

Re-Configurable Active Steering Wheel



Unique Features

- Both compact and light
- Smooth, precise and repeatable feel
- Proven WITTENSTEIN motors, gearboxes and digital motor controllers
- Mechanically simple and easy to mount
- Simple steering wheel interface
- Robust and reliable
- Latest integrated digital motor control technology
- Direct control from the host simulation system
- CAN bus or RS232 link to the host

Wittenstein Aerospace & Simulation

A full range of Re-Configurable Active Steering Wheels for road vehicle driving simulators provide programmable feel characteristics. Their high performance and programmability make them suitable for re-configurable controllers.

Wide range of applications:

- Active truck steering wheels
- Active automobile steering wheels
- Steering development
- Hand steering
- Ship steering
- Clutch pedals
- Brake pedals
- Unique Features

Operation of the System

The technologies incorporated in the Re-Configurable Steering Wheel are evolved from the Aerospace and Simulation Division's range of control loader systems. The systems are based on the standard WITTENSTEIN high performance integrated motor gearboxes controlled by intelligent digital motor drive electronics. A simple command and communications interface allows dynamic changes of stiffness and torque to be fed from the host system to the Re-Configurable Steering Wheel.

An electric servo drive system provides active torque feedback to the steering wheel. Tire side load, gust, bump and skid feel can be fed back to the driver making the handling qualities of the simulator realistic.

The highly efficient motor gearbox and digital motor controller system requires no force sensor, making the system very cost effective. Units with torque force sensors are available on request.

The system can be used with the customer's steering wheel configuration or a standard configuration from WITTENSTEIN. Units are extremely easy to install with the minimum of cables to provide power and communications using CAN bus. Mounting is via the standard motor gearbox flange.

Aerospace and Simulation Division

The Division specializes in the application of active force-feel technology. We offer the advantage of having all related technologies in-house, and can apply our many years of experience to your electric drive application.

WITTENSTEIN



aerospace & simulation

www.wittenstein.aero

Technical Information

CONTROL LOADING UNIT

The Re-Configurable Steering Wheel Control Loader is configured using the Symdrive MYTA Servo Drive System.

Systems incorporate motor control electronics with a CAN bus interface and integrated motor gearbox. The robust output bearing is able to carry large tilting moments, reducing support requirements for overhanging loads. The high precision 2-stage planetary gearboxes with imperceptible backlash have exceptionally high efficiency and low friction.

High performance brushless ac motors have an intelligent motor controller that provides position, velocity and torque control loops as required.

The MYTA servo drive comes with 3 alternative gear ratios of 31, 61 and 91.

Torque Capability

Motor Option	Level	Torque	Force ¹
MYTA010 Gear ratio 61.1	Cont.	34 Nm (300 lb.in)	89 N (20 lbf)
	Peak	72 Nm (640 lb.in)	189 N (43 lbf)

¹ Note: at wheel rim of 380 mm (15in)

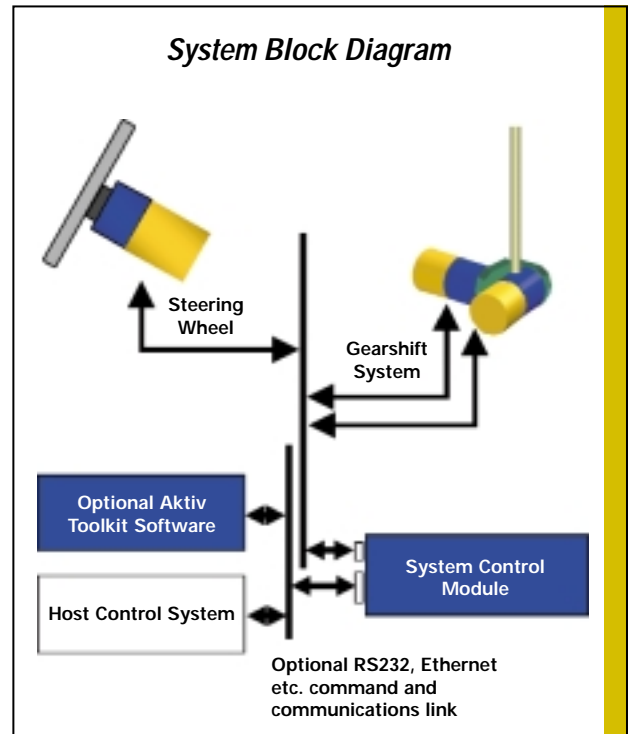
SYSTEM CONTROL MODULE

Features

- Multiple stick control capability with pilot/copilot electronic coupling
- CAN bus interface to stick servo units
- Ethernet, RS232 or customized interfaces to host
- Multiple aircraft characteristics defined in configuration files

Size

- Six-slot microbox
177 mm (7 in), 274 mm (10.8 in), 287 mm (11.3 in) H, W, D
- 19 inch rack mountable
177 mm (7 in), 432 mm (17 in), 457 mm (18 in) H, W, D



WITTENSTEIN



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