



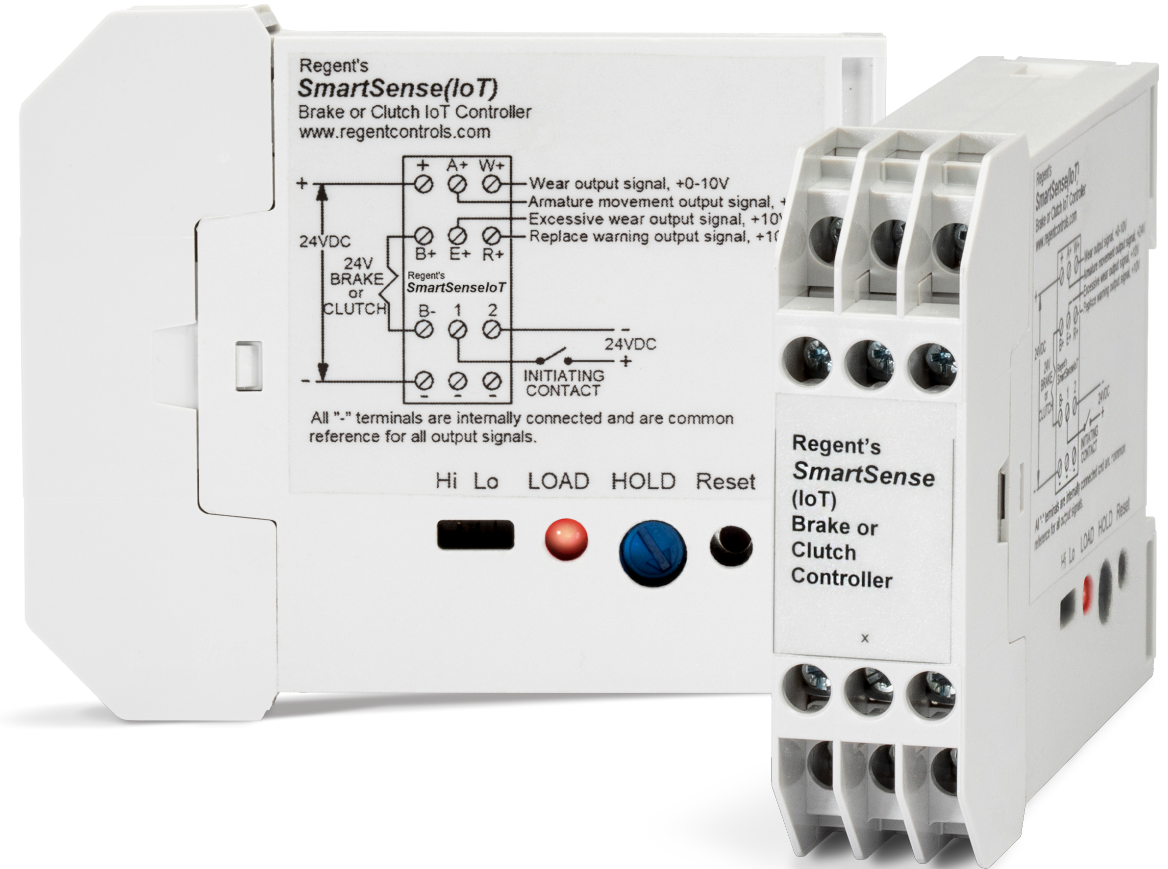
SmartSense(IoT)

Spring Applied Brake or Clutch IoT Controller



The new **SmartSense(IoT)** improves brake performance and maintenance with the following “new to the market” features:

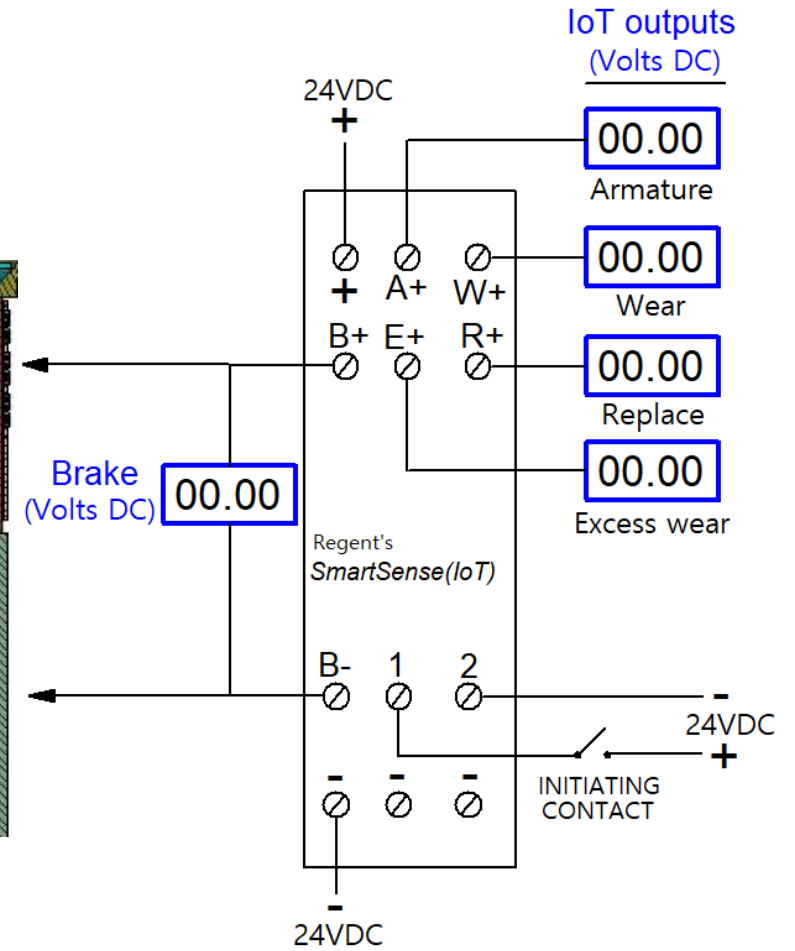
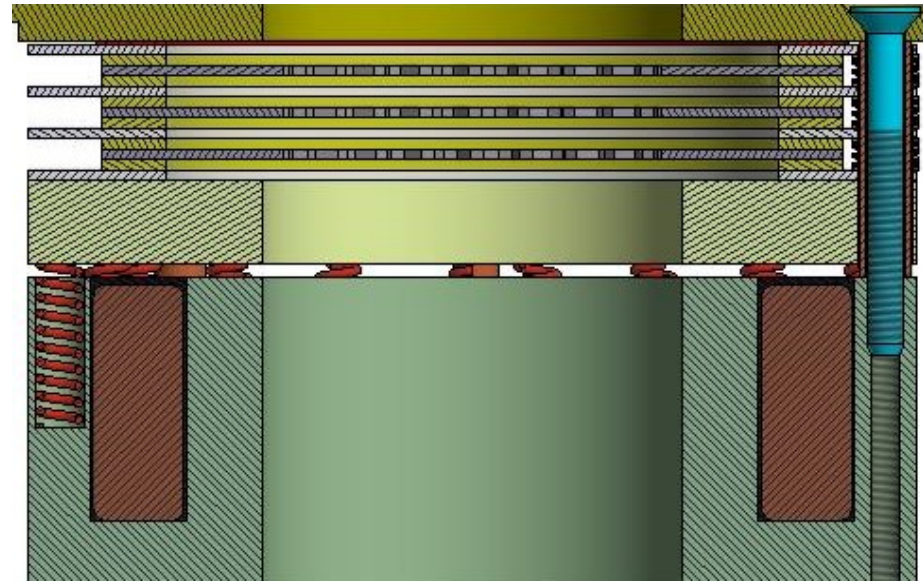
- Full voltage to the brake at turn on for rapid disengagement that reduces to user adjustable holding voltage automatically upon armature movement which compensates for heat & wear each cycle.
- 0-10V output signal proportional to wear for IoT integration to know the wear on your brake in real time for maintenance planning instead of maintenance guessing.
- Armature movement output signal to enhance positioning and stopping and eliminate overlap between brake and motor for optimum performance.





NEW Brake fully engaged

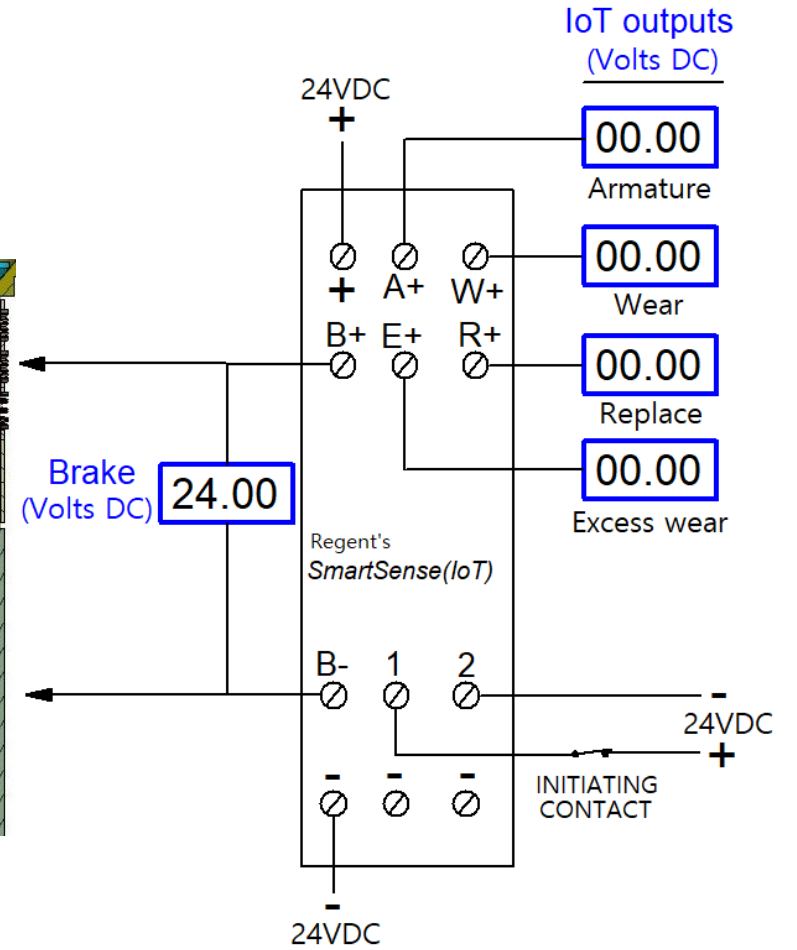
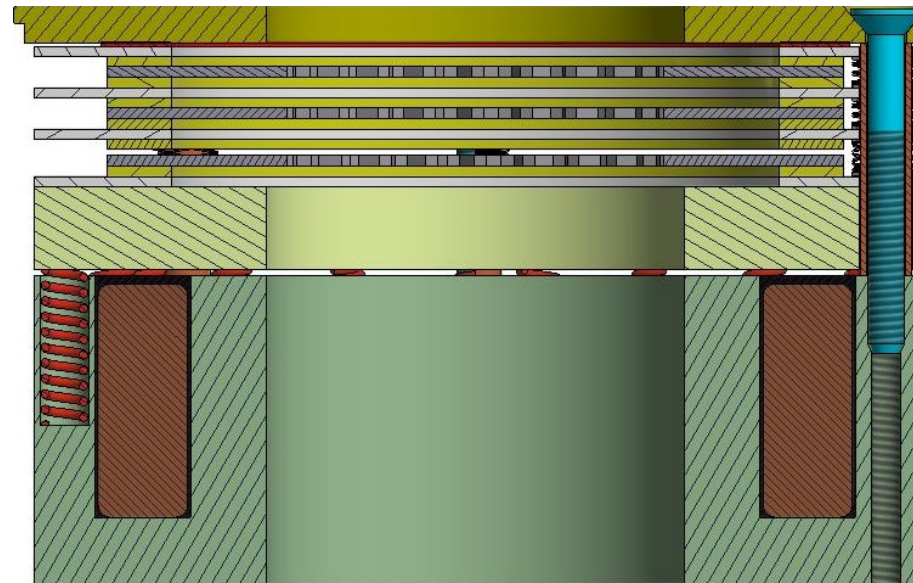
With **SmartSense(IoT)** uninitiated (off) the brake remains engaged.





NEW Brake energizing

Upon initiation full voltage is applied to the brake only until armature movement is detected (**note B+,B- meter reads 24V**)



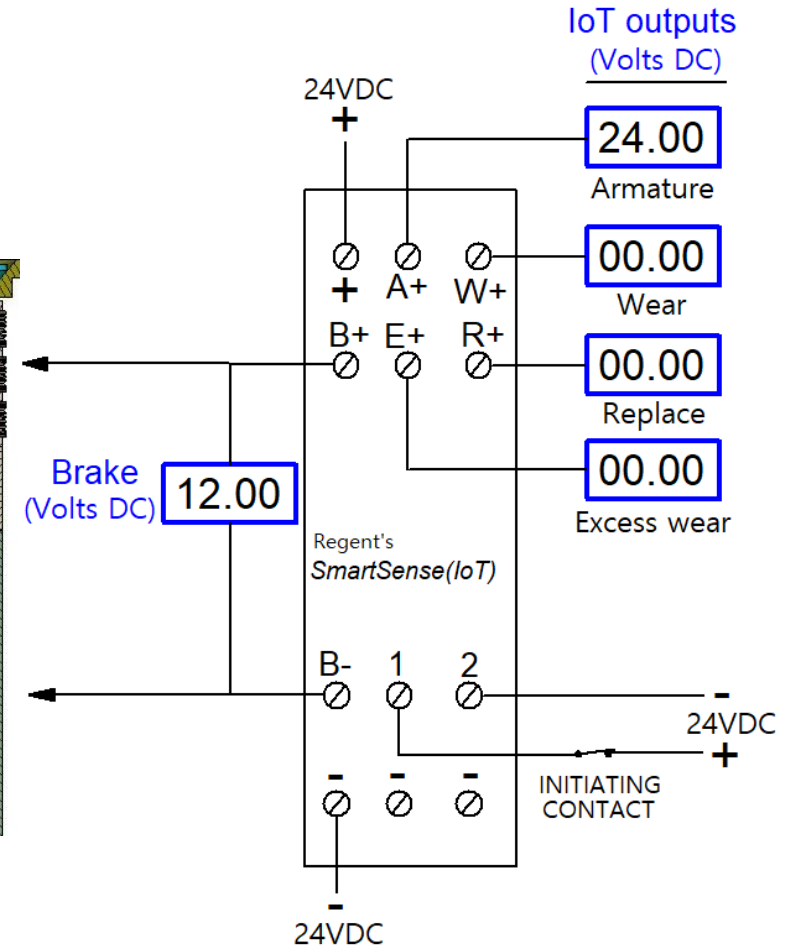
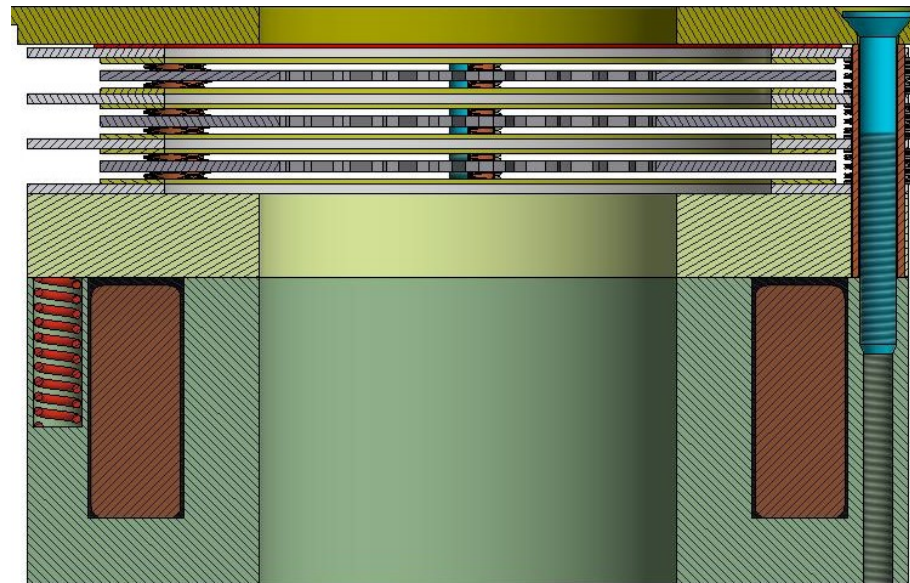


NEW Brake fully dis-engaged

The armature has moved so armature output (terminal A+) is now 24V which can be used in an IoT app to precisely time brake disengage and motor start.

Brake voltage has automatically been reduced (**note B+ meter is now 12V**) saving energy and reducing heat.

Since it is a new brake, there is no wear (**note W+ meter reads 0V**).

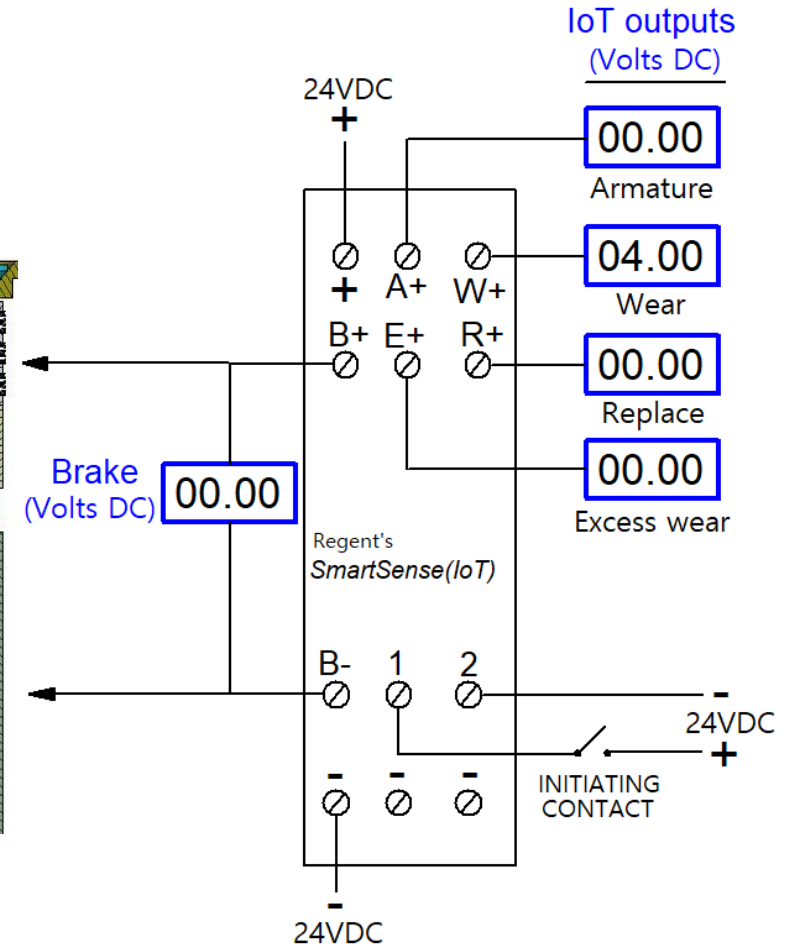
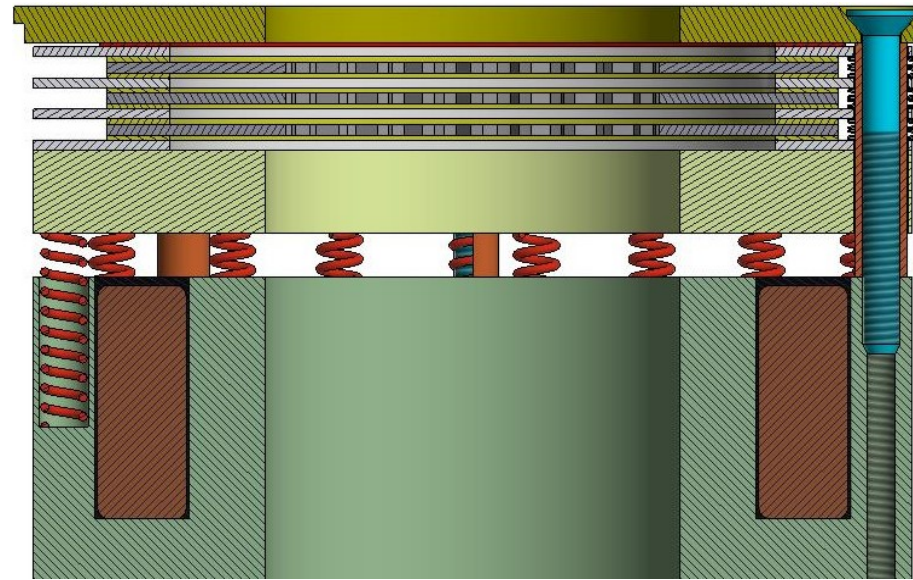




WORN Brake fully engaged

With SmartSense uninitiated (off) the brake remains engaged but there is now a wider gap due to wear vs the "NEW" brake on the previous slides.

Brake has been in use so there is wear, in this case 40% (**note W+ meter now reads 4.0V**), as of the last cycle.

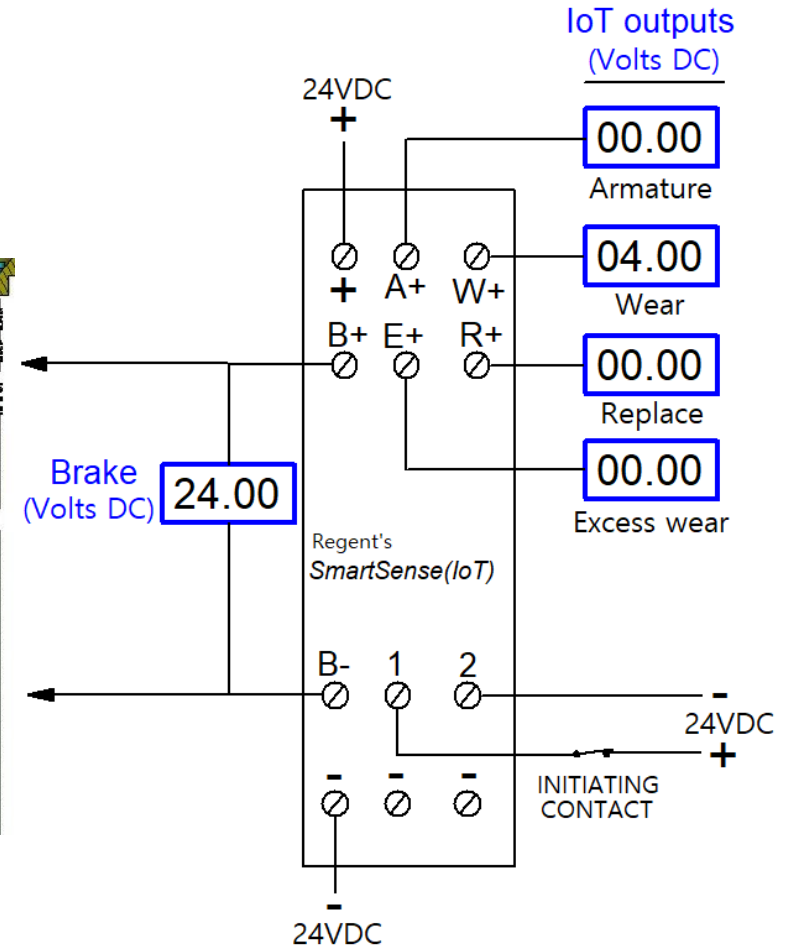
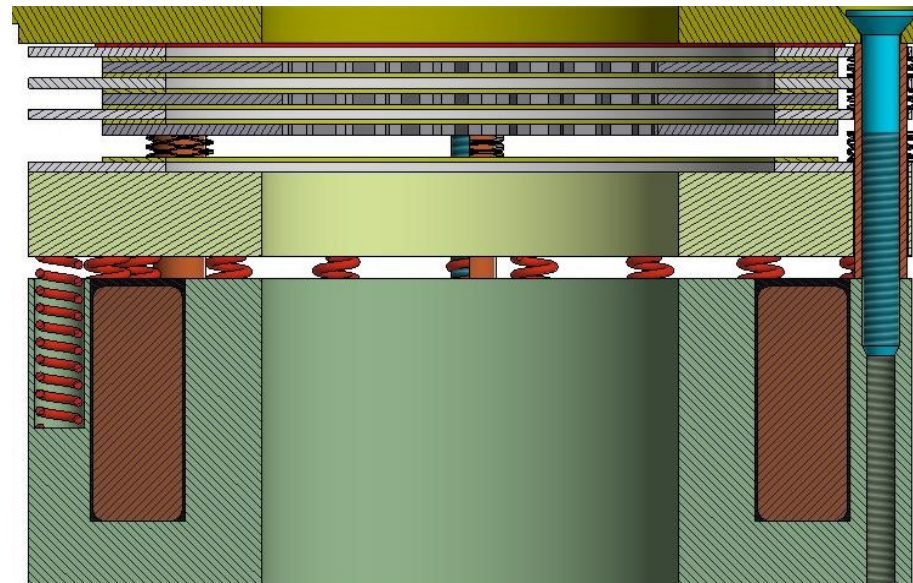




WORN Brake energizing

Upon initiation full voltage is applied to the brake until armature movement is detected.

Due to wear the full voltage time will automatically compensate by staying on longer until disengagement.

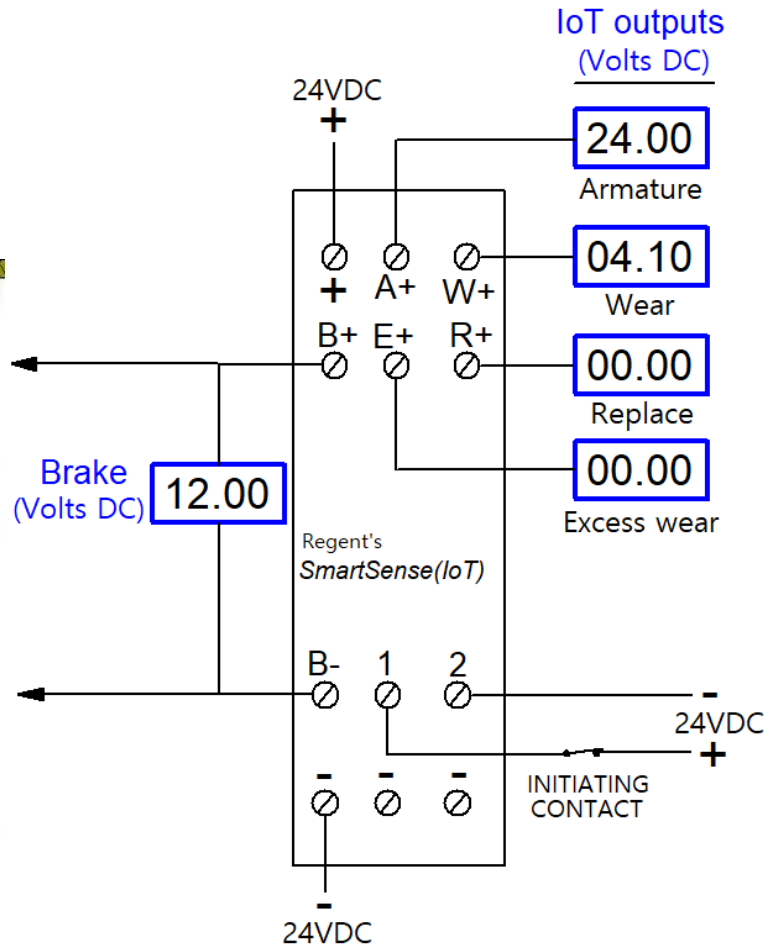
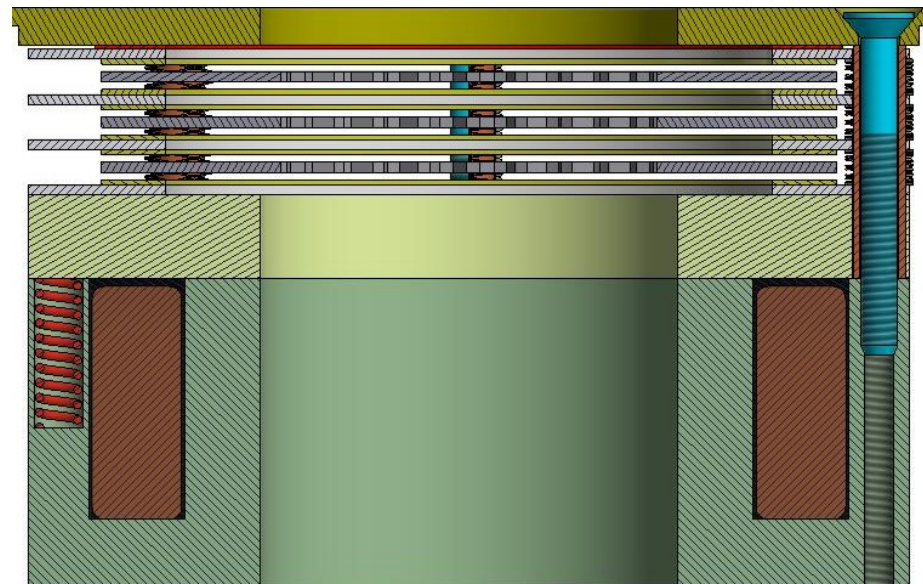




WORN Brake fully dis-engaged

The armature has moved (**note A+ meter now reads 24V**) so brake voltage has automatically been reduced (**note B+ meter now reads 12V**).

Wear output is updated each cycle so if there is now 41% wear on the brake (**vs 40% on the previous cycle**) the W+ output increases to 4.1V (**note W+ meter now reads 4.1V**).



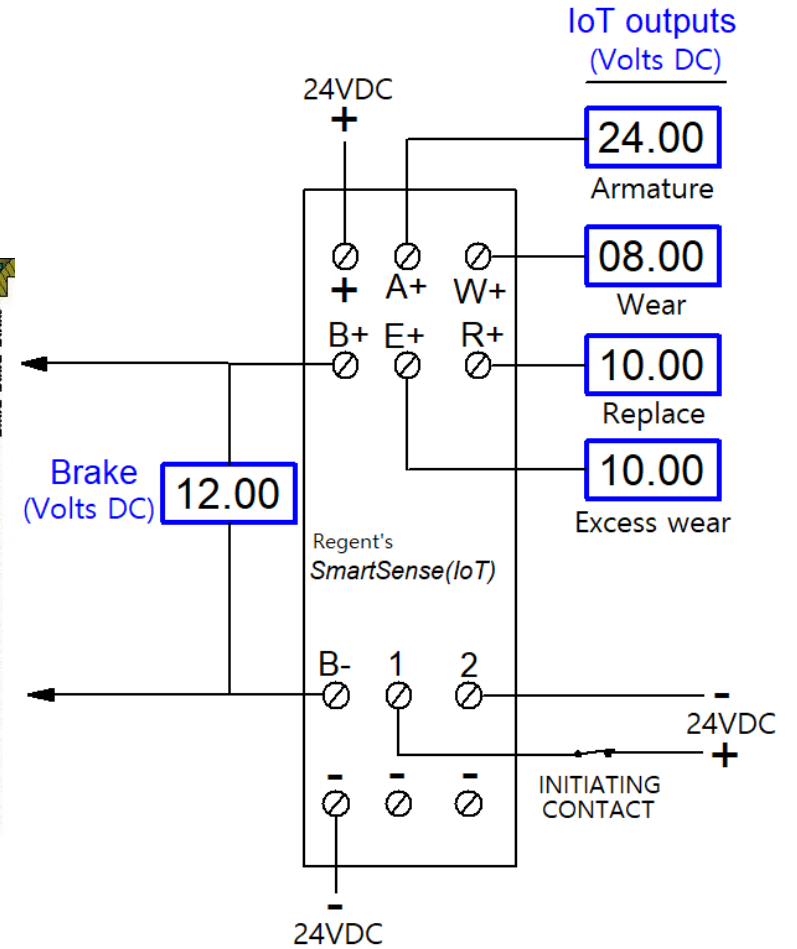
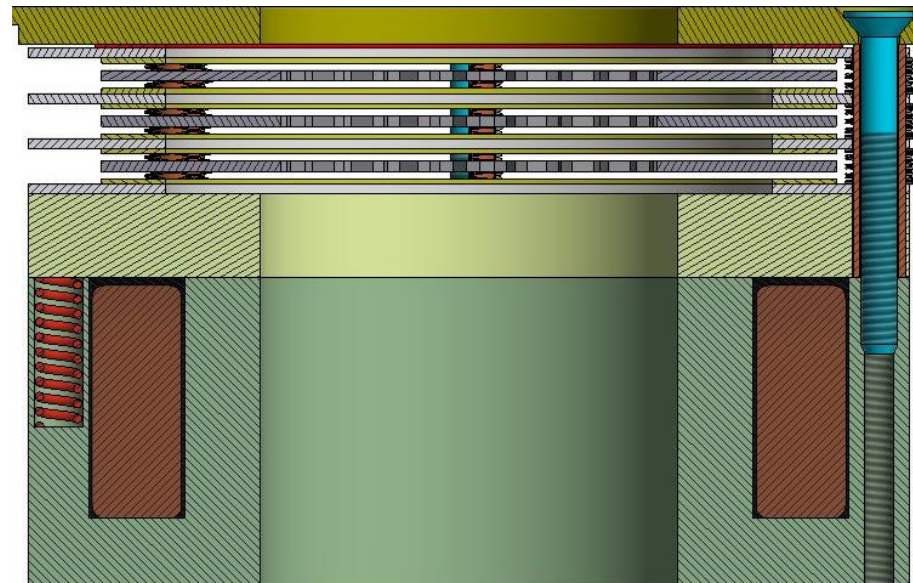


Additional IoT Features

The SmartSense(IoT) has 2 additional IoT features:

When the brake reaches 80% wear (**note W+ meter now reads 8.00V**) a warning output turns on (**note R+ meter now reads 10V**) so maintenance is highly recommended.

If there has been sudden excessive wear another output will turn on (**note E+ meter now reads 10.00V**) indicating there may be a problem elsewhere in your system causing the sudden wear.



Summary

The **SmartSense(IoT)** provides:

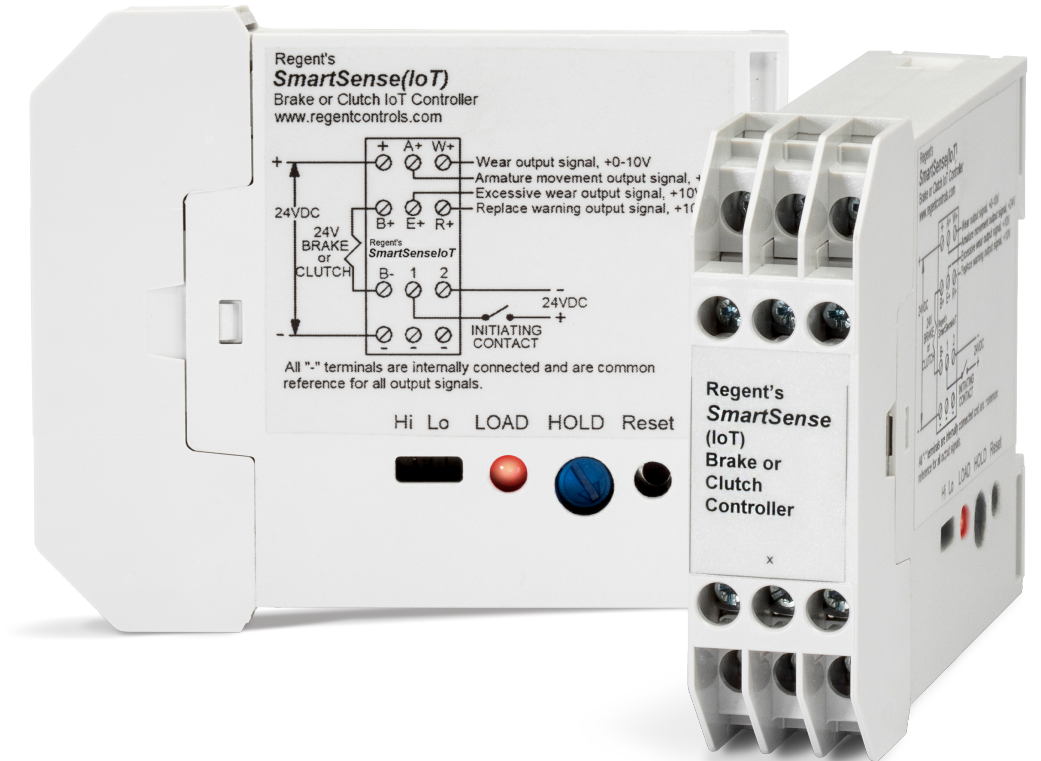
"new to the industry IoT maintenance features" such as;

- An output voltage proportional to wear -> plan maintenance instead of guessing.
- An output voltage for sudden wear -> there is a system problem.
- An output voltage when wear reaches 80% -> additional safety warning

....and "new to the industry performance features" such as;

- An output voltage upon armature movement -> perfectly time motor start.
- A full voltage time that auto adjusts -> compensates for temp & wear, no guessing.
- An LED with brightness proportional to output voltage -> visual status of load

Also...The **SmartSense(IoT)** works with any spring brake or clutch and is totally self-contained with NO external sensors needed.





For More Information:

Call 203-732-6200 or Email Sales@RegentControls.com