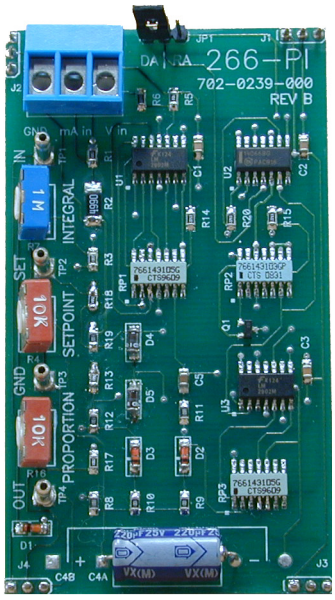
Hoffman|Controls
Preliminary Product Data

266-PI Interface Plug-In Module



Model 266 PI Control

General

The 266-PI Interface Module is a “plug-in” module used in conjunction with various HCC Controls. The interface adapts the selected Control’s normal proportional only (P) operating function to a proportional and integrated (PI) operating function. PI control allows for an output level to be generated that is greater than the input level if demand is not being satisfied over time.

Operation in the PI mode enables the Control to be especially effective as part of a “closed loop” or “feedback” control function. Additional functionality resident in the module allows the Control to interpret the input signal not as a “command” signal dictating a fixed output response, but as an “offset from setpoint” signal. This produces a variable output response to drive the input signal back to the desired setpoint. Both the desired “setpoint” and the rate at which the Control responds to “offset” are adjustable via the 266-PI Module.

HCC Controls utilizing the 266-PI Interface Module are normally factory assembled, joined and calibrated. Consult factory for further information.

Description

The 266-PI is a accessory printed circuit board designed to “plug-in” to various HCC Controls via mating pins. Operating power and other required circuit connections to/from the 266-PI are made through these pins.

When piggybacked on a HCC Control, the 266-PI input terminals are normally used instead of the regular Control inputs.

Connections

Primary operating power is provided to the 266-PI via the "plug-in" pins of the applicable HCC control. The resultant control signal is also applied to the applicable HCC control through the "plug-in" pins.

A 3-pin terminal block is provide to accept control signals from the system. The 266-PI can accept a 4-20 ma or 2-10 VDC control signal. There is a single GND connection available to be used by both control signals. In either case the control signal wiring should be comprised of twisted pair cable.

Controls

There are three adjustment pots available on the 266-PI used to tailor the performance of the 266-PI control.

1. Set Point Adjustment (used to set desired operating point).
2. Integral Adjustment (used to set desired speed of response).
3. Proportional Adjustment (used to set portion of input as output).

Operating Modes

The 266 PI is capable of operating in 1 of 2 modes "Direct Acting" (DA) or "Reverse Acting" (RA). The mode of operation is chosen with the appropriate placement of the jumper on JP1.

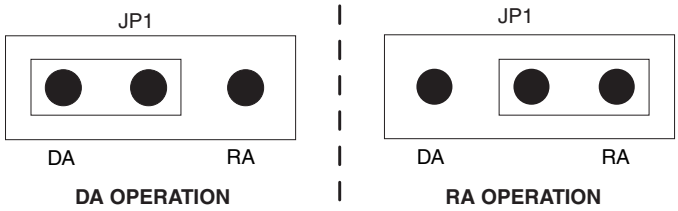


Figure 1 - Operating Mode Selection

"Direct Acting" mode will remain idle until the control signal has exceeded the set point level. Once set point has been exceeded this mode of operation will continue to increase the output signal until the input control signal has been driven below set point.

"Reverse Acting" mode will continually generate an output signal in order to maintain the imput signal at the setpoint level. If the input signal exceeds set point level, the output signal is reduced. If the input signal is below the set point level, the output signal is increased.

Specifications

Input power	+12V DC via Control interface pins
Output signaling	via Control interface pins
Input signals variable 2 – 10 V DC from auxiliary equip. variable 4 – 20 mA from auxiliary equip.	
Interface	4 keyed, 3 pin connectors
Environmental Non-condensing	–30°F – +160°F
Dimensions (L x W x H)	3.5" x 2" x 1.5"

Field Installation

1. Remove all power from selected Control.
2. Remove, if applicable, any pre-existing input wiring (sensor) from selected Control; disconnect motor/load from Control.
3. Locate mating pins, 4 sets of 3 each. Note that one set of pins acts as a "key" to ensure correct orientation of 266-PI Module.
4. Install 266-PI Module onto mating pins observing "keying" described earlier. Press 266-PI Module firmly onto pins to ensure secure seating. Be sure all mating pins are properly engaged.
5. Connect auxiliary/transducer equipment to power/signal input terminals of 266-PI as applicable.
6. Restore power to the Control. (Motor/load will be reconnected after adjustment.)

Adjustment

1. Connect DVM (Voltmeter) setup to read volts DC to "Set Point" (TP2) and "GND" (TP4). Adjust the "Set Point" pot to achieve voltage related to desired set point, as determined by transducer output data.
2. Remove all power from Control. Reconnect motor/load wiring to Control. Restore power to the Control.
3. Closed loop operation is now in effect, if transducer is already installed.
4. The "Integral" adjustment is primarilly used in "Reverse Acting" applications where longer time periods allow smoother operation. If excessive oscillation around the desired set point level occurs raising the Integral pot level (CW) should reduce oscillations.

5. The "Proportional" adjustment is primarilly used in "Direct Acting" applications. It is preset at the factory and should be suitable for all applications. In the event that there is significant signal overshoot at activation you may elect to adjust this pot. For "Direct Acting" applications a lower (ccw) setting should reduce the overshoot at activation.

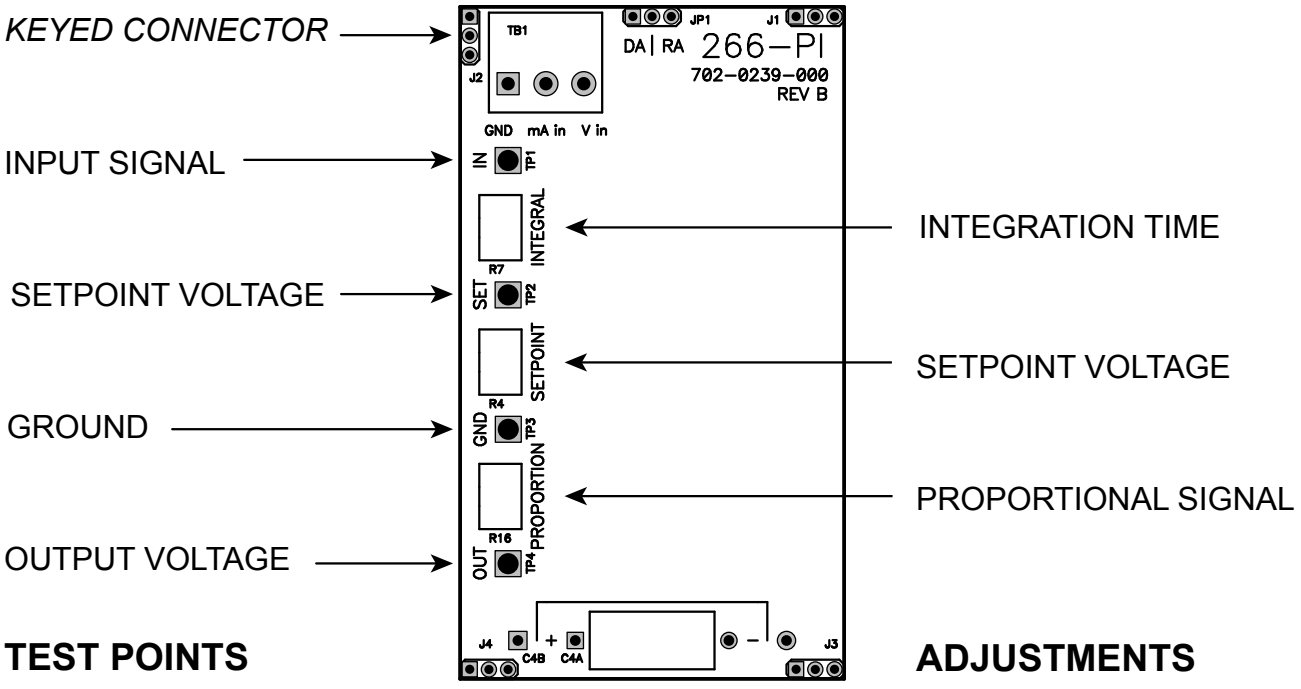


Figure 2 - Test Points & Adjustments

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