

Robust Level Switch unaffected by dust and adhesion

# *Tilt Switch*

For detecting upper limit of hoppers, chutes, etc.



MFFP-40C  
Detector

AMDC-12C  
Transducer

# Robust level switch unaffected by adhesion

## Suitable for upper limit detection in storage silos, hoppers, chutes, etc. for powder and solid materials.

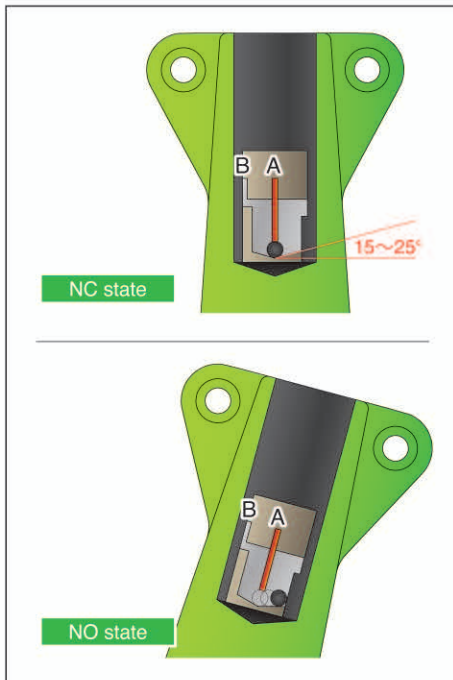


### Principle

Sensor (detection unit) of Tilt Switch has a built-in tilt switch. When sensor is not in contact with material to be detected, contact between A and B is closed (NC state) via an iron ball.

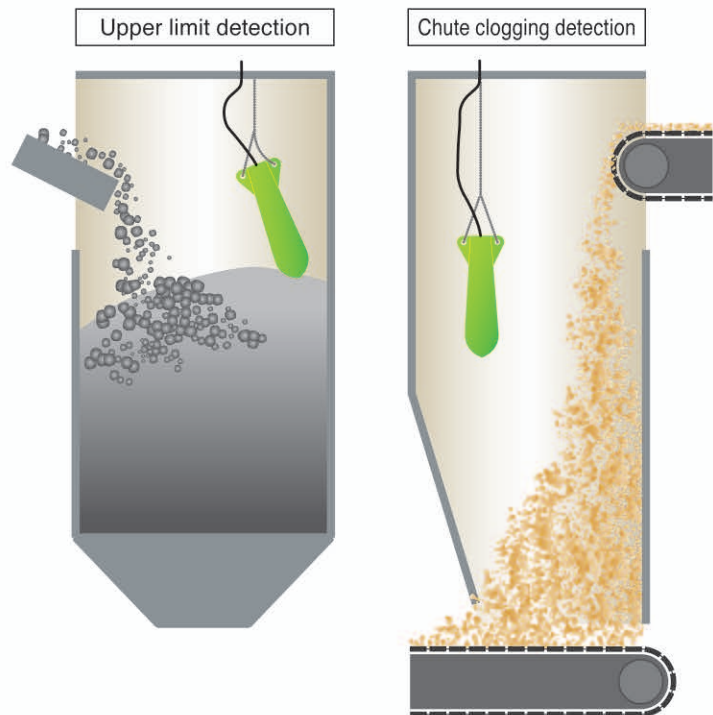
When sensor is inclined due to accumulated material, iron ball in the inclination switch rolls and contact point between A and B is opened (NO state). In principle, the sensor is not affected by floating dust or adhered objects.

### Tilt switch detection principle



### Features

- Compact structure and robust
- Wear-resistant upper limit switch
- Casing material is tag tile cast iron  
Excellent toughness
- IP67 protection
- Applicable for powder with cross paddle (option)



### Applications

- Clinker silo
- Coal/coke silo
- Gravel/sand silo
- Ore silo
- Cement silo
- Aggregate bin etc.

## Specifications

### Detector

| Model                           | MFFP-40C(standard)                | MFFP-40       | MFFP-40W                          | MFFP-40CW                      |
|---------------------------------|-----------------------------------|---------------|-----------------------------------|--------------------------------|
| Model configuration             | with link chain                   | Only detector | with cross paddle                 | with link chain & cross paddle |
| Detection angle                 | Approx. 15 ~ 25°                  |               |                                   |                                |
| Detection specific gravity      | 1.0 or more (particle size 30mm)* |               | 0.6 or more (particle size 30mm)* |                                |
| Detecting length                | 5m max. from mounting position    |               |                                   |                                |
| Built-in switch                 | CW1725-1 Ball type switch         |               |                                   |                                |
| Type of contact                 | NC contact                        |               |                                   |                                |
| Contact capacity                | DC60V 0.25A                       |               |                                   |                                |
| Allowable temperature           | -15 ~ +60°C                       |               |                                   |                                |
| Protection                      | IP 67                             |               |                                   |                                |
| Coating color of detecting part | MUNSELL7.5GY6/10                  |               |                                   |                                |
| Coating color of terminal box   | MUNSELL 5Y 7/1                    |               |                                   |                                |
| Mass                            | Approx. 4kg                       | Approx. 2kg   | Approx. 2kg                       | Approx. 4kg                    |

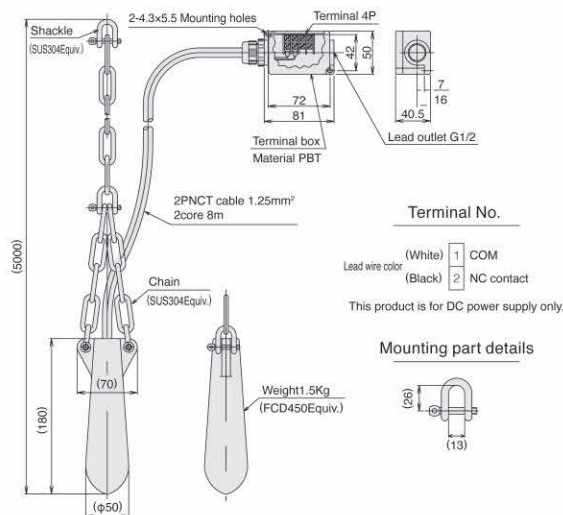
Option: Intrinsic Safety explosion-proof type is available

\*The above values depend on the conditions of detected objects and installation environment.

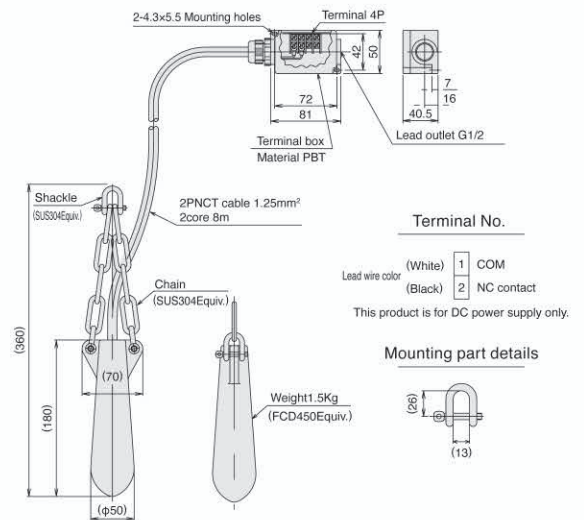
## Dimensions

### Detector

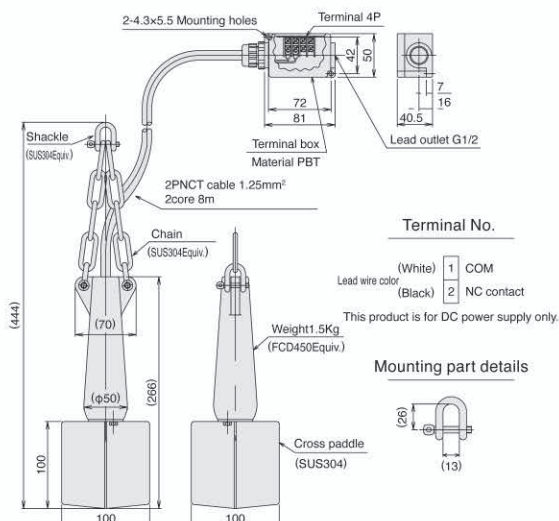
MFFP-40C



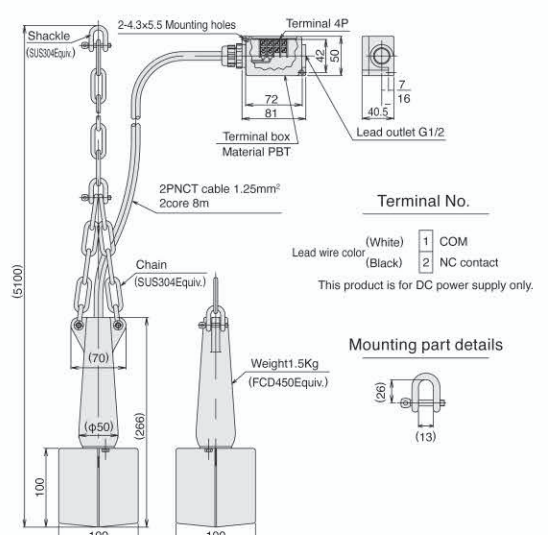
MFFP-40



MFFP-40W



MFFP-40CW



## Specifications

### Transducer

|                          |   |
|--------------------------|---|
| Model                    | AMDC-12C                                  |
| Connection with detector | NC contact (for fail safe)                |
| Output contact           | 1C contact                                |
| Contact capacity         | AC 250V 2A/DC 125V 0.3A (Load resistance) |
| Timer                    | 1 ~ 10s Variable                          |
| Indicator lamp           | Power lamp                                |
|                          | Detect lamp                               |
| Allowable temperature    | -10 ~ +50°C                               |
| Protection               | IP 40                                     |
| Power supply             | AC100/110V, 200/220V, 50/60Hz             |
| Mass                     | 0.4kg                                     |

## How to use?

### Mounting precautions

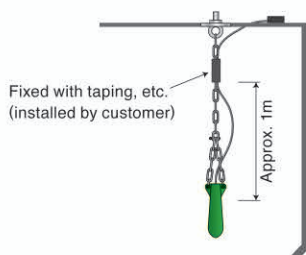
Prevent the charging material from contacting the switch directly because the impact may cause misdetection or damage. Since it is designed to detect by inclination, install it in a location where there is enough space so that it will not hit a wall even if it is inclined.



### Cable fixing instructions

The lowest limit for securing hanging chain and cable is approximately 1m from detector. Make cable longer than chain slightly and do not make it tense.

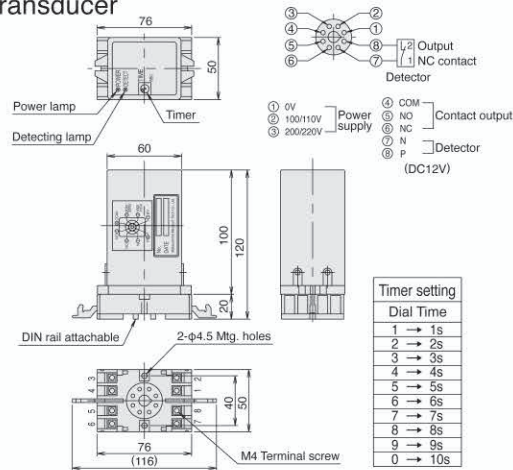
\*If cable is fixed in a tensioned condition, it may cause failure of detection or delay in detection.



Specifications are subject to change without notice.  
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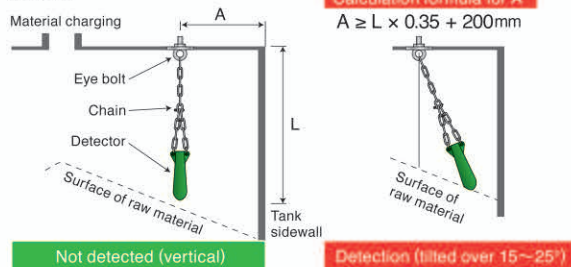
## Dimensions

### Transducer



### Detector mounting position

If detector is installed near side wall of the tank, it may be interfered by the side wall and may cause misdetection. Determine distance A from side wall of the tank to mounting position of detector based on calculation formula below.



### Precautions when mounting

Contact capacity of Tilt switch is rated voltage DC60V and rated current 0.25A. Since AC voltage cannot be connected directly to detector, a transducer (AMDC-12C) is required.

### ⚠️ AC voltage cannot be connected directly



**Caution**

- Please read the instruction manual carefully to use this product correctly and safely.
- If there is a possibility of applying this product to a system that requires safety that is directly related to human body, please contact our sales representative.

Distributor



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