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## 1 Introduction

### 1.1 General Information for the users

Thank you for purchasing Rotork YTC Limited products. Each product has been fully inspected after its production to offer you the highest quality and reliable performance. Please read the product manual carefully prior to installing and commissioning the product.

- Installation, commissioning, and maintenance of the product may only be performed by trained specialist personnel who have been authorized by the plant operator accordingly.
- The manual should be provided to the end-user.
- The manual can be altered or revised without any prior notice. Any changes in product's specification, design, and/or any components may not be printed immediately but until the following revision of the manual.
- The manual should not be duplicated or reproduced for any purpose without prior approval from Rotork YTC Limited, Gimpo-si, South Korea.
- In case of any other problems that are not stated in this manual, please make immediate contact to Rotork YTC Limited.

### 1.2 Manufacturer Warranty

- For the safety, it is important to follow the instructions in the manual. Manufacturer will not be responsible for any damages caused by user's negligence.
- Any modifications or repairs to the product may only be performed if expressed in this manual. Injuries and physical damages caused by customer's modifying or repairing the product without a prior consultation with Rotork YTC Limited will not be compensated. If any alterations or modifications are necessary, please contact Rotork YTC Limited directly.
- The warranty period of the product is (18) months from the date of shipment unless stated otherwise. Date of shipment can be checked by providing the LOT NO. or SERIAL NO. to us.
- Manufacturer warranty will not cover products that have been subjected to abuse, accidents, alterations, modifications, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; damages that occurs in shipment, due to act of God, failure due to power surge, or cosmetic damage. Improper or incorrectly performed maintenance will void this limited warranty.
- For detailed warranty information, please contact the corresponding local Rotork YTC Limited office or main office in South Korea.

### 1.3 Explosion Proof Warning

Please ensure the unit is being used and installed in conformity with local, regional, and national explosion proof within the explosion proof certified environment.



- YT-870 / 875 is Explosion proof construction for internal pressure.  
For detail information, refer to “2.6 Certifications”
- Explosion proof type of cables and gaskets should be used, when explosion gases are present at the installation site. Please make sure that the sealing has been done completely.
- Keep cover tight while circuits are alive.
- Power should be turned off completely when opening product's cover. When opening the cover, ensure that there is no power remaining in any electrical parts nearby.
- This product has 2 ports for power connection. Please make sure that Blind plug is tightened to the port when any port is not being used.
- For external ground terminal, ring terminal with surface area of more than 5.5mm<sup>2</sup> should be used.
- There is risk of explosion due to electro-static charge. Static electricity charge may develop when cleaning the product with a dry cloth. It is imperative to avoid static electricity charge in the hazardous environment. If cleaning the surface of the product is needed, must use wet clothes.
- Special conditions for safe use :

The apparatus can be used in a temperature range between -20°C to +60°C.

Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must be made on the basis of values specified in tables 1 and 2 of EN 60079-1.

## 2 Product Description

### 2.1 General

Limit switch box YT-870 / 875 series is a device which notifies the central control room or controller when the valve reaches the set position.

### 2.2 Main Features and Functions

- A wide range of uses with Type 4, 4X(CSA), IP67 protection grade.
- Various limit switch options available.
- Polyester powder coating of YT-870 resist the corrosion process.

### 2.3 Label Description

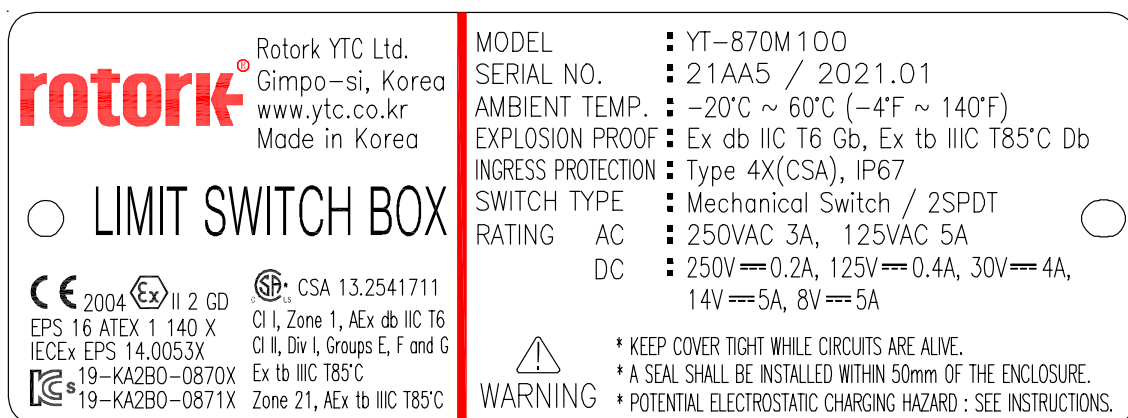


Fig. L-1: YT-870M (2xSPDT, ATEX, IECEx, CSA, KCs)

- MODEL : Indicates the model number and additional symbols.
- SERIAL NO. : Indicates unique serial number.
- YEAR.MONTH : Indicates manufactured year and month.
- AMBIENT TEMP. : Indicates allowed explosion proof ambient temperature range.
- EXPLOSION PROOF : Indicates certified explosion proof grade.
- INGRESS PROTECTION : Indicates enclosure protection grade.
- SWITCH TYPE : Indicates the type and quantity of built-in switches.
- RATING : Indicates the available voltage and current.

|                                                                                   |                                                                      |                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Rotork YTC Ltd.<br>Gimpo-si, Korea<br>www.ytc.co.kr<br>Made in Korea | MODEL : YT-870P 100<br>SERIAL NO. : 21AA5 / 2021.01<br>AMBIENT TEMP. : -20°C ~ 60°C (-4°F ~ 140°F)<br>EXPLOSION PROOF : Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br>INGRESS PROTECTION : Type 4X(CSA), IP67<br>SWITCH TYPE : 2-Proximity Sensor<br>RATING DC : 12~24V==<br>(Operating Voltage : 10~30V==) |
|                                                                                   | <b>○ LIMIT SWITCH BOX ○</b>                                          | * KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE.<br>* A SEAL SHALL BE INSTALLED WITHIN 50mm OF THE ENCLOSURE.<br>* POTENTIAL ELECTROSTATIC CHARGING HAZARD : SEE INSTRUCTIONS.                                                                                                                            |

 2004  II 2 GD  
 EPS 16 ATEX 1 140 X  
 IECEx EPS 14.0053X  
 19-KA2B0-0870X  
 19-KA2B0-0871X

 CSA 13.2541711  
 CI I, Zone 1, AEx db IIC T6  
 CI II, Div I, Groups E, F and G  
 Ex tb IIIC T85°C  
 Zone 21, AEx tb IIIC T85°C

 **WARNING**

Fig. L-2: YT-870P (2xProximity sensor, PNP type, ATEX, IECEx, CSA, KCs)

|                                                                                   |                                                                      |                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Rotork YTC Ltd.<br>Gimpo-si, Korea<br>www.ytc.co.kr<br>Made in Korea | MODEL : YT-870P 100<br>SERIAL NO. : 21AA5 / 2021.01<br>AMBIENT TEMP. : -20°C ~ 60°C (-4°F ~ 140°F)<br>EXPLOSION PROOF : Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br>INGRESS PROTECTION : Type 4X(CSA), IP67<br>SWITCH TYPE : 2-Proximity Sensor(P&F NJ2-V3-N)<br>RATING DC : 8V== |
|                                                                                   | <b>○ LIMIT SWITCH BOX ○</b>                                          | * KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE.<br>* A SEAL SHALL BE INSTALLED WITHIN 50mm OF THE ENCLOSURE.<br>* POTENTIAL ELECTROSTATIC CHARGING HAZARD : SEE INSTRUCTIONS.                                                                                                    |

 2004  II 2 GD  
 EPS 16 ATEX 1 140 X  
 IECEx EPS 14.0053X  
 19-KA2B0-0870X  
 19-KA2B0-0871X  
 MSIP-REM-YT3-YT-870-1

 CSA 13.2541711  
 CI I, Zone 1, AEx db IIC T6  
 CI II, Div I, Groups E, F and G  
 Ex tb IIIC T85°C  
 Zone 21, AEx tb IIIC T85°C

 **WARNING**

Fig. L-3: YT-870P (2xProximity sensor, NC type, ATEX, IECEx, CSA, KCs)

|                                                                                     |                                                                      |                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Rotork YTC Ltd.<br>Gimpo-si, Korea<br>www.ytc.co.kr<br>Made in Korea | MODEL : YT-870D 100<br>SERIAL NO. : 21AA5 / 2021.01<br>AMBIENT TEMP. : -20°C ~ 60°C (-4°F ~ 140°F)<br>EXPLOSION PROOF : Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br>INGRESS PROTECTION : Type 4X(CSA), IP67<br>SWITCH TYPE : Mechanical Switch / 2DPDT<br>RATING AC : 125VAC or 250VAC 10A, 480VAC 2A<br>DC : 125V== 0.5A, 250V== 0.25A |
|                                                                                     | <b>○ LIMIT SWITCH BOX ○</b>                                          | * KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE.<br>* A SEAL SHALL BE INSTALLED WITHIN 50mm OF THE ENCLOSURE.<br>* POTENTIAL ELECTROSTATIC CHARGING HAZARD : SEE INSTRUCTIONS.                                                                                                                                                          |

 2004  II 2 GD  
 EPS 16 ATEX 1 140 X  
 IECEx EPS 14.0053X  
 19-KA2B0-0870X  
 19-KA2B0-0871X

 CSA 13.2541711  
 CI I, Zone 1, AEx db IIC T6  
 CI II, Div I, Groups E, F and G  
 Ex tb IIIC T85°C  
 Zone 21, AEx tb IIIC T85°C

 **WARNING**

Fig. L-4: YT-870D (2xDPDT, ATEX, IECEx, CSA, KCs)

|                                                                                                     |                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | Rotork YTC Ltd.<br>Gimpo-si, Korea<br>www.ytc.co.kr<br>Made in Korea                                                               | MODEL : YT-875M 100<br>SERIAL NO. : 21AA5 / 2021.01<br>AMBIENT TEMP. : -20°C ~ 60°C (-4°F ~ 140°F)<br>EXPLOSION PROOF : Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br>INGRESS PROTECTION : Type 4X(CSA), IP67<br>SWITCH TYPE : Mechanical Switch / 2SPDT<br>RATING AC : 250VAC 3A, 125VAC 5A<br>DC : 250V==0.2A, 125V==0.4A, 30V==4A, 14V==5A, 8V==5A |
|                                                                                                     | <b>○ LIMIT SWITCH BOX ○</b>                                                                                                        | * KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE.<br>* A SEAL SHALL BE INSTALLED WITHIN 50mm OF THE ENCLOSURE.<br>* POTENTIAL ELECTROSTATIC CHARGING HAZARD : SEE INSTRUCTIONS.                                                                                                                                                                      |
| CE 2004 Ex II 2 GD<br>EPS 16 ATEX 1 140 X<br>IECEx EPS 14.0053X<br>19-KA2B0-0872X<br>19-KA2B0-0873X | CSA 13.2541711<br>CI I, Zone 1, AEx db IIC T6<br>CI II, Div I, Groups E, F and G<br>Ex tb IIIC T85°C<br>Zone 21, AEx tb IIIC T85°C |  <b>WARNING</b>                                                                                                                                                                                                                                                |

Fig. L-5: YT-875M (2xSPDT, ATEX, IECEx, CSA, KCs)

|                                                                                                          |                                                                                                                                    |                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | Rotork YTC Ltd.<br>金浦市, 韩国<br>www.ytc.co.kr<br>韩国制造                                                                                | 型号 : YT-870M 100Z<br>序列号 : 21AA5 / 2021.01<br>防爆环境温度 : -20°C ~ 60°C (-4°F ~ 140°F)<br>防爆等级 : Ex d IIC T6 Gb, Ex tD A21 IP67 T85°C<br>Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br>防护等级 : Type 4X(CSA), IP67<br>开关类型 : 机械开关 / 2SPDT<br>电源 AC : 250VAC 3A, 125VAC 5A<br>DC : 250V==0.2A, 125V==0.4A, 30V 4A, 14V==5A, 8V==5A |
|                                                                                                          | <b>○ 限位开关 ○</b>                                                                                                                    | * 电路还活着时, 请保持盖紧。<br>* 密封应安装在外壳的50mm以内。<br>* 潜在的静电充电危险: 请参阅说明。                                                                                                                                                                                                                                                         |
| CCC CE 2004 Ex II 2 G&D<br>EPS 16 ATEX 1 140 X<br>IECEx EPS 14.0053X<br>19-KA2B0-0870X<br>19-KA2B0-0871X | CSA 13.2541711<br>CI I, Zone 1, AEx db IIC T6<br>CI II, Div I, Groups E, F and G<br>Ex tb IIIC T85°C<br>Zone 21, AEx tb IIIC T85°C |  <b>警告</b>                                                                                                                                                                                                                         |

Fig. L-6: YT-870M (2xSPDT, CCC)

|                                                                                                          |                                                                                                                                    |                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Rotork YTC Ltd.<br>金浦市, 韩国<br>www.ytc.co.kr<br>韩国制造                                                                                | 型号 : YT-870P 100Z<br>序列号 : U0110001 / 2021.01<br>防爆环境温度 : -20°C ~ 60°C (-4°F ~ 140°F)<br>防爆等级 : Ex d IIC T6 Gb, Ex tD A21 IP67 T85°C<br>Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br>防护等级 : Type 4X(CSA), IP67<br>开关类型 : 2-接近传感器<br>电源 DC : 12~24V ==<br>(工作电压: 10~30V==) |
|                                                                                                          | <b>○ 限位开关 ○</b>                                                                                                                    | * 电路还活着时, 请保持盖紧。<br>* 密封应安装在外壳的50mm以内。<br>* 潜在的静电充电危险: 请参阅说明。                                                                                                                                                                                                        |
| CCC CE 2004 Ex II 2 G&D<br>EPS 16 ATEX 1 140 X<br>IECEx EPS 14.0053X<br>19-KA2B0-0870X<br>19-KA2B0-0871X | CSA 13.2541711<br>CI I, Zone 1, AEx db IIC T6<br>CI II, Div I, Groups E, F and G<br>Ex tb IIIC T85°C<br>Zone 21, AEx tb IIIC T85°C |  <b>警告</b>                                                                                                                                                                        |

Fig. L-7: YT-870P (2xProximity sensor, PNP type, CCC)

|                                                                                                                                                                                                                                                        |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                              |                                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>限位开关</b></p> <p>CE 2004<br/>Ex II 2 G&amp;D<br/>EPS 16 ATEX 1 140 X<br/>IECEx EPS 14.0053X<br/>19-KA2BO-0870X<br/>19-KA2BO-0871X<br/>MSIP-REM-YT3-YT-870-1</p> | <p>Rotork YTC Ltd.<br/>金浦市, 韩国<br/>www.ytc.co.kr<br/>韩国制造</p> <p>CSA 13.2541711<br/>Cl I, Zone 1, AEx db IIC T6<br/>Cl II, Div I, Groups E, F and G<br/>Ex tb IIIC T85°C<br/>Zone 21, AEx tb IIIC T85°C</p> | <p>型号 : YT-870P 100Z<br/>序列号 : U0110001 / 2021.01<br/>防爆环境温度 : -20°C ~ 60°C (-4°F ~ 140°F)<br/>防爆等级 : Ex d IIC T6 Gb, Ex tD A21 IP67 T85°C<br/>Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br/>防护等级 : Type 4X(CSA), IP67<br/>开关类型 : 2-接近传感器 (P&amp;F NJ2-V3-N)<br/>电源 DC : 8V==</p> | <p><br/><b>警告</b></p> <p>*电路还活着时, 请保持盖紧。<br/>*密封应安装在外壳的50mm以内。<br/>*潜在的静电充电危险: 请参阅说明。</p> |
|                                                                                                                                                                                                                                                        | <p>图 L-8: YT-870P (2xProximity sensor, NC type, CCC)</p>                                                                                                                                                    |                                                                                                                                                                                                                                                                              |                                                                                                                                                                            |

Fig. L-8: YT-870P (2xProximity sensor, NC type, CCC)

|                                                                                                                                                                                                                              |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>限位开关</b></p> <p>CE 2004<br/>Ex II 2 G&amp;D<br/>EPS 16 ATEX 1 140 X<br/>IECEx EPS 14.0053X<br/>19-KA2BO-0872X<br/>19-KA2BO-0873X</p> | <p>Rotork YTC Ltd.<br/>金浦市, 韩国<br/>www.ytc.co.kr<br/>韩国制造</p> <p>CSA 13.2541711<br/>Cl I, Zone 1, AEx db IIC T6<br/>Cl II, Div I, Groups E, F and G<br/>Ex tb IIIC T85°C<br/>Zone 21, AEx tb IIIC T85°C</p> | <p>型号 : YT-875M 100Z<br/>序列号 : U0110001 / 2021.01<br/>防爆环境温度 : -20°C ~ 60°C (-4°F ~ 140°F)<br/>防爆等级 : Ex d IIC T6 Gb, Ex tD A21 IP67 T85°C<br/>Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br/>防护等级 : Type 4X(CSA), IP67<br/>开关类型 : 机械开关 / 2SPDT<br/>电源 AC : 250VAC 3A, 125VAC 5A<br/>DC : 250V==0.2A, 125V== 0.4A, 30V== 4A,<br/>14V==5A, 8V== 5A</p> | <p><br/><b>警告</b></p> <p>*电路还活着时, 请保持盖紧。<br/>*密封应安装在外壳的50mm以内。<br/>*潜在的静电充电危险: 请参阅说明。</p> |
|                                                                                                                                                                                                                              | <p>图 L-9: YT-875M (2xSPDT, CCC)</p>                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                              |

Fig. L-9: YT-875M (2xSPDT, CCC)

|                                                                                                                                                                                                                                |                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p><b>限位开关</b></p> <p>CE 2004<br/>Ex II 2 G&amp;D<br/>EPS 16 ATEX 1 140 X<br/>IECEx EPS 14.0053X<br/>19-KA2BO-0870X<br/>19-KA2BO-0871X</p> | <p>Rotork YTC Ltd.<br/>金浦市, 韩国<br/>www.ytc.co.kr<br/>韩国制造</p> <p>CSA 13.2541711<br/>Cl I, Zone 1, AEx db IIC T6<br/>Cl II, Div I, Groups E, F and G<br/>Ex tb IIIC T85°C<br/>Zone 21, AEx tb IIIC T85°C</p> | <p>型号 : YT-870D 100Z<br/>序列号 : U0110001 / 2021.01<br/>防爆环境温度 : -20°C ~ 60°C (-4°F ~ 140°F)<br/>防爆等级 : Ex d IIC T6 Gb, Ex tD A21 IP67 T85°C<br/>Ex db IIC T6 Gb, Ex tb IIIC T85°C Db<br/>防护等级 : Type 4X(CSA), IP67<br/>开关类型 : 机械开关 / 2DPDT<br/>电源 AC : 125VAC or 250VAC 10A, 480VAC 2A<br/>DC : 125V==0.5A, 250V==0.25A</p> | <p><br/><b>警告</b></p> <p>*电路还活着时, 请保持盖紧。<br/>*密封应安装在外壳的50mm以内。<br/>*潜在的静电充电危险: 请参阅说明。</p> |
|                                                                                                                                                                                                                                | <p>图 L-10: YT-870D (2xDPDT, CCC)</p>                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                              |

Fig. L-10: YT-870D (2xDPDT, CCC)



## 2.4 Product Code

### YT-870 / 875 1 2 3 4 5

|                                                                                 |                                                  |
|---------------------------------------------------------------------------------|--------------------------------------------------|
| <span style="border: 1px solid black; padding: 0 5px;">1</span> Switch Type     | M : Mechanical, 2 x SPDT                         |
|                                                                                 | P : Inductive proximity sensor x 2 <sup>1)</sup> |
|                                                                                 | D : Mechanical, 2 x DPDT                         |
| <span style="border: 1px solid black; padding: 0 5px;">2</span> Conduit Thread  | 1 : 3/4 NPT                                      |
|                                                                                 | 2 : G 3/4 (only YT-870, except CCC)              |
|                                                                                 | 3 : M20x1.5P (only YT-870)                       |
|                                                                                 | 4 : 1/2 NPT (only YT-870)                        |
| <span style="border: 1px solid black; padding: 0 5px;">3</span> Bracket Type    | 0 : None                                         |
|                                                                                 | 1 : ST-1 (30x80, H20)                            |
|                                                                                 | 2 : ST-2 (30x80, H30)                            |
|                                                                                 | 3 : ST-3 (30x130, H30)                           |
|                                                                                 | 4 : ST-4 (30x130, H50)                           |
| <span style="border: 1px solid black; padding: 0 5px;">4</span> Option          | 0 : None                                         |
|                                                                                 | 1 : SPTM <sup>2)</sup>                           |
| <span style="border: 1px solid black; padding: 0 5px;">5</span> Explosion Proof | <sup>3)</sup> blank : Except CCC                 |
|                                                                                 | Z : CCC                                          |

<sup>1)</sup> Standard type is PSN17-5DNU (Autonics, NPN type).

PSN17-5DPU (Autonics, PNP type) is available for order.

NJ2-V3-N (P&F, NC type) is available for order.

<sup>2)</sup> Option 1(SPTM) is only available for "M" in 1 Switch Type.

<sup>3)</sup> Please leave it blank if it is not CCC certified.

## 2.5 Product Specification

### 2.5.1 Limit Switch Specification

| Model                     |    | YT-870M / 875M                                                                    | YT-870P / 875P                                |                                     | YT-870D / 875D                                          |
|---------------------------|----|-----------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------|---------------------------------------------------------|
| Switch Type               |    | Mechanical, 2 x SPDT                                                              | Inductive proximity sensor x 2                |                                     | Mechanical, 2 x DPDT                                    |
| Model No. & Manufacturer  |    | SS5GL (OMRON)                                                                     | <Standard><br>PSN17-5DNU (Autonics, NPN type) | <Option><br>NJ2-V3-N (P&F, NC type) | DZ-10G-1B (OMRON)                                       |
| Switch Rating             | AC | 250V 3A<br>125V 5A                                                                | -                                             | -                                   | 125 or 250V 10A                                         |
|                           | DC | 250V 0.2A, 125V 0.4A, 30V 4A, 14V 5A, 8V 5A                                       | 12 ~ 24 V                                     | 8 V                                 | 125V 0.5A<br>250V 0.25A<br>30V 10A<br>14V 10A<br>8V 10A |
| Terminal                  |    | 8 Points                                                                          |                                               |                                     | 12 Points                                               |
| Explosion Proof           |    | Flameproof enclosure. Refer to "2.6 Certifications"                               |                                               |                                     |                                                         |
| Enclosure Protection      |    | Type 4, 4X(CSA), IP 67                                                            |                                               |                                     |                                                         |
| Ambient Temperature       |    | -20 ~ 60°C (-4 ~ 140°F)                                                           |                                               |                                     |                                                         |
| Conduit Entry             |    | YT-870 : 3/4 NPT or G 3/4(N/A for CCC) or M20x1.5P or 1/2 NPT<br>YT-875 : 3/4 NPT |                                               |                                     |                                                         |
| Mounting Bracket Standard |    | NAMUR VDI/VDE 3845, ISO 5211                                                      |                                               |                                     |                                                         |
| Housing Material          |    | YT-870 : Aluminum<br>YT-875 : Stainless steel 316                                 |                                               |                                     |                                                         |
| Painting                  |    | YT-870 : Polyester powder coating                                                 |                                               |                                     |                                                         |
| Weight                    |    | YT-870 : 1.5kg (3.3 lb)<br>YT-875 : 3.5kg (7.7lb)                                 |                                               |                                     |                                                         |



Tested under ambient temperature of 20°C, absolute pressure of 760mmHg, and humidity of 65%.

Please contact Rotork YTC Limited for detailed testing specification.

### 2.5.2 Specification of SPTM(Smart Position Transmitter) option

| Motion Type              | Rotary                                                                 |
|--------------------------|------------------------------------------------------------------------|
| Input Signal             | 0 ~ 90°                                                                |
| Output Signal            | 4~20mA DC                                                              |
| External Load Resistance | $R_{ext} \leq (V_s - 9) / 20\text{mA}$ , 750 ohms @ $V_s = 24\text{V}$ |
| Supply Voltage           | $V_s : 9 \sim 28\text{V DC}$                                           |
| Linearity                | ±1% F.S.                                                               |
| Hysteresis               | ±0.2% F.S.                                                             |
| Sensitivity              | ±0.2% F.S.                                                             |



Tested under ambient temperature of 20°C, absolute pressure of 760mmHg, and humidity of 65%.

Please contact Rotork YTC Limited for detailed testing specification.

## 2.6 Certifications

※ All certifications below are posted on Rotork YTC Limited homepage ([www.ytc.co.kr](http://www.ytc.co.kr)).

### ➤ **KCs (Korea)**

1. Type : Explosion proof construction for internal pressure of gas  
Rating : Ex d IIC T6  
Certification No. : 19-KA2BO-0870X (YT-870)  
19-KA2BO-0872X (YT-875)  
Ambient temperature : -20 ~ +60°C
2. Type : Explosion proof construction for internal pressure of dust  
Rating : Ex tb IIIC T85°C  
Certification No. : 19-KA2BO-0871X (YT-870)  
19-KA2BO-0873X (YT-875)  
Ambient temperature : -20 ~ +60°C

### ➤ **ATEX**

Type : Explosion proof construction for internal pressure  
Rating : II 2G Ex db IIC T6 Gb, II 2D Ex tb IIIC T85°C Db  
Certification No. : EPS 16 ATEX 1 140 X  
Ambient temperature : -20 ~ 60°C

### ➤ **IECEX**

Type : Explosion proof construction for internal pressure  
Rating : Ex db IIC T6 Gb, Ex tb IIIC T85°C Db  
Certification No. : IECEX EPS 14.0053X  
Ambient temperature : -20 ~ 60°C

### ➤ **CCC (China)**

Type : Explosion proof construction for internal pressure  
Rating : Ex d IIC T6 Gb, Ex tD A21 IP67 T85°C  
Certification No. : 2020322307000620  
Ambient temperature : -20 ~ 60°C

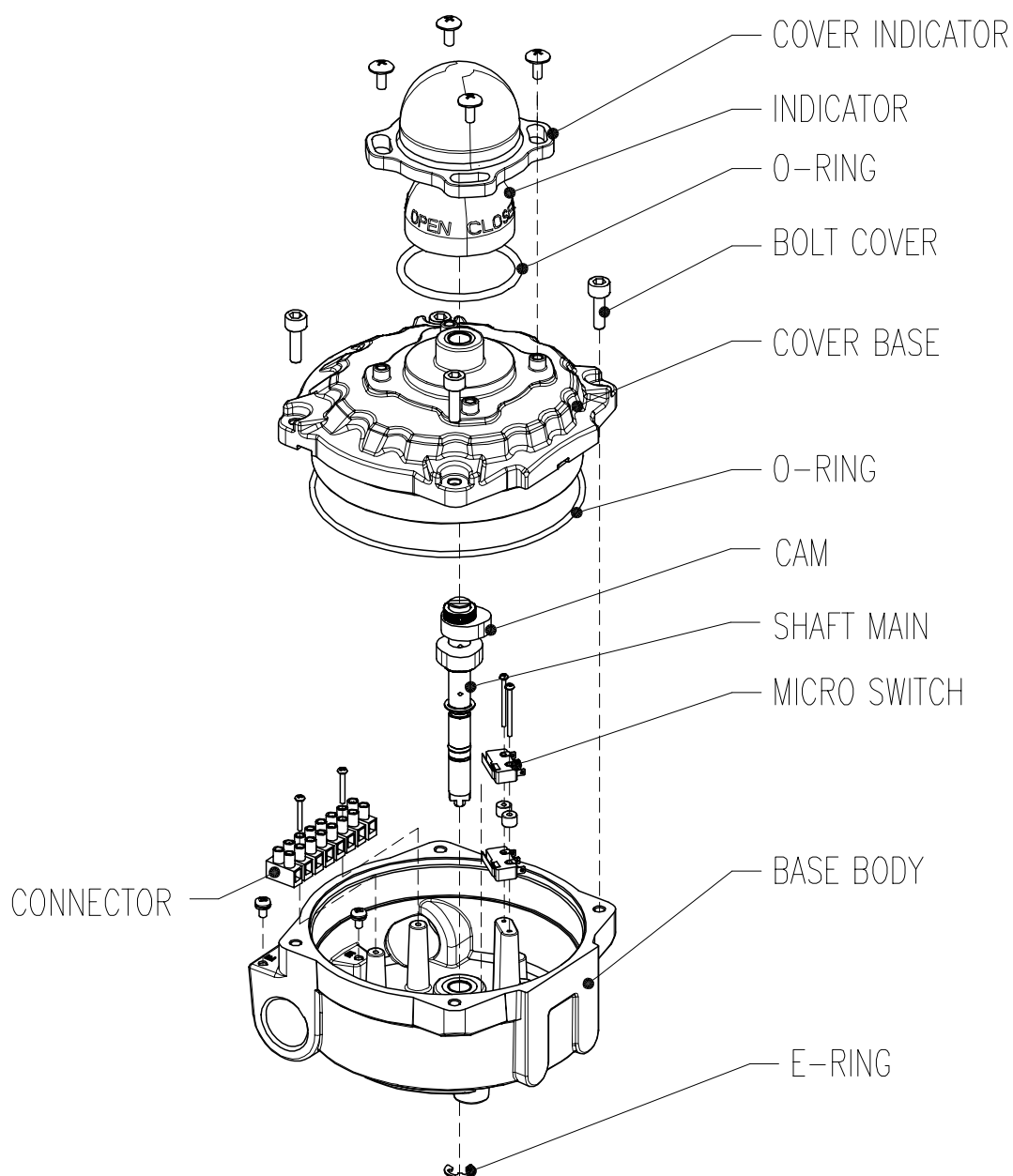
### ➤ **CSA**

Type : Explosion proof construction for internal pressure  
Rating : Ex db IIC T6  
Class I, Zone 1, AEx db IIC T6  
Class II, Division 1, Groups E, F and G; Ex tb IIIC T85°C  
Zone 21, AEx tb IIIC T85°C  
Type 4, 4X ; IP67  
Certification No. : 2541711  
Ambient temperature : -20 ~ 60°C

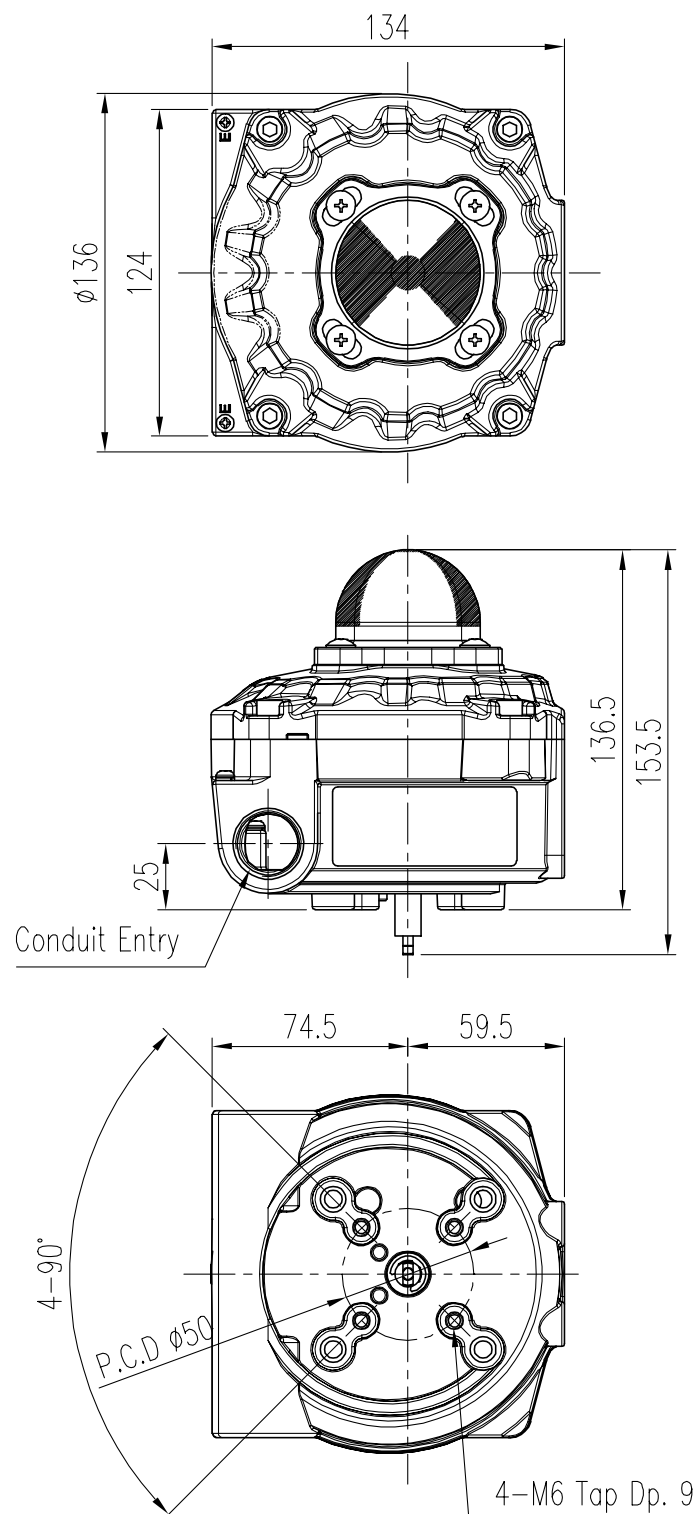
### ➤ **Electromagnetic Compatibility (EMC)**

- EMC directive 2014/30/EC from April 2016
- EC Directive for CE conformity marking

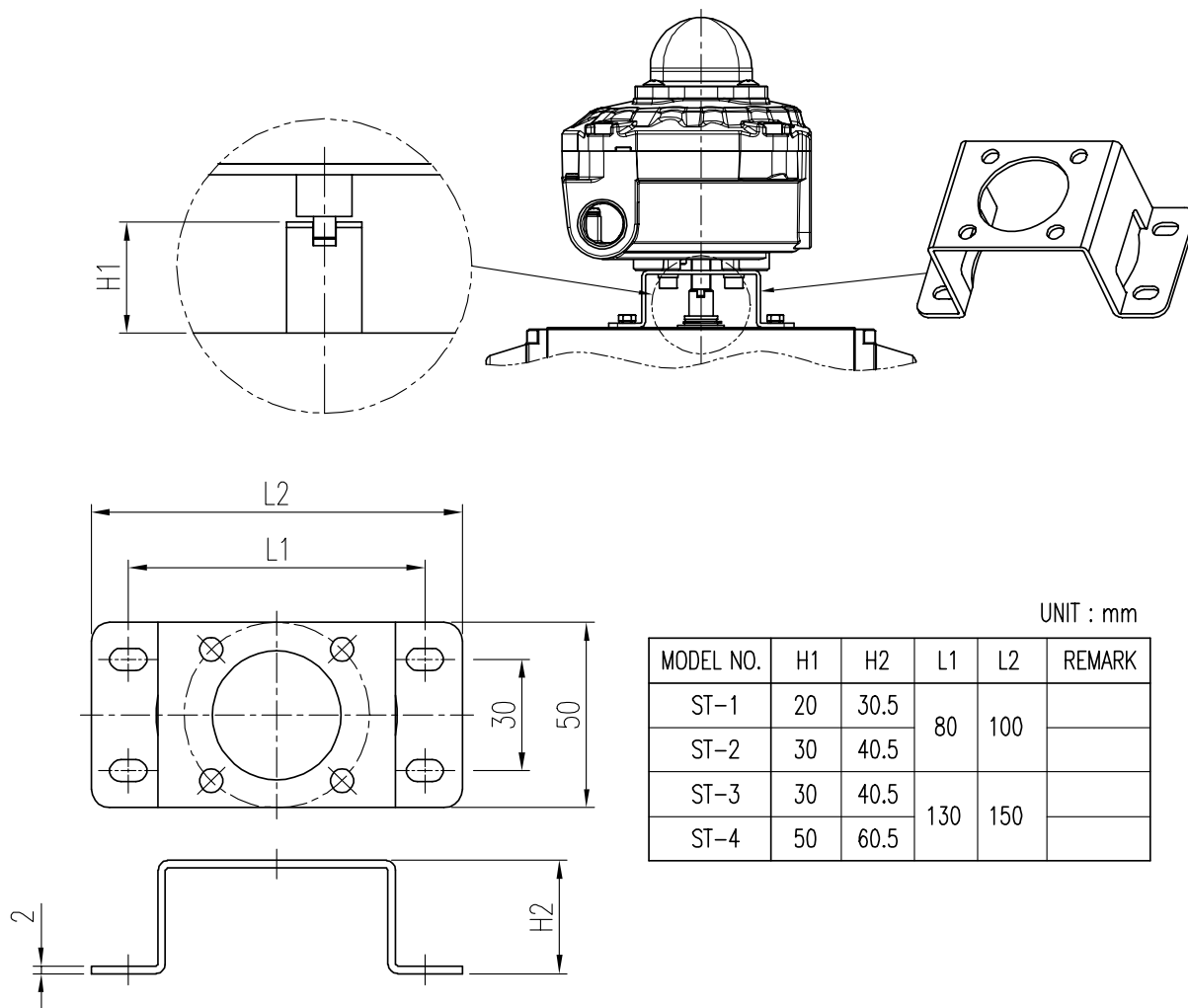
2.7 Parts and Assembly



## 2.8 Product Dimension



## 2.9 Bracket Dimension



UNIT : mm

| MODEL NO. | H1 | H2   | L1  | L2  | REMARK |
|-----------|----|------|-----|-----|--------|
| ST-1      | 20 | 30.5 | 80  | 100 |        |
| ST-2      | 30 | 40.5 |     |     |        |
| ST-3      | 30 | 40.5 | 130 | 150 |        |
| ST-4      | 50 | 60.5 |     |     |        |

### 3 Installation

#### 3.1 Safety

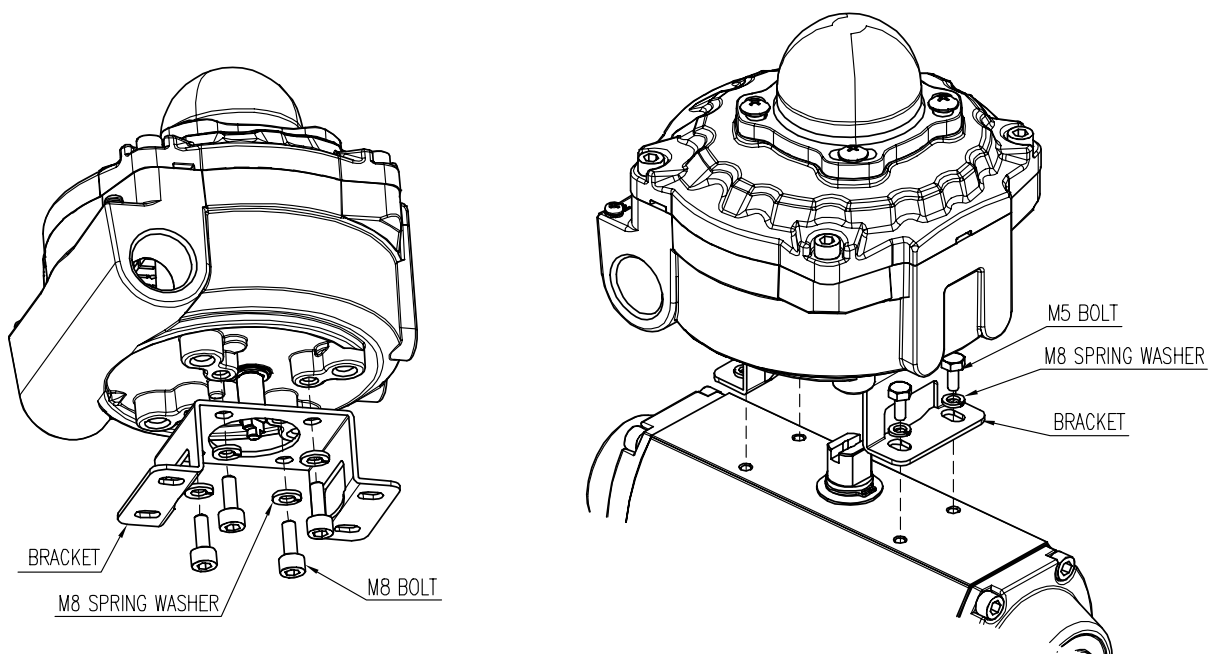
When installing the unit, please ensure to read and follow safety instructions.

- Check the unit's specification and ensure to use as specified.
- Follow other explosion proof procedures and safety precautions.
- In case of hazardous area, please ensure there is no explosion gas in the atmosphere.
- Any input or supply pressures to valve, actuator, and / or to other related devices must be turned off.
- Use bypass valve or other supportive equipment to avoid entire system "shut down".



#### 3.2 Installation

- Assemble limit switch box body with the bracket provided.
- Align the main shaft of the limit switch box with the stem of the actuator. After the alignment, tighten the bracket onto the actuator.



## 4 Connections - Power

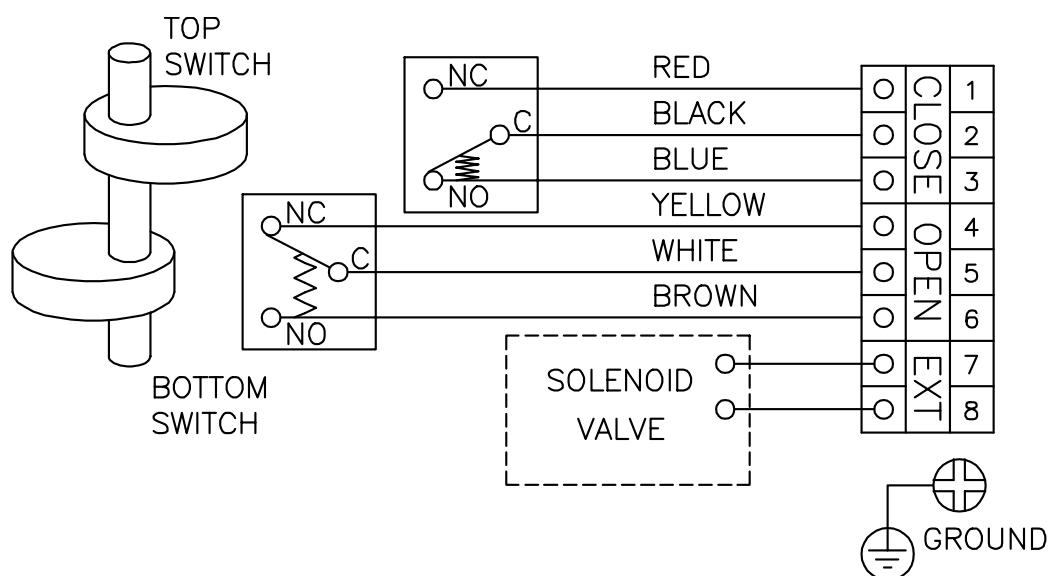
### 4.1 Safety

When installing a unit, please ensure to read and follow safety instructions.

- There are two conduit entries on the product. See “2.4 Product Code” for conduit entry threads.
- When installing in hazardous and explosive gas area, conduit tube or pressure-proof packing union must be used. The compound charging box should be the flameproof type and must be sealed completely.
- Before connecting terminal, ensure that the power is off completely. **Do not open the cover when the power is still alive.**
- When wiring, be careful not to apply excessive force to pull the wires to prevent from being peeled or damaged.
- In order to protect the product, it is necessary to make ground to inside and outside of the terminal
- Unused conduit openings must be protected using explosion-proof blind plugs.

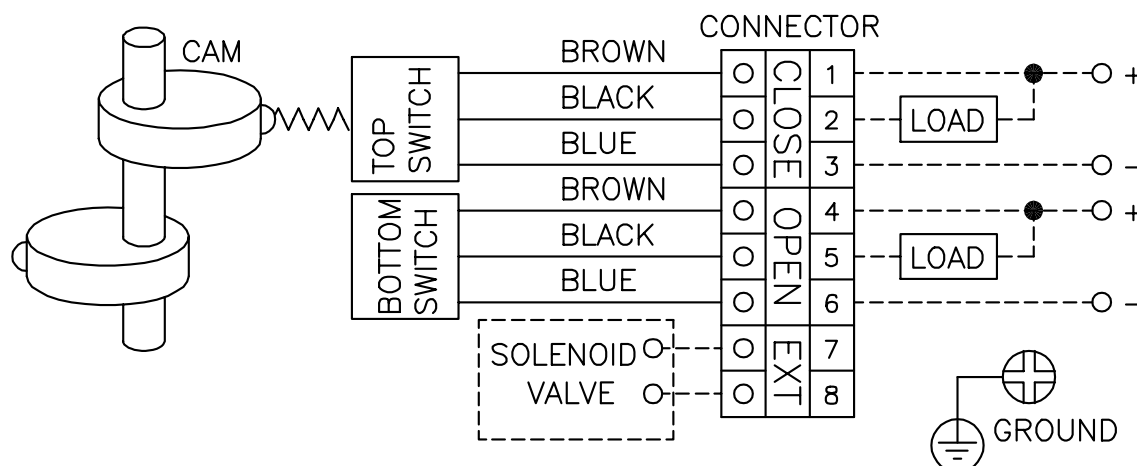


### 4.2 Mechanical Type (2 x SPDT)

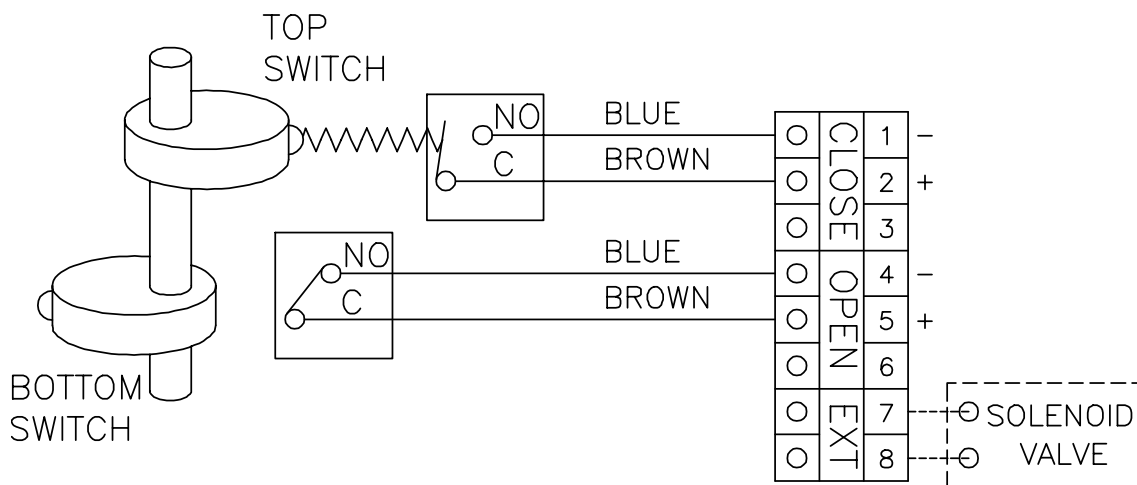




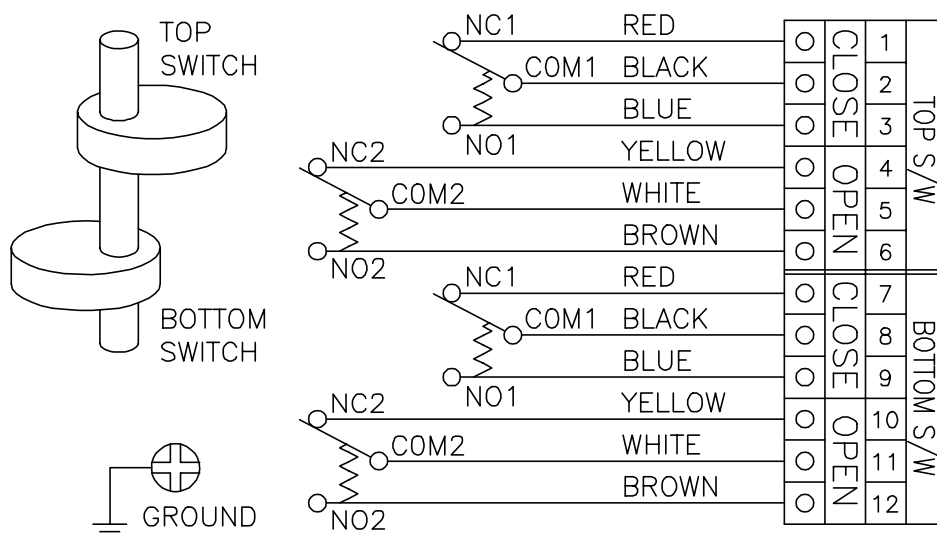
4.3 Inductive proximity sensor (x 2, Autonics, PSN17-5DNU, NPN type)



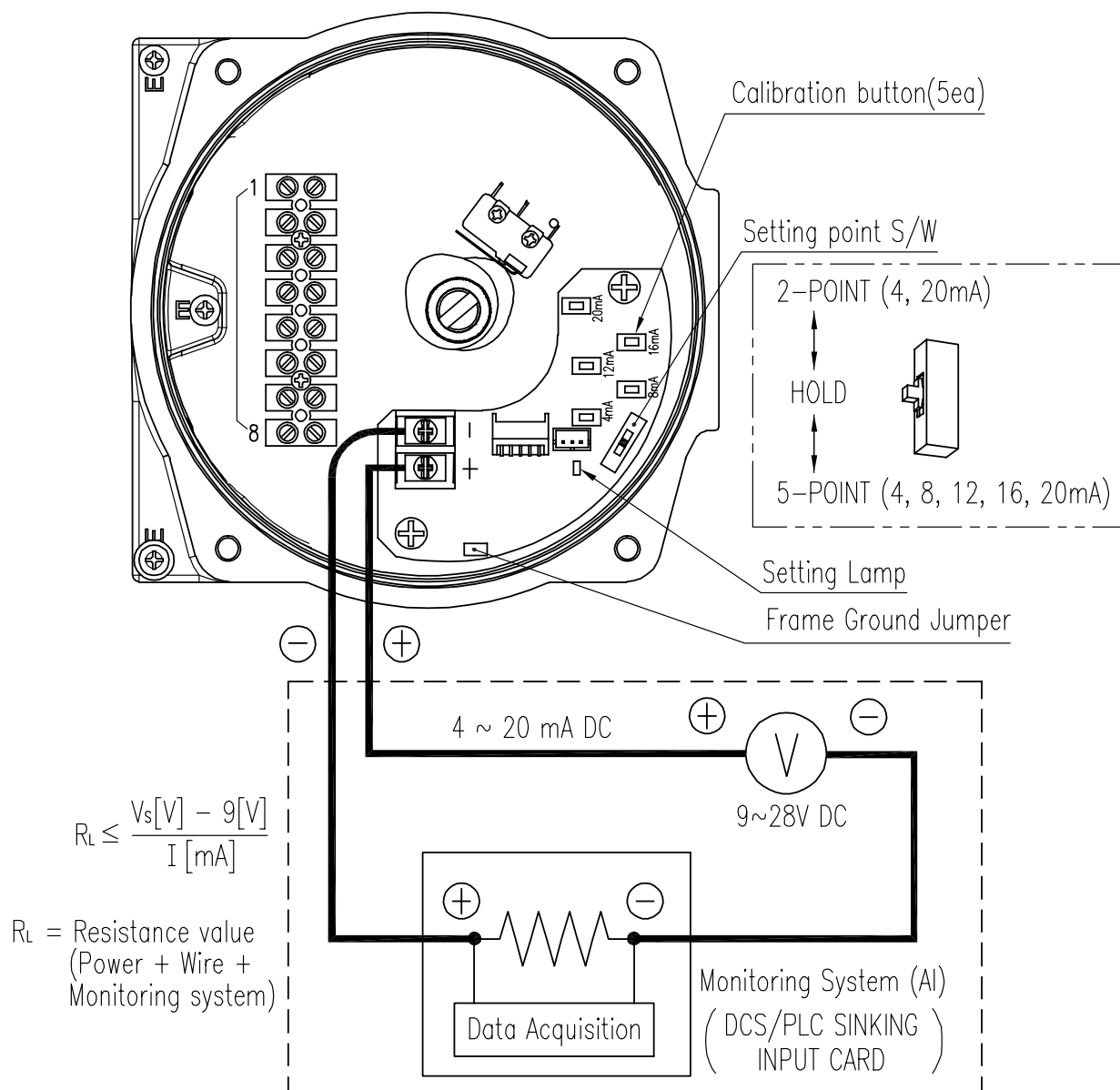
4.4 Inductive proximity sensor (x 2, P&F, NJ2-V3-N, NC type)



4.5 Mechanical Type (2 x DPDT)



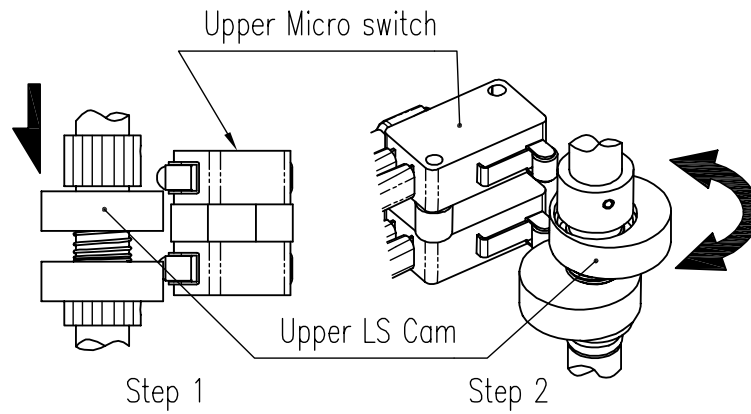
#### 4.6 Internal SPTM(Smart Position Transmitter)



## 5 Adjustments

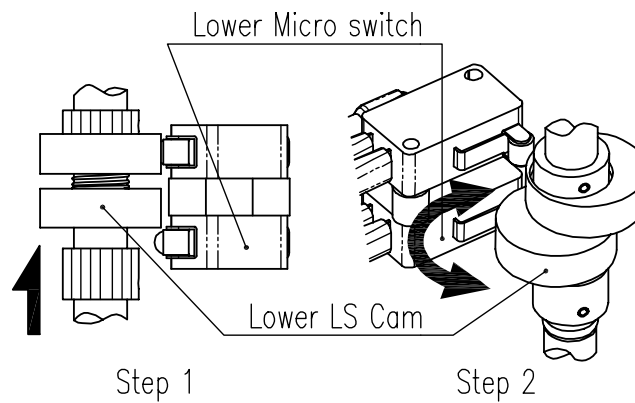
### 5.1 Upper Switch Adjustment

Push down upper LS cam and turn right or left to required position.



### 5.2 Lower Switch Adjustment

Pull up lower LS cam and turn right or left to required position.



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