

SE17 Series (SEX3) Explosion Rotary Paddle Level Switch Operation Manual



NEPSI Ex d IIC T3~T6 Gb
 Ex tD A20/A21 IP65 T80°C / T95°C / T130°C / T190°C
 ATEX Ⓜ II 2G Ex d IIB T3 or T4 or T5 or T6 Gb
 Ⓜ II 2D Ex tb IIIC T200°C or T135°C or T100°C or T85°C Db
 IECEx Ex db IIB T3 or T4 or T5 or T6 Gb
 Ex tb IIIC T200°C or T135°C or T100°C or T85°C Db

PARAMETERS

Power sources: (A)110Vac, (B)220Vac, (C)240Vac, (D)24Vac 50/60Hz
 Power consumption: 3W
 Contact capacity: SPDT 3A/250Vac, A/30Vdc
 Rotary speed: 1 R.P.M.
 Insulation test voltage: AC 1500Vx1minute

Connection: 1"PF or PT Screw 1"~6" JIS Flange, ANSI, DINStandard specifications or special thickness
 Housing materials: AL Alloy, ADC-12
 Conduit specifications: 1/2" or 3/4"NPT
 Materials density: $\geq 0.5 \text{ g/cm}^3$

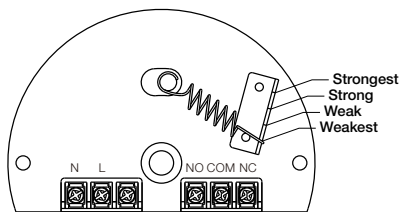
TORQUE ADJUSTMENT

The torque force can be adjusted according to the specific gravity of the targeted materials to be measured. When the specific gravity of the material is too low (the paddle still rotates when in contact with the material), adjust the torque spring to hook on to the weaker hole, thereby increasing the sensitivity. Refer to the Panel Diagram.

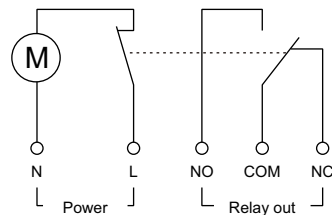
If the torque of paddle is insufficient (the paddle does not rotate when not in contact with the material), adjust the torque spring to hook on to the stronger hole, thereby decreasing the sensitivity.

※Note! Do not tamper with the spring torque as it may cause the Rotary Paddle to malfunction.

PANEL DIAGRAM



WIRING DIAGRAM



PANEL DIAGRAM

- For horizontal mounting, please side mount the switch at a downward angle of 15° ~20° to decrease the material inflow impact.
- The lead wire must face downward when completing the wiring, and the cable connector fixing nuts must be tightly fastened.
- For high temperature application (more than 70°C), please use the HI-TEMP TYPE.
- SE170, SE171, SE174 can only be mounted horizontally.
- SE173, SE176, SE177 can only be mounted vertically.
- If the SE17X series is mounted directly, the minimum opening size is 95mm.
- For the mounting hole of 1" inlet directly installed on the tank wall, please select the scimitar model.
- When the opening is too small that the blade cannot pass through for mounting, please assemble the blade in the tank and after inserting the fastening pin, fold the end back to fix it.

PRECAUTIONS WHEN USING THE PRODUCT

1. Only the explosion proof type specifications can be used in explosive hazardous environments.
2. The product manufacturer must be contacted to handle the repairs involving explosion proof joints.
3. The ambient temperature ranges to use the product is -20°C~+60°C.
4. The installation site shall not have harmful gases existing that can corrode the housing of the product.
5. The product shall be installed in the explosion proof zone. The conduit must be equipped with cable connector or plug-in cap approved by qualified certification agency for explosion proof standards; gas category with the Ex d IIC Gb (powder dust type Ex tD A21 IP65), and the number of meshing buckles must be more than 5 buckles before it can be used in the explosive hazardous places.
6. The relationship between the temperature group and the temperature of the medium to be measured and the permissible housing maximum surface temperature in the explosion proof marking of the product are as follows:

NEPSI

Temperature group	T3 / T190°C	T4 / T130°C	T5 / T95°C	T6 / T80°C
Medium temperature	$\leq 190^\circ\text{C}$	$\leq 130^\circ\text{C}$	$\leq 95^\circ\text{C}$	$\leq 80^\circ\text{C}$
Permissible maximum surface temperature	$\leq 190^\circ\text{C}$	$\leq 130^\circ\text{C}$	$\leq 95^\circ\text{C}$	$\leq 80^\circ\text{C}$

ATEX / IECEx

Temperature group	T3 / T200°C	T4 / T135°C	T5 / T100°C	T6 / T85°C
Medium temperature	$\leq 200^\circ\text{C}$	$\leq 135^\circ\text{C}$	$\leq 100^\circ\text{C}$	$\leq 85^\circ\text{C}$
Permissible maximum surface temperature	$\leq 195^\circ\text{C}$	$\leq 130^\circ\text{C}$	$\leq 95^\circ\text{C}$	$\leq 80^\circ\text{C}$

※The product's tolerable temperature shall be based on the latest product catalog issued by the company and managed in accordance with the explosion proof certification mark.

7. The product is equipped with a grounding terminal and reliable grounding shall be connected in installation for use.
8. The warning of "Open the Cover Only after Power off" must be strictly complied with when using and maintaining in the field.
9. The principle of "Do NOT Open in the presence of combustible dust." must be followed during installation and maintenance.
10. The users are not allowed to replace the parts and components of the product by themselves. They shall work together with the product manufacturer to resolve the problems that occur during operations to prevent damage.

11. The installation, use and maintenance of the product must strictly comply with the product instructions and the following relevant standards:

GB3836.13 (IEC 60079-19) "Electrical apparatus for explosive gas atmospheres. Part 13: Equipment repair, overhaul and reclamation." GB3836.15 (IEC 60079-14) "Electrical apparatus for explosive gas atmospheres. Part 15: Electrical installation in hazardous areas" (other than mines). GB3836.16 (IEC 60079-17) "Electrical apparatus for explosive gas atmospheres. Part 16: Inspection and maintenance of electrical installation." (other than mines). GB12476.2 (IEC 61241-14) "Electrical apparatus for use in the presence of combustible dust. Part 2: Selection and installation."

Relevant Provisions of GB50257-2014 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering," GB15577-2007 "Safety regulations for dust explosion prevention and protection."

TROUBLESHOOTING

Abnormal condition	Cause	Solution
The material covers the paddle, indicating that the material does not exist.	The specific gravity of the material is too low, the torque is too large.	Adjust the torque spring hook to the weaker hole position.
	The flow of material at the mounted location is too fast.	Change the mounted location or use another model.
	The mounting location cannot make contact with material because of the angle of repose.	Change to the use of SE173 Adjustable Shaft Type.
	The device is not powered or the wiring is disconnected.	Repair the wiring and turn on power.
	Un-matching Voltage will lead to insufficient power and motor not rotating.	Correct the matching Voltage shown on the model specification.
	Fastening pin is not inserted or is not folded back, the blades fall off.	Mount the blade, insert the fastening pin and fold the end back.
	Internal shaft parts or motor assembly is damaged.	Contact your local business representative.
The material left the paddle, indicating that the material has arrived.	The paddle torque is too low to rotate.	Adjust the torque spring hook to a stronger hole position.
	The paddle or shaft is deformed by impact.	Replace with good spare parts and install baffle for protection.
	Material bridging, covers a wide range of peddle.	Order customized protective tube type extended into the tank wall length.
	The paddles are blocked or wound by foreign objects, such as filter bags.	Remove obstacles.
	The shaft is stuck with foreign objects in the housing, such as wire.	Remove obstacles and restore the installation.
	The switch contact has reached the limit of service life with poor contact.	Contact your local business representative.

If the failure is not listed or cannot be resolved, please contact your local business representative.



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