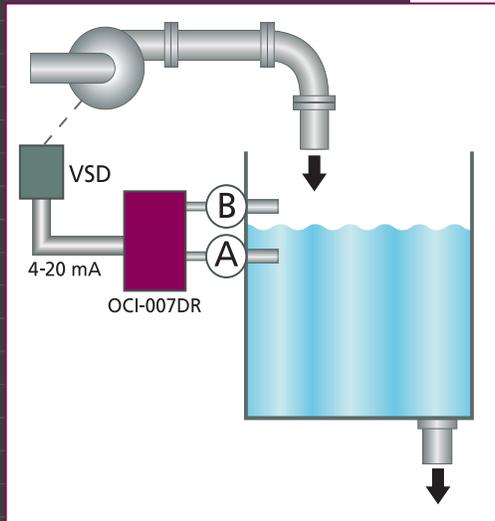


# Model ISE-007DR

## Autofill Controller



*Typical Liquid Application*

### **General Description**

The ISE-007DR is a function module specially designed to control a level between two point level switches when a variable speed pump is used as the control element. Although an analog level is traditionally used in such applications, there are cases where a continuous level measurement may not be possible or desirable. Two point level switches, however, are not only readily available, but also lower cost than any other continuous measurement device. The ISE-007R is designed to complete the control by accepting the two contacts as inputs and generating a mA signal to lower or raise the level in the tank through a VSD or throttling valve.

### **Application Brief**

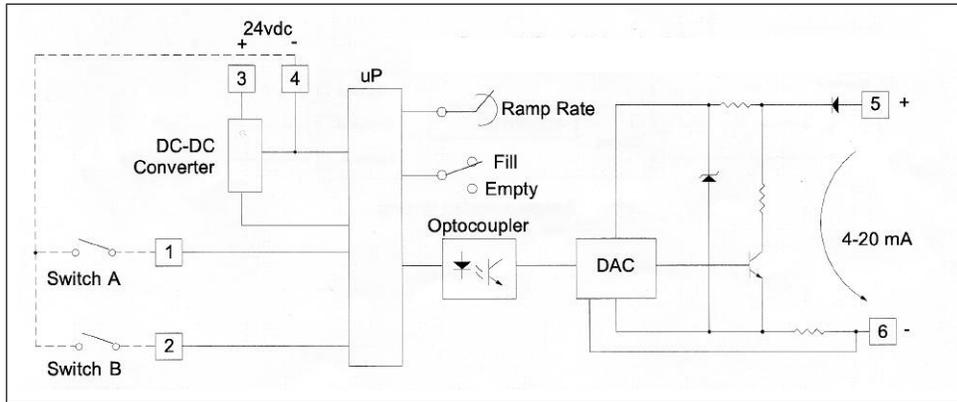
The application assumes that there is a continuous inflow and outflow from the tank. When the two are not matched, the tank level will either increase or decrease. A variable flow control device is placed in the less-critical of the two flow lines. The input to this control device is 4-20mA. It is assumed that the control device is placed in the inflow line.

When the outflow exceeds the inflow, the level will drop below the probe at point A. The ISE-007DR will then start increasing the inflow at some slow rate until the level reaches point A again. It will then freeze the mA output at this level. If the ramp rate was slow enough, this new inlet flow rate will match the outflow close enough for the level to remain constant. If not, the level will advance to point B, and the mA output will start ramping down. If tuned properly, and if the outflow does not change frequently, the level may remain in the dead-band between the two probe points for a long time. If the control was placed in the outflow line, the mA action will be reversed as selected by the Selector Switch.

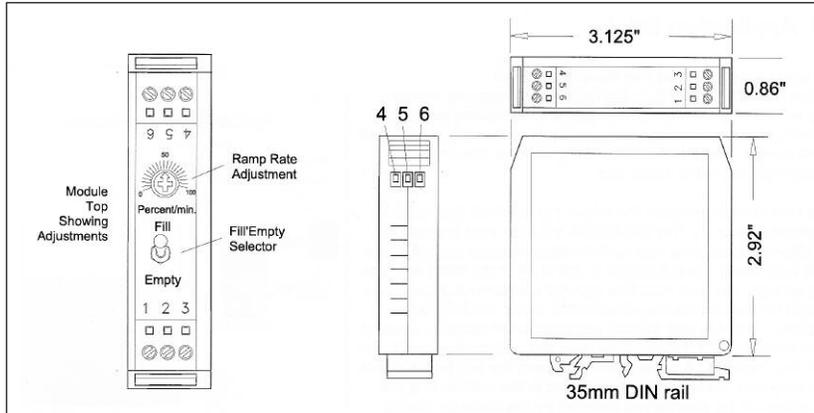
The application is not limited to liquid level control. The same controller may be used in bulk or powder feeders, replacing even more expensive load cell controls.

## Specifications

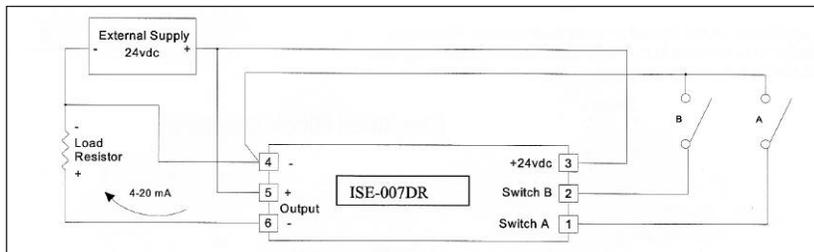
Input Switches:	Two SPST Normally Open Dry Contacts, A&B Note: Contacts are pulled to +5 vdc internally through 2K resistors
Output Current:	4-20 mA nominal into 750 ohms maximum
mA Output Ramp Rate:	0-100% of 16 mA span per minute adjustable via single turn pot and dial
Isolation:	250 VAC or DC minimum from input-to-output-to-power
Fill/Empty Selector:	Selects the mA ramping direction
Power:	24 vdc (12 vdc optional), 30 mA maximum plus load
Housing:	Plastic snap-on housing (see dimensions) suitable for 35mm DIN rail Six screw terminals (bare wire insertion type) are furnished for input/output wiring



**Simplified  
Block Diagram**



**General Dimensions**



**Recommended Wiring**



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