

Alarms

Description of application

Many flow measurement applications require an automatic signal generated in the event of a drop in flow below the desired rate or an increase above the desired rate. This signal is then used to signal an alarm in the form of a warning light or audible alarm or to provide automatic switchover or system shutdown.

Where Used

Cooling water supply (See Rotameter Application Bulletin #1007)

Forced Lubrication of Bearings (See Rotameter Application Bulletin #1008)

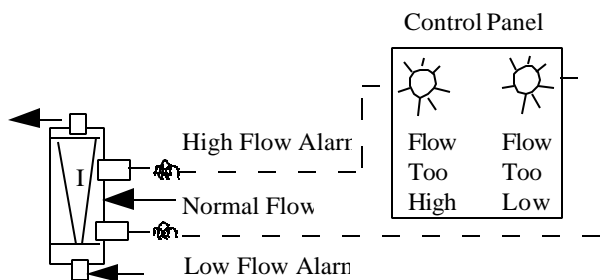
Cooling Air to large sized electronic equipment.

"Purge" gas to blanket liquid in a tank (e.g., nitrogen to prevent oxidation) (See Rotameter Application Bulletin #1003).

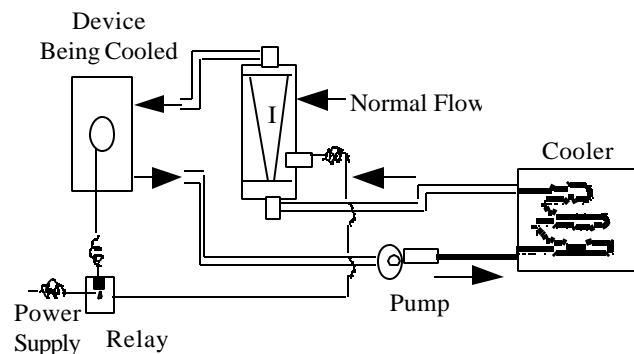
Rotameter Solution

Rotameters of varying styles and sizes can be equipped with electrical low and/or high flow alarms. They provide the least expensive, most convenient means of providing an electrical alarm to signal a flow rate which is dropping or increasing. They can be equipped with relays of different forms and electrical ratings.

How Installed



Alarms to indicate flow rate too low (or too high)



Alarm to shut down equipment to prevent damage due to flow rate too low.

Method of Operation

All Fischer & Porter alarms are bi-stable. This means that when the flow rate drops below the low alarm switch setting (or goes above the high) the alarm switch contact closes (or opens) and remains in the position until the flow rate stays in the alarm region. If the flow rate subsequently increases to the normal flow rate, the switch will then go back to the normal position as the rotameter float goes past the switch into the normal flow region. The use of two switches can then define an acceptable band of flow rates with an electrical signal generated whenever the float is outside the acceptable band. All alarms are supplied with relays allowing wiring for "normally closed" (i.e. power on during normal flow perhaps for a green indicator light signifying flow is OK) or "normally open" (i.e. no power during normal flow and power is switched on when flow drops below the low alarm or goes above high alarm switch perhaps for a red warning light signifying danger).

Model Selection

The Rotameters Model 10A2227, 10A2235, 10A4500, 10A5400, and 10A6130 are available with flow alarm switched.

NOTES:

Note: All Application Bulletins are subject to change without notice.

Pub No. AB-V-024
Issued: September 1, 1999
Copyright © 1999 by ABB Automation Inc.



ABB AUTOMATION INC. Instrumentation Division
125 East County Line Road • Warminster, PA 18974
Phone: (215) 674-6000 • Fax: (215) 674-7183