



Badger Meter Europa

## Model 330 Relay control

The model 330 is a compact, programmable relay control capable of converting the signal from flow sensors into a flow switch.

With an onboard microcontroller and digital circuitry, the model 330 is programmed from a Windows based computer program. This eliminates the need to set dip switches or potentiometers and produces precise, accurate and drift free control of the relay outputs. In addition to accepting the square wave signal, the model 330 can accept other pulse and sine wave inputs.

The compact cast epoxy body measures 44 mm (1.75") x 70 mm (2.75") x 38 mm (1.5") and can easily be mounted to panels, DIN rails or enclosures. With multiple inputs, ease of use and a variety of enclosures, the model 330 is a powerful, competitive priced relay control.

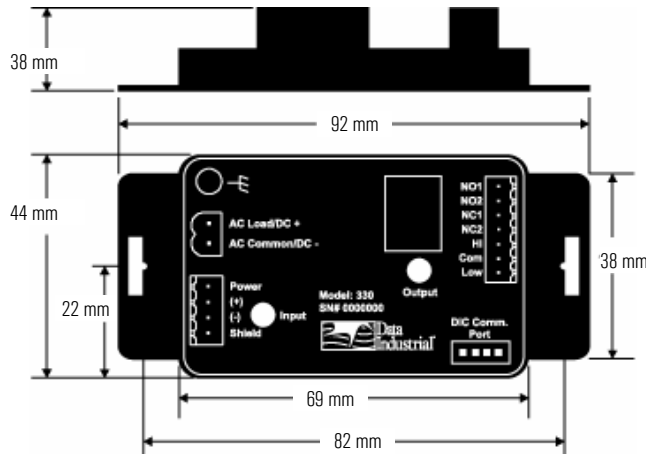


### Applications

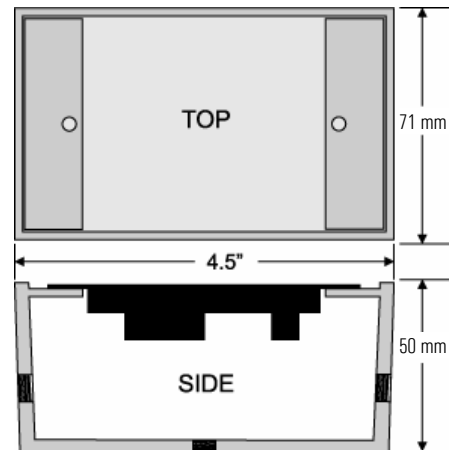
Combined with a flow sensor, the model 330 may be used in a variety of "flow switch" applications:

- Flow / no flow indicator
- High flow / low flow alarm monitor
- Booster pump control
- Multiple pump staging
- Leak control

#### Model 330 dimensions



#### Optional enclosure (330-02 and 330-03)



### Model 330 ordering matrix

	Example:	330	---	xx
<b>Series</b>	Programmable local relay control	330		
<b>Options</b>	Transmitter only			00
	W/ NEMA 4X enclosure			01
	W/ metal enclosure			02
	W/ plastic enclosure			03
	W/ DIN rail mounting clips			04

IMP\_330\_Relaissteuerung\_Datenblatt\_0610\_e.doc 06/10

Badger Meter Europa GmbH - Nürtinger Strasse 76 - 72639 Neuffen (Germany)  
 Tel. +49-7025-9208-0 Fax +49-7025-9208-15 www.badgermeter.de E-mail:badger@badgermeter.de

## Features

### Relay output

The model 330 output is a pair of single pole relays, one normally open and one normally closed. Both relays act in unison to the programmed parameters.

### Selectable alarm type

The model 330 may be programmed as a high flow alarm where the relays are energized when the flow rate exceeds the set point or as a low flow alarm where the reverse is true and the relays energize when the flow rate falls below the set point.

### Programmable set & release points

The set point, the flow rate where the relays are energized, is programmed independently from the release point, the flow rate where they are de-energized. This adjustable deadband prevents relay chatter and control cycling.

### Programmable time delays

This feature provides a time delay between crossing the set or release point and energizing or de-energizing the relay. This feature allows surges in the flow to dampen out before the control circuit reacts.

### Latch feature

The latch maintains the relays in the energized state even when the alarm condition has been satisfied, until manually reset.

### Remote reset

This allows all the control parameters of the model 330 to be reset by an external signal

## Specifications

Power	
Power supply options	<ul style="list-style-type: none"><li>• 12-24 VDC</li><li>• 12-24 VAC</li></ul>
Current draw	<ul style="list-style-type: none"><li>• 60 mA @ 12 VDC</li></ul>
Flow sensor input	
All sensors	<ul style="list-style-type: none"><li>• Excitation voltage 3 wire sensors: 9.1 VDC 500 <math>\Omega</math> source impedance</li></ul>
Pulse type sensors	
Signal amplitude	<ul style="list-style-type: none"><li>• 2.5 VDC threshold</li></ul>
Signal limits	<ul style="list-style-type: none"><li>• <math>V_{in} &lt; 35</math> V (DC or AC peak)</li></ul>
Frequency	<ul style="list-style-type: none"><li>• 0-10 kHz</li></ul>
Pull-up	<ul style="list-style-type: none"><li>• 2 k<math>\Omega</math></li></ul>
Sine wave sensors	
Signal amplitude	<ul style="list-style-type: none"><li>• 10 mV p-p threshold</li></ul>
Signal limits	<ul style="list-style-type: none"><li>• <math>V_{in} &lt; 35</math> V (DV or AC peak)</li></ul>
Frequency	<ul style="list-style-type: none"><li>• 0-10 kHz</li></ul>
Relay	<ul style="list-style-type: none"><li>• 1 Form A 1 Form B</li></ul>
Contact ratings	<ul style="list-style-type: none"><li>• 5 A @ 30 VDC</li><li>• 5 A @ 125 VAC</li><li>• 5 A @ 250 VAC</li></ul>
Time delay	<ul style="list-style-type: none"><li>• 1-9999 second delay between flow point and relay actuation</li></ul>
Transient suppression	<ul style="list-style-type: none"><li>• Designed to withstand a 5000 Volt <math>\frac{1}{2}</math> microsecond, 100 kHz ring wave</li></ul>
Sensor calibration	
Data Industrial	<ul style="list-style-type: none"><li>• Use "K" and "offset" provided in sensor owner's manual</li></ul>
Other sensors	<ul style="list-style-type: none"><li>• Check with factory</li></ul>
Units of measure	
Flow measurement rate	<ul style="list-style-type: none"><li>• Gpm, gph, l/sec, l/min, l/hr, ft<sup>3</sup>/sec, ft<sup>3</sup>/min, ft<sup>3</sup>/hr, m<sup>3</sup>/sec, m<sup>3</sup>/min, m<sup>3</sup>/hr</li></ul>
Programming	<ul style="list-style-type: none"><li>• Requires PC or laptop running Windows 9x, ME, NT, 2000, XP</li></ul>
Operating temperature	<ul style="list-style-type: none"><li>• -25°C to +70°C (-20°F to +158°F)</li></ul>
Storage temperature	<ul style="list-style-type: none"><li>• -40°C to +85°C (-40°F to +185°F)</li></ul>
Weight	<ul style="list-style-type: none"><li>• 136 g with headers installed</li></ul>
Accessories	<ul style="list-style-type: none"><li>• A-330 programming kit containing software and 3' A301 cable</li><li>• A-330-20 programming kit containing software and 20' A-301-20 cable (longer cable may be required for field programming)</li></ul>