

# LIMIT SWITCH BOXES

## OVERVIEW

### » KLS-100



Aluminum with Epoxy Coating  
NBR O-ring sealed  
Single Cable Entry: 1½" BSPP  
(1½" NPT, 1-M20\*1.5)  
IP67, NEMA4, 4X, NAMUR

### » KLS-200



Aluminum with Epoxy Coating  
NBR O-ring sealed  
Double Cable Entry: 2½" BSPP  
(2½" NPT, 2-M20\*1.5)  
CSA, IP67, NEMA 4, 4X

### » KLS-300



Aluminum with Epoxy Coating  
NBR O-ring sealed  
Double Cable Entry: 2½" BSPP  
(2½" NPT, 2-M20\*1.5)  
IP67, NEMA 4, 4X, NAMUR

### » KLS-400



Aluminum with Epoxy Coating  
NBR O-ring sealed  
Double Cable Entry: 2½" or 3/4" BSPP  
(2½" or 3/4" NPT, 2-M20\*1.5)  
ATEX Ex d IIC T6, NAMUR

### » KLS-500



Aluminum with Epoxy Coating  
NBR O-ring sealed  
Double Cable Entry: 2½" or 3/4" BSPP  
(2½" or 3/4" NPT, 2-M20\*1.5)  
ATEX Ex d IIB T6, NAMUR

### » KLS-600



Stainless Steel 316  
NBR O-ring sealed  
Double Cable Entry: 2½" or 3/4" BSPP  
(2½" or 3/4" NPT, 2-M20\*1.5)  
ATEX Ex d IIB T6, NAMUR

### » KLS-200D



Two Reed Switches and Two  
Permanent Magnets in  
ABS Plastic Housing  
IP67, NEMA 4.4X, NAMUR



Dome



Flat



Cylinder

Indicators for option



Red-Yellow 90° dome  
indicator (Standard)



Red-Yellow 90° flat  
indicator (Standard)



Red-Green 90° flat  
indicator



30° flat indicator



45° flat indicator



60° flat indicator



Scale dome indicator



Scale flat indicator



Linear flat indicator



Three way "L" flat  
indicator



Three way "T" flat  
indicator



120° flat indicator

# LIMIT SWITCH BOXES

## EU Type

## MODEL: KLS-100

### » Feature

The EU Type limit switch box KLS 100 series is a rectangular parallelepiped housing with simple European-style design. There are visible position indicator and non-visible position indicators for selection; various types of limit switches can be installed in the box, and the cam group is adjustable by rotation. Company exclusive design.

Certi cations: NEMA4, 4X and IP67.



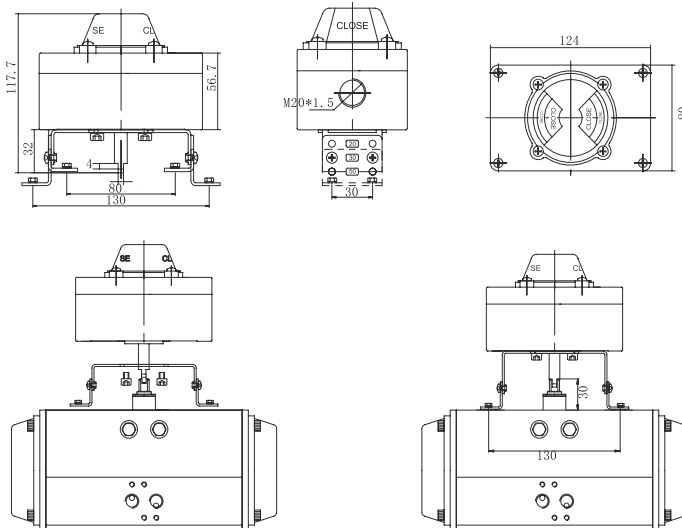
Housing without indicators



Housing with indicators



### » Dimensions



KLS-100AS  
P+F AS-i Communication Card



### » How to Order

**MODEL**  
KLS-100  
Aluminum Limit Switch Box  
IP67, NEMA4, 4X

**SWITCH TYPE**

**CABLE ENTRY**  
1-M20\*1.5  
1-1/2" BSPP  
1-1/2" NPT

**ISO BRACKET (See P.11)**  
MB1.3: 30\*80X130, H:20~50  
(Carbon Steel or AISI304)

#### Mechanical Switches

M2: 2SPDT(HONEYWELL)

M3: 3SPDT(HONEYWELL)

M5: 2DPDT(CROUZET)

ML2: 2SPDT -40 C (CHERRY)

MG2: 2SPDT Gold Contacts(HONEYWELL)

#### Magnet Sensors

QA23: 2or3 wire,5 - 240VAC/DC,5300mA(ALMS)

Additional Sensors for option

AS: AS-i communication card(P+F)

#### Proximity Inductive Sensors

PP22A: 2 wire,8.2VDC,2mA,Ex ia IIC T6(P+F NCB2-V3-NO-Y)

PP22B: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NJ2-V3-N)

PP23C: 3 wire, 10-30VDC,0-100mA(P+F NBB2-V3-E2 PNP NO)

PP22D: 2 wire,5-60VDC,4-100mA(P+F NBB3-V3-Z4)

PI23: 3 wire,5-36VDC,4-200mA(IFM IS5026 PNP/NPN)

PA22: 2 wire,10-30VDC <150mA(ALPS-24-NO)

PA23: 3 wire,10-30VDC,<150mA(ALPS-24-NO PNP/NPN)

# LIMIT SWITCH BOXES

## Standard Type

## MODEL: KLS-200

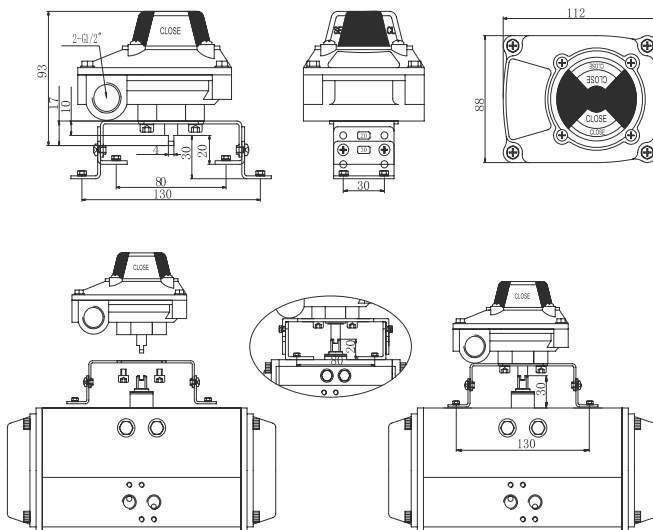
### » Feature

Standard limit switch box KLS-200 series is a compact, economical and reliable product, which realizes local visual and remote indication of valve position. Different switches are allowed to be built in, and can be used in harsh environments such as high temperature and low temperature.

Certifications: CSA, NEMA4, 4X and IP67.



### » Dimensions



A variety of switches for installation options

Built-in 8 terminals



Quickly adjust cam sets without tools

Two cable entries

### » How to Order

**MODEL**  
KLS-200  
Aluminum Limit Switch Box  
IP67, NEMA4, 4X

**SWITCH TYPE**

**CABLE ENTRY**  
2-M20\*1.5  
2-1/2" BSPP  
2-1/2" NPT  
2-M16\*1.5

**ISO BRACKET (See P.11)**  
MB1.0: 30\*80,H:20(or H:30)  
MB1.1: 30\*130,H:30~50  
MB2.3: 30\*80&130,H:20~30  
(Carbon Steel or AISI304)

#### Mechanical Switches

M2: 2SPDT(HONEYWELL)  
ML2: 2SPDT -40 C (CHERRY)  
MG2: 2SPDT Gold Contacts(HONEYWELL)

#### Magnet Sensors

QA23: 3 wire,5 -240VAC/DC,<300mA(ALMS)

#### Proximity Inductive Sensors

PP22A: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NCB2-V3-NO-Y)  
PP22B: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NJ2-V3-N)  
PP23C: 3 wire,10-30VDC,0-100mA(P+F NBB2-V3-E2 PNP NO)  
PP22D: 2 wire,5-60VDC,4-100mA(P+F NBB3-V3-Z4)  
PI23: 3 wire,5-36VDC,4-200mA(IFM IS5026 PNP/NPN)  
PA22: 2 wire,10-30VDC <150mA(ALPS-24-NO)  
PA23: 3 wire,10-30VDC,<150mA(ALPS-24-NO PNP/NPN)

# LIMIT SWITCH BOXES

## Expandable Type

## MODEL: KLS-300

### » Feature

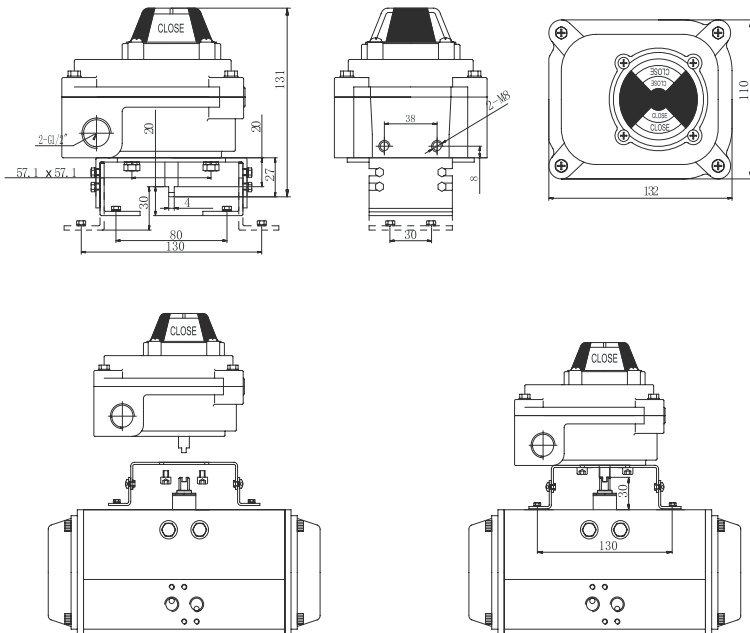
Expandable type limit switch box KLS-300 series can be used for important backside interlocking protection and remote alarm indication. It provides users with a product with sufficient space to install additional communication modules, large expandability and high cost performance.

Certifications: NEMA4, 4X and IP67.

Colors for option:



### » Dimensions



KLS-300M2T



RA Position DA Position

T-4-20mA Analog Output

AS42: 4 in/2 out AS-i Module (ACHEM)

### » How to Order

**MODEL**  
KLS-300  
Aluminum Limit Switch Box  
IP67, NEMA4, 4X

#### SWITCH TYPE

#### CABLE ENTRY

#### ISO BRACKET (See P.11)

2-M20\*1.5  
2-1/2" BSPP  
2-1/2" NPT  
2-M16\*1.5

MB3.0: 30\*80,H:20~30  
MB3.1: 30\*130,H:30~50  
MB3.2: 30\*80,H:20  
MB3.3: 30\*80&130,H:20~30  
(Carbon Steel or AISI304)

#### Mechanical Switches

M2: 2SPDT(HONEYWELL)  
M3: 3SPDT(HONEYWELL)  
M4: 4SPDT(HONEYWELL)  
M5: 2DPDT(CROUZET)  
ML2: 2SPDT -40 C (CHERRY)  
MG2: 2SPDT Gold Contacts(HONEYWELL)

#### Additional Communication Module

AS42: 4 in/2 out AS-i Module (ACHEM)  
T: 4~20mA Analog Output

#### Proximity Inductive Sensors

PP22A: 2 wire, 8.2VDC, 2mA, Ex ia IIC T6 (P+F NCB2-V3-NO-Y)  
PP22B: 2 wire, 8.2VDC, <1mA, Ex ia IIC T6 (P+F NJ2-V3-N)  
PP23C: 3 wire, 10-30VDC, 0-100mA (P+F NBB2-V3-E2 PNP NO)  
PP22D: 2 wire, 5-60VDC, 4-100mA (P+F NBB3-V3-Z4)  
PI23: 3 wire, 5-36VDC, 4-200mA (IFM IS5026 PNP/NPN)  
PA22: 2 wire, 10-30VDC <150mA (ALPS-24-NO)  
PA23: 3 wire, 10-30VDC, <150mA (ALPS-24-NO PNP/NPN)

#### Magnet Sensors

QA23: 3 wire, 5 -240VAC/DC, <300mA (ALMS)



# LIMIT SWITCH BOXES

## ATEX-CT6 Type

## MODEL: KLS-400

### » Feature

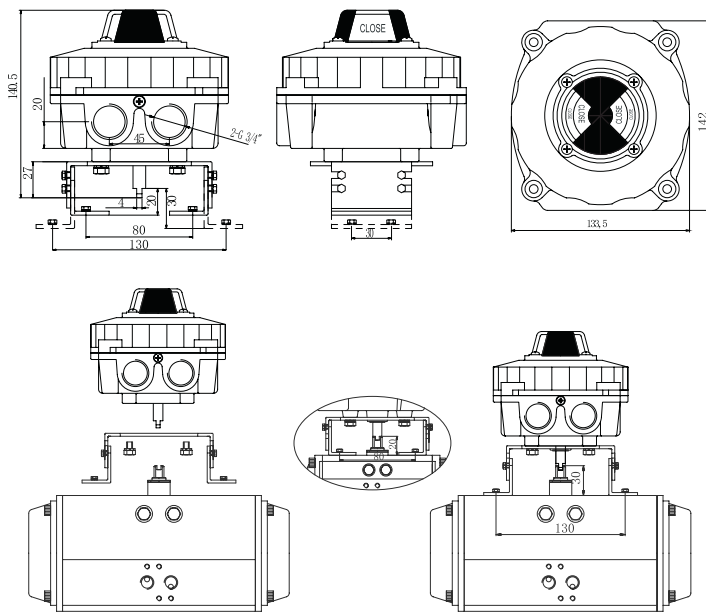
ATEX-CT6 explosion-proof limit switch box KLS-400 series provides a high-performance, high-reliability product for high-level hazardous areas. The product has passed ATEX, Exd, dust explosion-proof (DIPA20 TA, T6) certification. Magnesium-free die-cast aluminum shell makes the product more safe and reliable.

Explosion-proof level: Ex d II C T6, DIP A20 TA, T6.

Colors for option:



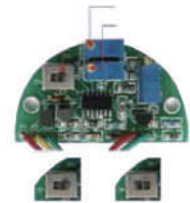
### » Dimensions



KLS-400PP22T



T-4-20mA Analog Output



RA Position DA Position

AS42: 4 in/2 out AS-i Module (ACHEM)

### » How to Order

#### MODEL

KLS-400

Aluminum Limit Switch Box  
ATEX Ex d IIC T6, IP66

#### SWITCH TYPE

#### CABLE ENTRY

2-M20\*1.5  
2-1/2" BSPP  
2-1/2" NPT  
2-3/4" BSPP  
2-3/4" NPT

#### ISO BRACKET (See P.11)

MB3.0: 30\*80,H:20~30  
MB3.1: 30\*130,H:30~50  
MB3.2: 30\*80,H:20  
MB3.3: 30\*80&130,H:20~30  
(Carbon Steel or AISI304)

#### Mechanical Switches

M2: 2SPDT(HONEYWELL)  
M3: 3SPDT(HONEYWELL)  
M4: 4SPDT(HONEYWELL)  
M5: 2DPDT(CROUZET)  
ML2: 2SPDT -40 C (CHERRY)  
MG2: 2SPDT Gold Contacts(HONEYWELL)

#### Additional Communication Module

AS42: 4 in/2 out AS-i Module (ACHEM)  
T: 4~20mA Analog Output

#### Proximity Inductive Sensors

PP22A: 2 wire,8.2VDC,2mA,Ex ia IIC T6(P+F NCB2-V3-NO-Y)  
PP22B: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NJ2-V3-N)  
PP23C: 3 wire, 10-30VDC,0-100mA(P+F NBB2-V3-E2 PNP NO)  
PP22D: 2 wire,5-60VDC,4-100mA(P+F NBB3-V3-Z4)  
PI23: 3 wire,5-36VDC,4-200mA(IFM IS5026 PNP/NPN)  
PA22: 2 wire,10-30VDC <150mA(ALPS-24-NO)  
PA23: 3 wire,10-30VDC,<150mA(ALPS-24-NO PNP/NPN)

#### Magnet Sensors

QA23: 3 wire,5 -240VAC/DC,<300mA(ALMS)

# LIMIT SWITCH BOXES

## ATEX-BT6, Aluminum Housing

## MODEL: KLS-500

### » Feature

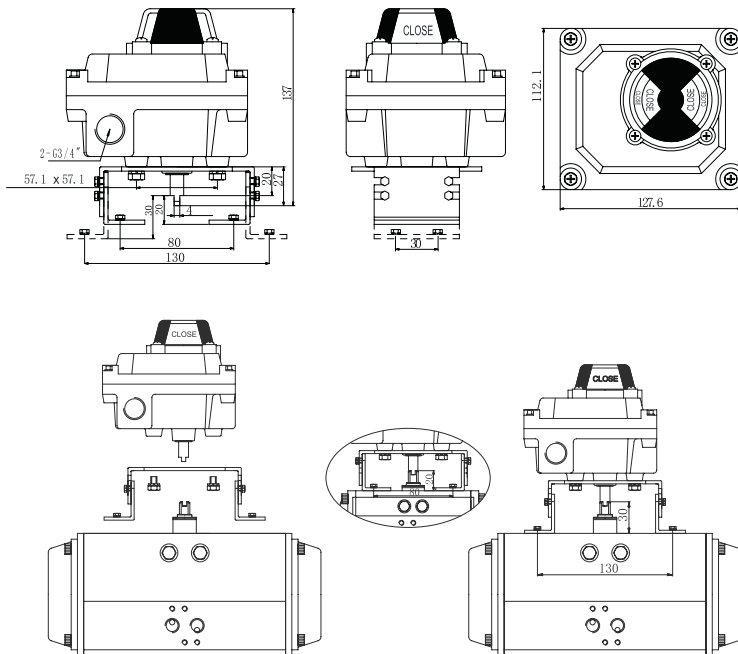
ATEX-BT6 explosion-proof limit switch box KLS-500 series provides a product of high performance, safety and compactness for hazardous area. With exquisite and pleasing appearance, durable service life, the housing complies with E Ex, IECEx, ATEX and dust explosion-proof (DIPA20 TA,T6) standards.

Explosion-proof level: Ex d II B T6, DIP A21 TA, T6.

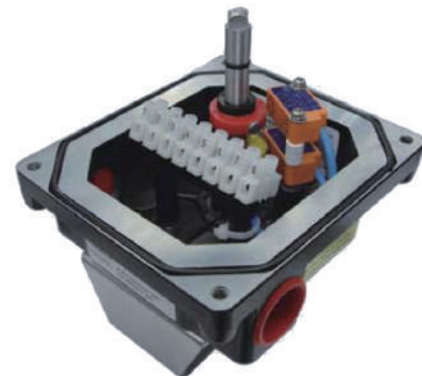
Colors for option:



### » Dimensions



KLS-500PI23  
(IFM IS5026)



### » How to Order

**MODEL**  
KLS-500  
Aluminum Limit Switch Box  
ATEX/IEC Ex d IIB T6, IP66

**SWITCH TYPE**

**CABLE ENTRY**

**ISO BRACKET (See P.11)**

2-M20\*1.5  
2-1/2" BSPP  
2-1/2" NPT  
2-3/4" BSPP  
2-3/4" NPT

MB3.0: 30\*80,H:20~30  
MB3.1: 30\*130,H:30~50  
MB3.2: 30\*80,H:20  
MB3.3: 30\*80&130,H:20~30  
(Carbon Steel or AISI304)

#### Mechanical Switches

M2: 2SPDT(HONEYWELL)  
M3: 3SPDT(HONEYWELL)  
M4: 4SPDT(HONEYWELL)  
M5: 2DPDT(CROUZET)  
ML2: 2SPDT -40 C (CHERRY)  
MG2: 2SPDT Gold Contacts(HONEYWELL)  
**Magnet Sensors**  
QA23: 3 wire,5 - 240VAC/DC <300mA(ALMS)

#### Proximity Inductive Sensors

PP22A: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NCB2-V3-NO-Y)  
PP22B: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NJ2-V3-N)  
PP23C: 3 wire,10-30VDC,0-100mA(P+F NBB2-V3-E2 PNP NO)  
PP22D: 2 wire,5-60VDC,4-100mA(P+F NBB3-V3-Z4)  
PI23: 3 wire,5-36VDC,4-200mA(IFM IS5026 PNP/NPN)  
PA22: 2 wire,10-30VDC,<150mA(ALPS-24-NO)  
PA23: 3 wire,10-30VDC,<150mA(ALPS-24-NO PNP/NPN)

# LIMIT SWITCH BOXES

## ATEX-BT6, SS 316 Housing

## MODEL: KLS-600

### » Feature

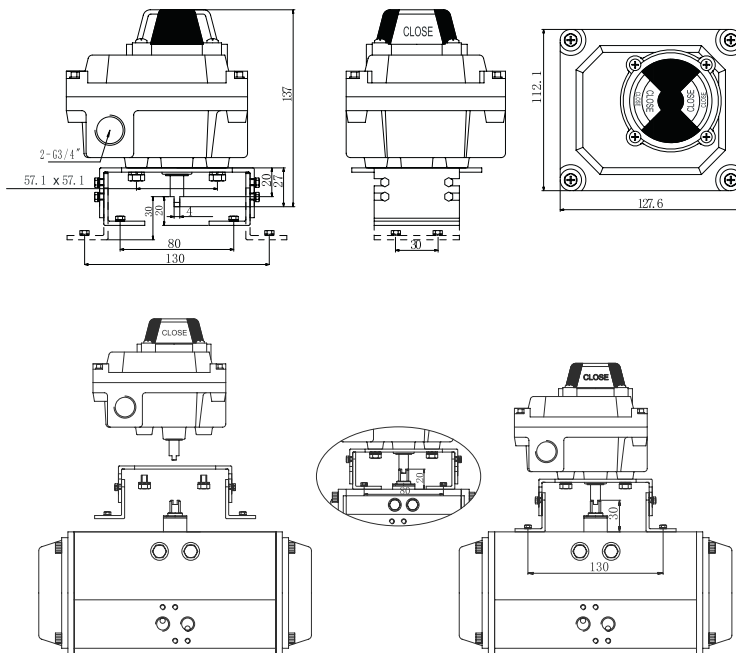
Highly corrosion-resistant type explosion-proof limit switch box KLS-600 series, with the housing made of stainless steel AISI316, provides a explosion-proof products of high performance, safety, compactness and low price. The housing complies with Ex d, IECEx, dust explosion-proof (DIPA20 TA,T6) and ATEX standards.

Explosion-proof level: Ex d II B T6, DIP A21 TA, T6.

Colors for option:



### » Dimensions



Stainless Steel ALS600M2



### » How to Order

**MODEL**  
KLS-600  
SS316 Limit Switch Box  
ATEX/IEC Ex d IIB T6, IP66

**SWITCH TYPE**

**CABLE ENTRY**  
2-M20\*1.5  
2-1/2"BSPP  
2-1/2"NPT  
2-3/4"BSPP  
2-3/4"NPT

**ISO BRACKET (See P.11)**  
MB3.0: 30\*80,H:20~30  
MB3.1: 30\*130,H:30~50  
MB3.2: 30\*80,H:20  
MB3.3: 30\*80&130,H:20~30  
(AISI304)

#### Mechanical Switches

M2: 2SPDT(HONEYWELL)

M3: 3SPDT(HONEYWELL)

M4: 4SPDT(HONEYWELL)

M5: 2DPDT(CROUZET)

ML2: 2SPDT -40 C (CHERRY)

MG2: 2SPDT Gold Contacts(HONEYWELL)

#### Magnet Sensors

QA23: 3 wire,5 -,240VAC/DC,<300mA(ALMS)

#### Proximity Inductive Sensors

PP22A: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NCB2-V3-NO-Y)

PP22B: 2 wire,8.2VDC,<1mA,Ex ia IIC T6(P+F NJ2-V3-N)

PP23C: 3 wire, 10-30VDC,0-100mA(P+F NBB2-V3-E2 PNP NO)

PP22D: 2 wire,5-60VDC,4-100mA(P+F NBB3-V3-Z4)

PI23: 3 wire,5-36VDC,4-200mA(IFM IS5026 PNP/NPN)

PA22: 2 wire,10-30VDC,<150mA(ALPS-24-NO)

PA23: 3 wire,10-30VDC,<150mA(ALPS-24-NO PNP/NPN)

# LIMIT SWITCH

## Horseshoe Magnet Type

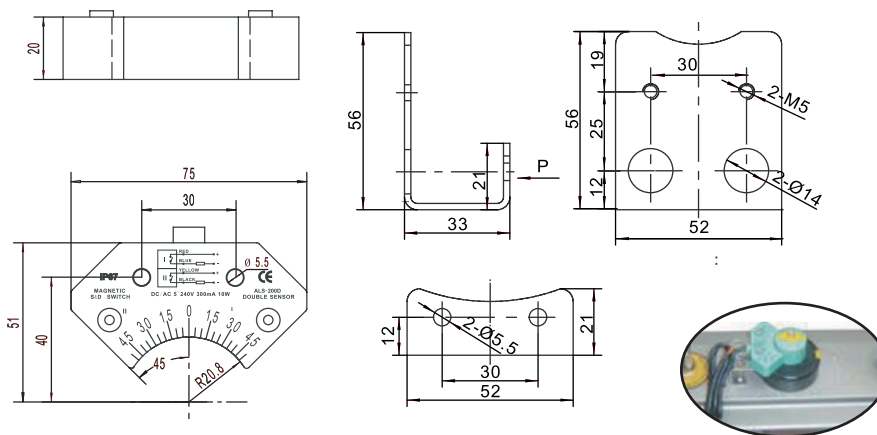
## MODEL: KLS-200D

### » Feature

KLS-200D horseshoe type magnet sensor limit switch box can accurately detect the open/close state of valve, convert it into electric signal and feed back to host computer. With exquisite structure, it allows to be mounted on pneumatic actuators of different types due to its conformity with NAMUR. Certifications: NEMA4.4X and IP67



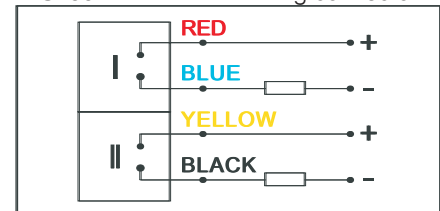
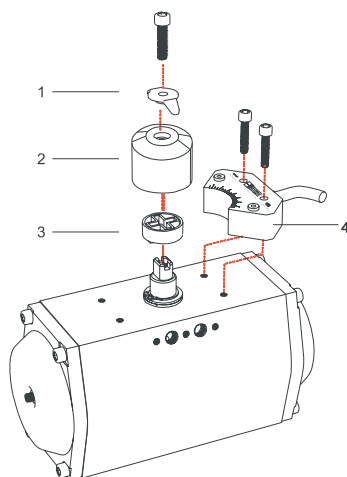
### » Dimensions



ALS200D-FL: Flying lead



ALS200D-P4: M12-4P wiring connector



NO	PART NAME
1	POINTER
2	MAGNETIC INDICATOR
3	ADAPTOR Without for 30x80 H:30 One for 30x80 H:20 Three for 30x130 H:30
4	DOUBLE REED SWITCHES

### Specification

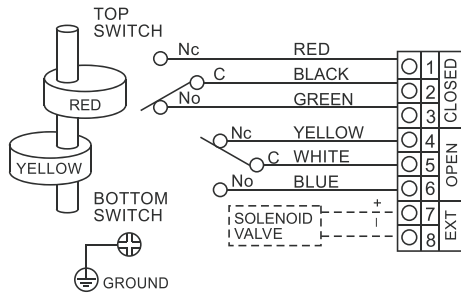
Temperature Range	-40°C ~ 85°C
Sensor Type	Magnet
Pared Operation Distance	1~6 mm
Switching Element Function	NO (NC for option)
Output Type	2-Wire
Switching Frequency	0 ~ 4.8 KHZ
Position Indicator	0 ~ 90°
Working Voltage	5 ~ 240 VAC/DC
Working Current	0 ~ 300mA
Rated Power	10W
Protection Degree	IP67



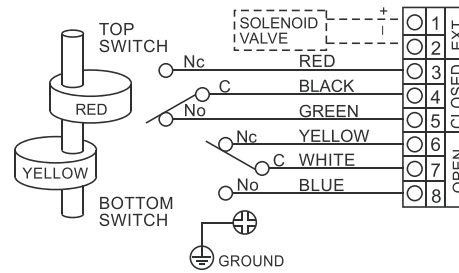
# LIMIT SWITCH BOXES

## WIRING DIAGRAM

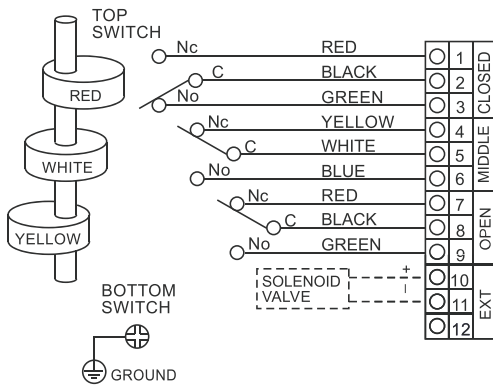
**KLS200/300/400M2**  
2SPDT Mechanical Switches Wiring



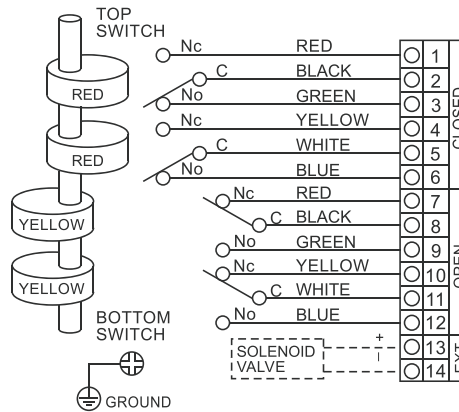
**KLS500/600M2**  
2SPDT Mechanical Switches Wiring



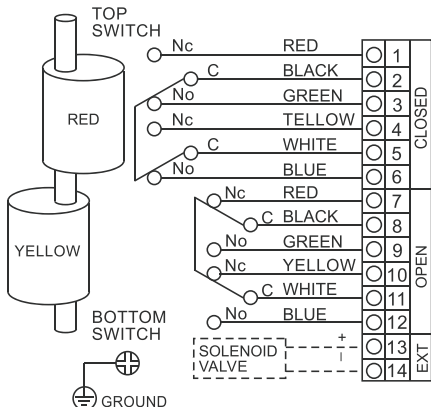
**KLS300/400 /500/600M3** 3SPDT  
Mechanical Switches Wiring



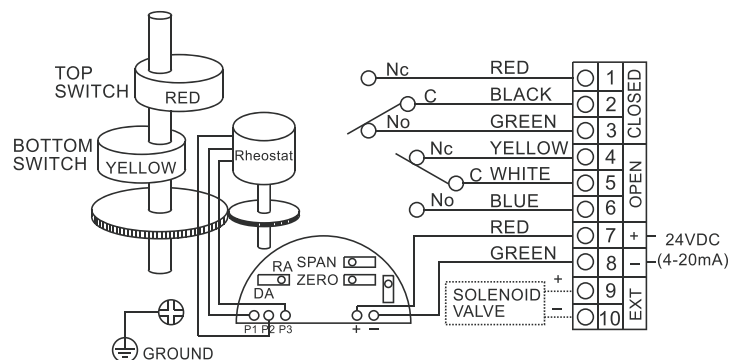
**KLS300/400 /500/600M4** 4SPDT  
Mechanical Switches Wiring



**KLS300/400 /500/600M5** 2DPDT  
Mechanical Switches Wiring



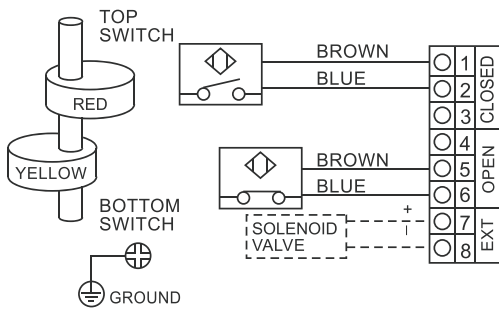
**KLS300/400M2T**  
2SPDT Mechanical Switches Wiring



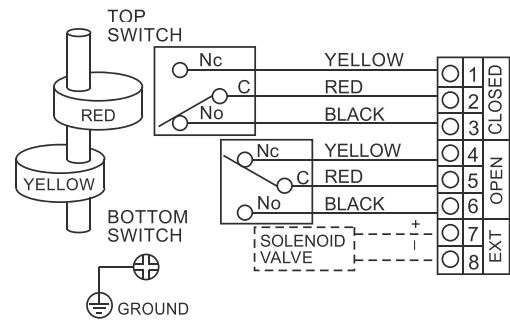
# LIMIT SWITCH BOXES

## WIRING DIAGRAM

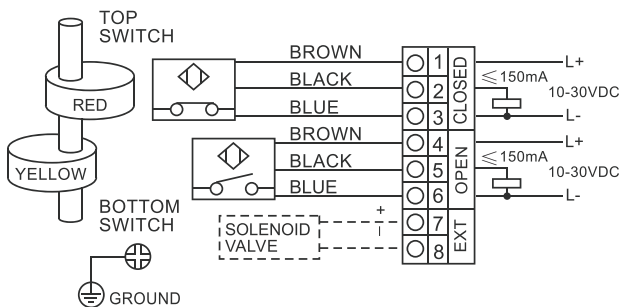
KLS200/300/400/500/600PA22  
NC(2-Wire) Inductive Sensors



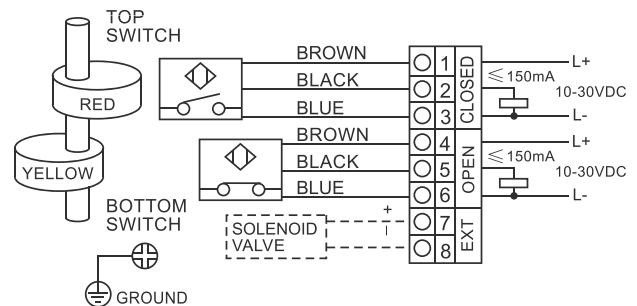
KLS200/300/400/500/600QA23  
NC(3-Wire) Magnet Sensors



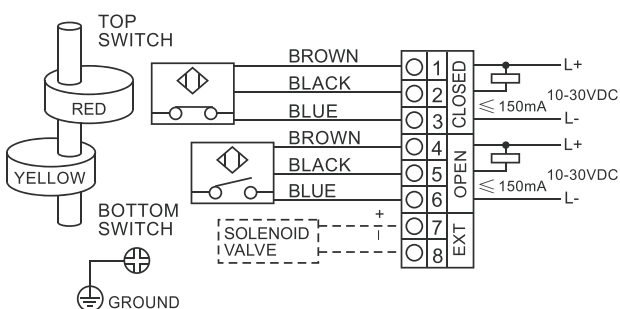
KLS200/300/400/500/600PA23  
PNP NO(3-Wire) Inductive Sensors



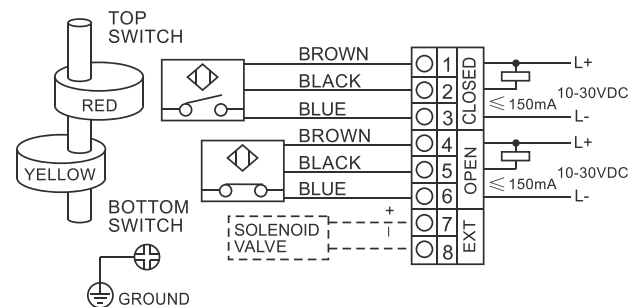
KLS200/300/400/500/600PA23  
PNP NC(3-Wire) Inductive Sensors



KLS200/300/400/500/600PA23  
NPN NO(3-Wire) Inductive Sensors



KLS200/300/400/500/600PA23  
NPN NC(3-Wire) Inductive Sensors



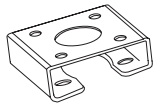
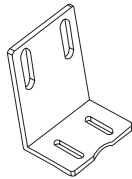
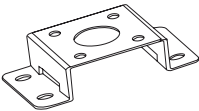
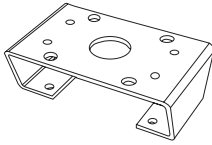
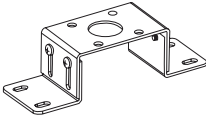
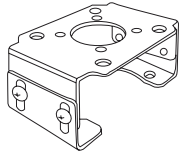
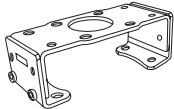

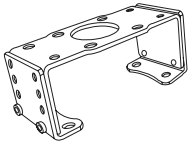
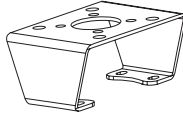
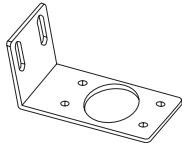
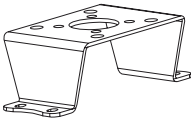
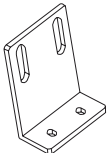
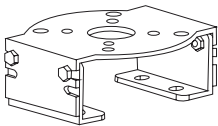
# LIMIT SWITCH BOXES

## ACCESSORIES

### » ISO Brackets

Materials for option:

- (1) Carbon Steel with Epoxy coated
- (2) Stainless steel 304

Model No	Photo	Application		Model No	Photo	Application	
<b>MB0.8</b>		25x50 H:20	KLS-200	<b>MB4.3</b>		30x80-130 H:20~30	KLS-300
<b>MB1.0</b>		30x80 H:20	KLS-200	<b>MB3.2</b>		30x80 H:20	KLS-300 KLS-400 KLS-500 KLS-600
		30x80 H:30	KLS-200				
<b>MB1.1</b>		30x130 H:30~50	KLS-200	<b>MB3.3</b>		30x80-130 H:20~30	KLS-300 KLS-400 KLS-500 KLS-600
<b>MB2.3</b>		30x80-130 H:20~30	KLS-200	<b>MB3.4</b>		30x80 H:20	KLS-300 KLS-400 KLS-500 KLS-600
<b>MB1.3</b>		30x80-130 H:20~50	KLS-100	<b>MB3.5</b>		30x80 H:30	KLS-300 KLS-400 KLS-500 KLS-600
<b>MB3.0</b>		30x80 H:20~30	KLS-300	<b>MB3.6</b>		30x130 H:30	KLS-300 KLS-400 KLS-500 KLS-600
<b>MB3.1</b>		30x130 H:30~50	KLS-300	<b>MB3.7</b>		30x80-130 H:20~30 H:50	KLS-300 KLS-400 KLS-500 KLS-600