

Limit Switch Box YT-870/875 SERIES

PRODUCT MANUAL



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1. Introduction

1.1 General Information for the users

Thank you for purchasing Young Tech Co., Ltd 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 commission the product.

- For the safety, it is important to follow the instructions in the manual. Young Tech Co., Ltd will not be responsible for any damages caused by user's negligence.
- The manual should be provided to the end-user.
- Any modifications or repairs to the product may only be performed if expressed in this manual.
- 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 Young Tech Co., Ltd, Gimpo-si, South Korea.

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.
- Manufacturer will not be responsible for any damages or accidents as a result of any alteration or modification of the product and its parts. If any alteration or modifications are necessary, please contact Young Tech Co., Ltd directly.
- Manufacturer warrants the product from the date of original purchase of the product for eighteen (18) months, except as otherwise stated.
- 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 Young Tech Co., Ltd – South Korea.

1.3 Explosion Proof Warning

Please ensure the unit is being used and installed within the explosion proof certified environment.

- YT-870/875 series explosion proof grades are **Ex db IIC T6 and Ex tb IIIC T85°C** and can be used in **zone 1 and 2**.



- Explosion proof type of cables and gaskets should be used, when explosion gases are present at the installation site.
- 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.
- Blind plug is required when any port is not being used.
- Flameproof certified sealing fitting and/or cable glands must be used. Power cable must be at least 1mm² or 18AWG.
- For external ground terminal, cable rug with surface area of more than 5.5mm² should be used.

2. Product Description

2.1 General

Limit switch box, YT-870/875 series, monitors and transmits the valve position <open / close> at the specific point.

2.2 Main Features and Functions

- Designed to be **Ex db IIC T6** and **Ex tb IIC T85°C** explosion proof grades.
- Economical price and long product life time.
- Available in stainless steel 316 enclosure material.

2.3 Label Description



Fig. 1: YT-870/875 Body Label

- | | |
|---------------------|--|
| A. Model Number: | Indicates model number. |
| B. Explosion Proof: | Indicates certified explosion proof grade. |
| C. Enclosure: | Indicates protection grade |
| D. Switch Type: | Indicates switch type of the unit. |
| E. Rating: | Indicates allowable voltage |
| F. Serial Number: | Indicates unique serial number |

2.4 Product Number

YT-870 / 875

1 **2** **3**

1	Switch Type	M	Mechanical (2 SPDT)
		P	Proximity
		D	Mechanical (2 DPDT)

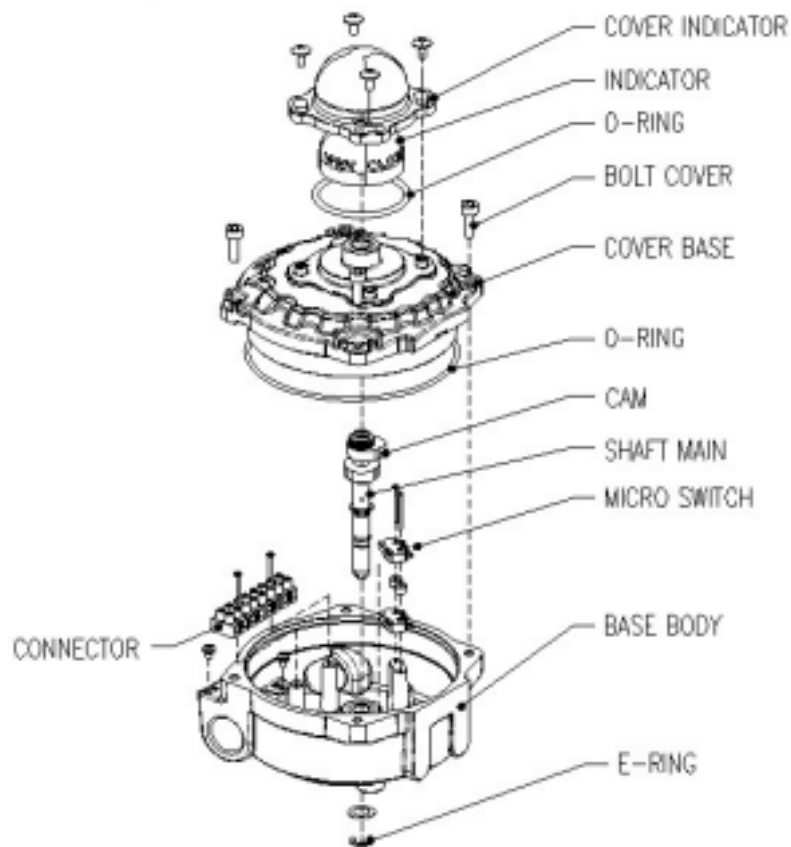
2	Connection Type	1	NPT 3/4
		2	PF 3/4
		3	M20
		4	NPT 1/2

3	Bracket Type	1	ST-1 (30 x 80 x H20)
		2	ST-2 (30 x 80 x H30)
		3	ST-3 (30 x 130 x H30)
		4	ST-4 (30 x 130 x H50)

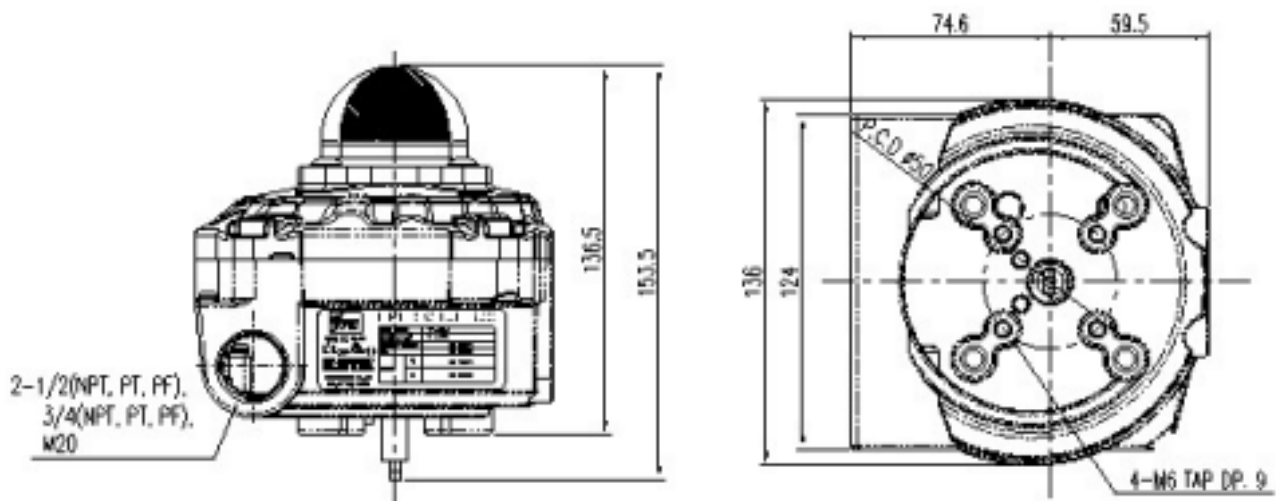
2.5 Product Specification

Model	YT-870M YT-875M	YT-870P YT-875P	YT-870D YT-875D
Switching Type	Mechanical Switch x 2 SPDT	Proximity Sensor x 2	Mechanical Switch x 2 DPDT
Switch Rating	AC : 250V 3A 125V 5A DC : 250V 0.2A 125V 0.4A 30V 4A	DC : 12 – 24V (Operating voltage : DC 10–30V)	AC : 125 or 250V 10A 480V 2A DC : 125V 1/8 HP 125V 1/8 HP 125V 0.5A 125V 0.5A
Enclosure Protection	Weather proof, IP67		
Terminal	8 points	8 points	12 points
Explosion Proof	Ex db IIC T6 Ex tb IIIC T85°C		
Ambient Temp.	-20 – 60°C		
Conduit Entry	YT-870	NPT3/4, PF3/4, M20, NPT1/2	
	YT-875	NPT3/4 (For other connection type, please contact YTC)	
Mounting Bracket	NAMUR VDI / VDE 3845, ISO5211		
Material	YT-870	Aluminum Diecasting	
	YT-875	Stainless Steel 316	
Weight	YT-870	1.5 kg (3.3 lb)	
	YT-875	3.5 kg (7.7 lb)	

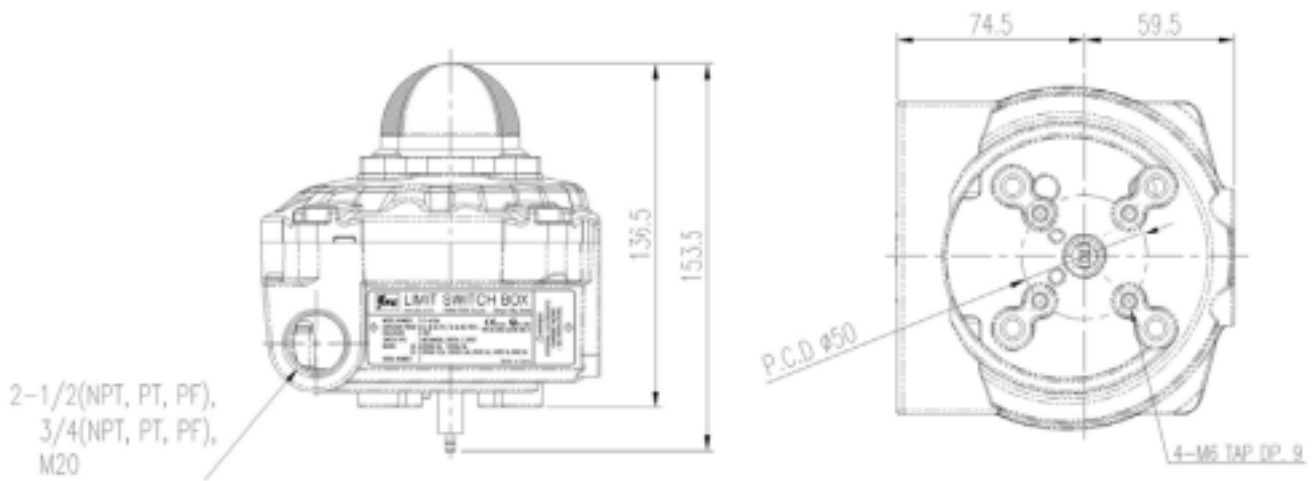
2.6 Parts and Assembly



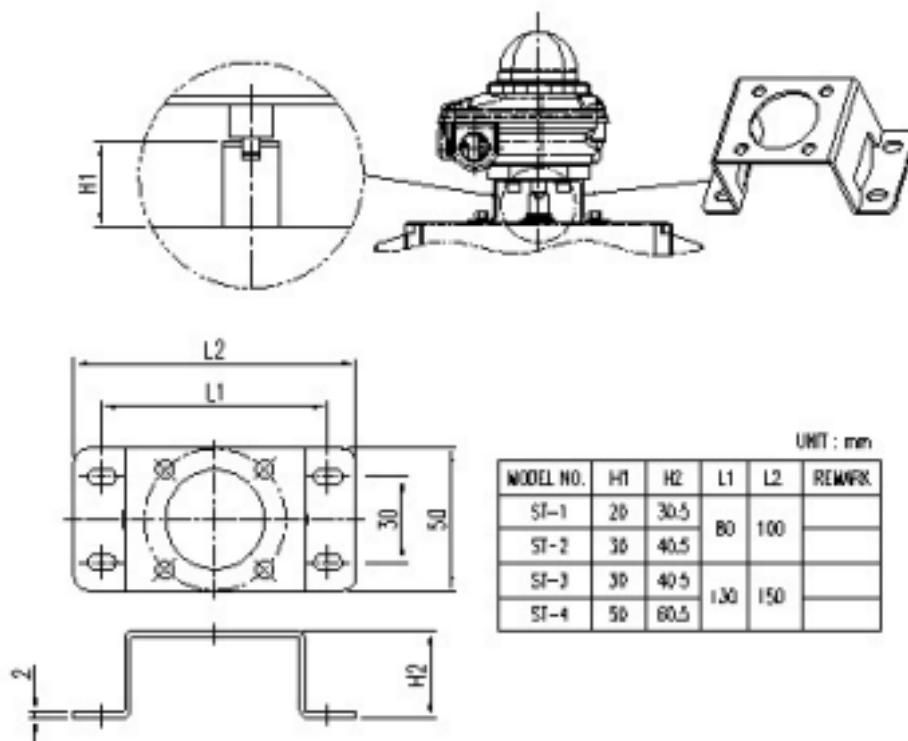
2.7 Dimension – YT-870



2.8 Dimension – YT-875



2.9 Dimension – Bracket



3. Installation

3.1 Safety

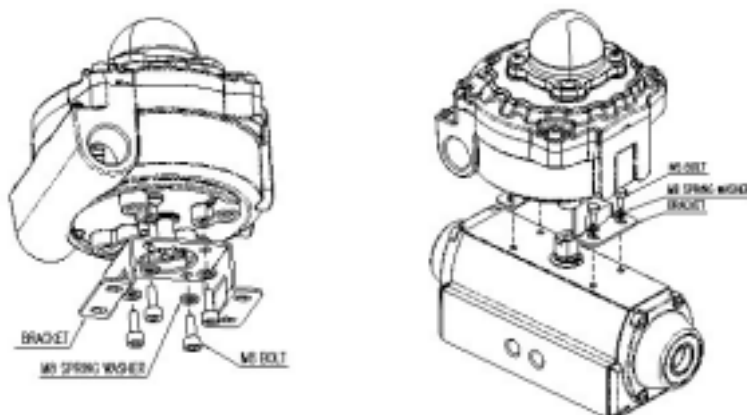
When installing a unit, please ensure to read and follow safety instructions.



- Check unit's specification and ensure to use as specified.
- Follow other explosion proof procedures and safety precautions.
- Use bypass valve or other supportive equipment to avoid entire system "shut down".
- YT-870 series is designed for explosion area.
- Make sure all input and supply pressure to valve, actuator, and other related devices must be turned off.

3.2 YT-870/875 Installation

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



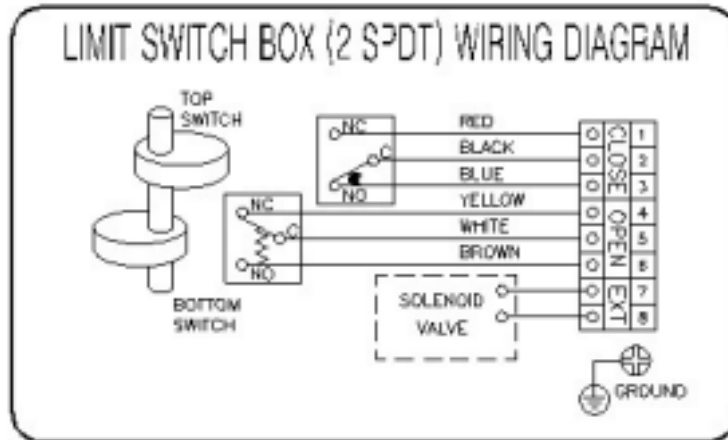
4. Connection – Power

4.1 Safety

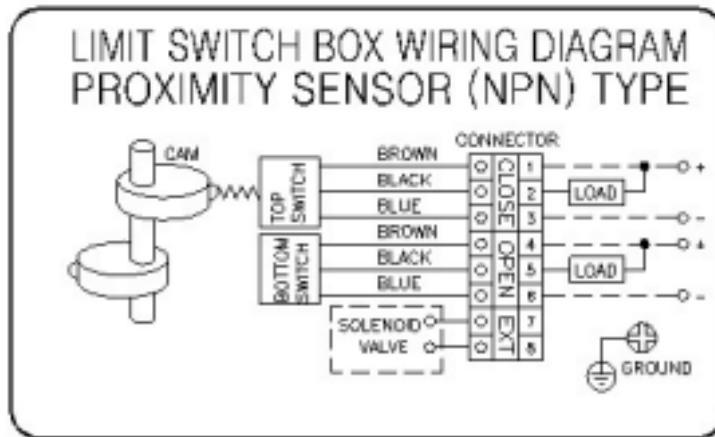
When installing a unit, please ensure to read and follow safety instructions.

- When installing in hazardous and explosive gas area, conduit tube or pressure-proof packing union must be used.
- Before connecting terminal, ensure that the power is off completely. **Do not open the cover when the power is still alive.**
- Please use ring-type rug to protect against vibration or any other external impact.
- Please use twisted cable with conductor section are 1.25mm² and that is suitable for 600V (complying to the conductor table of NEC Article 310.) The outer diameter of the cable should be between 6.35 – 10mm. Use shield wire to protect against electro-magnetic field and noise.
- Please do not install the cable near high noise equipments, such as high-capacity transformer or motor.

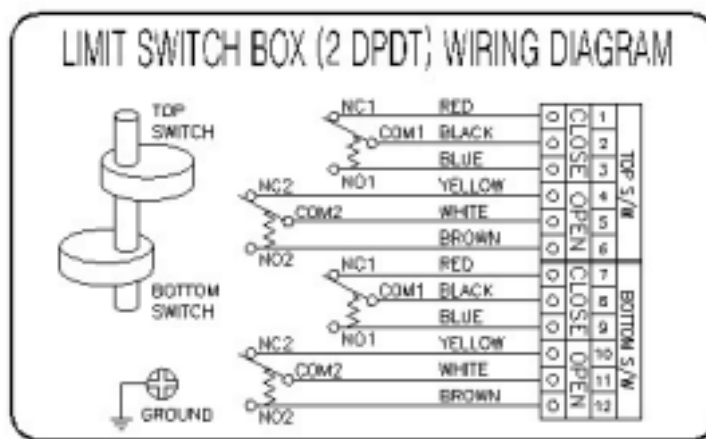
4.2 Mechanical Type (2 x SPDT)



4.3 Proximity Type (NPN Sensor – PNP is also available. Please contact YTC)



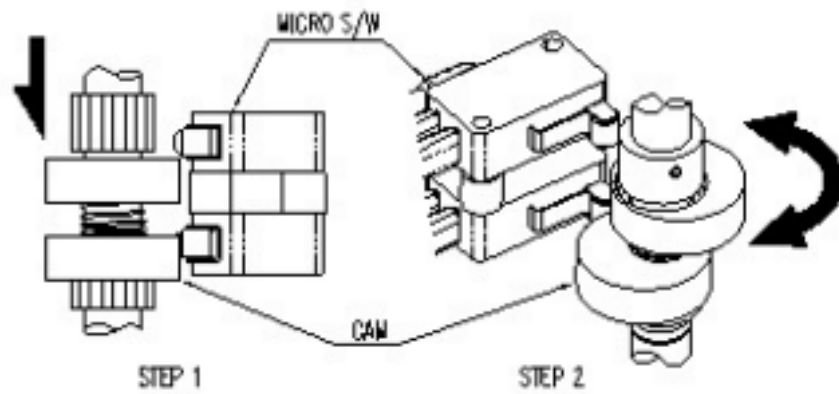
4.4 Mechanical Type (2 x DPDT)



5. Adjustment

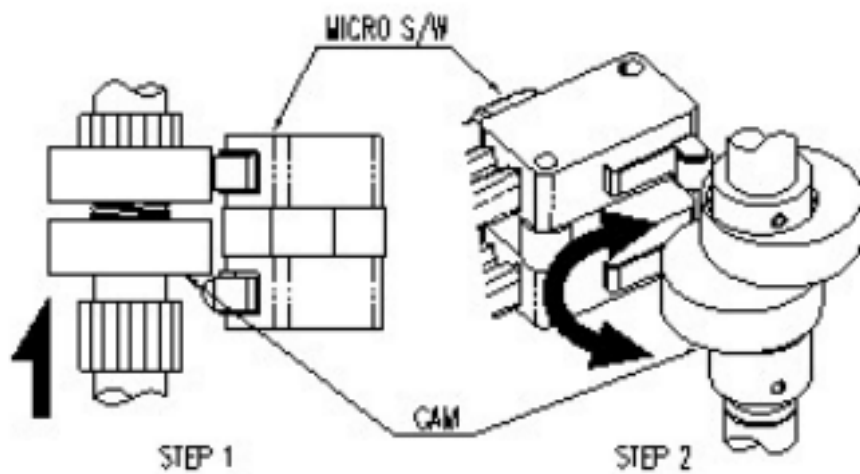
5.1 Upper Switch Adjustment

Push down upper switch and turn right or left to required position



5.2 Lower Switch Adjustment

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



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