

**INSTRUCTION MANUAL**

**TOP MOUNTED MAGNETIC**

**FLOAT TYPE**

**LEVEL TRANSMITTER**



*Manufacturer & Marketed by:*



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# Installation

## 1. INSTALLATION

- # Qualified experienced personnel who are familiar with this equipment and have read and understood all the instructions in this manual should undertake installation.
- # The user should refer to NK Instruments product proposal to obtain overall dimensional information.
- # Carefully unpack the instrument. Make a thorough check for possible shipping damage. Remove all protective cushions or plugs. If damaged, notify the damage.
- # Magnetic Float Level Transmitters are only intended for vertical installation in containers and tanks. The maximum deviation from the perpendicular line is  $\pm 30^\circ$ . The units are preassembled so that on site they only have to be screwed on or, flange-mounted.
- # Please pay attention to the sealing surface that they are mechanically perfectly matched. A suitable seal appropriate to the medium, pressure and temperature must be fitted to seal the unit. The dimension of the seal is dependent on the process connection.
- # Units, where the diameter of the float is larger than the core diameter of the internal thread or the inside diameter of the connecting flange, are fitted with adjusting rings. These adjusting rings are removed together with the float before the unit is installed. The unit is then screwed in or flange mounted and the float and adjusting rings are refitted. Care must be taken to ensure that the float is inserted in the same fitting position and that the adjusting rings are locked in the same position as it was in before dismantling. If the position of the adjusting ring or, the fitting position of the float is not matched to the original, the calibration of the Transmitter will surely affect.
- # It must also be ensured that the adjusting ring screw presses lightly in to the guide tube material.
- ##### During assembly you have to attend to the following points
- # On instruments with threaded connection it is necessary that the threaded connection will be afterwards welded and the welded part polished to a max. surface roughness of 0.4 micro meters.
- # It is not allowed to make a temporary installation, if components or whole instruments are faulty or wrong, respectively when components are missing.
- # Instruments and their accessory parts should not be used to secure lifting gear, to act as foot rests or any other mechanical aids that could damage the installation.
- # Where there is a hazard or danger present, warning signs have to be displayed according to the local and national standards. Any isolation device fitted must also comply with these standards.
- # The operators have to wear protection clothes according to the local circumstances and regulations. The operators have to be trained and given instructions as well as to be in possession of the technical data.
- The operator is responsible, to ensure that unauthorized persons do not have access to the installations or instruments and these operations.
- # If passing the instruments and installations on to a third party, all documentation has to be included indicating the correct mounting procedures, operational details and hazards.
- Precautions are necessary for:
  - Heat radiation from out-side on to the instruments.
  - Heat radiation from the instruments to the surroundings.
  - Electrical heating systems.
  - Exposure to medium, gas, mist or steam.

## 2. ELECTRICAL CONNECTION

The electrical connection must comply with the safety regulations for installing electrical systems and equipment that apply in the country where the unit is installed and this work may only be undertaken by qualified personnel. The Magnetic Float Transmitter is to be connected in the junction box or to the connecting cable, passed through the cable gland (not in our scope of supply unless specified) and sealed. Ensure the lid of the junction box is properly sealed. There are only two electrical terminals for Magnetic Float Level Transmitter, marked as +ve and -ve. You have to connect 24VDC supply to +ve terminal and output of 4 to 20mA can be read in multi meter (in series) in proportion with the change in the position of the float.

### 3. CAUTION

The user has to ensure, that instruments, which have an earthing connection, are properly earthed. Instruments with connecting cable are not earthed and in case of malfunction they can become live. The power supply should be adequate and correct for the application.

## Maintenance

The units must be installed and commissioned in accordance with the generally accepted rules of engineering practice.

When in service, the units do not require any maintenance provided that the magnetic float transmitter is designed for the ambient conditions such as the temperature, protection rating and medium.

Magnetic level transmitters are designed for delicate as there are series of reed switches soldered on one very narrow PCB. This PCB is inside of the vertical hollow pipe. This same pipe is used as guide pipe for the Float. While handling and installation it must be ensured to not to let the pipe bent which may damage the reed switch inside of the pipe. The regular routine maintenance should be carried out in accordance with the recommendations below:-

- Switch off electrical supply and isolate or drain down as necessary.
- Remove level transmitter from tank or chamber.
- Remove deposits of sludge, scale etc. Any tightness in the movement of the float assembly or the pivot pin should be investigated and corrected.
- Remove any metallic particles adhering to the float magnet assembly by wiping with plasticize. Avoid contamination by swarf, etc, on benches and tools.
- The gasket should be replaced and the transmitter installed and bolted down in accordance with the installation instructions.

The user is responsible for periodically carrying out a functional test or a visual check. The output can be tested with the unit or removed, by moving the float manually or by filling the container. Care must be taken to ensure that the functional test does not hamper any process operations.

A visual check is made of components in the unit that are exposed to the liquid stored in the tank, its vapors or condensate to ascertain whether any signs of corrosion exist. This inspection can only be carried out from inside the storage tank or after the unit has been moved.

### NOTICES

These instruments should be packed with respect to the delicate nature of some of the parts. Outer packing such as wooden cases should be marked with fragile or similar signs to help protect the instrument

## Product Warranty

NK Instruments warrants its products as designed and manufactured by NK Instruments to be free of defects in material and workmanship for a period of one year after the date of installation or eighteen months after the date of manufacture, whichever is earliest. NK Instruments will, at its option, replace or repair any products which fail during the warranty period due to defective material or workmanship.

Prior to submitting any claim for warranty service, the owner must submit proof of purchase to NK Instruments and obtain written authorization to return the product. Thereafter, the product shall be returned to NK Instruments with freight prepaid.

This warranty shall not apply if the product has been disassembled, tampered with, repaired or altered outside of the NK Instruments factory, or if it has been subjected to misuse, neglect or accident.

NK Instruments responsibility hereunder is limited to repairing or replacing the product at its expense. NK Instruments shall not be liable for loss, damage, or expenses directly or indirectly related to the installation or use of its products, or from any other cause or for consequential damages. It is expressly understood that NK Instruments is not responsible for damage or injury caused to other products, building, property or persons, by reason of the installation or use of its products.

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This document and the warranty contained herein may not be modified and no other warranty, expressed or implied, shall be made by or on behalf of NK Instruments unless modified or made in writing and signed by the Proprietor of NK Instruments.

## Warning

Read all warnings and instructions before performing installation or maintenance. Safety glasses and gloves should be worn at all times when working with or examining water gauge glass and connections

## Danger

Improper installation or maintenance of Float Level Transmitters and connections can cause immediate or delayed breakage resulting in bodily injury and/or property damage.

## Use & Care

### DO NOT's :

DO NOT subject Transmitter to bending or torsional stresses.

DO NOT exceed the recommended pressure.

### Do's :

DO inspect the Transmitter periodically, keep maintenance records.

## General Maintenance

Examine the Transmitter regularly for any signs of clouding, erosion, or corrosion. This will help establish the routine inspection and routine maintenance schedules.

## Inspection

Examine the free movement of Float and firm fixing of the adjustable stoppers.

## Storing

Keep the Transmitter in original packaging until ready to install.

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