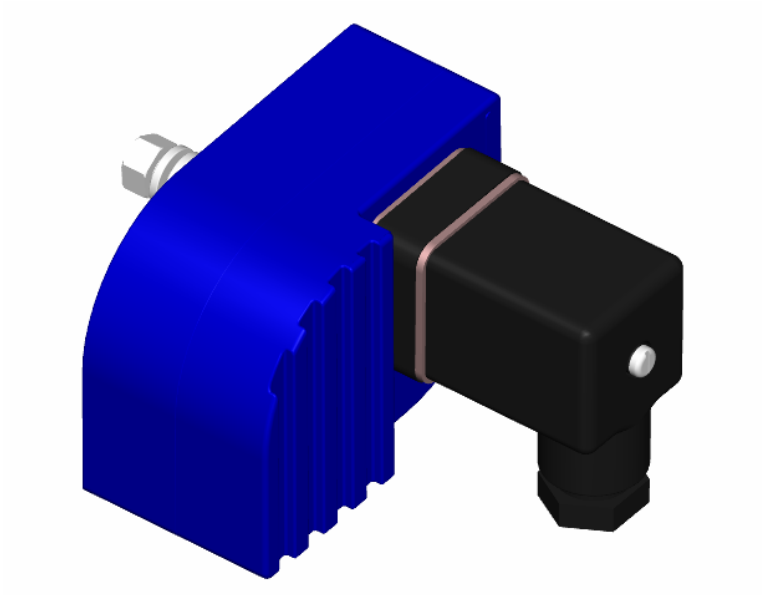
TECFLUID s.a.
Instrumentation for fluids

Limit switch AMM for Series 6000

Instructions Manual



PREFACE

Thank you for choosing the limit switch 60-AMM from Tecfluid S.A.

This instruction manual allows the installation and operation of the limit switch 60-AMM for 6000 series flowmeters. It is recommended to read it before using the equipment.

WARNINGS

- This document shall not be copied or disclosed in whole or in any part by any means, without the written permission of Tecfluid S.A.
- Tecfluid S.A. reserves the right to make changes as deemed necessary at any time and without notice, in order to improve the quality and safety, with no obligation to update this manual.
- Make sure this manual goes to the end user.
- Keep this manual in a place where you can find it when you need it.
- In case of loss, ask for a new manual or download it directly from our website www.tecfluid.com Downloads section.
- Any deviation from the procedures described in this instruction manual, may cause user safety risks, damage of the unit or cause errors in the equipment performance.
- Do not modify the equipment without permission. Tecfluid S.A. is not responsible for any problems caused by a change not allowed. If you need to modify the equipment for any reason, please contact us in advance.

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1 INTRODUCTION

The limit switch 60-AMM allows to adjust the actuation of an electric contact in a desired point within the scale of a 6000 series flowmeter.

The working principle is by means of a micro-switch actuated by a magnetic field.

The flow variations move the float into the metering tube. The float, as it passes through the point where the 60-AMM limit switch is, by means of magnetic coupling acts on a rotating system that presses the micro-switch lever changing its position.

The micro-switch position is maintained until the float passes in the opposite direction through the point where the limit switch is, changing back to its original state.

2 ELECTRICAL CONNECTION

For the electrical installation it is recommended to use multiple conductor cables with individual cable sections in the order of 0.25 to 0.5 mm^2 in order to make it easier to connect. Individual cables should not be used as they will impair the IP-65 rating of the cable gland.

Before starting the installation, check that the cable to be used are the right size for the cable gland on the connector, this will guarantee the instrument will stay water tight.

Peel the outside insulation to free the inner cables. It is recommended to tin the ends of the wires to avoid loose ends.

To help in the wiring of the equipment, the description of the terminals is marked on the printed circuit next to the terminal strip. Pass the cables through the cable gland and screw in the cables in their positions. Once the wiring is finished make sure that the cables are well gripped by the cable gland to maintain the ingress protection degree.

Before connecting the power supply, you must be sure that the Voltage and current values are the correct for the installation. These values are indicated on the label of the limit switch.

2.1 Terminals

In the female connector (A):

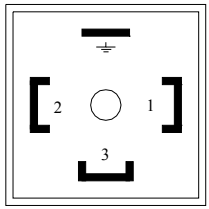
Terminal 1: Common

Terminal 2: NO

Terminal 3: NC

Earth terminal: Earth

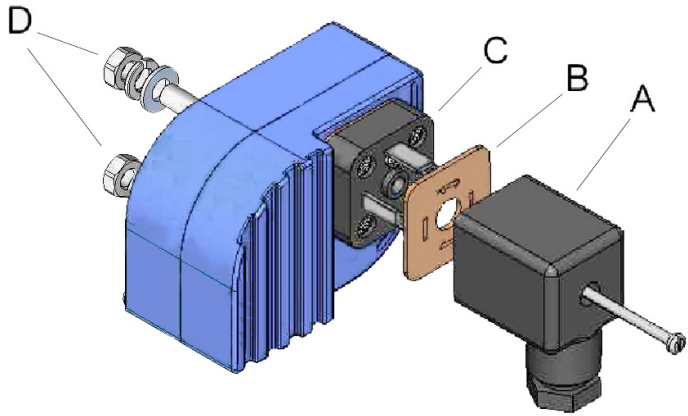
Terminal 2 is the normally open contact when the float is below the limit switch or flow rate detector.



3 MOUNTING

Once the electrical connection has been made and the cable gland has been tightened, mount the female connector (A) on the male base (C), placing the seal (B) between the two pieces.

To fix the flow rate detector in a chosen flow rate position, completely screw the nuts (D).



4 MAINTENANCE (figure of the following page)

The micro-switch (1) has a roller that runs on the cam (3).

To check the operation and correct possible misalignments, do the following steps:

Open the limit switch housing by removing the four M4 x 25 DIN 7985 screws.

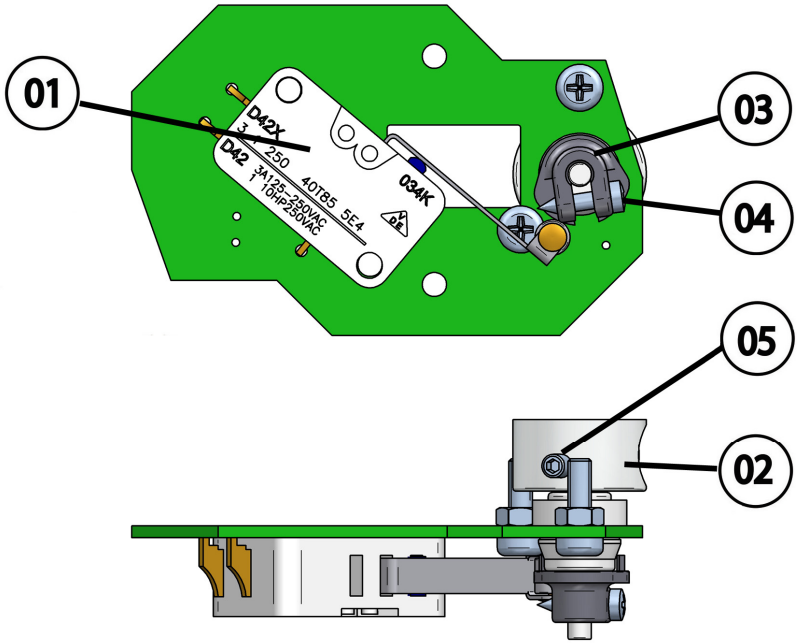
Check that the magnet assembly (2) is firmly fixed to the shaft by the screw (5).

Position the screw (5) as in the drawing (against the stop in a clockwise direction). Position the cam (3) as in the drawing and tighten the screw (4).

If a multimeter with resistance measurement is available, connect it to terminals 1 & 2 of the connector. Move the cam (3) slowly in both directions over the whole of its travel. The multimeter must change from open circuit to short circuit in one direction and vice versa in the other, when the roller is half way up the eccentric zone of the cam.

When a multimeter is not available, the above can be done by hearing the “click” when the micro-switch changes over.

Note: If due to bad handling of the micro-switch lever, the operation is not correct, the micro-switch lever (1) should be bent slightly until correct operation is obtained.



5 TECHNICAL CHARACTERISTICS

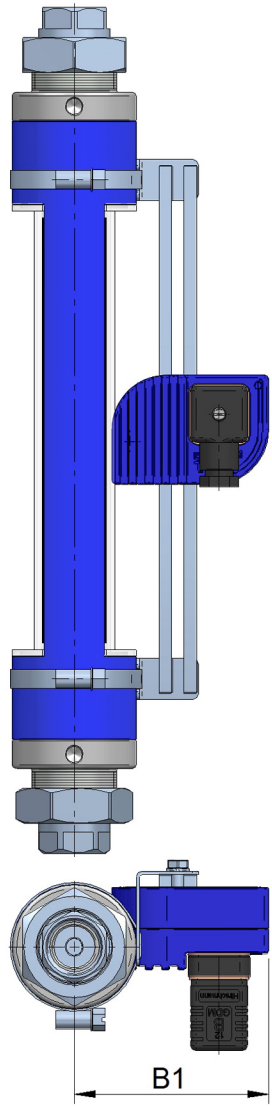
- Maximum current: 3 A
- Maximum voltage: 250 VAC
- Material: Aluminium enclosure
- Ambient temperature: -25ºC ... +80 ºC
- Ingress protection: IP65
- Connector DIN 43650-A, PG9 cable gland

- Material conforms with the following directives:

2006/95/EC	Low voltage
2004/108/EC	Electromagnetic compatibility
2002/96/EC	Waste electrical and electronic equipment

CE

6 DIMENSIONS



Model	Frame	DN	Maximum flow rate for H_2O at 20 °C	B1 (mm)
60-AMM2	2	20 ... 25	400 l/h ... 1000 l/h	96
60-AMM3	3.1	40	1600 l/h ... 2500 l/h	111
60-AMM3	3.2	40	4000 l/h ... 6300 l/h	111
60-AMM4	4	50	10000 l/h ... 14000 l/h	117
60-AMM5	5	65 ... 80	16000 l/h ... 50000 l/h	130

WARRANTY

Tecfluid S.A. guarantees all the products for a period of 24 months from their sale, against all faulty materials, manufacturing or performance. This warranty does not cover failures which might be imputed to misuse, use in an application different to that specified in the order, the result of service or modification carried out by personnel not authorized by Tecfluid S.A., wrong handling or accident.

This warranty is limited to cover the replacement or repair of the defective parts which have not damaged due to misuse, being excluded all responsibility due to any other damage or the effects of wear caused by the normal use of the devices.

Any consignment of devices for repair must observe a procedure which can be consulted in the website www.tecfluid.com, “After-Sales” section.

All materials sent to our factory must be correctly packaged, clean and completely exempt of any liquid, grease or toxic substances.

The devices sent for repair must enclose the corresponding form, which can be filled in via website from the same “After-Sales” section.

Warranty for repaired or replaced components applies 6 months from repair or replacement date. Anyway, the warranty period will last at least until the initial supply warranty period is over.

TRANSPORTATION

All consignments from the Buyer to the Seller´s installations for their credit, repair or replacement must always be done at freight cost paid unless previous agreement.

The Seller will not accept any responsibility for possible damages caused on the devices during transportation.

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The art of measuring

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