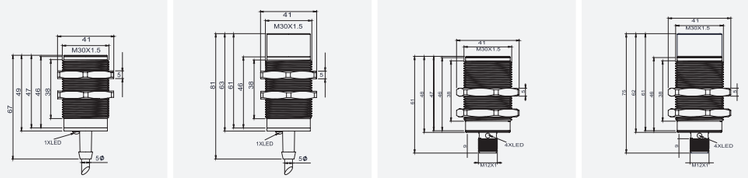
Size	M30 Standard			
Standard	Cable		Connector	
Sensing range	10mm	15mm	10mm	15mm
				
2 wire NO	ID1017	ID1019	ID1021	ID1023
2 wire NC	ID1018	ID1020	ID1022	ID1024
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 5	< 5	< 5	< 5
Current consumption[mA]	< 0.6(24VDC)	< 0.6(24VDC)	< 0.6(24VDC)	< 0.6(24VDC)
Real sensing range[mm]	10 ± 10%	15 ± 10%	10 ± 10%	15 ± 10%
Operating range[mm]	0...8	0...12	0...8	0...12
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	60	60	60	60
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

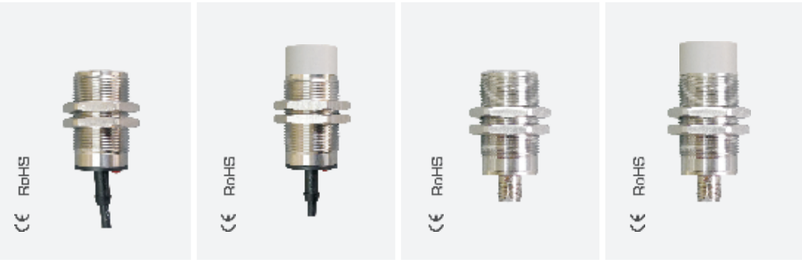
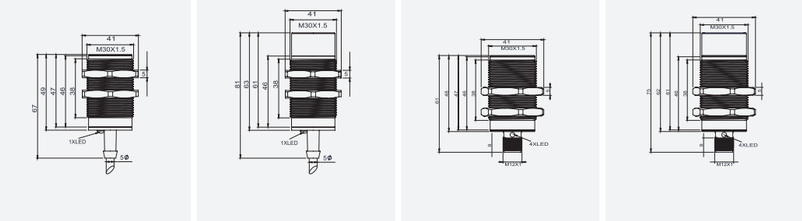
Size	M30 Standard			
Standard	Cable		Connector	
Sensing range	10mm	15mm	10mm	15mm
2 wire NO	ID1025	ID1027	ID1029	ID1031
2 wire NC	ID1026	ID1028	ID1030	ID1032
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC	20...250AC/DC	20...250AC/DC
Current loading[mA]	250	250	250	250
Short-circuit protection	No	No	No	No
Overload protection	No	No	No	No
Voltage drop[V]	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC
Current consumption[mA]	< 2(250VAC)/ < 1.5(110VAC)/ < 0.6(24VDC)			
Real sensing range[mm]	10 ± 10%	15 ± 10%	10 ± 10%	15 ± 10%
Operating range[mm]	0...8	0...12	0...8	0...12
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	25AC/60DC	25AC/60DC	25AC/60DC	25AC/60DC
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

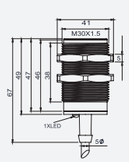
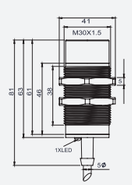
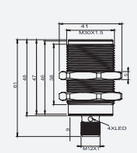
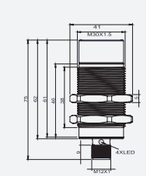
Size	M30 Extra length			
Standard	Cable		Connector	
Sensing range	15mm	22mm	15mm	22mm
3 wire PNP NO	ID1101	ID1105	ID1109	ID1113
3 wire PNP NC	ID1102	ID1106	ID1110	ID1114
3 wire NPN NO	ID1103	ID1107	ID1111	ID1115
3 wire NPN NC	ID1104	ID1108	ID1112	ID1116
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	15 ± 10%	22 ± 10%	15 ± 10%	22 ± 10%
Operating range[mm]	0...12	0...17.6	0...12	0...17.6
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	100	100	100	100
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

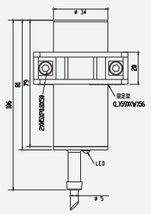
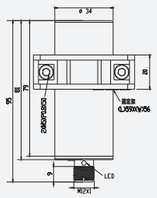
Size	M30 Extra length			
Standard	Cable		Connector	
Sensing range	15mm	22mm	15mm	22mm
2 wire NO	ID1117	ID1119	ID1121	ID1123
2 wire NC	ID1118	ID1120	ID1122	ID1124
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 5V	< 5V	< 5V	< 5V
Current consumption[mA]	< 0.6(24VDC)	< 0.6(24VDC)	< 0.6(24VDC)	< 0.6(24VDC)
Real sensing range[mm]	15 ± 10%	22 ± 10%	15 ± 10%	22 ± 10%
Operating range[mm]	0...12	0...17.6	0...12	0...17.6
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	60	60	60	60
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

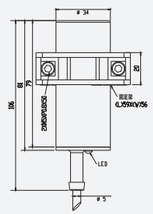
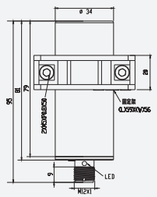
Size	M30 Extra length			
Standard	Cable		Connector	
Sensing range	15mm	22mm	15mm	22mm
				
2 wire NO	ID1125	ID1127	ID1129	ID1131
2 wire NC	ID1126	ID1128	ID1130	ID1132
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC	20...250AC/DC	20...250AC/DC
Current loading[mA]	250	250	250	250
Short-circuit protection	No	No	No	No
Overload protection	No	No	No	No
Voltage drop[V]	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC
Current consumption[mA]	< 2(250VAC)/ < 1.5(110VAC)/ < 0.6(24VDC)			
Real sensing range[mm]	15 ± 10%	22 ± 10%	15 ± 10%	22 ± 10%
Operating range[mm]	0...12	0...17.6	0...12	0...17.6
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	25AC/60DC	25AC/60DC	25AC/60DC	25AC/60DC
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

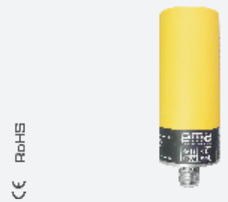
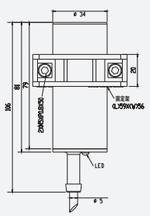
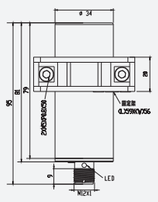
Size	M30 High temperature			
Standard	Cable		Connector	
Sensing range	10mm	15mm	10mm	15mm
				
3 wire PNP NO	ID1201	ID1205	ID1209	ID1213
3 wire PNP NC	ID1202	ID1206	ID1210	ID1214
3 wire NPN NO	ID1203	ID1207	ID1211	ID1215
3 wire NPN NC	ID1204	ID1208	ID1212	ID1216
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	10 ± 10%	15 ± 10%	10 ± 10%	15 ± 10%
Operating range[mm]	0...8	0...12	0...8	0...12
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	100	100	100	100
Ambient temperature [℃/°F]	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm^2		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

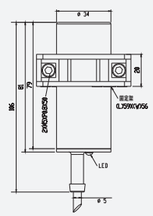
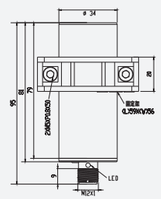
Size	M30 High temperature			
Standard	Cable		Connector	
Sensing range	10mm	15mm	10mm	15mm
				
2 wire NO	ID1217	ID1219	ID1221	ID1223
2 wire NC	ID1218	ID1220	ID1222	ID1224
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Yes	Yes	Yes	Yes
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 5	< 5	< 5	< 5
Current consumption[mA]	< 0.6(24VDC)	< 0.6(24VDC)	< 0.6(24VDC)	< 0.6(24VDC)
Real sensing range[mm]	10 ± 10%	15 ± 10%	10 ± 10%	15 ± 10%
Operating range[mm]	0...8	0...12	0...12	0...12
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	60	60	60	60
Ambient temperature [℃/°F]	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm^2		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

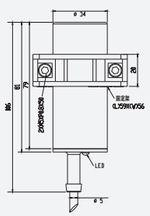
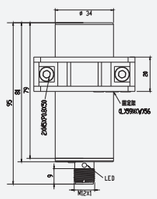
Size	M30 High temperature			
Standard	Cable		Connector	
Sensing range	10mm	15mm	10mm	15mm
2 wire NO	ID1225	ID1227	ID1229	ID1231
2 wire NC	ID1226	ID1228	ID1230	ID1232
Sensing surface	Flush	Non-flush	Flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC	20...250AC/DC	20...250AC/DC
Current loading[mA]	250	250	250	250
Short-circuit protection	No	No	No	No
Overload protection	No	No	No	No
Voltage drop[V]	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC	< 6.5AC/ < 6DC
Current consumption[mA]	< 2(250VAC)/ < 1.5(110VAC)/ < 0.6(24VDC)			
Real sensing range[mm]	10 ± 10%	15 ± 10%	10 ± 10%	15 ± 10%
Operating range[mm]	0...8	0...12	0...8	0...12
Switch-point drift [%Sr]	–10...10	–10...10	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	25AC/60DC	25AC/60DC	25AC/60DC	25AC/60DC
Ambient temperature [℃/℉]	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	Stainless steel ; Sensing surface：PBT			
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm²		M12 Connector	
Accessories	Two fixed nuts			
Drawing				

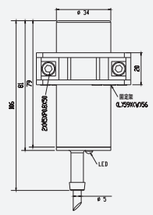
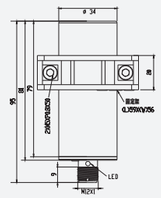
Size	Ø34 Standard	
Standard	Cable	Connector
Sensing range	20mm	20mm
3 wire PNP NO	IE1001	IE1005
3 wire PNP NC	IE1002	IE1006
3 wire NPN NO	IE1003	IE1007
3 wire NPN NC	IE1004	IE1008
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	350	350
Short-circuit protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	100	100
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	M12 Connector
Accessories	Fixed bracket	
Drawing		

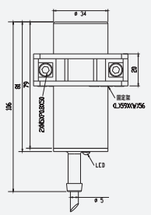
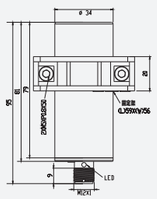
Size	Ø34 Standard	
Standard	Cable	Connector
Sensing range	20mm	20mm
2 wire NO	IE1009	IE1011
2 wire NC	IE1010	IE1012
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	350	350
Short-circuit protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 5.5	< 5.5
Current consumption[mA]	< 0.6(24VDC)	< 0.6(24VDC)
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	50	50
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	M12 Connector
Accessories	Fixed bracket	
Drawing		

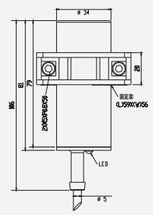
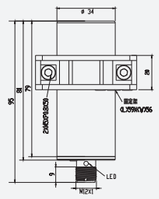
Size	Ø34 Standard	
Standard	Cable	Connector
Sensing range	20mm	20mm
		
2 wire NO	IE1013	IE1015
2 wire NC	IE1014	IE1016
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC
Current loading[mA]	350	350
Short-circuit protection	No	No
Overload protection	No	No
Voltage drop[V]	< 6AC/ < 5.5DC	< 6AC/ < 5.5DC
Current consumption[mA]	< 2.5 (250V AC) / < 1.3 (110 V AC) / < 0.8 (24 V DC)	
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	25 AC / 50 DC	25 AC / 50 DC
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	M12 Connector
Accessories	Fixed bracket	
Drawing		

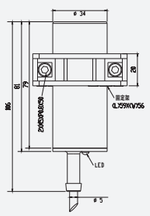
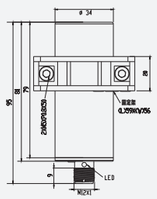
Size	Ø34 Extra length	
Standard	Cable	Connector
Sensing range	30mm	30mm
3 wire PNP NO	IE1101	IE1105
3 wire PNP NC	IE1102	IE1106
3 wire NPN NO	IE1103	IE1107
3 wire NPN NC	IE1104	IE1108
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	350	350
Short-circuit protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	30 ± 10%	30 ± 10%
Operating range[mm]	0...24	0...24
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	100	100
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	M12 Connector
Accessories	Fixed bracket	
Drawing		

Size	∅34 Extra length	
Standard	Cable	Connector
Sensing range	30mm	30mm
2 wire NO	IE1109	IE1111
2 wire NC	IE1110	IE1112
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	350	350
Short-circuit protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 5.5	< 5.5
Current consumption[mA]	< 0.6(24VDC)	< 0.6(24VDC)
Real sensing range[mm]	30 ± 10%	30 ± 10%
Operating range[mm]	0...24	0...24
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	50	50
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	M12 Connector
Accessories	Fixed bracket	
Drawing		

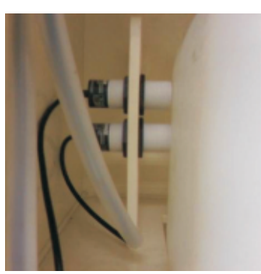
Size	∅34 Extra length	
Standard	Cable	Connector
Sensing range	30mm	30mm
2 wire NO	IE1113	IE1115
2 wire NC	IE1114	IE1116
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC
Current loading[mA]	350	350
Short-circuit protection	No	No
Overload protection	No	No
Voltage drop[V]	< 6AC/ < 5.5DC	< 6AC/ < 5.5DC
Current consumption[mA]	< 2.5 (250V AC) / < 1.3 (110 V AC) / < 0.8 (24 V DC)	
Real sensing range[mm]	30 ± 10%	30 ± 10%
Operating range[mm]	0...24	0...24
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	25 AC / 50 DC	25 AC / 50 DC
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	M12 Connector
Accessories	Fixed bracket	
Drawing		

Size	Ø34 High temperature	
Standard	Cable	Connector
Sensing range	20mm	20mm
3 wire PNP NO	IE1201	IE1205
3 wire PNP NC	IE1202	IE1206
3 wire NPN NO	IE1203	IE1207
3 wire NPN NC	IE1204	IE1208
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	350	350
Short-circuit protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5
Current consumption[mA]	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	100	100
Ambient temperature [℃/℉]	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm^2	M12 Connector
Accessories	Fixed bracket	
Drawing		

Size	Ø34 High temperature	
Standard	Cable	Connector
Sensing range	20mm	20mm
2 wire NO	IE1209	IE1211
2 wire NC	IE1210	IE1212
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	350	350
Short-circuit protection	Yes	Yes
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 5.5	< 5.5
Current consumption[mA]	< 0.6(24VDC)	< 0.6(24VDC)
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	50	50
Ambient temperature [℃/℉]	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm^2	M12 Connector
Accessories	Fixed bracket	
Drawing		

Size	∅34 High temperature	
Standard	Cable	Connector
Sensing range	20mm	20mm
2 wire NO	IE1213	IE1215
2 wire NC	IE1214	IE1216
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	20...250AC/DC	20...250AC/DC
Current loading[mA]	350	350
Short-circuit protection	No	No
Overload protection	No	No
Voltage drop[V]	< 6,5 AC / < 6 DC	< 6,5 AC / < 6 DC
Current consumption[mA]	< 2.5 (250V AC) / < 1.3 (110 V AC) / < 0.8 (24 V DC)	
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–10...10	–10...10
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	25 AC / 50 DC	25 AC / 50 DC
Ambient temperature [℃/℉]	-25...120/-13...248	-25...120/-13...248
Protection classification	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.5/Alumium approx 0.4/Copper approx 0.3	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	silicone-cable/2m;3×0.34mm^2	M12 Connector
Accessories	Fixed bracket	
Drawing		

Capacitive Proximity Sensors



Capacitive proximity sensors belong to a sort of position sensors. Similar to the structure of a capacitor, the probe of sensor acts as one pole of capacitor and another pole is the sensing object. While the sensing object approaches a proximity sensor, the dielectric constant may change between object and sensor. Meanwhile, this causes the circuit to alter.

IP67 CE SGS RoHS

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Features

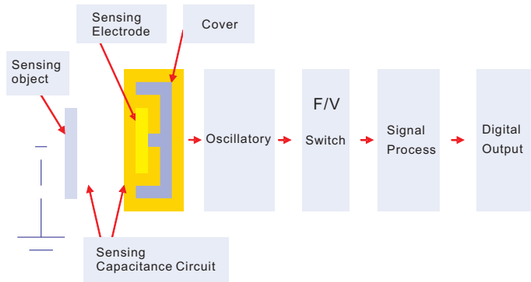
- Plastic thread type and cylinder type; Structure of sensors, durable working, and supply voltage AC/DC available
- Stable Operation: Without adjustable and mechanical components, proximity sensors don't be affected by the qualities of mediums and the variation of density, and it can work immediately after installation
- A variety of size and of outputs, easy installation, user-friendly handling
- Operating temperature:-25~80℃; High temperature type:-25~100℃
- Protection Classification: IP67
- Certification: CE and RoHS
- Sensing Objects: Solids and liquids
- Output：NPN、PNP、AC、DC、NO、NC
- Display：LED
- Electric Protection: Overload, short-circuit, reverse polarity

Operating Principle

Capacitive proximity sensors belong to a sort of position sensors. Similar to the structure of a capaci-tor, the probe of sensor acts as one pole of capacitor and another pole is the sensing object. While the sensing object approaches a proximity sensor, the dielectric constant may change between object and sensor. Meanwhile, this causes the circuit to alter. The sensing objects of capacitive proximity sensors can be not only metals but al-so insulting solids, liquids, and powders. When detecting the low-k objects, proximity sensors can enhance the sensitivity by modifying clockwise the multipotentiometer behind the sensors; furthermore, a normal potentiometer makes a capacitive proximity sensor actuate in the position of sensing range by 70%~80%.

The sensing interface of capacitive proximity sensor is composed of two in-line metal electrodes, and it is similar to an open capacitors. These two electrodes constitute a capacitance with a series connection inside theRC oscillatory circuit. When the power is on, the RC oscillator stop working until a sensing object approaches the sensing interface due to the increasing volume of capacitance. Through the comparison between the signals handled by the post-circuit and the internal signals, a capacitive proximity sensor can detect the existence of objects. It can sense not only the metals but non-metals; moreover,the sensing range to the metals canacquire maximum value. The sensing range of the non-metals depends on the dielectric constants of the sensing materials. The higher dielectric constant, the longer sensing ranges.

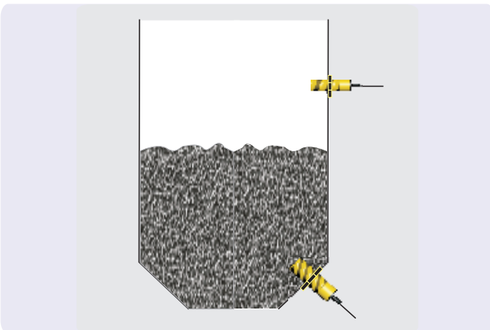
Operation Procedure of Capacitive Proximity Sensors



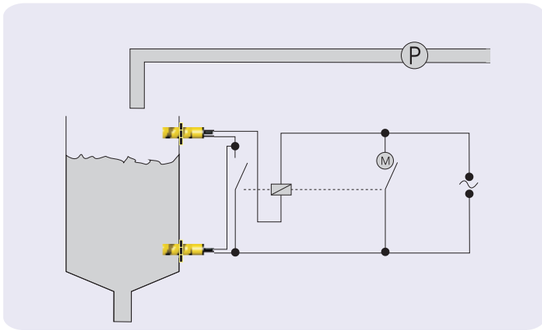
Application

Capacitive Proximity Sensors can sense metals and non-metals,such as liquids, solids in the funnels,the storage tanks, and the granaries. They are applied extensively in the industry; for example timbering, papermaking, glass, plastics, foods, cement, chemistry engineering, and etc.

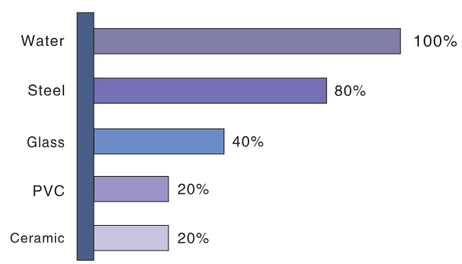
Sensing Level of Solids



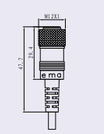
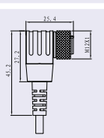
Sensing Level of Liquids



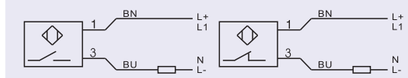
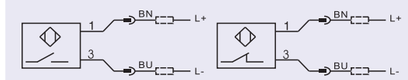
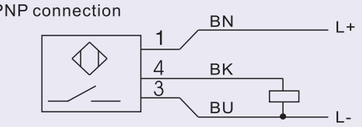
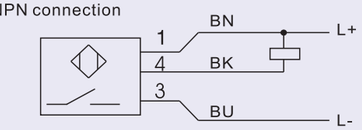
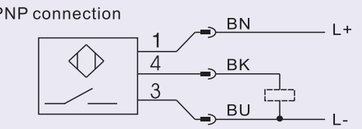
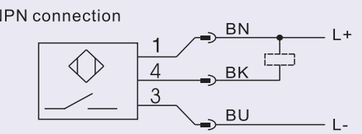
The relationship of object material and detecting distance



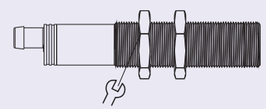
Accessories

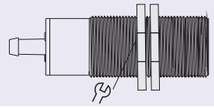
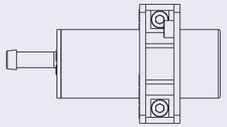
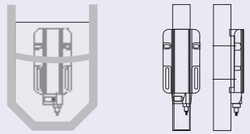
Type	Drawing	Connector Order No.					
I		C	02	I	4	C	12
L		C: Cable	Length 02: 2M 05: 5M 10: 10M	Connector I: Straight L: Angled	Pole 4: 4 5: 5	Material R:PUR C:PVC S:PVC Shield	Size 12: M12

Connection

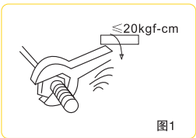
Electric Design	Connection	Wire/Core Color	Wiring
2 Wire	2M PVC	BN Brown BU Blue	
	M12 Socket	WH white ② BN Brown ① ③ BU Blue ④ BK Black	
3 Wire	2M PVC	BN Brown BU Blue BK Black	PNP connection  NPN connection 
	M12 Socket	WH white ② BN Brown ① ③ BU Blue ④ BK Black	PNP connection  NPN connection 

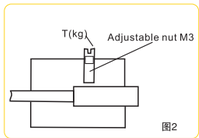
Installation

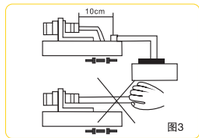
Type	Mounting	Mounting Size	Mounting Direction
CA	Standard Mounting (with nut)	1、Nut：M18×1 2、Vent：18.2<D<22(mm) 3、Non-flush mounting	

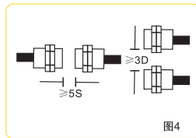
CB	Standard Mounting (with nut)	1、Nut：M30×1.5 2、Vent：30.2<D<34(mm) 3、Non-flush mounting	
CC	Mounting Clamp	1、Vent：34.2<D<40(mm) 2、Fixed Bolt：M5 3、Non-flush mounting	
CD	Fixture Wire	Mount the wire through the holes of sensor, and fix it to the tube.	

Installation Notice









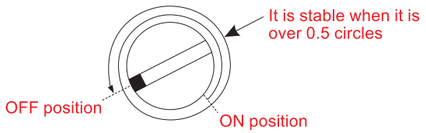
- Mounting for thread type :Don't twist the torgue too hard (Fig.1)
- Mounting for cylinder type : To adjust the fixed screw and keep the torque in the range of 2-4kgf-cm. (Fig. 2)
- Lead protection: Please fasten the lead which is located 10cm far away the sensor by a clip in order to avoid the damage of sensor resulted from the lead affected by an external force. (Fig. 3)
- To prevent the mutual influences between the sensors: When mounting in facing way or apposed way, please
- follow the instruction in Fig.4 to avoid of the false operation from the mutual influences.

Sensitivity adjustment

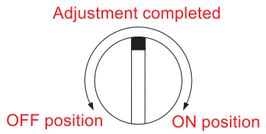
A Without any target in front of the sensing face, turn the sensitivity potentiometer clockwise until the proximity sensor turns ON (LED light turns on) .

B With a target in front of the sensing face, turn the sensitivity potentiometer anticlockwise from the ON position stated in A until the proximity sensor turns OFF (LED light turns off) .

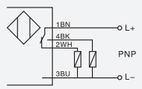
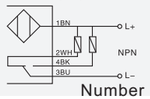
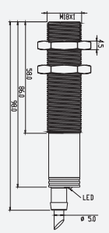
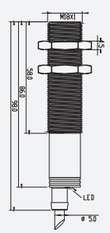
C If the difference between ON position and OFF position in B is more than 0.5 turns, the operation sensor is stable.

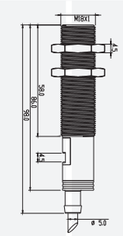
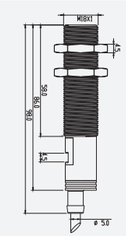


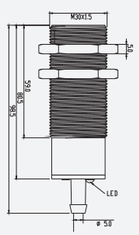
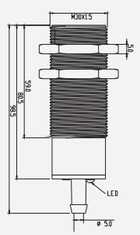
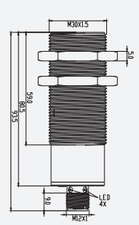
D If you set sensitivity potentiometer at center position between ON and OFF position, sensitivity setting is completed.

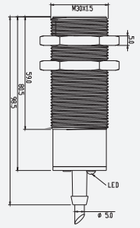
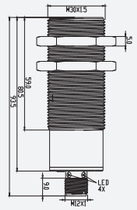
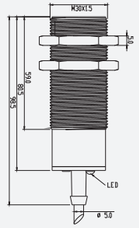
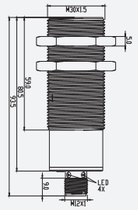


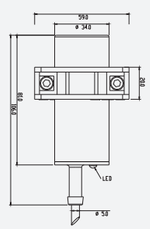
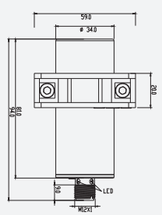
※ When there is distance fluctuation between proximity sensor and target, please adjust B with target at farthest from this unit.
※ Turning potentiometer clockwise is maximum and turning anticlockwise it is minimum. Number of adjustment should be 6±2 revolution and if you turn right or left excessively, it is non–stop.

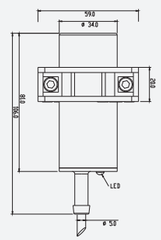
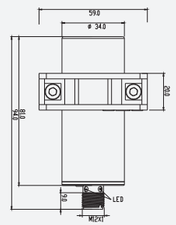
Size	M18	
Standard	Cable	
Sensing range	8mm	8mm
4 wire PNP wiring layout  4 wire NPN wiring layout  Number		
3 wire PNP NO	CA0004	
3 wire PNP NC	CA0005	
3 wire NPN NO	CA0006	
3 wire NPN NC	CA0007	
4 wire PNP NO/NC		CA0018
4 wire NPN NO/NC		CA0012
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	250	250
Short-circuit protection	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5
Current consumption[mA]	< 13(24VDC)	< 13(24VDC)
Real sensing range[mm]	8 ± 10%	8 ± 10%
Operating range[mm]	0...6.5	0...6.5
Switch-point drift [%Sr]	–15...15	–15...15
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	40	40
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Water=1/Glass approx 0.4/Ceramic approx 0.2/PVC approx 0.2	
Housing material	PBT	PP
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	PVC-cable/2m;4×0.34mm²
Accessories	Fixed nut,screw driver	
Drawing		

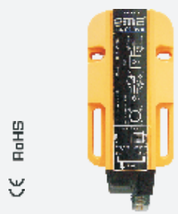
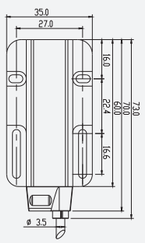
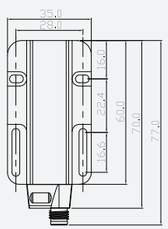
Size	M18	
Standard	Cable	
Sensing range	8mm	8mm
2 wire AC/DC NO	CA0001	
2 wire AC/DC NC	CA0002	
2 wire DC NO/NC		CA0008
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	20...250AC	10...36DC
Current loading continuous[mA]	250(...50℃)/200(...70℃)	250
Current loading temporary[mA]	1.5 A(20 ms / 0.5 Hz)	
Lowest current loading	5	
Short-circuit protection	No	Pluse type
Reverse polarity protection	No	Yes
Overload protection	No	Yes
Voltage drop[V]	< 10 AC / < 8 DC	< 4.6
Leakage current[mA]	< 2.5(250 V AC)/ < 1.7(110 V AC) / < 1.5(24 V DC)	< 1(24VDC)
Real sensing range[mm]	8 ± 10%	8 ± 10%
Operating range[mm]	0...6.5	0...6.5
Switch-point drift [%Sr]	–15...15	–15...15
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	25AC / 40DC	40
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Water=1/Glass approx 0.4/Ceramic approx 0.2/PVC approx 0.2	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	
Accessories	Fixed nut,screw driver	
Drawing		

Size	M30		
Standard	Cable		Connector
Sensing range	15mm	15mm	15mm
3 wire PNP NO	CB0004		CB0012
3 wire PNP NC	CB0005		CB0013
3 wire NPN NO	CB0006		CB0014
3 wire NPN NC	CB0007		CB0015
4 wire PNP NO/NC		CB0018	
4 wire NPN NO/NC		CB0022	
Sensing surface	Non-flush	Non-flush	
Operating voltage[V]	10...36DC	10...36DC	10...36DC
Current loading[mA]	250	250	250
Short-circuit protection	Pulsed	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5
Current consumption[mA]	< 13(24VDC)	< 13(24VDC)	< 13(24VDC)
Real sensing range[mm]	15 ± 10%	15 ± 10%	15 ± 10%
Operating range[mm]	0...12	0...12	0...12
Switch-point drift [%Sr]	–15...15	–15...15	–15...15
Hysteresis [%Sr]	1...15	1...15	1...15
Switching frequency [Hz]	40	40	40
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67
Adjustment factors	Water=1/Glass approx 0.4/Ceramic approx 0.2/PVC approx 0.2		
Housing material	PBT	PP	PBT
Display LED	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm²	PVC-cable/2m;4×0.34mm²	M12 Connector
Accessories	Fixed nut,screw driver		
Drawing			

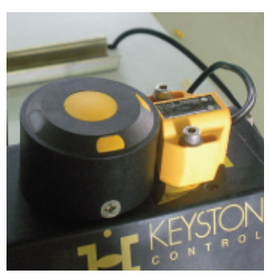
Size	M30			
Standard	Cable	Connector	Cable	Connector
Sensing range	15mm	15mm	15mm	15mm
2 wire AC/DC NO	CB0001	CB0009		
2 wire AC/DC NC	CB0002	CB0010		
2 wire AC/DC NO/NC	CB0003	CB0011		
2 wire DC NO/NC			CB0008	CB0016
Sensing surface	Non-flush	Non-flush	Non-flush	Non-flush
Operating voltage[V]	20...250 AC	20...250 AC	10...36DC	10...36DC
Current loading continuous[mA]	250(...50℃)/200(...70℃)		250	250
Current loading temporary[mA]	1.5 A(20 ms / 0.5 Hz)	1.5 A(20 ms / 0.5 Hz)		
Lowest current loading	5	5		
Short-circuit protection	No	No	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	No	No	Yes	Yes
Voltage drop[V]	< 10 AC / < 8 DC	< 10 AC / < 8 DC	< 4.6	< 4.6
Leakage current[mA]	< 2.5 (250 V AC) / < 1.7 (110 V AC) / < 1.5 (24 V DC)		< 1(24VDC)	< 1(24VDC)
Real sensing range[mm]	15 ± 10%	15 ± 10%	15 ± 10%	15 ± 10%
Operating range[mm]	0...12	0...12	0...12	0...12
Switch-point drift [%Sr]	–15...15	–15...15	–15...15	–15...15
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	25AC / 40DC	25AC / 40DC	40	40
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Water=1/Glass approx 0.4/Ceramic approx 0.2/PVC approx 0.2			
Housing material	PBT	PBT	PBT	PBT
Display LED	Red(90°)	Red(90°)	Red(90°)	Red(90°)
Connection	PVC-cable/2m;2×0.34mm²	M12 Connector	PVC-cable/2m;2×0.34mm²	M12 Connector
Accessories	Fixed nut,screw driver			
Drawing				

Size	Ø34	
Standard	Cable	Connector
Sensing range	20mm	20mm
3 wire PNP NO	CC0004	CC0012
3 wire PNP NC	CC0005	CC0013
3 wire NPN NO	CC0006	CC0014
3 wire NPN NC	CC0007	CC0015
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading[mA]	250	250
Short-circuit protection	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5
Current consumption[mA]	< 13(24VDC)	< 13(24VDC)
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–15...15	–15...15
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	40	40
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Water=1/Glass approx 0.4/Ceramic approx 0.2/PVC approx 0.2	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;3×0.34mm^2	M12 Connector
Accessories	Fixed nut,screw driver	
Drawing		

Size	Ø34	
Standard	Cable	Connector
Sensing range	20mm	20mm
2 wire DC NO/NC	CC0008	CC0016
Sensing surface	Non-flush	Non-flush
Operating voltage[V]	10...36DC	10...36DC
Current loading continuous[mA]	250	250
Short-circuit protection	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes
Overload protection	Yes	Yes
Voltage drop[V]	< 4.6	< 4.6
Leakage current[mA]	< 1(24VDC)	< 1(24VDC)
Real sensing range[mm]	20 ± 10%	20 ± 10%
Operating range[mm]	0...16	0...16
Switch-point drift [%Sr]	–15...15	–15...15
Hysteresis [%Sr]	1...15	1...15
Switching frequency [Hz]	40	40
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67
Adjustment factors	Water=1/Glass approx 0.4/Ceramic approx 0.2/PVC approx 0.2	
Housing material	PBT	PBT
Display LED	Red(90°)	Red(90°)
Connection	PVC-cable/2m;2×0.34mm^2	M12 Connector
Accessories	Fixed nut,screw driver	
Drawing		

Size		35 × 70mm	
Standard		Cable	Connector
Sensing range		25mm	25mm
			
3 wire PNP NO/NC		CD0001	CD0003
3 wire NPN NO/NC		CD0002	CD0004
Sensing surface		Non-flush	Non-flush
Operating voltage[V]		10...36VDC	10...36VDC
Current loading[mA]		200mA	200mA
Short-circuit protection		Pulsed	Pulsed
Reverse polarity protection		Yes	Yes
Overload protection		Yes	Yes
Voltage drop[V]		< 2.5	< 2.5
Current consumption[mA]		< 30(24VDC)	< 30(24VDC)
Real sensing range[mm]		25 ± 10%	25 ± 10%
Operating range[mm]		0...20	0...20
Switch-point drift [%Sr]		–15...15	–15...15
Hysteresis [%Sr]		1...15	1...15
Switching frequency [Hz]		5	5
Ambient temperature [℃/℉]		-25...80/-13...176	-25...80/-13...176
Protection classification		IP67	IP67
Adjustment factors		Water=1/Glass approx 0.4/Ceramic approx 0.2/PVC approx 0.2	
Housing material		PA66+GF	
Switching state	display LED	Yellow(90°)	Yellow(90°)
	operation LED	Green(90°)	Green(90°)
	function LED	Red(90°)	Red(90°)
Connection		PVC-cable/2m;4 × 0.14mm²	M8 Connector
Drawing			

Valve Proximity Sensors



IV series, valve sensors, with target puck, can detect posi -tion of valve precisely by its inner IC and temperature compensation circuit which offering a more reliable opera -tion. There are two proximity sensors equipped in one valve sensor. This valve sensor controls the open and close of valve accurately by detecting positions of nuts on the target disc.

IP67 CE SGS RoHS

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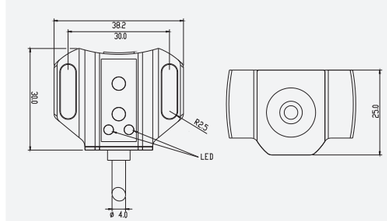
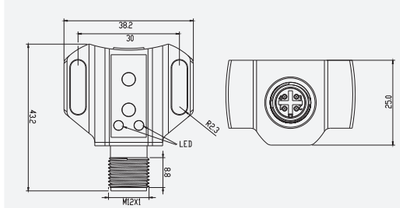
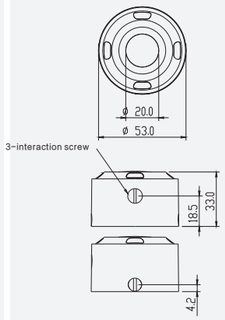
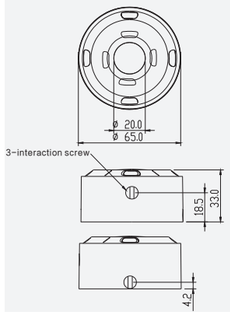
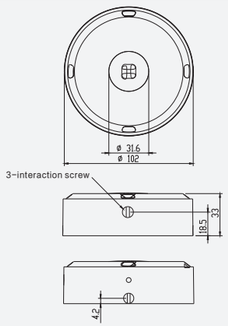
Size	40×30×25mm			
Standard	Cable		Connector	
Sensing range	4mm	4mm	4mm	4mm
	CE RoHS	CE RoHS	CE RoHS	CE RoHS
3 wire PNP NO	IV0001		IV0005	
3 wire PNP NC	IV0003		IV0007	
3 wire NPN NO		IV0002		IV0006
3 wire NPN NC		IV0004		IV0008
Sensing surface	Non-flush	Non-flush	Non-flush	Non-flush
Operating voltage[V]	10-36DC	10-36DC	10-36DC	10-36DC
Current loading[mA]	250	250	250	250
Short-circuit protection	Pulsed	Pulsed	Pulsed	Pulsed
Reverse polarity protection	Yes	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes	Yes
Voltage drop[V]	< 2.5	< 2.5	< 2.5	< 2.5
Leakage current[mA]	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)	< 15(24VDC)
Real sensing range[mm]	4 ± 10%	4 ± 10%	4 ± 10%	4 ± 10%
Operating range[mm]	0...3.2	0...3.2	0...3.2	0...3.2
Switch-point drift [%Sr]	-10...10	-10...10	-10...10	-10...10
Hysteresis [%Sr]	1...15	1...15	1...15	1...15
Switching frequency [Hz]	1300	1300	1300	1300
Ambient temperature [℃/℉]	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176	-25...80/-13...176
Protection classification	IP67	IP67	IP67	IP67
Adjustment factors	Low carbon steel=1/stainless steel spprox 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2			
Housing material	PBT			
Display LED	Red:upside sensing face output Green:downside sensing face output			
Connection	PVC-cable/2m;4×0.14mm²		M12 Connector	
Accessories	two fixed nuts, two fixed screws			
Drawing				

Size	53mm	65mm	102mm
	CE RoHS	CE RoHS	CE RoHS
Order No.	US0024	US0025	US0026
Sensing face number[pcs]	3		
Sensing face angle[degree]	90		
Sensing face dimension[mm]	Φ8 Circular		
Adjustment factors	Low carbon steel=1/stainless steel approx 0.7/Brass approx 0.4/Alumium approx 0.3/Copper approx 0.2		
Ambient temperature [℃]	–25...80		
Protection classification	IP67		
Housing material	PA66;PVC[Yellow marks]		
Installation	Φ6 locking screw		
			

Speed Monitor

This product can complete test and monitor the speed or pulse sequences by the collections of sensors. It can monitor rotating motion, straight-line motion, and all physical units converted to the pulse-group.It owns powerful and various functions for monitoring the excessive frequency, the speed rate, operation synchronization, and the reverse (slow/quik rate of rotation, and time-consuming synchronization or direction)

IP50 CE SGS OIT RoHS

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Linking your system

Features

- Smart speed monitor. User can easily set the frequency, rotation rate, pulse, and the warning signal
- Output: PNP, NPN, Relay, 0/4~20mA, 0~10V
- Display: LCD
- Power protection: overload, short-circuit, reverse polarity
- Mounting: DIN35
- Protection classification: IP50
- Certification: CE, RoHS

Applications

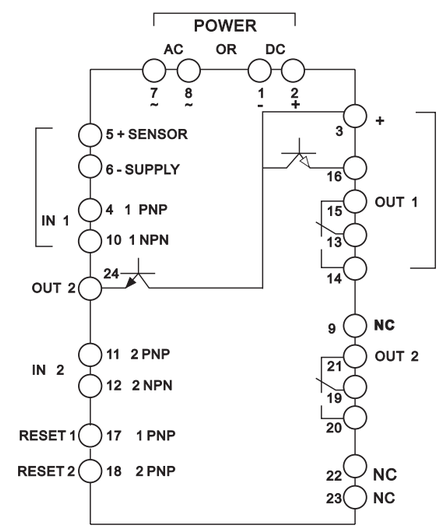
This product is applied to monitor rapid pulse-group and meantime the standard signal collected by the sensors can be displayed, detected, and recorded. It is used to broadly monitor the operation of the electric machinery, the rotation of the conveyor belt, the rotation of the wind turbines blades, and the direction of electric machinery.

Operating principle

This product can complete test and monitor the speed or pulse sequences by the collections of sensors. It can monitor rotating motion, straight-line motion, and all physical units converted to the pulse-group. It owns powerful and various functions for monitoring the excessive frequency, the speed rate, operation synchronization, and the reverse (slow/quick rate of rotation, and time-consuming synchronization or direction).

Connection

1.1 Dual channel input



Relay output (Out1/2)

Transistor output (Out1/2/3) Reset input (reset1 and reset2)

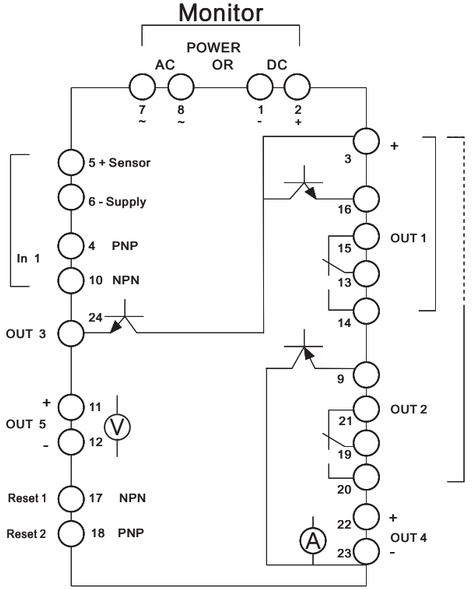
Wiring

Lead	Function	Lead	Function
1	DC Supply voltage(L−)	13	Relay 1 (center contact)
2	DC Supply voltage(L+)	14	Relay 1 (NO contact)
3	Supply transistor outputs(L+)	15	Relay 1 (NC contact)
4	Sensor signal PNP	16	Transistor output 1 PNP
5	DC Sensor supply (L+)	17	Reset 1 PNP
6	DC Sensor supply (L−)	18	Reset 2 PNP
7	AC Supply voltage	19	Relay 2 (center contact)
8	AC Supply voltage	20	Relay 2 (NO contact)
9	NC	21	Relay 2 (NC contact)
10	Sensor signal NPN	22	NC
11	Sensor signal 2 NPN	23	NC
12	Sensor signal 2 NPN	24	Transistor output 2 PNP

Connection

1.2 Single channel input

AC/DC input
Monitor

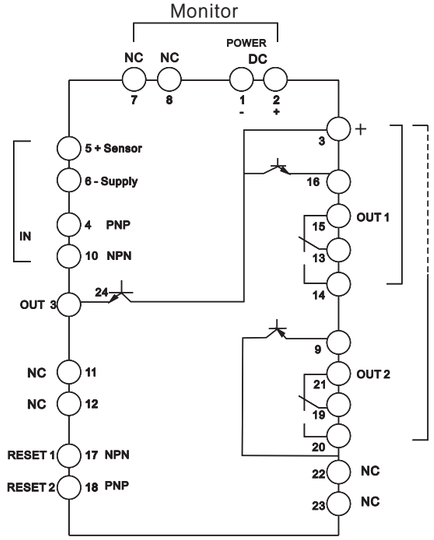


Relay output (Out1/2)
Transistor output (Out1/2/3)
Analogue output (Out4/5)
Reset input (reset1 and reset2)

Wiring

Lead	Function	Lead	Function
1	DC Supply voltage(L−)	13	Relay 1 (center contact)
2	DC Supply voltage(L+)	14	Relay 1 (NO contact)
3	Supply transistor outputs(L+)	15	Relay 1 (NC contact)
4	Sensor signal PNP	16	Transistor output 1 PNP
5	DC Sensor supply (L+)	17	Reset 1 NPN
6	DC Sensor supply (L−)	18	Reset 2 PNP
7	AC Supply voltage	19	Relay 2 (center contact)
8	AC Supply voltage	20	Relay 2 (NO contact)
9	Transistor output(NPN)	21	Relay 2 (NC contact)
10	Sensor signal NPN	22	Analogue current output (+)
11	Analogue voltage output(L+)	23	Analogue current output (−)
12	Analogue voltage output(L−)	24	Transistor output 2 PNP

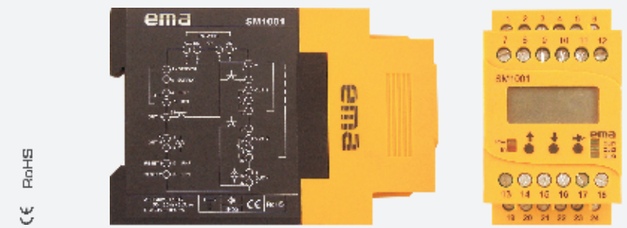
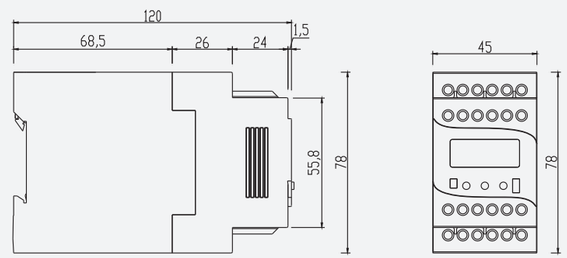
DC input
Monitor



Relay output (Out1/2)
Transistor output (Out1/2/3)
Reset input (reset1 and reset2)

Wiring

Lead	Function	Lead	Function
1	DC Supply voltage(L−)	13	Relay 1 (center contact)
2	DC Supply voltage(L+)	14	Relay 1 (NO contact)
3	Supply transistor outputs(L+)	15	Relay 1 (NC contact)
4	Sensor signal PNP	16	Transistor output 1 PNP
5	DC Sensor supply (L+)	17	Reset 1 NPN
6	DC Sensor supply (L−)	18	Reset 2 PNP
7	NC	19	Relay 2 (center contact)
8	NC	20	Relay 2 (NO contact)
9	Transistor output NPN	21	Relay 2 (NC contact)
10	Sensor signal NPN	22	NC
11	NC	23	NC
12	NC	24	Transistor output 2 PNP

Order No.		SM1001	SM1003	SM1002
Model		Single channel input	Single channel input	Dual channel input
				
Applications		Detection of frequency,rotational rate speed, pulse & the cycle time		
Setting range【Rotational rate/ Frequency】		1...60000RPM/0.1...1000.0HZ		
Rated voltage[V]		230VAC(50−60HZ)/24VDC	24VDC	230VAC(50−60HZ)/24VDC
Voltage tolerance[%]		10%		
Contact loading		8A(1250VA/250VAC)		
Power consumption[VA]		5(3W)		
Analogue output		0/4...20mA（500Ω）；0...10V	—	—
Pulse input		PNP/NPN; Supply voltage:24VDC/15mA, Switch point for PNP:>12V On; <5V Off, Switch point for NPN:>15V Off;<5V on Input frequency (Max.): 5KHz (Corresponding min.pulse length/interval 0.1ms)		
Transistor output		PNP / NPN	PNP / NPN	PNP
Measuring error[% of the final value]		< 1%		
Switching function		Two switching points for monitoring the output is below/above setting range		
Max.relative air humidity [%]		75（35℃）		
Ambient temperature[℃/℉]		-20...60/-4...140		
Storage temperature[℃/℉]		-25...80/-13...176		
Protection classification		IP50 / IP20		
Housing material		PBT+GF		
Function display	Switching State LED	Green (Light on under actuation of relay/connection of transistor)		
	Input signal LED	Red		
	Function LED	LCD Display:7/14 Segment		
Connection		Dual−chamber terminals		
Drawing				

Control Switches

- 16mm Control Switches
- 22 / 25 / 30mm Control Switches
- 16 / 22mm Stainless Steel Control Switches
- 30 / 50 / 70mm Multi-Layer Light Tower

RoHS

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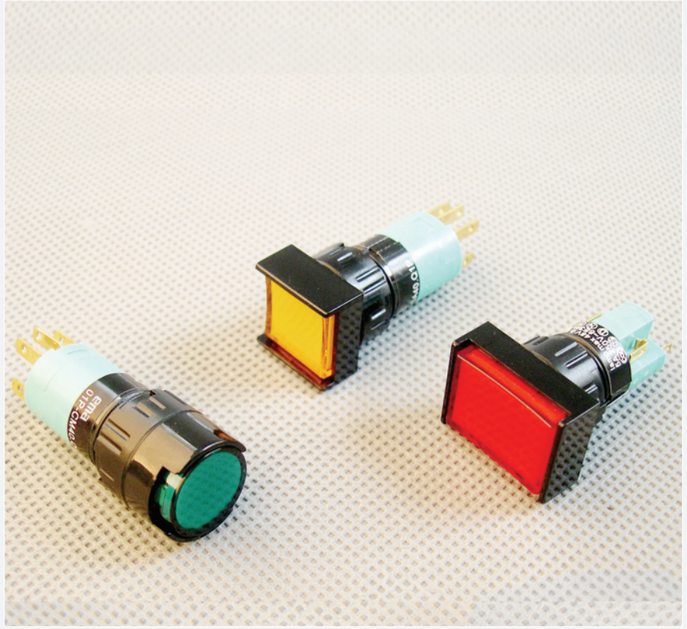

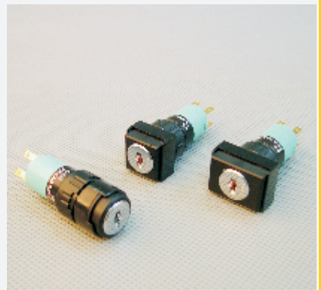

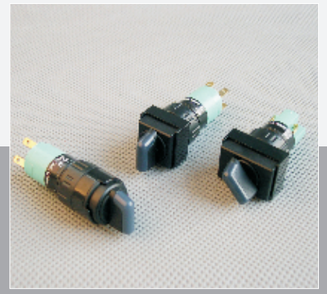

16mm control switches

16mm control switches

Indicators	76 – 77
Pushbutton switches	78 – 79
Selector switches	80 – 81
Emergency stop switches	82 – 83
Keylock switches	84 – 85
Buzzers	86 – 87
Accessories	88 – 91

Linking your system

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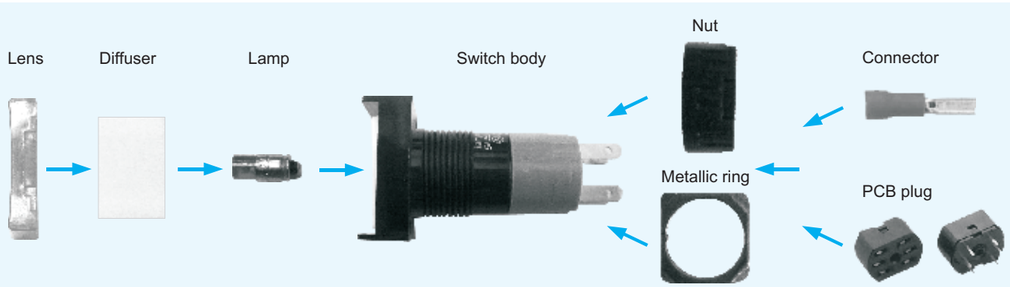
Features

- Mounting hole diameter 16mm, there shapes are avaliable: rectangular 18x24m/m, square 18x18m/m and round 18m/m.
- The rubber-sealed type IP65 provided to prevent the liquid penetration in front of panel.
- High bezel that prevents accidental touching
- Illuminated by midget grooved T1 3/4 lamps including discharged and LED lamps
- Snap-action which accelerates on-off switching
- Normally closed and normally open contacts in each switch block
- High performance plastics resistant to high-temperature and oil-polluted environments
- UL 94V0 class plastics to make self-extinguished

Technical Specifications

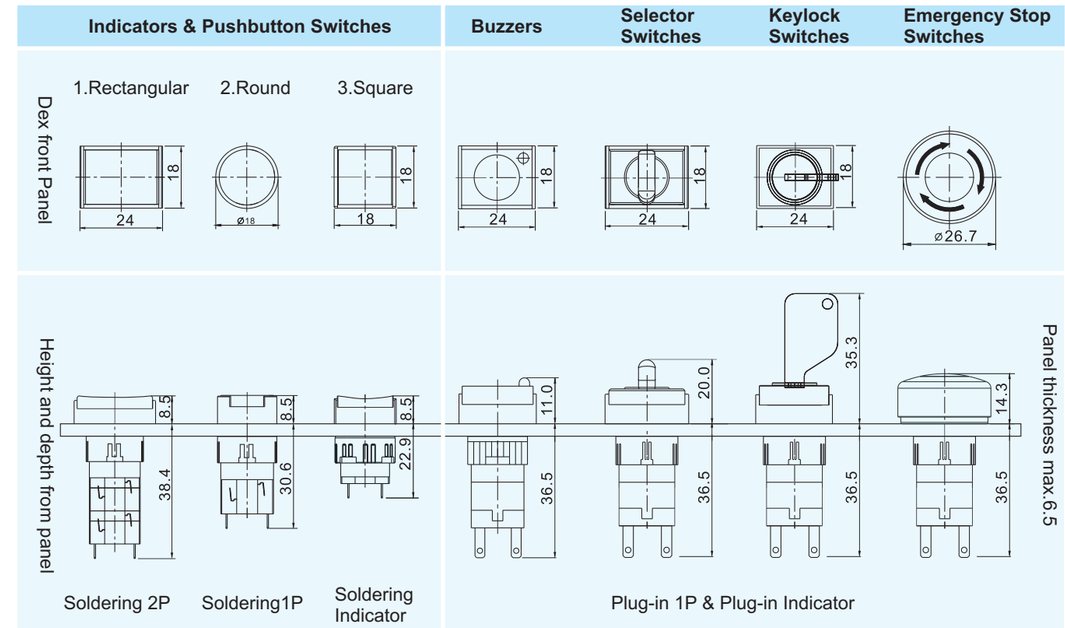
Contact materials:	gold flushed silver
Breaking capacity:	250VAC/5A(p.f.≥0.9)
Contact resistance:	＜50MΩ
Electrical lifetime:	5A/250VAC 50,000 operations 4A/250VAC 60,000 operations 2A/250VAC 200,000 operations 1A/250VAC 400,000 operations
Maximal insulation:	2500VAC,50Hz,1min between all terminals and plastic case
Insulation resistance:	≥10^4MΩ at 500VDC
Soldering heat resistance:	300℃/5s
Operating temperature:	-25℃ ~ +55℃
Storage temperature:	-40℃ ~ +85℃
Housing materials:	high-performance plastics resistant to high temperature and Oil-polluted environments,self-extinguished.

Mounting



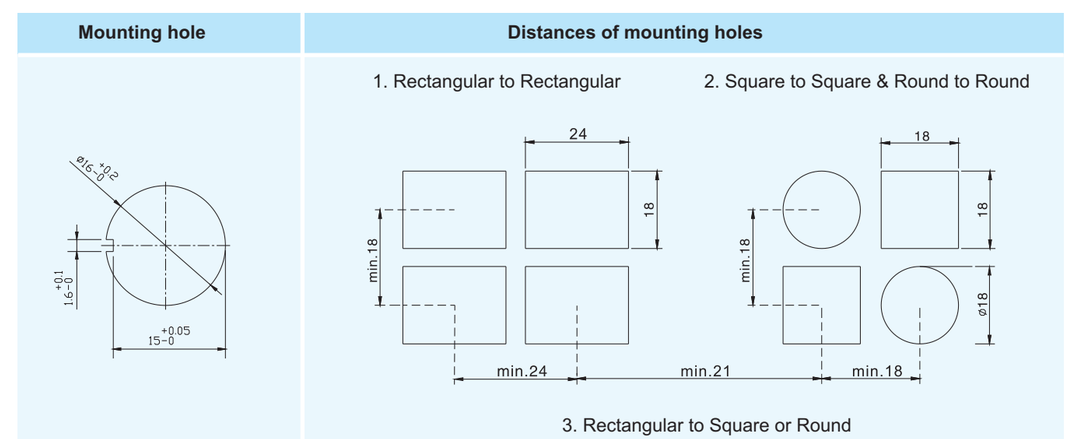
Shapes and Panel mounting

Apparent dimensions

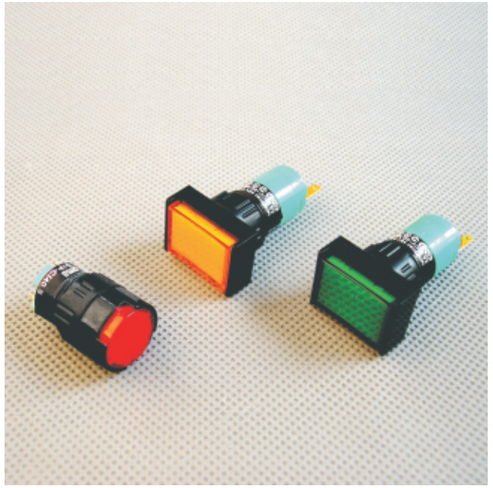


Unit: mm

Panel mounting



Unit: mm



- Mounting hole diameter 16mm
  Apparent shapes with rectangular 18X24mm, square 18X18mm and round 18mm
- Illuminated by midget grooved T1 3/4 lamps including incandescent, discharged and LED lamps
- The lifetime of LED with high brightness up to 50000 hours

Coding Principle

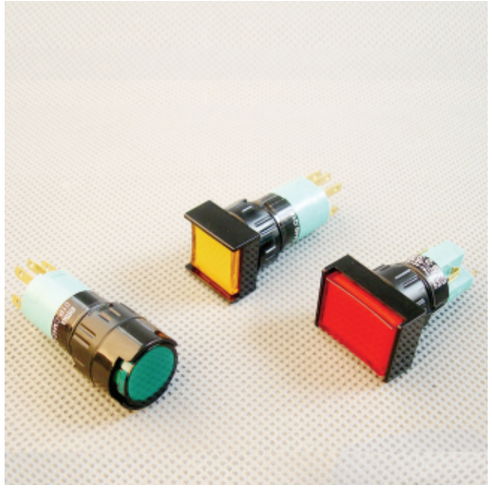
01	P	—	R	I	40	.	Q	+	W	+	L	24	Y
I	II		III	IV	V		VI		VII		VIII	IX	X

I: Series code	01 Series with 16mm diameter mounting hole
II: Main category	P=Indicators
III: Front shape	C=Round S=Square R=Rectangular
IV: Function code	I=Indicators
V: Protection rating	40=Standard 65=Rubber-sealed
VI: Terminal type	S=Soldering Q=Plug-in
VII: Cap color	R=Red, Y=Yellow, O=Orange, G=Light Green, V=Deep Green, B=Blue, W=White, K=Black
VIII: Light source	L=LED lamp D=Incandescent lamp A=Discharged lamp Omission=Without lamp
IX: Operating voltage	06=6VDC 12=12VDC 24=24VDC 11=110VAC 22=220VAC
X: Extra code	If the color of lamps and lens are different, please add this code to indicate the color of lamp

Note 1: Available colors of LED are red,yellow, green, blue,white
The standard matches between cap and LED are as followed:
R→Red LED Y→Yellow LED O→Orange LED G→Green LED
V→Green LED B→Blue LED W→Yellow / White LED
The standard matches between cap and lamp are as followed:
W、R、Y、O→Red lamp G、B、V→Green lamp

Order information

Order No.	
01P–RI40.Q	01P–CI40.S
01P–RI65.Q	01P–CI65.S
01P–RI40.S	01P–SI40.Q
01P–RI65.S	01P–SI65.Q
01P–CI40.Q	01P–SI40.S
01P–CI65.Q	01P–SI65.S



- Mounting hole diameter 16mm
  Apparent shapes with rectangular 18X24mm, square 18X18mm and round 18mm
- High bezel that prevents accidental touching
- Illuminated by midget grooved T1 3/4 lamps including incandescent, discharged and LED lamps
- Snap-action which accelerates on-off switching
- Normally closed and normally open contacts in each switch block
- Actuating travel: 3mm
- Machanical lifetime: Momentary $2X10^6$ operations; Alternative $1X10^6$ operations

01	P	—	R	A	40	.	Q	1P	+	W	+	L	24	Y
I	II		III	IV	V		VI	VII		VIII		IX	X	XI

I: Series code	01 Series with 16mm diameter mounting hole
II: Main category	P=Pushbutton Switches
III: Front shape	C=Round S=Square R=Rectangular
IV: Function code	M=Momentary A=Alternative
V: Protection rating	40=Standard 65=Rubber-sealed
VI: Terminal type	S=Soldering Q=Plug-in
VII: Contact mode	1P=1A1B 2P=2A2B
VIII: Cap color	R=Red, Y=Yellow, O=Orange, G=Light Green, V=Deep Green, B=Blue, W=White, K=Black
IX: Light source	L=LED lamp D=Incandescent lamp A=Discharged lamp Omission=Without lamp
X: Operating voltage	06=6VDC 12=12VDC 24=24VDC 11=110VAC 22=220VAC
XI: Extra code	If the color of lamps and lens are different, please add this code to indicate the color of lamp

Note 1: Available colors of LED are red,yellow, green, blue,white
The standard matches between cap and LED are as followed:
R→Red LED Y→Yellow LED O→Orange LED G→Green LED
V→Green LED B→Blue LED W→Yellow / White LED
The standard matches between cap and lamp are as followed:
W、R、Y、O→Red lamp G、B、V→Green lamp

Order information

Order No.	
01P–RM40.Q1P	01P–CA40.S1P
01P–RM65.Q1P	01P–CA65.S1P
01P–RA40.Q1P	01P–CM40.S2P
01P–RA65.Q1P	01P–CM65.S2P
01P–RM40.S1P	01P–CA40.S2P
01P–RM65.S1P	01P–CA65.S2P
01P–RA40.S1P	01P–SM40Q1P
01P–RA65.S1P	01P–SM65.Q1P
01P–RM40.S2P	01P–SA40.Q1P
01P–RM65.S2P	01P–SA65.Q1P
01P–RA40.S2P	01P–SM40.S1P
01P–RA65.S2P	01P–SM65.S1P
01P–CM40.Q1P	01P–SA40.S1P
01P–CM65.Q1P	01P–SA65.S1P
01P–CA40.Q1P	01P–SM40.S2P
01P–CA65.Q1P	01P–SM65.S2P
01P–CM40.S1P	01P–SA40.S2P
01P–CM65.S1P	01P–SA65.S2P

- Mounting hole diameter 16mm
  Apparent shapes with rectangular 18X24mm, square 18X18mm and round 18mm
- Snap-action which accelerates on-off switching
- Normally closed and normally open contacts in each switch block
- Actuating travel: 2 positions L 90° and V 90°
- Machanical lifetime: 50000 operations

Coding Principle

01	S	—	R	A	40	.	Q	1P	*	L
I	II		III	IV	V		VI	VII		VIII

I: Series code	01 Series with 16mm diameter mounting hole		
II: Main category	S=Selector Switches		
III: Front shape	C=Round	S=Square	R=Rectangular
IV: Function code	M=2 way Momentary	A=2 way Alternative	
V: Protection rating	40=Standard	65=Rubber-sealed	
VI: Terminal type	S=Soldering	Q=Plug-in	
VII: Contact mode	1P=1A1B	2P=2A2B	
VIII: Knob type	L=L type 90°	V=V type 90°	

Order information

Order No.	
01S–RM40.Q1P	01S–CA40.S1P
01S–RM65.Q1P	01S–CA65.S1P
01S–RA40.Q1P	01S–CM40.S2P
01S–RA65.Q1P	01S–CM65.S2P
01S–RM40.S1P	01S–CA40.S2P
01S–RM65.S1P	01S–CA65.S2P
01S–RA40.S1P	01S–SM40.Q1P
01S–RA65.S1P	01S–SM65.Q1P
01S–RM40.S2P	01S–SA40.Q1P
01S–RM65.S2P	01S–SA65.Q1P
01S–RA40.S2P	01S–SM40.S1P
01S–RA65.S2P	01S–SM65.S1P
01S–CM40.Q1P	01S–SA40.S1P
01S–CM65.Q1P	01S–SA65.S1P
01S–CA40.Q1P	01S–SM40.S2P
01S–CA65.Q1P	01S–SM65.S2P
01S–CM40.S1P	01S–SA40.S2P
01S–CM65.S1P	01S–SA65.S2P

- Mounting hole diameter 16mm, Front size is round diameter 26mm
- Cladding cover design to meet the requirement of European system
- There are only red LED and red discharged lamp available in illuminated emergency switch
- Snap-action which accelerates on-off switching
- Normally closed and normally open contacts in each switch block
- Machanical lifetime: 50000 operations

Coding Principle

01	S	—	C	E	40	.	Q	1P	+	R	+	L	12
I	II		III	IV	V		VI	VII		VIII		IX	X

I: Series code	01 Series with 16mm diameter mounting hole	
II: Main category	S=Emergency Stop Switches	
III: Front shape	C=Round	
IV: Function code	E=Rotate to reset	
V: Protection rating	40=Standard	65=Rubber-sealed
VI: Terminal type	S=Soldering	Q=Plug-in
VII: Contact mode	1P=1A1B	2P=2A2B
VIII: Light color	R=Red	
IX: Light source	L=LED lamp	Omission=Without lamp
X: Operating voltage	06=6VDC 12=12VDC 24=24VDC 11=110VAC 22=220VAC	

Order information

Order No.	
01S–CE40.Q1P	01S–CE65.S1P
01S–CE65.Q1P	01S–CE40.S2P
01S–CE40.S1P	01S–CE65.S2P

- Mounting hole diameter 16mm
  Apparent shapes with rectangular 18X24mm, square 18X18mm and round 18mm
- Snap-action which accelerates on-off switching
- Normally closed and normally open contacts in each switch block
- Actuating travel: 2 positions L 90° and V 90°
- Machanical lifetime: 50000 operations

Coding Principle

01	K	—	R	A	40	.	Q	1P	*	L2	*	702
I	II		III	IV	V		VI	VII		VIII		IX

I: Series code	01 Series with 16mm diameter mounting hole		
II: Main category	K=Keylock Switches		
III: Front shape	C=Round	S=Square	R=Rectangular
IV: Function code	M=2 Way Momentary	A=2 Way Alternative	
V: Protection rating	40=Standard	65=Rubber-sealed	
VI: Terminal type	S=Soldering	Q=Plug-in	
VII: Contact mode	1P=1A1B	2P=2A2B	
VIII: Inlet type	L1=L type 90° one inlet V1=V type 90° one inlet	L2=L type 90° two inlets V2=V type 90° two inlets	
IX: Key code	702=No. 702	168=No. 168	

Note: Key No.702 is the standard

Order information

Order No.	
01K–RM40.Q1P	01K–CA40.S1P
01K–RM65.Q1P	01K–CA65.S1P
01K–RA40.Q1P	01K–CM40.S2P
01K–RA65.Q1P	01K–CM65.S2P
01K–RM40.S1P	01K–CA40.S2P
01K–RM65.S1P	01K–CA65.S2P
01K–RA40.S1P	01K–SM40.Q1P
01K–RA65.S1P	01K–SM65.Q1P
01K–RM40.S2P	01K–SA40.Q1P
01K–RM65.S2P	01K–SA65.Q1P
01K–RA40.S2P	01K–SM40.S1P
01K–RA65.S2P	01K–SM65.S1P
01K–CM40.Q1P	01K–SA40.S1P
01K–CM65.Q1P	01K–SA65.S1P
01K–CA40.Q1P	01K–SM40.S2P
01K–CA65.Q1P	01K–SM65.S2P
01K–CM40.S1P	01K–SA40.S2P
01K–CM65.S1P	01K–SA65.S2P

- Mounting hole diameter 16mm
  Apparent shapes with rectangular 18X24mm, square 18X18mm and round diameter 18mm
- 70dB at a distance 30cm
- Current consumption Max. 7mA

Coding Principle

01	B	—	R	I	40	.	Q	*	24	FR
I	II		III	IV	V		VI		VII	VIII

I: Series code	01 Series with 16mm diameter mounting hole		
II: Main category	B=Buzzers		
III: Front shape	C=Round	S=Square	R=Rectangular
IV: Function code	C=Continous	I=Intermittent	
V: Protection rating	40=Standard		
VI: Terminal type	S=Soldering	Q=Plug-in	
VII: Operating voltage	06=6VDC 12=12VDC 24=24VDC		
VIII: Light source	R=Red LED lamp FR=Flash LED Omission=Without lamp		

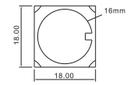
Note: Only rectangular shape can be assembled lamps.

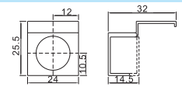
Order information

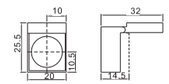
Order No.	
01B–RC40.Q *◇◇	01B–CC40.Q
01B–RI40.Q *◇◇	01B–CI40.Q
01B–RC40.S *◇◇	01B–CC40.S
01B–RI40.S *◇◇	01B–CI40.S
01B–RC40.Q	01B–SC40.Q
01B–RI40.Q	01B–SI40.Q
01B–RC40.S	01B–SC40.S
01B–RI40.S	01B–SI40.S

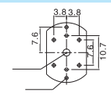
Note: ◇Assembled lamps

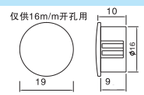
Accessories

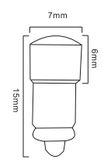
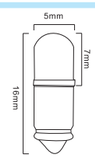
Order No.	Anti-twisting Ring	Description	Drawing
01Z–100		Enhance the anti-twisting torque	

Order No.	Rectangular cover	Description	Drawing
01Z–200.R		Suitable to rectangular cover	

Order No.	Square cover	Description	Drawing
01Z–200.S		Suitable to square cover	

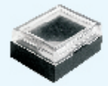
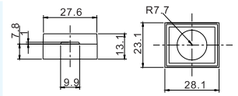
Order No.	PCB Plug-in Base	Description	Drawing
01Z–300		Only for plug-in terminals	

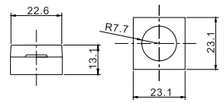
Order No.	Blanking Plate	Description	Drawing
01Z–400		For blanking hole	

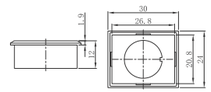
Order No.	BA9s Lamp	Description	Drawing
L.T134–L06.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 6VDC/AC	
L.T134–L12.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 12VDC/AC	
L.T134–L24.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 24VDC/AC	
L.T134–L11.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 110 VAC	
L.T134–L22.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 220 VAC	
L.T134–A11.R(G)		Discharged Lamp Red(Green),110VAC	
L.T134–A22.R(G)		Discharged Lamp Red(Green),220VAC	

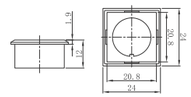
Order No.	Connector	Description	Drawing
01Z–500		Only for plug-in terminals	–

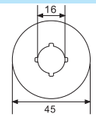
Order No.	Insulation Cover	Description	Drawing
01Z–600		Only for plug in terminals	–

Order No.	Dust-proof rectangular cover	Description	Drawing
01Z–700.R		Suitbale to rectangular cover	

Order No.	Dust-proof square cover	Description	Drawing
01Z–700.S		Suitable to square cover	

Order No.	Cover	Description	Drawing
01Z–800.R		Suitable to rectangular flush mounting	

Order No.	Cover	Description	Drawing
01Z–800.S		Suitable to square flush mounting	

Order No.	Blank emergency stop label	Description	Drawing
01Z–900.0 01Z–900.0N		External diameter:45mm, "N" represents that 3M paster is not attached	

Order No.	Emergency-Stop label	Description	Drawing
01Z–900.1 01Z–900.1N		External diameter:45mm, "N" represents that 3M paster is not attached	

Accessories

Order No.	Mounting Tool	Description	Drawing
01Z–T01		Max.torque force : 0.5Nm	–
Order No.	**Lens Remover**	**Description**	**Drawing**
01Z–T02		Easily pull lens, lamps can be changed before mounting panels	–
Order No.	**Lamp Remover**	**Description**	**Drawing**
01Z–T03		Easily pull lenses	–
Order No.		**Description**	**Drawing**
01Z–K168		No.168 key	–
Order No.		**Description**	**Drawing**
01Z–K702		No.702 key	–
Order No.	**Metallic Screw Nut**	**Description**	**Drawing**
01Z–NU.M		Metallic screw nut can be used if the panel is excessively thick	–

22/25/30mm control switches

The illuminated items are equipped with BA9s lamp. Customers could perceive most the delicate and precise design. The lifetime of incandescent lamps is less than 1,000 hours, discharged lamps less than 3, 000 hours, but LED lamps could last for at least 50,000 hours. Based on that, the whole appearance appeal to customer's attention and maintenance costs are also highly saved. Besides, high brightness LEDs are also provided to enhance the brightness when used in 110VAC and 220VAC power voltage.

22/25/30mm control switches

22mm Eco indicators	100−101
22mm Eco Pushbutton Switches	102−103
22/25/30mm indicators	104−105
22/25/30mm Pushbutton Switches	106−111
22/25/30mm Selector Switches	112−115
22/25/30mm Emergency Stop Switches	116−117
22/25mm Foolproof E-stop switches	118−119
22/25/30mm Keylock Switches	120−121
22/25/30mm Buzzers	122−123
Accessories	124−127

Linking your system

www.ema-electronic.com

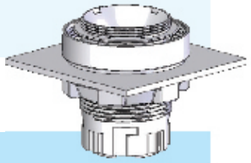
Features

- 22、25 and 30mm mounting holes: to fulfill your intentions of choice and replacement.
- Whole series slim; delicate and light, up to the requirement of protection IP40 and IP65.
- Lower and flush housing actuators, highly increase the fine appearance of your panel.

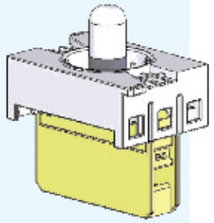
- Flexible and module assembly,effectively decrease the cost of stock.
- Friendly handling and modular design,save your time for the installation.

- High quality elegant and sophisticated design,add the extra value and esthetic feeling into applications.
- Professional selection of engineering materials,overcome the harshest of your environment.

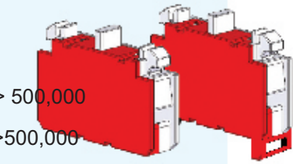
- Contact sliding mechanism,avoid the pollution of contacts and increase switching reliability.
- Approved by safety standardsUL、ULc、CCC and CE,provide with fully safety assured products.
- This series meet RoHS directive and satisfy customers' green demands.



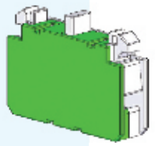
Technical Specifications



- Safety standard: CE/EN60947.5.1,CCC/GB14048.5-2008,UL 508
- Rated capacity: Ui=600VAC, Ith=10A
- Contact rating: AC15:250VAC/6A DC13:250VDC/0.6A
- Contact resistance: MAX.50mΩ
- Dielectric strength: 2500VAC 50Hz,1min
- Insulation resistance: >100MΩ at 500VDC
- Vibration resistance: 10g@40~500Hz
- Lamp lifetime: Incandescent lamp:≤1,000 hrs LED lamp:≥50,000 hrs
- Mechanical lifetime: pushbutton switches:momentary > 3,000,000 maintained > 500,000
  selector switches:momentary >500,000 maintained >500,000
  keylock switches:Momentary >500,000 maintained >500,000
  emergency stop switches:momentary > 3,000,000



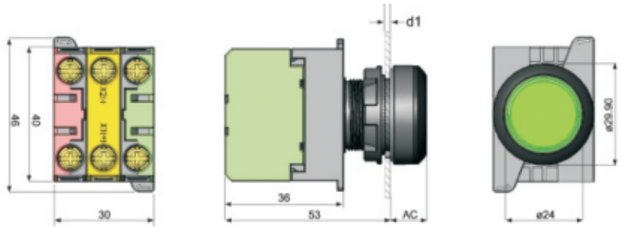
- Electrical lifetime: Contact block:AC15 250VAC/6A > 1,000,000
  DC13 250VDC/0.6A > 1,000,000



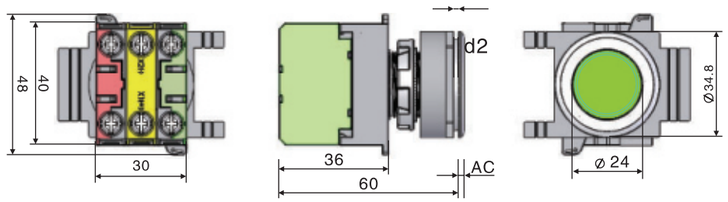
- Storage temperature: -40℃~ +80℃
- Operating temperature: -25℃ ~ +55℃

Dimensions

Standard mounting d1:panel thickness 1~6 units:mm



Flush mounting d1:panel thickness 1~5 units:mm

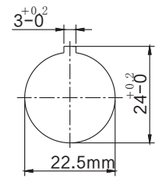
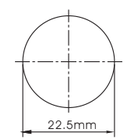
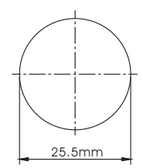
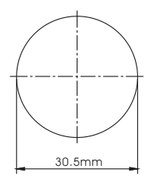


AC Size

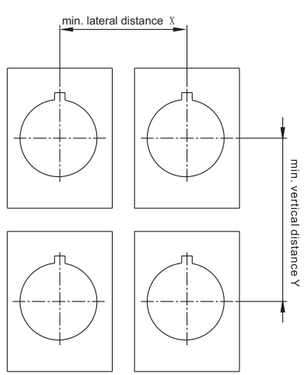
Actuator Type	Description	AC Size	Actuator Type	Description	AC Size
E2I0/H2I0	E2/H2 indicators full lens	11	-		
E2I1/H2I1	E2/H2 indicators flat lens	11	E3I1/H3I1	E3/H3 flush indicators flat lens	2
E2I2/H2I2	E2/H2 indicators raised lens	15	E3I2/H3I2	E3/H3 flush indicators raised lens	6
E2P1/H2P1	E2/H2 flat head /button*	11	E3P1/H3P1	E3/H3 flat head /button*	2
E2P2/H2P2	E2/H2 raised head /button*	15	E3P2/H3P2	E3/H3 raised head /button*	6
E2P3/H2P3	E2/H2 sunken head /button*	15	-		
E2P4/H2P4	E2/H2mushroom head /button*	26.6/24.3	E3P4/H3P4	E3/H3 mushroom head /button*	17.6/15.3
E2P5/H2P5	E2/H2 high bezel head /button*	15	-		
E2R1/H2R1	E2/H2 mushroom emergency stop	26.6	E3R1/H3R1	E3/H3 mushroom emergency stop	17.6
E2E1/H2E1	E2/H2 Foolproof E-stop	38	-		
E2E2/H2E2	E2/H2 Foolproof E-stop	38	-		
E2E3/H2E3	E2/H2 Foolproof E-stop	61.8	-		
E2SK/H2SK	E2/H2 knob selector	24.5	E3SK/H3SK	E3/H3 flush knob selector	15.5
E2SL/H2SL	E2/H2 lever selector	24.5	E3SL/H3SL	E3/H3 flush lever selector	15.5
E2K/H2K	E2/H2 keylock	34	E3K/H3K	E3/H3 flush keylock	24
E2B/H2B	E2/H2 buzzers	10.5	E3B/H3B	E3/H3 buzzers	2

※ note: "head" means non-illuminated cap and "button" illuminated one

Cut-out Dimensions

Cut-out Category	Cautions	Hole Dimension
A: 22 mm hole with locating groove	1.Only for standard mounting items 2.Suitable for the batch installation 3.Recommanded hole size: 22.5mm	
B: 22mm round hole	1.Only for standard mounting 2.Need to remove the locating lug of the housing by flat screwdriver 3.Recommanded hole size: 22.5mm	
C: 25mm round hole	1.Only for standard mounting 2.No need to remove the locating lug of the housing 3.Recommanded hole size: 25.5mm	
D: 30mm round hole	1.Only for flush mounting 2.Flush mounting, use [recession frame] to assist position 3.Recommanded hole size: 30.5mm	

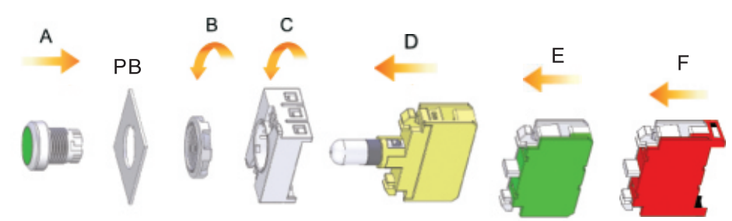
Cut-out Arrangements



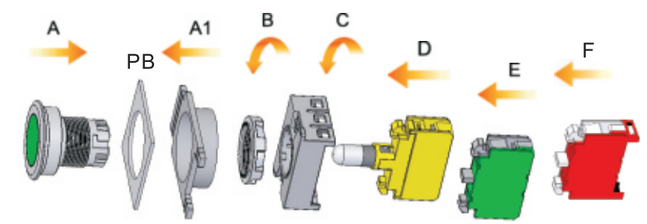
Actuator Type	min. lateral distance X(mm)	min. vertical distance Y(mm)
E2P4 to E2P4 E3P4 to E3P4 (mushroom to mushroom)	45	50
E2S-L to E2S-L two positions 90° E3S-L to E3S-L two positions 90° (lever to lever)	52	50
the others	45	50

Installation Panel

■ **Standard Mounting**



■ **Flush Mounting**



※ Note:PB(Panel Board)

How to handling

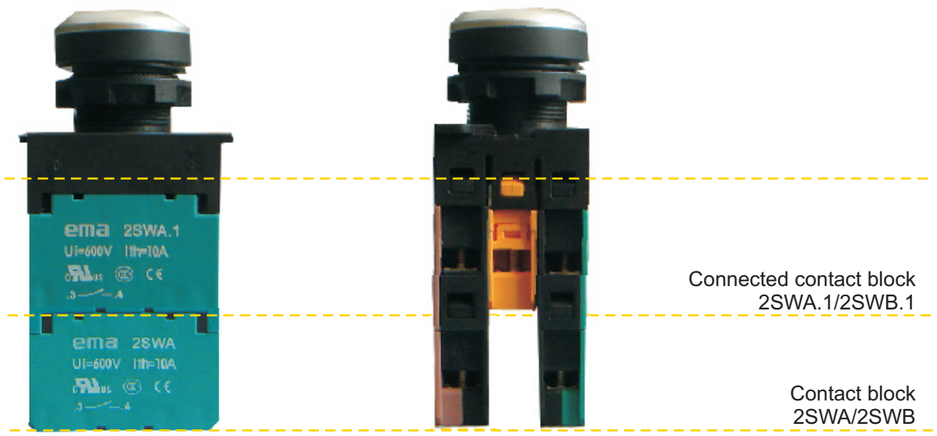
Sequence	Cautions
A : Put the actuator into cut-out hole A1: Flush mounting items need to add the recession frame onto the panel from the back	1. Refer to the dimensions of mounting hole (see page 96) to avoidforcing the actuator in damage 2. Every actuator comes with a rubber parking to be put between the actuator and the panel for the sake of anti-rotation 3. For flush mounting items, choose the accessory [recession frame] to assist position
B : Screw the nut right to settle actuator onto the panel	1. Do not force too much and the tightening torque must not exceed 3 Nm 2. Choose the [anti-twisting ring] 02Z-100 (see page 125) toenhance the anti-rotation torque while needed
C : Put in junction frame and rotate right to wedge in the actuator	Notice the directions of pulling wires while installed and arranged, it should point to the direction of right-hand rotationnot to the left to avoid pulling the junction frame left
D : Install lamp holder into junction frame	Install lamp holder first while set-up illuminated items
E : Install contact block into junction frame	Notice the sequence of the contact block, while 3-positionselector or keylock switches are installed
F : Add contact block	Choose the [contact block] 2SWA.1 or 2SWB.1 (see page 125)

How to dismounting

Sequence	Cautions
1. Remove the contact block and lamp holder	1. Place the flat screwdriver under the edge of junction frame,push up to release the switch block and lamp holder 2. If contact block and lamp holder coexist, please remove the contact block first
2. Turn left to dismantle junction frame	–
3. Turn left to release screw nut and then take outthe actuator from the cut - out hole	–

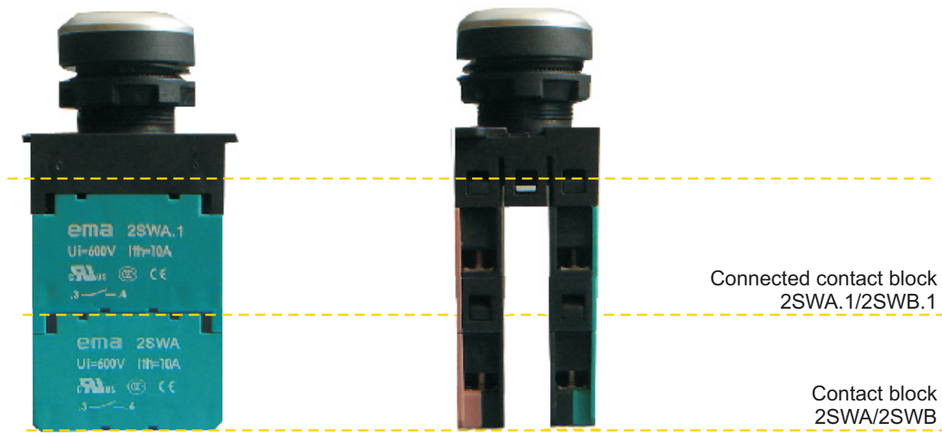
Coding Principle Of ema Contact Block

Coding principle of contact block for illuminated switch
(Injection cut-off point of contact block is Left, another side is Right.)



1 Contact block	1NO	1A	Left 1A
	1NC	1B	Right 1B
2 Contact block	1NO/1NC	AB	Left 1A, Right 1B
	2NO	2A	Left 1A, Right 1A
	2NC	2B	Left 1B, Right 1B
3 Contact block	2NO+1NC	2A1B	Left 2A, Right 1B
	1NO+2NC	1A2B	Left 1A, Right 2B
	2NO+1NO	2A1A	Left 2A, Right 1A
	2NC+1NC	2B1B	Left 2B, Right 1B
4 Contact block	2NO+1NO/1NC	2AAB	Left 2A, Right AB
	2NO+2NC	2A2B	Left 2A, Right 2B
	1NO/1NO+2NC	AB2B	Left AB, Right 2B
	2NO+2NO	2A2A	Left 2A, Right 2A
	2NC+2NC	2B2B	Left 2B, Right 2B

Coding principle of contact block for non-illuminated switch
(Injection cut-off point of contact block is Left, another side is Right.)



1 Contact block	1NO	1A	Left 1A
	1NC	1B	Right 1B
2 Contact block	1NO/1NC	AB	Left 1A, Right 1B
	2NO	2A	Left 1A, Right 1A
	2NC	2B	Left 1B, Right 1B
3 Contact block	2NO+1NC	2A+1B	Left 1A, Right 1A, Middle 1B
	1NO/1NC+1NC	AB+1B	Left 1A, Right 1B, Middle 1B
	3NO	3A	Left 1A, Right 1A, Middle 1A
	3NC	3B	Left 1B, Right 1B, Middle 1B
4 Contact block	2NO+1NO/1NC	2AAB	Left 2A, Right AB
	2NO+2NC	2A2B	Left 2A, Right 2B
	1NO/1NC+2NC	AB2B	Left AB, Right 2B
	2NO+2NO	2A2A	Left 2A, Right 2A
	2NC+2NC	2B2B	Left 2B, Right 2B

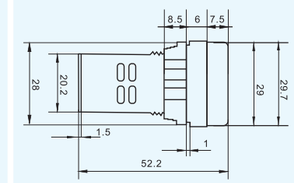
- Concise design, simple construction, reliable operation and long duration
- Long lifetime and brightness LED lamp embedded in E2C0 indicators
- Light and delicate design, up to the requirement of protection IP40
- The material of lightshade features with anti-abrasion and anti-shock
- Five different colors of indicators can be selected
- Voltage of 24VDC, 110VAC, 220 VAC are available

IP40 LED

Coding Principle

Economic indicator light: E2C0W	E	2	C	0	W	3	L

Part No.	Code Description
E	Protection classfication: E=IP40 standard
2	Mouncting size: 2=22mm standard mounting
C0	Type of indicator: economic indicator
W	Cap color: R=red Y=yellow G=green B=blue W=white
3	Type of light: 3=24VDC 4=110VAC 5=220VAC
L	light source: L=LED

E2C0 indicators	Drawing	Color	Built-in LED Part No.
		○	E2C0W◇L
		●	E2C0R◇L
		●	E2C0Y◇L
		●	E2C0G◇L
		●	E2C0B◇L

Remarks :1. ◇Lamp Voltage: 3=24VDC, 4=110VAC, 5=220VAC

- Concise design, simple construction, reliable operation and long duration
- E2P0 Economic pushbutton switches provide intergrated contact 1NO/1NC
- Light and delicate design, up to the requirement of protection IP40
- Non-illumirated momentary switches

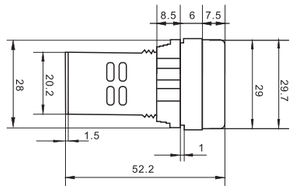
IP40 LED

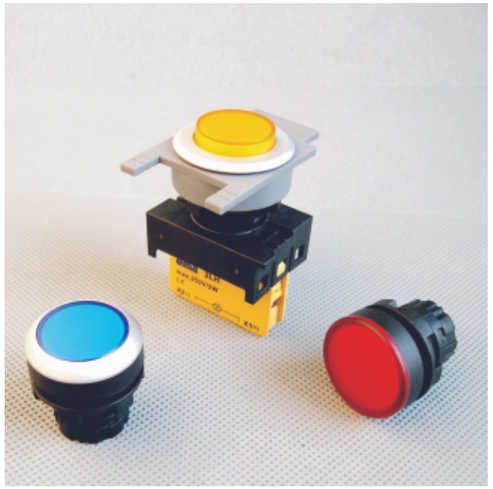
Coding Principle

Eco Pushbutton: E2P0

E	2	P	0	R	A	B

Part No.	Code Description
E	Protection classfication: E=IP40 standard
2	Mouncting size : 2=22mm standard mounting
P0	Type of indicator : economic indicator
R	Cap color : R=red Y=yellow G=green B=blue W=white
AB	Contact mode : AB=1NO/1NC

E2P0 Flat Head	Drawing	Color	Momentary Part No.
			E2P0WAB
			E2P0RAB
			E2P0YAB
			E2P0GAB
			E2P0BAB

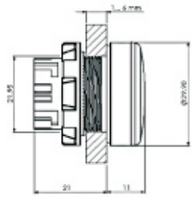


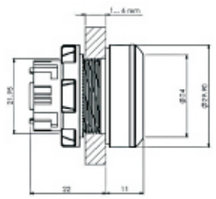
- Elegant and sophisticated design, add the extra value and esthetic feeling into applications
- Professional selection of engineering materials, overcome the harshest of your environment
- Friendly handling and modular design, save your time for the installation
- Flexible and module assembly, effectively decrease the cost of stock
- Whole series slim; delicate and light, up to the requirement of protection IP40 and IP65
- Lower and flush mounting actuators, highly increase the fine appearance of your panel
- 22,25 and 30mm mounting holes, fulfill your intentions of choice and replacement

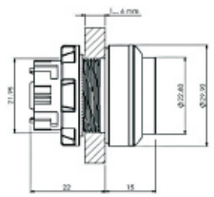
Coding Principle

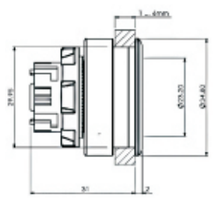
Indicators E2I/E3I	E	2	I	0	W	3	L	Y

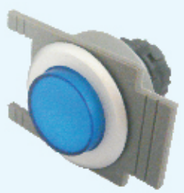
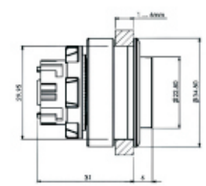
Part No.	Code Description
E	Classification : E=IP40 Standard H=IP65 Rubber-sealed
2	Mounting size : 2=22mm、25mm Standard mounting 3= 30mm Flush mounting
I0	Cap style : I0=Full lens, I1=Flat lens, I2=Raised lens
W	Cap color : R=Red, Y=Yellow, G=Green, B=Blue, W=White
3	Operating voltage : 1=6VDC, 2=12VDC, 3=24VDC, 4=110VAC, 5=220VAC
L	Light source : A=Discharged lamp, L=LED lamp, Omission=Without lamp
Y	Extra code : If the color of lamps and lens are different, please add this code to indicate the color of lamp.
Note	E3I0 full lens style is not available

E2I0 Full Lens	Drawing	Color	Built-in LED Part No.	Built-in Incand Part No.
		○	E2I0W◇L	E2I0W◇D
		●	E2I0R◇L	E2I0R◇D
		●	E2I0Y◇L	E2I0Y◇D
		●	E2I0G◇L	E2I0G◇D
		●	E2I0B◇L	E2I0B◇D

E2I1 Flat Lens	Drawing	Color	Built-in LED Part No.	Built-in Incand Part No.
		○	E2I1W◇L	E2I1W◇D
		●	E2I1R◇L	E2I1R◇D
		●	E2I1Y◇L	E2I1Y◇D
		●	E2I1G◇L	E2I1G◇D
		●	E2I1B◇L	E2I1B◇D

E2I2 Raised Lens	Drawing	Color	Built-in LED Part No.	Built-in Incand Part No.
		○	E2I2W◇L	E2I2W◇D
		●	E2I2R◇L	E2I2R◇D
		●	E2I2Y◇L	E2I2Y◇D
		●	E2I2G◇L	E2I2G◇D
		●	E2I2B◇L	E2I2B◇D

E3I1 Flush Flat Lens	Drawing	Color	Built-in LED Part No.	Built-in Incand Part No.
		○	E3I1W◇L	E3I1W◇D
		●	E3I1R◇L	E3I1R◇D
		●	E3I1Y◇L	E3I1Y◇D
		●	E3I1G◇L	E3I1G◇D
		●	E3I1B◇L	E3I1B◇D

E3I2 Flush Raised Lens	Drawing	Color	Built-in LED Part No.	Built-in Incand Part No.
		○	E3I2W◇L	E3I2W◇D
		●	E3I2R◇L	E3I2R◇D
		●	E3I2Y◇L	E3I2Y◇D
		●	E3I2G◇L	E3I2G◇D
		●	E3I2B◇L	E3I2B◇D

Remarks :1. ◇Lamp Voltage:1=6VDC, 2=12VDC, 3=24VDC, 4=110VAC, 5=220VAC
2. Discharged lamps powered by 110VAC、220VAC are available only.
3. Please change "E" to "H" for protection rating IP65.
4. Please add*M in the last of order no. if you would like to change the black plastic front ring to the metal ring.
5. Please add˙R,˙Y,˙G,˙B,˙W,˙K,˙E if plastic ring of red, yellow, blue, white, black, grey to be replaced.

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- Flexible and module assembly, effectively decrease the cost of stock
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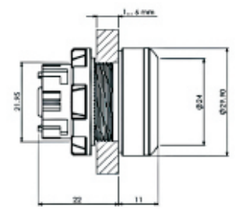
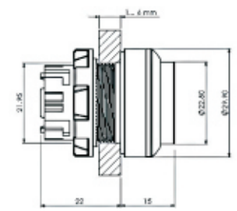
- Lower and flush mounting actuators, highly increase the fine appearance of your panel
- 22, 25 and 30mm mounting holes, fulfill your intentions of choice and replacement

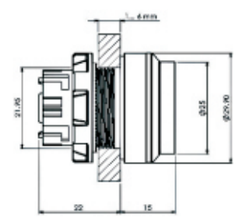
Coding Principle

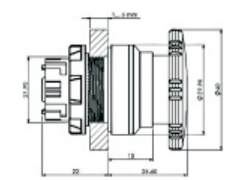
Pushbutton Switches E2P/E3P	E	2	P	1	W	1	A	3	L	Y	.	A

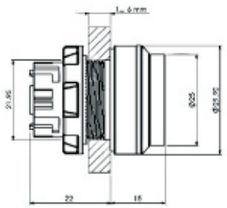
Part No.	Code Description	
E	Classification	: E=IP40 Standard H=IP65 Rubber-sealed
2	Mounting size	: 2=22mm、25mm Standard mounting 3= 30mm Flush mounting
P1	Cap style	: Non-illumination P1=Flat head, P2=Raised head, P3=Sunken head P4=Mushroom head, P5=High bezel head Illumination P1=Flat button, P2=Raised button, P3=Sunken button P4=Mushroom button, P5=High bezel button
W	Cap color	: R=Red, Y=Yellow, G=Green, B=Blue, W=White, K=Black
1A	Contact mode	: A=1NO B=1NC, provide 1A,2A,3A,1B,2B,3B,AB,2A1B,1A2B,2B1B,2AAB,AB2B,2A2A,2B2B
3	Operating voltage	: 1=6VDC, 2=12VDC, 3=24VDC, 4=110VAC, 5=220VAC
L	Light source	: A=Discharged lamp, L=LED lamp, Omission=Without lamp
Y	Extra code	: If the colors of lamp and lens are different, please add this code to tell the color of lamp.
.A	Function mode	: M=Momentary, A=Alternative, Omission=non-illuminated

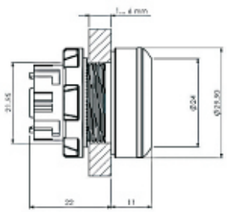
E2P1 Flat Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P1W□□	–
		●	E2P1R□□	–
		●	E2P1Y□□	–
		●	E2P1G□□	–
		●	E2P1B□□	–
		●	E2P1K□□	–

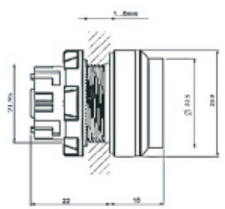
E2P2 Raised Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P2W□□	–
		●	E2P2R□□	–
		●	E2P2Y□□	–
		●	E2P2G□□	–
		●	E2P2B□□	–
		●	E2P2K□□	–

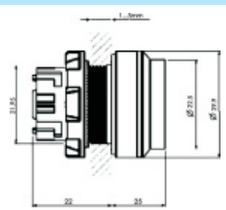
E2P3 Sunken Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P3W□□	–
		●	E2P3R□□	–
		●	E2P3Y□□	–
		●	E2P3G□□	–
		●	E2P3B□□	–
		●	E2P3K□□	–

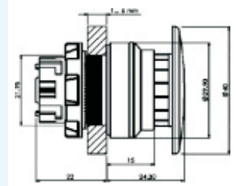
E2P4 Mushroom Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		●	E2P4R□□.M1	E2P4R□□.A1
		●	E2P4Y□□.M1	E2P4Y□□.A1
		●	E2P4G□□.M1	E2P4G□□.A1
		●	E2P4K□□.M1	E2P4K□□.A1
		–	–	–
		–	–	–

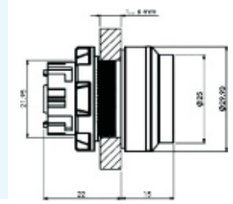
E2P5 High Bezel Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P5W□□	–
		●	E2P5R□□	–
		●	E2P5Y□□	–
		●	E2P5G□□	–
		●	E2P5B□□	–
		●	E2P5K□□	–

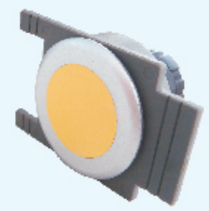
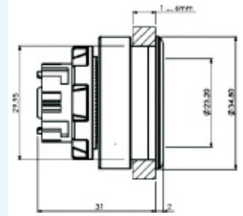
E2P1 Flat Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P1W□□◇L.M	E2P1W□□◇L.A
		●	E2P1R□□◇L.M	E2P1R□□◇L.A
		●	E2P1Y□□◇L.M	E2P1Y□□◇L.A
		●	E2P1G□□◇L.M	E2P1G□□◇L.A
		●	E2P1B□□◇L.M	E2P1B□□◇L.A

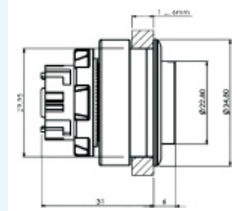
E2P2 Raised Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P2W□□◇L.M	E2P2W□□◇L.A
		●	E2P2R□□◇L.M	E2P2R□□◇L.A
		●	E2P2Y□□◇L.M	E2P2Y□□◇L.A
		●	E2P2G□□◇L.M	E2P2G□□◇L.A
		●	E2P2B□□◇L.M	E2P2B□□◇L.A

E2P3 Sunken Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P3W□□◇L.M	E2P3W□□◇L.A
		●	E2P3R□□◇L.M	E2P3R□□◇L.A
		●	E2P3Y□□◇L.M	E2P3Y□□◇L.A
		●	E2P3G□□◇L.M	E2P3G□□◇L.A
		●	E2P3B□□◇L.M	E2P3B□□◇L.A

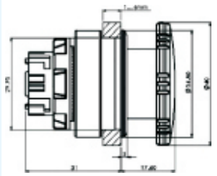
E2P4 Mushroom Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P4W□□◇L.M0	E2P4W□□◇L.A0
		●	E2P4R□□◇L.M0	E2P4R□□◇L.A0
		●	E2P4Y□□◇L.M0	E2P4Y□□◇L.A0
		●	E2P4G□□◇L.M0	E2P4G□□◇L.A0
		●	E2P4B□□◇L.M0	E2P4B□□◇L.A0

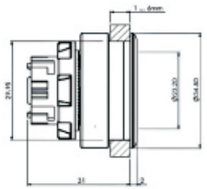
E2P5 High Bezel Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E2P5W□□◇L.M	E2P5W□□◇L.A
		●	E2P5R□□◇L.M	E2P5R□□◇L.A
		●	E2P5Y□□◇L.M	E2P5Y□□◇L.A
		●	E2P5G□□◇L.M	E2P5G□□◇L.A
		●	E2P5B□□◇L.M	E2P5B□□◇ L.A

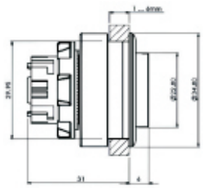
E3P1 Flush Flat Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E3P1W□□	–
		●	E3P1R□□	–
		●	E3P1Y□□	–
		●	E3P1G□□	–
		●	E3P1B□□	–
		●	E3P1K□□	–

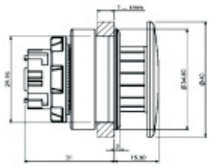
E3P2 Flush Raised Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		○	E3P2W□□	–
		●	E3P2R□□	–
		●	E3P2Y□□	–
		●	E3P2G□□	–
		●	E3P2B□□	–
		●	E3P2K□□	–

Remarks : 1. □□Contact Mode: 1A=1NO, 1B=1NC, 2A=2NO, 2B=2NC, AB=1NO+1NC and etc.
2. ◇Lamp Voltage: 1= 6VDC, 2= 12VDC, 3= 24VDC, 4= 110VAC, 5= 220VAC
L=LED lamp, Omission=Without lamp
3. Highlight-background◇L in columns of "alternative part no." = This two codes could be omitted, and that stands for the part no. of the alternative pushbutton switches without lamp.
4. Pushbutton without lamp could be attached the 3rd contact. Please add extra A or B code following the contact mode to present the mode of the 3rd contact, A means 1 normally open and B1 normally close.
5. Please change "E" to "H" for protection rating IP65.
6. Please add*M in the last of order no. if you would like to change the black plastic front ring to the metal ring.
7. Please add˙R,˙Y,˙G,˙B,˙W,˙K,˙E if plastic ring of red, yellow, blue, white, black, grey to be replaced.

E3P4 Flush Mushroom Head	Drawing	Color	Momentary Part No.	Alternative Part No.
		🔴	E3P4R□□.M1	E3P4R□□.A1
		🟡	E3P4Y□□.M1	E3P4Y□□.A1
		🟢	E3P4G□□.M1	E3P4G□□.A1
		⚫	E3P4K□□.M1	E3P4K□□.A1
			–	–

E3P1 Flush Flat Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		⚪	E3P1W□□◇L.M	E3P1W□□◇L.A
		🔴	E3P1R□□◇L.M	E3P1R□□◇L.A
		🟡	E3P1Y□□◇L.M	E3P1Y□□◇L.A
		🟢	E3P1G□□◇L.M	E3P1G□□◇L.A
		🔵	E3P1B□□◇L.M	E3P1B□□◇L.A

E3P2 Flush Raised Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		⚪	E3P2W□□◇L.M	E3P2W□□◇L.A
		🔴	E3P2R□□◇L.M	E3P2R□□◇L.A
		🟡	E3P2Y□□◇L.M	E3P2Y□□◇L.A
		🟢	E3P2G□□◇L.M	E3P2G□□◇L.A
		🔵	E3P2B□□◇L.M	E3P2B□□◇L.A

E3P4 Flush Mushroom Button	Drawing	Color	Momentary Part No.	Alternative Part No.
		⚪	E3P4W□□◇L.M0	E3P4W□□◇L.A0
		🔴	E3P4R□□◇L.M0	E3P4R□□◇L.A0
		🟡	E3P4Y□□◇L.M0	E3P4Y□□◇L.A0
		🟢	E3P4G□□◇L.M0	E3P4G□□◇L.A0
		🔵	E3P4B□□◇L.M0	E3P4B□□◇L.A0

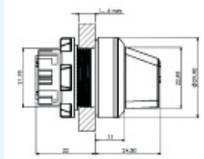
Remarks : 1. □□Contact Mode: 1A=1NO, 1B=1NC, 2A=2NO, 2B=2NC, AB=1NO+1NC and etc.
2. ◇Lamp Voltage: 1= 6VDC, 2= 12VDC, 3= 24VDC, 4= 110VAC, 5= 220VAC
L=LED lamp, Omission=Without lamp
3. Highlight-background◇L in columns of "alternative part no." = This two codes could be omitted, and that stands for the part no. of the alternative pushbutton switches without lamp.
4. Pushbutton without lamp could be attached the 3rd contact. Please add extra A or B code following the contact mode to present the mode of the 3rd contact, A means 1 normally open and B1 normally close.
5. Please change "E" to "H" for protection rating IP65.
6. Please add*M in the last of order no. if you would like to change the black plastic front ring to the metal ring.
7. Please add˙R,˙Y,˙G,˙B,˙W,˙K,˙E if plastic ring of red, yellow, blue, white, black, grey to be replaced.

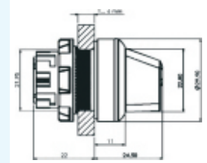
- Elegant and sophisticated design, add the extra value and esthetic feeling into applications
- Professional selection of engineering materials, overcome the harshest of your environment
- Friendly handling and module design, save your treasure time while installation
- Flexible and module assembly, effectively decrease the cost of stock
- Whole series slim; delicate and light, up to the requirement of protection IP40 and IP65
- Lower and flush mounting actuators, highly increase the fine appearance of your panel
- 22、25 and 30mm mounting holes, fulfill your intentions of choice and replacement

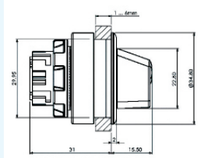
Coding Principle

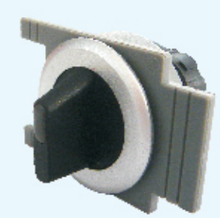
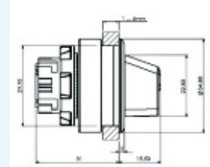
Selector Switches E2S/E3S	E	2	S	1	K	1	A	3	L	Y	. V	. I

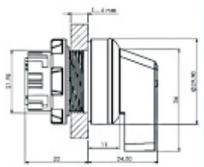
Part No.	Code Description
E	Classification : E=IP40 Standard H=IP65 Rubber-sealed
2	Mounting size : 2=22mm、25mm Standard mounting 3= 30mm Flush mounting
S1	Handling type : S1=2 Positions, momentary 45° ; S2=2 Positions, maintained 90° S3=3 Positions, left maintained 45° right maintained 45° S4=3 Positions, left momentary 45° right momentary 45° S5=3 Positions, left maintained 45° right momentary 45°
K	Handle type : K=Short handle (knob), L=Long handle (lever)
1A	Contact mode : A=1NO B=1NC, provide 1A,2A,3A,1B,2B,3B,AB,2A1B,1A2B,2B1B,2AAB,AB2B,2A2A,2B2B
3	Operating voltage : 1=6VDC,2=12VDC,3=24VDC,4=110VAC,5=220VAC
L	Light source : L=LED lamp, Omission=Without lamp
Y	Lamp color : While LED lamp installed, please add this code to identify the color of LED R=Red, Y=Yellow, G=Green, B=Blue, W=White
.V	Handle shape : V=V shape, Omission= L shape(only for S2 handling type)
.I	Handle appearance : I=Transparent, Omission=Non-transparent

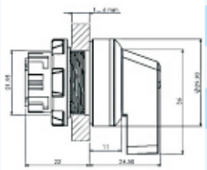
E2SK Knob Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E2S1K□□
		90° A	2 positions, maintained 90°	E2S2K□□
		90° A	2 positions, maintained 90° _V shape	E2S2K□□.V
		A 45° 45° A	3 positions, left main.right main. 45°	E2S3K□□
		M 45° 45° M	3 positions, left mome.right mome.45°	E2S4K□□
		A 45° 45° M	3 positions, left main.right mome. 45°	E2S5K□□

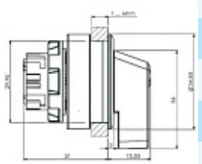
E2SK Knob Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E2S1K□□◇L△.I
		90° A	2 positions, maintained 90°	E2S2K□□◇L△.I
		90° A	2 positions, maintained 90° _V shape	E2S2K□□◇L△.V.I
		A 45° 45° A	3 positions, left main.right main. 45°	E2S3K□□◇L△.I
		M 45° 45° M	3 positions, left mome.right mome.45°	E2S4K□□◇L△.I
		A 45° 45° M	3 positions, left main.right mome. 45°	E2S5K□□◇L△.I

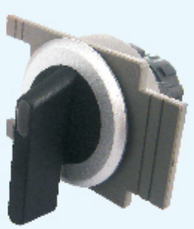
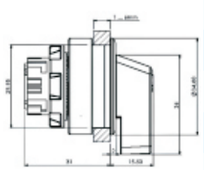
E3SK Flush Knob Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E3S1K□□
		90° A	2 positions, maintained 90°	E3S2K□□
		90° A	2 positions, maintained 90° _V shape	E3S2K□□.V
		A 45° 45° A	3 positions, left main.right main. 45°	E3S3K□□
		M 45° 45° M	3 positions, left mome.right mome.45°	E3S4K□□
		A 45° 45° M	3 positions, left main.right mome. 45°	E3S5K□□

E3SK Flush Knob Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E3S1K□□◇L△.I
		90° A	2 positions, maintained 90°	E3S2K□□◇L△.I
		90° A	2 positions, maintained 90° _V shape	E3S2K□□◇L△.V.I
		A 45° 45° A	3 positions, left main.right main. 45°	E3S3K□□◇L△.I
		M 45° 45° M	3 positions, left mome.right mome.45°	E3S4K□□◇L△.I
		A 45° 45° M	3 positions, left main.right mome. 45°	E3S5K□□◇L△.I

E2SL Lever Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E2S1L□□
		90° A	2 positions, maintained 90°	E2S2L□□
		90° A	2 positions, maintained 90° _V shape	E2S2L□□.V
		A 45° 45° A	3 positions, left main.right main. 45°	E2S3L□□
		M 45° 45° M	3 positions, left mome. right mome.45°	E2S4L□□
		A 45° 45° M	3 positions, left main.right mome. 45°	E2S5L□□

E2SL Lever Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E2S1L□□◇L△.I
		90° A	2 positions, maintained 90°	E2S2L□□◇L△.I
		90° A	2 positions, maintained 90° _V shape	E2S2L□□◇L△.V.I
		A 45° 45° A	3 positions, left main.right main. 45°	E2S3L□□◇L△.I
		M 45° 45° M	3 positions, left mome.right mome.45°	E2S4L□□◇L△.I
		A 45° 45° M	3 positions, left main.right mome. 45°	E2S5L□□◇L△.I

E3SL Flush Lever Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E3S1L□□
		90° A	2 positions, maintained 90°	E3S2L□□
		90° A	2 positions, maintained 90° _V shape	E3S2L□□.V
		A 45° 45° A	3 positions, left main.right main. 45°	E3S3L□□
		M 45° 45° M	3 positions, left mome.right mome.45°	E3S4L□□
		A 45° 45° M	3 positions, left main.right mome. 45°	E3S5L□□

E3SL Flush Lever Selector	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°	E3S1L□□◇L△.I
		90° A	2 positions, maintained 90°	E3S2L□□◇L△.I
		90° A	2 positions, maintained 90° _V shape	E3S2L□□◇L△.V.I
		A 45° 45° A	3 positions, left main.right main. 45°	E3S3L□□◇L△.I
		M 45° 45° M	3 positions, left mome.right mome.45°	E3S4L□□◇L△.I
		A 45° 45° M	3 positions, left main.right mome. 45°	E3S5L□□◇L△.I

Remarks:
1. Handling type: M= Momentary, A= Alternative ; mome.= Momentary, main.= Alternative
2. □□Contact mode: 1A=1NO, 1B=1NC, AB=1NO+1NC, 2A=2NO, 2B=2NC and etc.
   Note that the sequence of contact blocks should be consistent with the handling type, in this situation, AB means left A contact and right B, BA means left B contact and right A.
3. ◇Lamp Voltage:1=6VDC, 2=12VDC, 3=24VDC, 4=110VAC, 5=220VAC
   L=LED lamp, A=Discharged lamps
   Discharged lamps powered by 110 VAC、220VAC are available only. Omission=without lamp.
4. △Light source color : R=Red, Y=Yellow, G=Green, B=Blue, W=White.
5. Pushbutton without lamp could be attached the 3rd contact. Please add extra A or B code following the contact mode to present the mode of the 3rd contact, A means 1 normally open and B1 normally close.
6. Please change "E" to "H" for protection rating IP65.
7. Please add*M in the last of order no. if you would like to change the black plastic front ring to the metal ring.
8. Please add·R,·Y,·G,·B,·W,·K,·E if plastic ring of red, yellow, blue, white, black, grey to be replaced.

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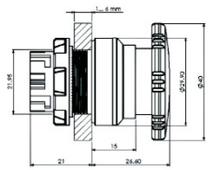
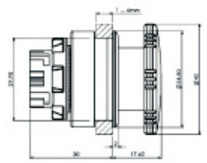
- Whole series slim; delicate and light, up to the requirement of protection IP40 and IP65
- Lower and flush mounting actuators, highly increase the fine appearance of your panel
- 22、25 and 30mm mounting holes, fulfill your intentions of choice and replacement

Coding Principle

Pushbutton Switches E2P/E3P	E	2	R	1	R	1	B

Part No.	Code Description
E	Classification : E=IP40 Standard H=IP65 Rubber-sealed
2	Mounting size : 2=22mm、25mm Standard mounting 3= 30mm Standard mounting
R1	Reset mode : R1=Rotate to reset
R	Cap color : R=Red
1B	Contact mode : A=1NO B=1NC, provide 1A,2A,3A,1B,2B,3B,AB,2A1B,1A2B,2B1B,2AAB,AB2B,2A2A,2B2B

E2R1 Emergency Stop Switches	Drawing	Color	Reset Mode	Part No.
		●	rotate to reset	E2R1R□□

E3R1 Emergency Stop Switches	Drawing	Color	Reset Mode	Part No.
		●	rotate to reset	E3R1R□□

Remarks:
1. □□Contact Mode: 1A=1NO, 1B=1NC, 2A=2NO, 2B=2NC, AB=1NO+1NC and etc.
2. Please change "E" to "H" for protection rating IP65.
3. Please add*M in the last of order no. if you would like to change the yellow plastic front ring to the metal ring.

- 3 models meet with EN IEC 60947-5-5: rotate to reset, pull to reset, key to rest
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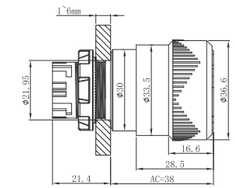
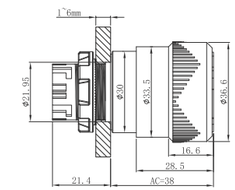
- Whole series slim; delicate and light, up to the requirement of protection IP40 and IP65
- 22/25mm mounting holes, fulfill your intentions of choice and replacement

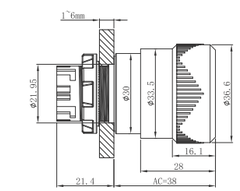
Coding Principle

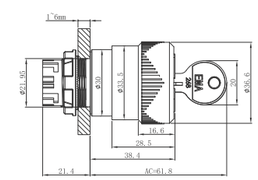
E-stop Switch	E	2	E	1	R	1	B	3	L	R	.I

Part No.	Code Description
E	Classification : E=IP40 Standard H=IP65 Rubber-sealed
2	Mounting size : 2=22mm、25mm Standard mounting
E1	Reset mode : E1=rotate to reset E2=pull to reset E3=key to reset
R	Cap color : R=Red
1B	Contact mode : A=1NO B=1NC, provide 1A,2A,3A,1B,2B,3B,AB,2A1B,1A2B,2B1B,2AAB,AB2B,2A2A,2B2B
3	Operating voltage : 1=6VDC,2=12VDC,3=24VDC,4=110VAC,5=220VAC
L	Light source:L=LED lamp,Omission=Without lamp
R	Lamp color:R=Red LED
.I	Lamp type:I=Illumimated Omission=Non-illuminated
Notice	E1:With lamp or without lamp E2:No lamp for E2、E3

E2E1 Non-illuminated	Drawing	Color	Reset Mode	Part No.
		●	rotate to reset	E2E1R□□

E2E1 Illuminated	Drawing	Color	Reset Mode	Part No.
		●	rotate to reset	E2E1R□□◇LR.I

E2E2 Push-Pull	Drawing	Color	Reset Mode	Part No.
		●	pull to reset	E2E2R□□

E2E3 Keylock	Drawing	Color	Reset Mode	Part No.
		●	key to reset	E2E3R□□

Remarks:

1. □□Contact Mode: 1A=1NO, 1B=1NC,provide 1A,2A,3A,1B,2B,3B,AB,2A1B,1A2B,2B1B,2AAB,AB2B,2A2A,2B2B
2. ◇Lamp Voltage:1=6VDC, 2=12VDC, 3=24VDC, 4=110VAC, 5=220VAC
3. Illuminated switch includes a red LED
4. Please change "E" to "H" for protection rating IP65

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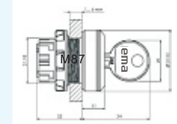
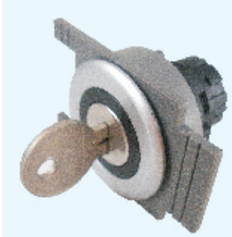
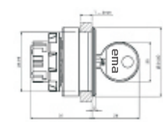
- Lower and flush mounting actuators, highly increase the fine appearance of your panel
- 22、25 and 30mm mounting holes, fulfill your intentions of choice and replacement

Coding Principle

Keylock Switches E2K/E3K	E	2	K	1	W	1	A	.	V

Part No.	Code Description	
E	Classification	: E=IP40 Standard H=IP65 Rubber-sealed
2	Mounting size	: 2=22mm、25mm Standard mounting 3= 30mm Flush mounting
K1	Handling type	: K1=2 Positions, momentary 45° ; K2=2 Positions, maintained 90° K7=3 Positions, left momentary 45° right maintained 90° K8=3 Positions, left maintained 90° right maintained 90°
W	Key pull	:W=Three inlets, I=One inlet, V=Two inlets
1A	Contact mode	: A=1NO B=1NC, provide 1A,2A,3A,1B,2B,3B,AB,2A1B,1A2B,2B1B,2AAB,AB2B,2A2A,2B2B
.V	Handle shape	: V= V shape, omission= L shape(only for S2 handing type)

E2K keylock	Drawing	Handling Type		Part No.
		45° M	2 positions,momentary 45°,one inlet	E2K1I□□
		90° A	2 positions,maintained 90°,one inlet	E2K2I□□
		90° A	2 positions,maintained 90°,two inlets	E2K2V□□
		90° A	2 positions,maintained90°,one inlet _V shape	E2K2I□□.V
		90° A	2 positions,maintained90°,two inlets _V shape	E2K2V□□.V
		M 45° 90° A	3 positions,left mome.45° right main. 90°,one inlet	E2K7I□□
		M 45° 90° A•	3 positions,left mome.45° right main. 90°,two inlets	E2K7V□□
		90° 90° A A	3 positions,left main.45° right main. 90°,two inlet	E2K8I□□
		90° 90° A A•	3 positions,left main.45° right main. 90°,two inlets	E2K8V□□
		90° 90° •A A•	3 positions,left main.45° right main. 90°,three inlets	E2K8W□□

E3K Flush Keylock	Drawing	Handling Type		Part No.
		45° M	2 positions, momentary 45°,one inlet	E3K1I□□
		90° A	2 positions, maintained 90°,one inlet	E3K2I□□
		90° A•	2 positions, maintained 90°,two inlets	E3K2V□□
		90° A	2 positions,maintained90°,one inlet _V shape	E3K2I□□.V
		90° •A	2 positions,maintained90°,two inlets _V shape	E3K2V□□.V
		M 45° 90° A	3 positions,left mome.45° right main. 90°,one inlet	E3K7I□□
		M 45° 90° A•	3 positions,left mome.45° right main. 90°,two inlets	E3K7V□□
		90° 90° A A	3 positions,left main.45° right main. 90°,two inlet	E3K8I□□
		90° 90° A A•	3 positions,left main.45° right main. 90°,two inlets	E3K8V□□
		90° 90° •A A•	3 positions,left main.45° right main. 90°,three inlets	E3K8W□□

Remarks :
1. Handling type: M= Momentary, A= Maintained; mome.= Momentary, main.= Maintained
2. □□Contact mode: 1A=1NO, 1B=1NC, AB=1NO+1NC, 2A=2NO, 2B=2NC and etc.
   Note that the sequence of contact blocks should be consistent with the handling type,
   in this situation, AB means left A contact and right B, BA means left B contact and right A.
3. (I,V,W) key-pull type: I= One inlet, V= Two inlets, W= Three inlets, " • " means "plug-out" points of keys.
4. Please change "E" to "H" for protection rating IP65.
5. Please add *M in the last of order no. if you would like to change the black plastic front ring to the metal ring.
6. Please add ˙R, ˙Y, ˙G, ˙B, ˙W, ˙K, ˙E if plastic ring of red, yellow, blue, white, black, grey to be replaced.

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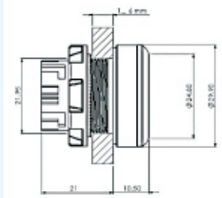
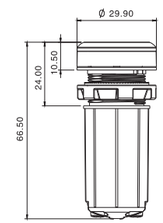
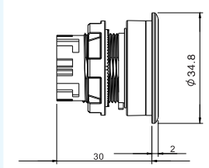
Coding Principle

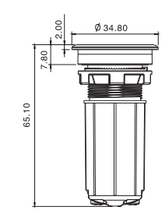
Buzzers E2B	E	2	B	1	.	0	6

Part No.	Code Description
E	Classification : E=IP40 Standard H=IP65 Rubber-sealed
2	Mounting size : 2=22mm、25mm Standard mounting 3= 30mm Flush mounting
B1	Tone mode : B1=Continuous, B2=Intermittent
.06	Operating voltage : 06=6VDC, 12=12VDC, 24=24VDC,11=110VAC,22=220VAC

E2B DC Buzzer	Drawing	Voltage	Continuous Part No.	Intermittent Part No.
		6VDC	E2B1.06	E2B2.06
		12VDC	E2B1.12	E2B2.12
		24VDC	E2B1.24	E2B2.24
		–	–	–
		–	–	–
		–	–	–

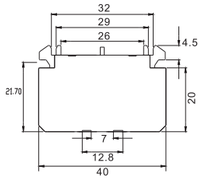
E2B AC Buzzer	Drawing	Voltage	Continuous Part No.	Intermittent Part No.
		110VAC	E2B1.11	E2B2.11
		220VAC	E2B1.22	E2B2.22
		–	–	–
		–	–	–
		–	–	–
		–	–	–

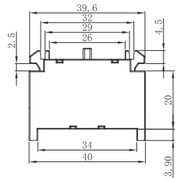
E3B DC Buzzer	Drawing	Voltage	Continuous Part No.	Intermittent Part No.
		6VDC	E3B1.06	E3B2.06
		12VDC	E3B1.12	E3B2.12
		24VDC	E3B1.24	E3B2.24
		–	–	–
		–	–	–
		–	–	–

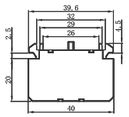
E3B AC Buzzer	Drawing	Voltage	Continuous Part No.	Intermittent Part No.
		110VAC	E3B1.11	E3B2.11
		220VAC	E3B1.22	E3B2.22
		–	–	–
		–	–	–
		–	–	–
		–	–	–

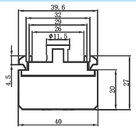
Remarks:1. Sound maximum 100dB at a distance 70 cm.
2. A buzzer by flush mounting is only offered a metal cover.
3. Please change "E" to "H" for protection rating IP65.

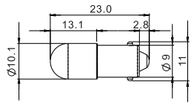
Accessories

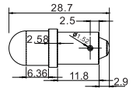
Order No.	Contact block	Description	Drawing
2SWA		2SWA1 : 1 normally open, green. 3 .4	
2SWB		2SWB1 : 1 normally close, red. 1 .2	

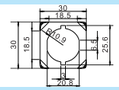
Order No.	Connected contact block	Description	Drawing
2SWA.1		2SWA1 : 1 normally open, green. 3 .4	
2SWB.1		2SWB1 : 1 normally close, red. 1 .2	

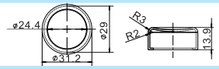
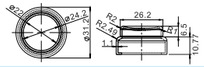
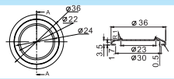
Order No.	Auxiliary	Description	Drawing
2SWC		2SWC:suitable to only IA or IB	

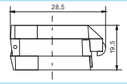
Order No.	Lamp Holder	Description	Drawing
2LH		X1(+)-X2(-) Make the right connection, while polarized LED lamps installed.	

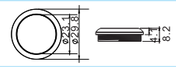
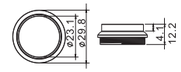
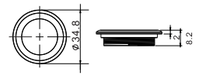
Order No.	Lamp	Description	Drawing
L.BA9S-L06.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 6VDC/AC	
L.BA9S-L12.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 12VDC/AC	LED lamp 
L.BA9S-L24.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 24VDC/AC	
L.BA9S-L11.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 110 VAC	
L.BA9S-L22.R(Y/G/B/W)		LED Lamp Red(Yellow/ Green/Blue/White), 220 VAC	

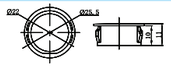
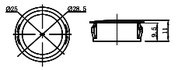
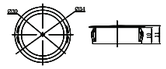
Order No.	Lamp	Description	Drawing
L.BA9S-A11.R(G)		Discharged Lamp Red(Green),110VAC	Incandescent lamp 
L.BA9S-A22.R(G)		Discharged Lamp Red(Green),220VAC	

Order No.	Anti-twisting Ring	Description	Drawing
02Z–100		Only for standard mounting to increase anti-twisting torque while working.	

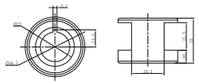
Order No.	Protective Cap	Description	Drawing
02Z–200.F		F=Suitable to flat head/button pushbutton	
02Z–200.P		P=Suitable to raised head/button pushbutton	
02Z–200.M		M=Suitable to flush flat head/button pushbutton	

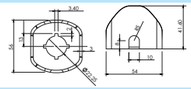
Order No.	Protective cover	Description	Drawing
02Z–201		For flat head/button switches	

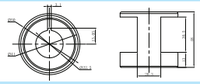
Order No.	Metallic Front Ring	Description	Drawing
02Z–300.L		L=Low ring (suitable to standard mounting spec.)	
02Z–300.H		H=High ring (suitable to standard mounting spec.)	
02Z–300.F		F=Flat ring (suitable to flush mounting spec.)	

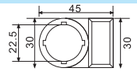
Order No.	Blind Plug	Description	Drawing
02Z–400.22		22= Suitable to 22mm mounting hole	
02Z–400.25		25= Suitable to 25mm mounting hole	
02Z–400.30		30= Suitable to 30mm mounting hole	

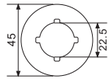
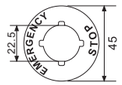
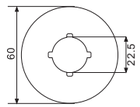
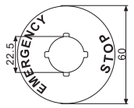
Accessories

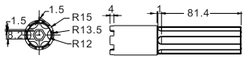
Order No.	Metal Emergency Protective Cover	Description	Drawing
02Z-500.R		For mushroom emergency stop switches	

Order No.	Plastic Emergency Protective Cover	Description	Drawing
02Z-501.R		For mushroom and foolproof emergency stop switches	

Order No.	Metal Emergency Protective High-length Cover	Description	Drawing
02Z-502.R		For foolproof E-stop switches	

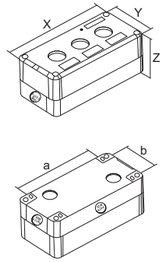
Order No.	Plate	Description	Drawing
02Z-600.22		Suitable to 22mm mounting hole	

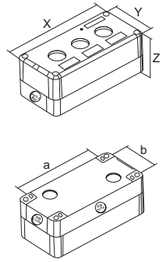
Order No.	Emergency stop ring	Description	Drawing
02Z-900.0 02Z-900.0N		External diameter: 45mm, "N" represents that 3M paster is not attached.	
02Z-900.1 02Z-900.1N		External diameter: 45mm, "N" represents that 3M paster is not attached.	
02Z-901.0 02Z-901.0N		External diameter: 60mm, "N" represents that 3M paster is not attached.	
02Z-901.1 02Z-901.1N		External diameter: 60mm, "N" represents that 3M paster is not attached.	

Order No.	Nut Fixer	Description	Drawing
02Z-T01		Fixing torque ranges from 2 to 3 Nm, maximum torque not exceeding 3 Nm.	

Order No.	Key	Description	Drawing
02Z-K268		No.268 key is suitable for key switch and key type emergency stop switch	–

Accessories

Order No.	22mm Switch box	Description	Dimension (x*y*z)	Center hole dist (a*b)	Drawing
02Z-700.1		1 hole, white IP65	73x73x66	59x40	 Unit:mm
02Z-700.2		2 hole, white IP65	105x73x66	92x40	
02Z-700.3		3 hole, white IP65	139x73x66	125x40	
02Z-700.4		4 hole, white IP65	172x73x66	158x40	
02Z-700.5		5 hole, white IP65	205x73x66	191x40	

Order No.	22mm Switch box	Description	Dimension (x*y*z)	Center hole dist (a*b)	Drawing
02Z-701.1		1 hole, yellow IP65	73x73x66	59x40	 Unit:mm
02Z-701.2		2 hole, yellow IP65	105x73x66	92x40	
02Z-701.3		3 hole, yellow IP65	139x73x66	125x40	
02Z-701.4		4 hole, yellow IP65	172x73x66	158x40	
02Z-701.5		5 hole, yellow IP65	205x73x66	191x40	

16/22mm Flush mounting stainless steel control switches

This series adopts flush-mounting design above the panel. Thanks to stainless steel housing, the switch features high strength and abrasion resistance. The apperance is beautiful and small. The touch is smoothly moving. Upon round shape, the illuminated items are equipped with high-brightness LEDs, that lifetime offers 50,000 hours at least. Embedded sealing struction, the protection rating up to IP67. The products can widely used for machinery, instrument, automation, transpotation, smart building, aviation, military, medical devices and more.

16/22mm Flush Mounting Stainless Steel Control Switches

16mm Control Switches	132–133
22mm Control Switches	134–135

Linking your system

www.ema-electronic.com

Features

- Support 16m/m、22m/m flush-mounting holes
- Flat and round shape. Metal texture. Beautiful apperance
- Red/Yellow/Green/Blue/White LEDs color for your choice
- Illuminated light mode: Single dot、Ring
- Abrasion resistance, high strength, and high hardness with stainless steel housing
- Embedded high-brightness LEDs. Long lifetime
- The protection rating in front of panel up to IP67

Applications

- Industry: Machinery、Instrument、Factory equipment
- Pubilc Field: Ticket-gate machine、Vendor machine、Car parking entrance
- Control System: Panel control、Smart device

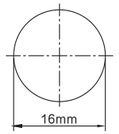
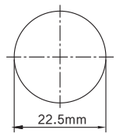
Technical Specifications

Connected setting	Connact block 2.8 x 0.5mm
Contact rating	16mm: 250VAC/3A, 22mm: 250VAC/5A
Contact resistance	≤50mΩ
Insulation resistance	≥100mΩ
Dielectric strength	2000VAC 50Hz, 1m
Mechanical lifetime	More than 1,000,000
Electrical lifetime	More than 50,000
Thickness of panel	1...6mm
Nut tougue	5...14N/m
Operating pressure	5.5N
LED lifetime	50,000 h
Pushbutton material	Stainless steel
Housing material	Stainless steel
Storage temperature	-40℃ ~ +80℃
Operation temperature	-25℃ ~ +55℃

Installation Panel

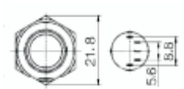
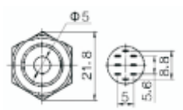
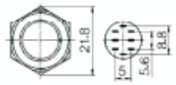
- Mounting Sequence: Put the actuator through the panel hole. Tighten the nut below the panel. The torque is 5...14 N/m
- The thickness of panel is 1...8mm

Hole Dimension

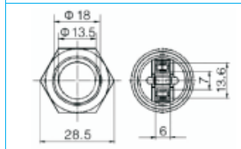
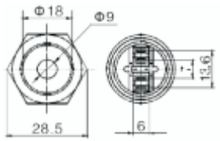
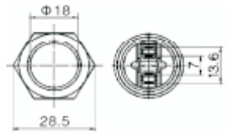
Cut-out Category	Hole Dimension
A: 16mm round hole	
B: 22mm round hole	

Front view and bottom of contact block

16m/m mounting hole

Illuminated Ring	Illuminated Single dot	Non-Illuminated
		

22m/m mounting hole

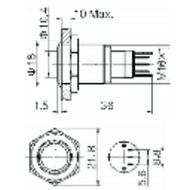
Illuminated Ring	Illuminated Single dot	Non-Illuminated
		

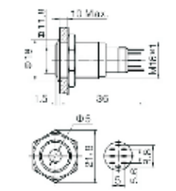
- 16mm and 22mm flush mounting
- Stainless steel housing for abrasion resistance, high strength, high hardness
- Offer illuminated and non-illuminated metal switches
- Light mode: Single dot and ring
- Round and flush head shape. Beautiful appearance
- Protection up to IP67 above front panel

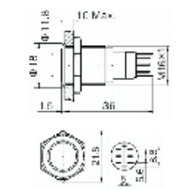
Coding Principle

Pushbutton Switches M1/M2	M	2	P	1	G	A	B	3	L	1	.	M

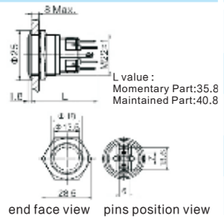
Part No.	Code Description	
M	Classification	: M=Flush mounting stainless steel control switches
2	Mounting size	: 1=16m/m 2=22m/m
P1	Cap style	: P1=Flat button
G	Light color	: R=Red, Y=Yellow, G=Green, B=Blue, W=White, S=Stainless steel surface
AB	Contact mode	: AB=1NO/1NC, 2A2B=2NO/2NC
3	Operating voltage	: 3=24VDC, 4=110VAC, 5=220VAC
L	Light source	: L=LED lamp
1	Light mode	: 1=Ring, 2=Central dot
.M	Function mode	: M=Momentary, A=Alternative

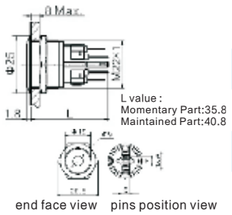
M1P1 Ring/Illuminated	Drawing	Color	Momentary Part No.	Alternative Part No.
	 end face view pins position view	○	M1P1W□□◇L 1.M	M1P1W□□◇L 1.A
		●	M1P1R □□◇L 1.M	M1P1R □□◇L 1.A
		●	M1P1Y □□◇L 1.M	M1P1Y □□◇L 1.A
		●	M1P1G □□◇L 1.M	M1P1G □□◇L 1.A
		●	M1P1B □□◇L 1.M	M1P1B □□◇L 1.A

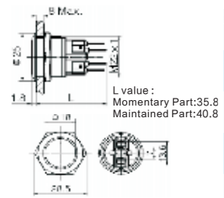
M1P1 Dot/Illuminated	Drawing	Color	Momentary Part No.	Alternative Part No.
	 end face view pins position view	○	M1P1W□□◇L 2.M	M1P1W□□◇L 2.A
		●	M1P1R □□◇L 2.M	M1P1R □□◇L 2.A
		●	M1P1Y □□◇L 2.M	M1P1Y □□◇L 2.A
		●	M1P1G □□◇L 2.M	M1P1G □□◇L 2.A
		●	M1P1B □□◇L 2.M	M1P1B □□◇L 2.A

M1P1 Non-Illuminated	Drawing	Color	Momentary Part No.	Alternative Part No.
	 end face view pins position view	Stainless steel	M1P1S □□.M	M1P1S □□.A
		–	–	–
		–	–	–
		–	–	–
		–	–	–

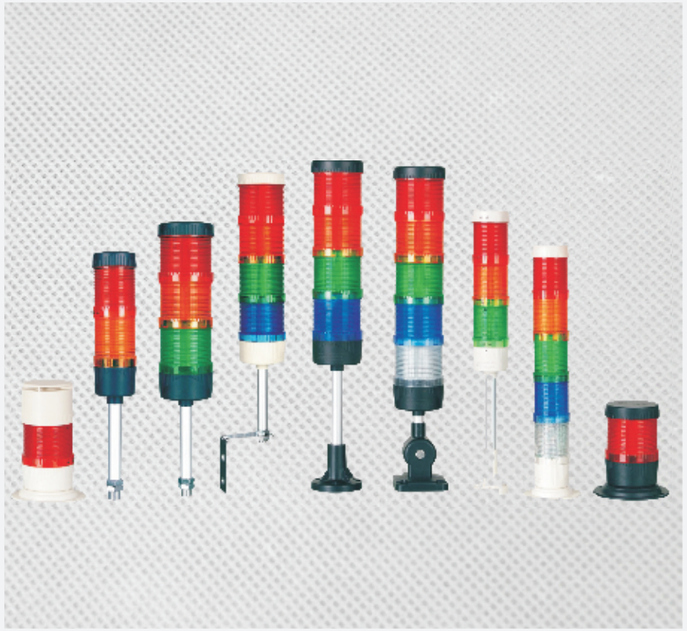
Remark: 1.□□Contact Mode: AB=1NO/1NC, 2A2B=2NO/NC
2.◇Lamp Voltage: 3=24VDC, 4=110VAC, 5=220VAC
L=LED lamp

M2P1 Ring/Illuminated	Drawing	Color	Momentary Part No.	Alternative Part No.
	 end face view pins position view	○	M2P1W□□◇L 1.M	M2P1W□□◇L 1.A
		●	M2P1R □□◇L 1.M	M2P1R □□◇L 1.A
		●	M2P1Y □□◇L 1.M	M2P1Y □□◇L 1.A
		●	M2P1G □□◇L 1.M	M2P1G □□◇L 1.A
		●	M2P1B □□◇L 1.M	M2P1B □□◇L 1.A

M2P1 Dot/Illuminated	Drawing	Color	Momentary Part No.	Alternative Part No.
	 end face view pins position view	○	M2P1W□□◇L 2.M	M2P1W□□◇L 2.A
		●	M2P1R □□◇L 2.M	M2P1R □□◇L 2.A
		●	M2P1Y □□◇L 2.M	M2P1Y □□◇L 2.A
		●	M2P1G □□◇L 2.M	M2P1G □□◇L 2.A
		●	M2P1B □□◇L 2.M	M2P1B □□◇L 2.A

M2P1 Non-Illuminated	Drawing	Color	Momentary Part No.	Alternative Part No.
	 end face view pins position view	Stainless steel	M2P1S □□.M	M2P1S □□.A
		–	–	–
		–	–	–
		–	–	–
		–	–	–

Remark: 1.□□Contact Mode: AB=1NO/1NC, 2A2B=2NO/NC
2.◇Lamp Voltage: 3=24VDC, 4=110VAC, 5=220VAC



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.

Multi-Layer Light Tower

Φ30 mm	144–145
Φ50 mm	146–147
Φ70 mm	148–149
50/70mm White housing module	150–151
Φ50 mm Integrated Aluminum alloy	152–153
Accessories	154–155
Drawing	156–157

Linking your system

www.ema-electronic.com

Features

- Size: Φ30mm, Φ50mm, Φ70mm
- 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: 85 ± 10 or 120 ± 10 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

Blue
Discontinuity status - action mandatory

Yellow
Abnormal status - in monitor or action

White
Other status - can be identified by the user

Green
Normal status - no action

Max. power

LED Light Module	0550 ultra bright	Red, Yellow	1.2W	Green, Blue, White	1.7W
	0550 standard	Red, Yellow	0.75W	Green, Blue, White	1W
	0570 ultra bright	Red, Yellow	1.7W	Green, Blue, White	2.3W
	0570 standrd	Red, Yellow	1W	Green, Blue, White	1.2W
Buzzer	0550 buzzer	Black, White	0.5W		
	0570 buzzer	Black, White	0.75W		
	0570 music buzzer	Black, White	12W		
	0570 120dB buzzer	Black, White	DC=5W	DC<200mA	AC<20mA

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

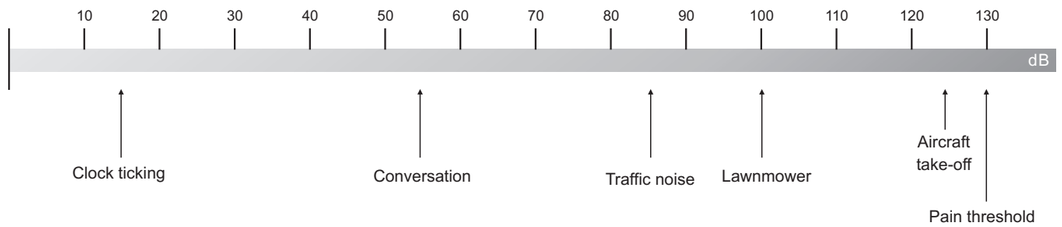
Table of operating range

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, voulum 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.

Distance(M) \ Level of sound dB(A)																					
1	120	118	116	114	112	110	108	106	104	102	100	98	96	94	92	90	85	80	75	70	65
2	114	112	110	108	106	104	102	100	98	96	94	92	90	88	86	84	79	74	69	64	59
3	110	108	106	104	102	100	98	96	94	92	90	88	86	84	82	80	75	70	65	60	55
5	106	104	102	100	98	96	94	92	90	88	86	84	82	80	78	76	71	66	61	56	51
10	100	98	96	94	92	90	88	86	84	82	80	78	76	74	72	70	65	60	55	50	45
20	94	92	90	88	96	84	82	80	78	76	74	72	70	68	66	64	59	54	49	44	39
30	90	88	86	84	82	80	78	76	74	72	70	68	66	64	62	60	55	50	45	40	35
50	86	84	82	80	78	76	74	72	70	68	66	64	62	60	58	56	51	46	41	36	
100	80	78	76	74	72	70	68	66	64	62	60	58	56	54	52	50	45	40			
200	74	75	70	68	66	64	62	60	58	56	54	52	50	48	46	44	39				
300	70	68	66	64	62	60	58	56	54	52	50	48	46	44	42	40					
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									

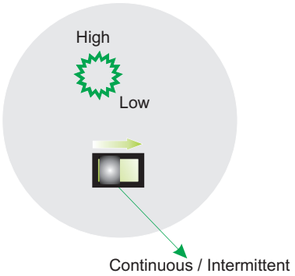
Examples of noise

Enviormental 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 voulmn horn, recorder.



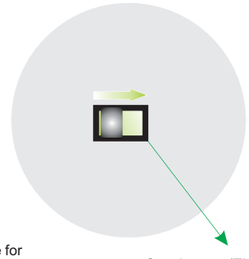
Buzzer

Switchable Continuous/intermittent buzzer and adjustable volume up to 85±10 or 120±10dB/M 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.

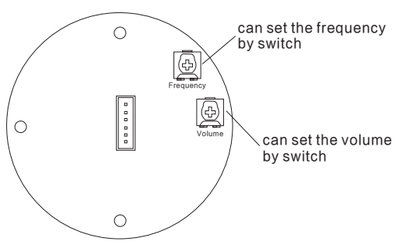


Notice: Not avaliable for 30mm flashing light module

Continuous/Flashing light

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 Φ70mm buzzer up to 120dB/M with voltage in 12~24VDC. 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.

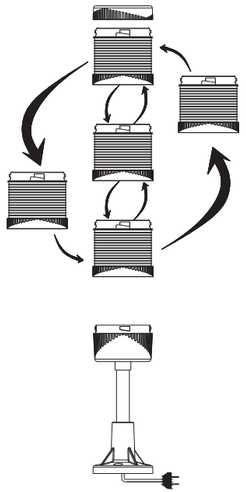


Wide range of voltage

05 Series with DC voltage offer reversal polarity protection to secure your connection. A wide range rated voltage of 12~24VDC or 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

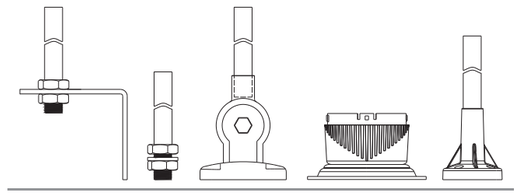
Thanks for modular design, the user can turn the light element slightly until it cannot move.

Align "🔒" on lamp holder to "▲" on groove, wrest toward left to "🔒", open the top coverof the stand.

Align "🔒" on lamp shade to "▲" on groove, wrest toward right until hearing "click", and the mounting is finished.

Easy mounting

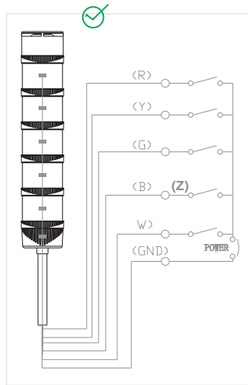
Easy and quick selections of mounting with integrated stands. Custom length of stand is available.



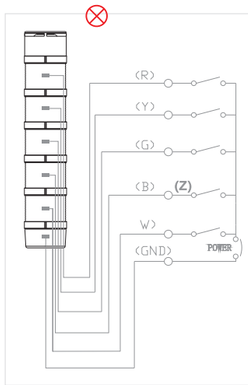
L T R P S

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.



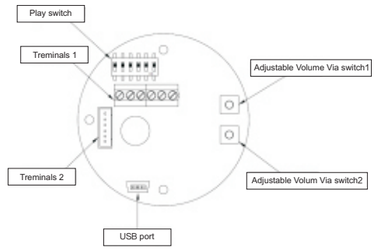
ema wiring



Typical wiring

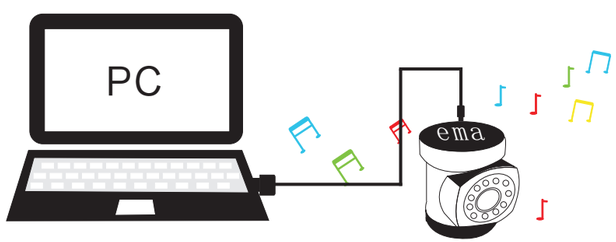
Φ 70mm Music Buzzer

NEW



You can input any voice into ema music buzzer as you wish! No matter it is human voice, pop music, tone , melody, natural sound or even symphony. What is more, wno software is needed to DIY this audible device. Music buzzer could be used for much more condition for example the warning in different condition/area/equipments. Furthermore, the user can choose any melody or voice as an alarm to play under any failure circumstance. Each light tower module has sound and muffler features. You can flexibly adjust the position and create various combinations of light module and alarm. No other buzzer makes DIY the songs this much fun.

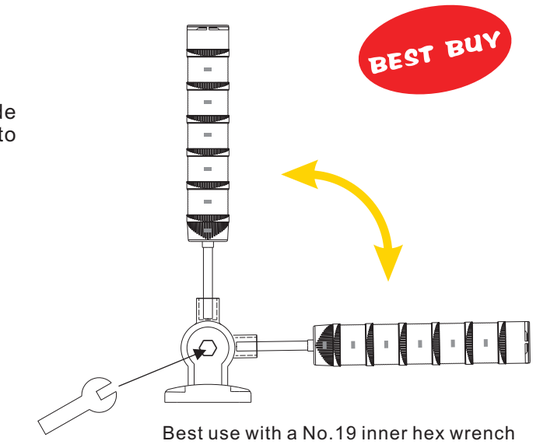
Incredible audible device – the volume of 70mm ema Music Buzzer is up to 85±10dB/M. A variety of music can make the alarm highly recognizable compared to the general tone which commonly use in most industrial environment. In brief, ema Music Buzzer provide the user the quick response for the failure when there is a personally music coming out in the air. What is more, it is easy and flexible to be assembled in any layer of light tower, either in the top or button or in the middle of light tower. The volume of the buzzer sound can be adjusted through the DIP switches. The product is flexible and feature with wide range of 12 ~ 24VDC voltage which is perfectly save your inventory. That is no need to worry about different voltage if you have ema Music Buzzer. The function about the ema Music buzzer is a great hit. The accessory 1.5 meter USB cable is available. (Order no.: UP0007)



Application examples:
1. Different area in factory (such as area A and area B)
2. Different type/function equipments
3. Different malfunctions
4. Different language for different countries

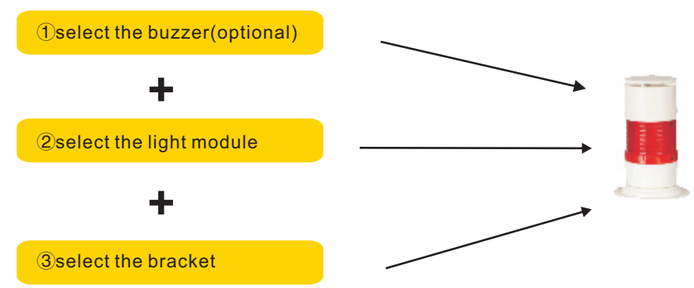
Best Choice: R type bracket

ema R type bracket is designed to provide the convenience for machine delivery and to avoid the damage during the shipping.

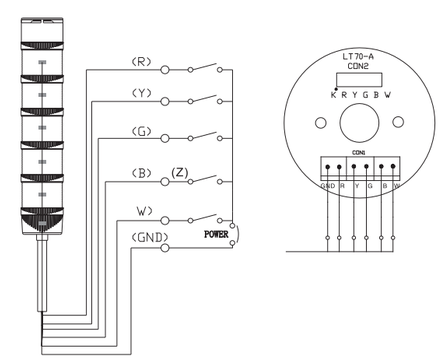


Best use with a No.19 inner hex wrench

How to select the modular light tower



Wiring instruction



input voltage connect with GND(black wire) and W(white wire) buzzer2(Continuous)
input voltage connect with GND(black wire) and B(blue wire) buzzer2(Intermittent)
input voltage connect with GND(black wire) and G(green wire)Green module light on
input voltage connect with GND(black wire) and Y(yellow wire) Yellow module light on
input voltage connect with GND(black wire) and R(red wire) Red module light on

PLC can be connected with anode or cathode

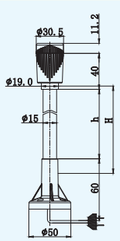
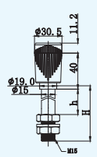
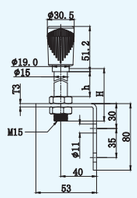
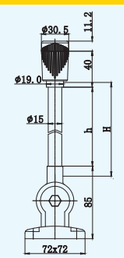
Notice:When you use the PLC to control continuous light(DC 12~24V and AC85~275V), it is ideal method to use RELAY to protect PLC .

- Indicator with long life lights, insert 8 ultra bright LED diode
- 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
- Main material:light module-PC,bracket-ABS, tube-Aluminum
- Materials in protection of corrosive
- Protection rating:IP54、IP65

IP65 CE Oil RoHS SMD LED

For the convenience of your inventory control and the alternation of accessories, you can choose themodule. 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
Drawing H means the real length of tube h means customers selected tube length				

LED Light Module Drawing No.: M4(Page 156)

05	30	Y	DW	L	H
Series	Size	Layer color	Power supply	Type of light	Protection
05	Φ30mm	R=Red	DW=12~24VDC	L=Continuous	H=IP65
		Y=Yellow		F=Flashing	Omission=IP54
		G=Green			
		B=Blue			
		W=White			

Notice:1. AW85~275VDC is available only for ultra-bright type
2.30mm flashing type light module can not be set to lighting type, need be ordered separately

Stand Module

05	30	TB	S	01	K	H
Series	Size	Stand	Type of Stand	Length	Body color	Protection
05	Φ30mm	TB	S=S Type	01=10mm	W=White	H=IP65
			T=T Type	10=100mm	K=Black	Omission=IP54
			L=L Type	25=250mm		
			R=R Type			

Notice:30mm type bracket is connected with a 0.5m cable.

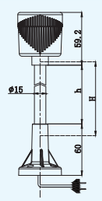
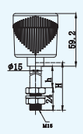
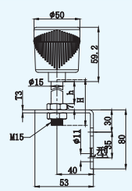
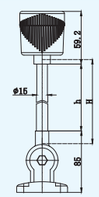
Light Tower Module Drawing No.: M1(Page 156)

05	30	RYG	DW	S10	W	L	H
Series	Size	Layer color	Power supply	Type of Stand	Body color	Type of light	Protection
05	Φ30mm	R=Red	DW=12~24VDC	S01、S10、S25	W=White	L=Continuous	H=IP65
		Y=Yellow		T01、T10、T25	K=Black	F=Flashing	Omission=IP54
		G=Green		L01、L10、L25			
		B=Blue		R01、R10、R25			
		W=White					

- Long life-time 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: 85±10 dB/M
- Materials in protection of corrosive
- Protection rating: IP54，IP65

For the convenience of your inventory control and the alternation of accessories, you can choose themodule. 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 H means the real length of tube h means customers selected tube length					

LED Light Module Drawing No.:M5(Page 156)

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

Notice:1. AW85~275VDC is available only for ultra-bright type
2.LE or LEH is standard type with 6 LEDs embedded

Buzzer Module Drawing No.:M7(Page 156)

05	50	Z	DW	F	K	H
Series	Size	Buzzer	Power supply	Type of Tone	Body color	Protection
05	Φ50mm	☐ Z	DW=12~24VDC	F=Continuous, Intermittent can be adjusted	W=White	H=Protection
			AW=85~275VAC		K=Black	Omission=IP54

Stand Module

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

Light Tower Module Drawing No.:M2(Page 156)

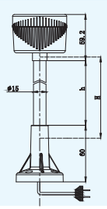
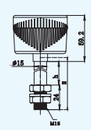
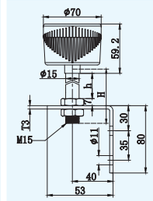
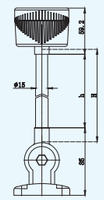
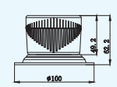
05	50	RYG	DW	S10	W	L	H
Series	Size	Layer color	Power supply	Type of Stand	Body color	Type of light	Protection
05	Φ50mm	R=Red	DW=12~24VDC	S01,S10,S25	W=White	L=Continuous	H=Protection
		Y=Yellow	AW=85~275VAC	T01,T10,T25	K=Black	F=Flashing	Omission=IP54
		G=Green		L01,L10,L25			
		B=Blue		R01,R10,R25			
		W=White		P			
		☐ Z=Buzzer					

- Long life-time 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: 85±10 or 120±10 dB/M
- Materials in protection of corrosive
- Protection rating:IP54、IP65

IP65 CE Oil RoHS SMD LED

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 H means the real length of tube h means customers selected tube length					

LED Light Module

Drawing No.:M6(Page 156)

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

Notice:1. AW85~275VDC is available only for ultra-bright type
2.LE or LEH is standard type with 12 LEDs embedded

Buzzer Module

Drawing No.:M8(Page 156)

05	70	Z	DW	F	K	H
Series	Size	Buzzer	Power supply	Type of Tone	Body color	Protection
05	Φ70mm	☐ Z=85±10dB	DW=12~24VDC	F=Continuous, Intermittent can be adjusted	W=White	H=IP65
			AW=85~275VAC		K=Black	Omission=IP54

Music Buzzer and 120dB Buzzer

Drawing No.:M9(Page 156)

05	70	P	DW	A	K	H
Series	Size	Music Buzzer	Power supply	Soud Section	Body color	Protection
05	Φ70mm	P=MP3	DW=12~24VDC	A=5 Section	K=Black	H=IP65
					W=White	Omission=IP54

Notice:music buzzer can be used with a 1.5m USB wire, order No.: UP0007

05	70	S	DW	F	K	H
Series	Size	120dB Buzzer	Power supply	Type of Tone	Body color	Protection
05	Φ70mm	S=120±10dB	DW=12~24VDC	F=Volume、frequency	K=Black	H=IP65
			AW=85~275VAC		W=White	Omission=IP54

Stand Module

05	70	TB	S	01	K	H
Series	Size	Stand	Type of Stand	Length	Body color	Protection
05	Φ70mm	TB	S=S Type	01=10mm	W=White	H=IP65
			T=T Type	10=100mm	K=Black	Omission=IP54
			L=L Type	25=250mm		
			R=R Type			
			P=P Type			

Light Tower Module

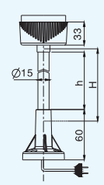
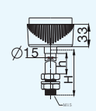
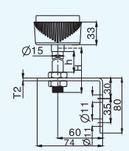
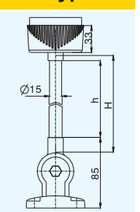
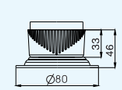
Drawing No.:M3(Page 156)

05	70	RYG	DW	S10	W	L	H
Series	Size	Layer color	Power supply	Type of Stand	Body color	Type of light	Protection
05	Φ70 mm	R=Red	DW=12~24VDC	S01,S10,S25	W=White	L=Continuous	H=IP65
		Y=Yellow	AW=85~275VAC	T01,T10,T25	K=Black	F=Flashing	Omission=IP54
		G=Green		L01,L10,L25			
		B=Blue		R01,R10,R25			
		W=White		P			
		Z=Buzzer					

- White and transparent housing
- Long life-time 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
- 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 H means the real length of tube h means customers selected tube length					

50mm LED Light Module

Drawing No.:M5(Page 156)

05	50	W	R	DW	L	H
Series	Size	Body color	LED color	Power supply	Type of light	Protection
05	Φ50mm	W=白	R=Red	DW=12~24VDC	L=Continuous	H=IP65
			Y=Yellow	AW=85~275VAC	F=Flashing	Omission=IP54
			G=Green			
			B=Blue			
			Omission=White			

Notice:1.AW85~275VDC is available only for ultra-bright type

70mm LED Light Module

Drawing No.:M6(Page 156)

05	70	W	R	DW	L	H
Series	Size	Body color	LED color	Power supply	Type of light	Protection
05	Φ70 mm	W=White	R=Red	DW=12~24VDC	L=Continuous	H=IP65
			Y=Yellow	AW=85~275VAC	F=Flashing	Omission=IP54
			G=Green			
			B=Blue			
			Omission=White			

Light Tower Module

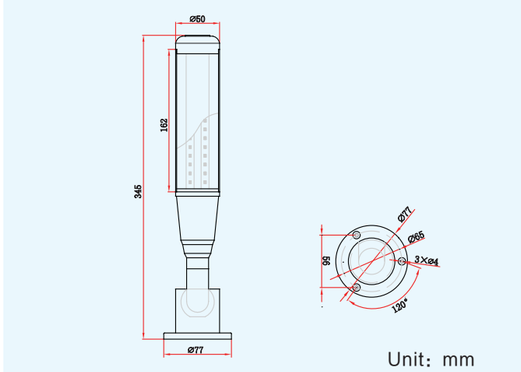
05	70	W	RYG	DW	S10	K	L	H
Series	Size	Layer color	LED color	Power supply	Type of Stand	Body color	Type of light	Protection
05	Φ50mm	W=White	R=Red	DW=12~24VDC	S01、S10、S25	W=White	L=Continuous	H=IP65
	Φ70 mm		Y=Yellow	AW=85~275VAC	T01、T10、T25	K=Black	F=Flashing	Omission=IP54
			G=Green		L01、L10、L25			
			B=Blue		R01、R10、R25			
			Omission=White		P			

Φ50mm
Integrated Aluminum alloy

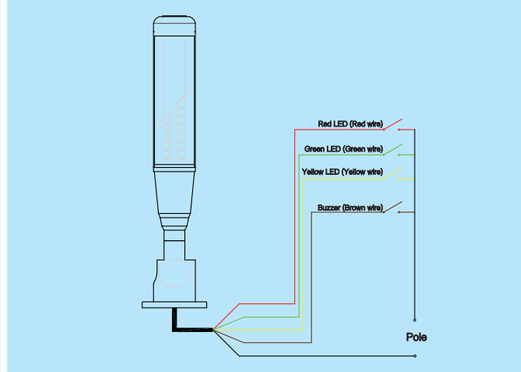
- Size: Φ50mm
- Compact structure. Red/Yellow/Green colors with 50cm wire.
- Use LED as light source
- Transparent housing for the recognition
- Housing material: Aluminum alloy
- Cover of lamp material: Polycarbonate
- Lamp lifetime: 50000 hrs
- Buzzer volume: 80 ± 10 db/M
- Protection rating: IP40、IP54

IP40 IP54 CE OIL LED

Drawing



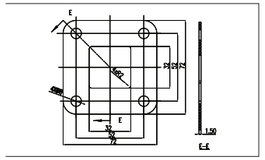
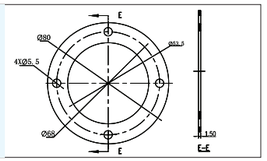
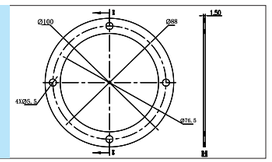
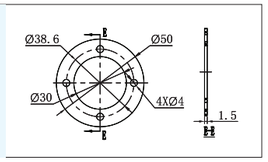
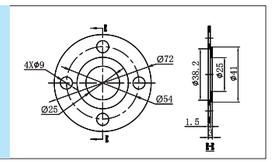
Connection

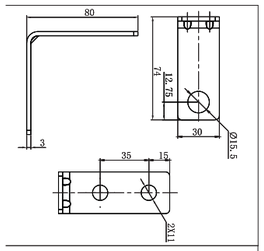
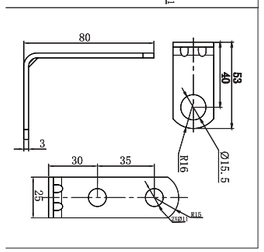


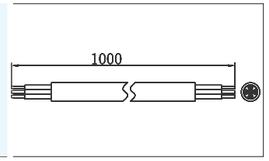
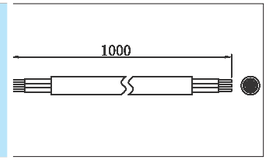
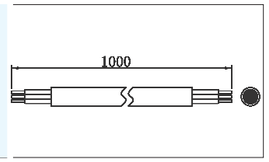
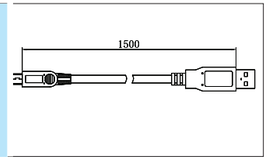
50mm Light Module

05	50	RYGZ	24	R00	A	L	P
Series	Size	LED color	Power supply	Type of Stand	Housing material	Type of light	Wiring
05	50=50mm	■ R=Red	24=24VDC	R00=R type	A=Aluminum alloy	L=Continuous	P=PNP 24VDC Positive
		■ Y=Yellow					N=NPN 24VDC Negative
		■ G=Green					
		□ Z=Buzzer					

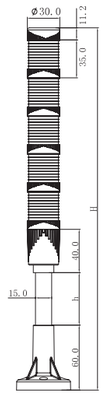
Notice: The order of LED color (from top to bottom) – red, yellow, green
Buzzer: continuous tone

Order No.	Gasket	Description	Drawing
05R01		Waterproof gasket for R type bracket,1.5mm thickness, silicon rubber,suitable for 0530/0550/0570	
05P01		Waterproof gasket for P type bracket,1.5mm thickness, silicon rubber,suitable for 0550	
05P02		Waterproof gasket for P type bracket,1.5mm thickness, silicon rubber,suitable for 0570	
05S01		Waterproof gasket for S type bracket,1.5mm thickness, silicon rubber,suitable for 0530/0550	
05S02		Waterproof gasket for S type bracket,1.5mm thickness, silicon rubber,suitable for 0570	

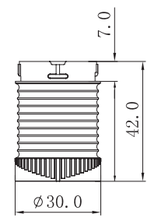
Order No.	L type bracket	Description	Drawing
05TBL		L type bracket,L:80mm,W:74mm,H:30mm,T:3mm, suitable for 0530/0550/0570	
05TBL1		L type bracket, L:80mm,W:53mm,H:25mm,T:3mm, suitable for 0530/0550/0570 Standard type with L shape bracket	

Order No.	Wire	Description	Drawing
C01N4C		1M, 4 core PVC wire	
C01N5C		1M, 5 core PVC wire	
C01N6C		1M, 6 core PVC wire	
UP0007		1.5M USB cable for music buzzer	

Drawing



M1



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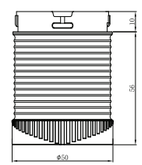

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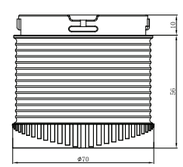

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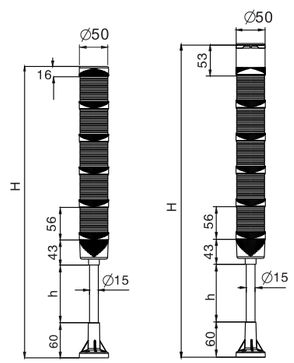

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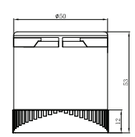

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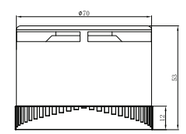

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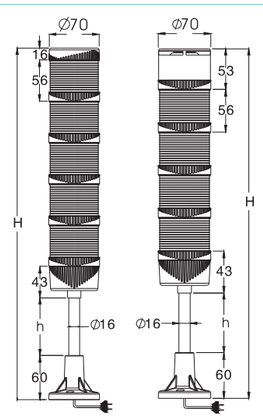

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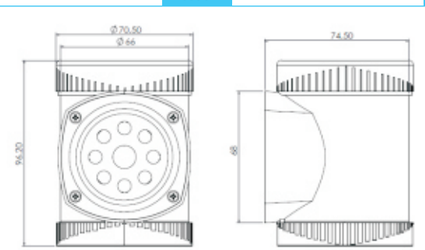
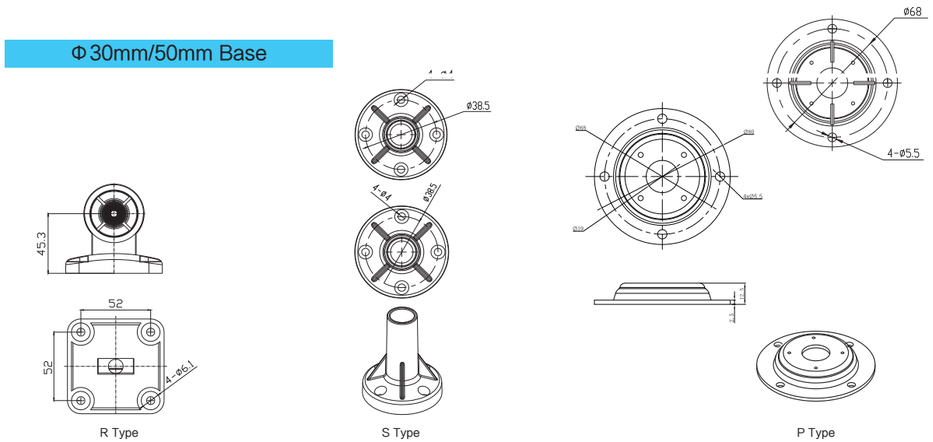
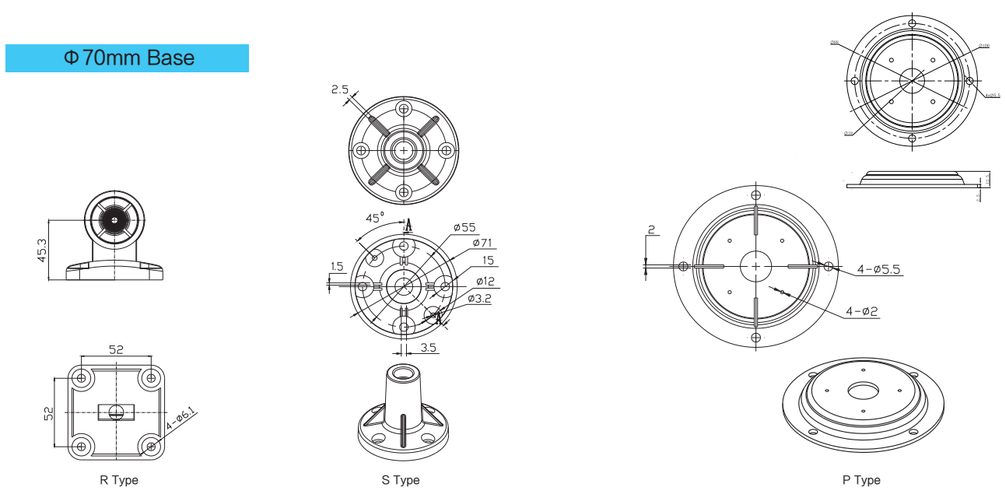


M9

Φ30mm/50mm Base



Φ70mm Base



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