OEM CONTROLS INC.

"Ultra Feathering Operation" Electronic Modules

UFO Electronics Provide Precise Proportional Control

The OEM Electronic board can either be used to enhance the operation of our line of controllers or as stand-alone modules. Standard features of UFO electronics include:

Available with UFO electronic module for precise electrohydraulic valve control

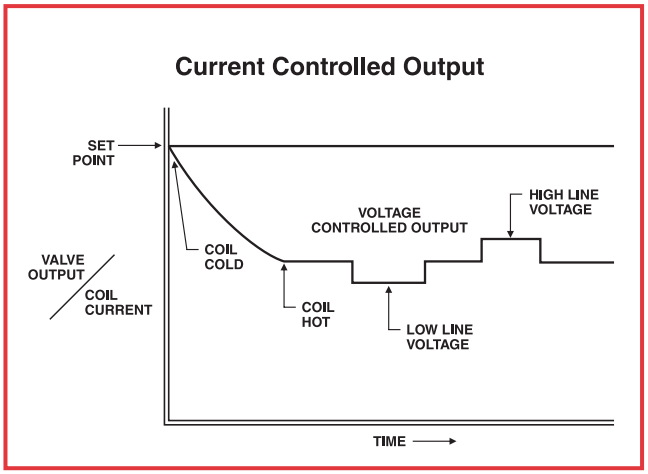
- ***Pulse Width Modulation***– *The pulse width modulated output helps overcome the effects of hysteresis, stiction, hydraulic pressures, and mechanical tolerances that inhibit the operation of proportional electrohydraulic valves and strokers.*

- ***Threshold Adjustment & Maximum Output Adjustment***– *The threshold eliminates "dead band" in valve response at the start of handle travel. Maximum output utilizes the full handle travel regardless of the maximum output limit setting. Together they provide total proportional control over the entire control handle travel.*

- ***Diagnostic Light Emitting Diodes***– *These indicators simplify troubleshooting of the control circuit without the use of external equipment by indicating the presence of controller output. They can be used to differentiate between a fault that has occurred in the valve, valve coil wiring, or the controller itself: if the LED's light up, indicating an output from the controller, then check the wiring down the line or valves.*

- ***High Current–*** *Electrohydraulic valves that require more current than 2 amperes at 12VDC (1 ampere at 24VDC) use our High Current U.F.O. circuit board with a maximum output of 4 amperes at 12VDC (2 amperes @ 24VDC).*

- ***Current Controller–*** *This feature keeps the output of the controller to the valve or stroker constant, regardless of fluctuations in the supply voltage, variations in coil resistance, or impedance due to operating temperature changes. Our Current Controlling Circuit is unique in that it takes into consideration the current "stored" in the inductive coil of the valve. This "stored" current introduces an error signal that can adversely affect the positioning of the spool and, if not controlled, will allow erratic fluctuation of the spool position. This "stored" current is especially troublesome in pulse width modulated circuitry where the current is constantly being turned on and off.*



- *With a nominal 12 volt system at normal ambient temperatures, the output current will remain constant within 1% with an input supply varying between 8 and 18 volts DC, or a coil impedance increase as high as 100% above its nominal cold value.*

- ***Voltage Controller***– *Non-current regulated when a current controlled output is not necessary.*

- ***Limited Adjustment Interaction***– *Interaction of the threshold and maximum output adjustment has been kept to a minimum by careful circuit design.*

UFO Electronic Modules

(For typical wiring diagrams, see Information Bulletin #700)

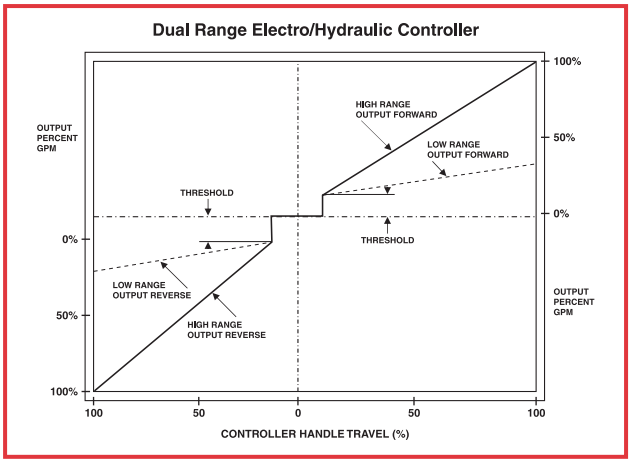
Options:

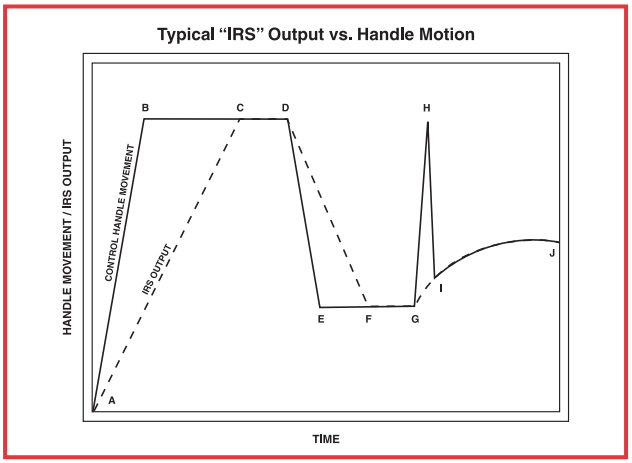
- ***Dual Range Feature***– *provides two different output ranges that can be pre-set and then selected by opening or closing a contact, manually or automatically, via the equipment being controlled. A typical application consists of using complete handle movements when operating equipment under critical conditions requiring slow, precise actions.*

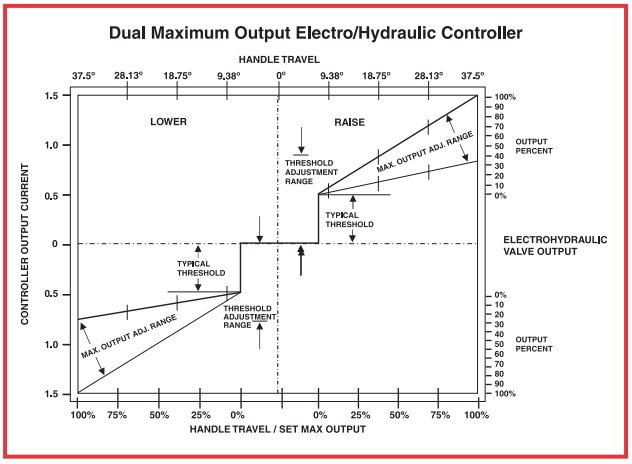
- ***IRS (Integrated Ramp System)***– *is an adjustable ramping circuit that ensures smooth hydraulic system response. The ramp circuit limits the rate of change of the output to the set limits, eliminating the jerky response normally associated with quick handle movements. If the handle is moved faster than the set "ramp" rate, the change in the valve output will be automatically limited to the set "ramp" rate.*

- ***Ramp Thru Off***– *is an additional option using the IRS circuit. If the handle is abruptly returned to neutral (OFF), the output will automatically "ramp" down to the off position. The "ramp" rate is factory set to 2 seconds unless otherwise specified.*

- ***Dual Maximum Output***– *this feature provides separate maximum output limits in each direction of handle travel. This adjustment can be used to compensate for the imbalance of output in each direction that can be characteristic of some hydraulic circuits. It can also be used to purposely create an imbalance in output. For example, when maximum forward speed is required, but a limited reverse speed is necessary.*







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