Space Dock Capture Ring Force Testing
Wireless Telemetry System
Industry: Aerospace

Summary

Customer Challenge

A space company wants to test their spacecraft docking simulator. They wish to test the forces of the actuators used during the "lunge", when the soft capture ring is lunged forward to latch onto a space vehicle that has been mounted. They want to ensure they are working properly when engaged, and that it does not go past its overload force limit.

Interface Solution

Interface suggests using multiple WTS 1200 Standard Precision LowProfile™ Wireless Load Cells to be installed to the actuators of the capture ring. Both as wireless solutions, measurements can be recorded through the WTS-AM-1E Wireless Strain Bridge Transmitter Module, which then can transmit to the WTS-BS-1 Handheld Display or the WTS-BS-6 Wireless Telemetry Dongle Base Station for the customer to record, log, and graph on their computer.

Results

Interface's Wireless telemetry system successfully measured the forces of the soft capture ring of the space docking port with overload protection.

Materials

- WTS 1200 Standard Precision LowProfile™ Wireless Load Cells
- WTS-BS-1 Handheld Display for Unlimited Transmitters
- WTS-AM-1E Wireless Strain Bridge Transmitter Module
- WTS-BS-6 Wireless Telemetry Dongle Base Station with supplied software
- Customer PC or Laptop

How It Works

1. The WTS 1200 Standard Precision LowProfile™ Wireless Load Cells are installed at the ends of the actuators. Each load cell is paired and connected to a WTS-AM-1E Wireless Strain Bridge Transmitter Module.
2. The strain bridge modules wirelessly transmit force measurements to the WTS-BS-6 Wireless Telemetry Dongle Base Station when connected to the customer's laptop, or, the WTS-BS-1 Handheld Display for Unlimited Transmitters. Software is included for this wireless solution.

Spacecraft

WTS-BS-1 Handheld Display

Space Dock's Capture Ring

WTS 1200 LowProfile™ Wireless Load Cell

Customer PC with supplied software

WTS-BS-6 Wireless Dongle Base Station

INTERFACE
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