

FCS SCU04200-401

## Digital Servo Controller



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# Automotive

## SMARTEST ONE

1 TO 4 CHANNEL SERVO CONTROLLER



### SmartTEST ONE

This stand-alone digital controller can be used without a PC and can handle from 1 up to 4 channels. The controller includes the unique FCS force loop technology and has the capability, besides manual control and constant amplitude tests, to apply complex automotive sequence spectra to multiple test articles.

Link SmartTEST ONE to a PC to get more test functions and integration of the FastEST Software.

FCS Automotive  
is part of  
FCS Control  
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# SmartTEST ONE

## Specifications

### Key Features

- From 1 to 4 channels in stand alone mode
- Pseudo channels to create online calculated channels using formula's
- Integrated oscilloscope display
- Data storage capability on local hard-disk
- Immediate history display of graphical data with zoom-in function
- Compatible with all common data file formats
- User defined connectors due to flexible SCU connection panel concept
- Data-Acquisition (up to 2500 Hz/Ch. measured)
- Scripting for Digital & Analog I/O as well as Limits and Peak Detectors
- Log File
- 'Dying Seconds' flight recorder
- Adaptive Model Based Control (AMC) at 5 kHz and 10 kHz
- Multiple types of limits per I/O (Alert, Script, Shutdown)
- One Off/Low/High HSM Control
- Built in web server
- SMC option for additional channels

### Controller

- Automatic or manual tuning
- FCS' unique force loop servo control
- Control based on feedback of any input
- Multiple control possibilities (e.g. force, acceleration and displacement)
- Unique control concept with integral force / acceleration and position loop

### Test Modes

- Cycle / Set-point control
- Drive file playback
- Static / Strength testing using a predefined set of loads
- Sequencing

### Options

- PC-coupling
- Extendable
- FastEST Software

### Power Requirements

- |         |               |
|---------|---------------|
| • Input | 95 ~ 240 V AC |
|         | 47 ~ 63 Hz    |

### Function Generation

- |  |   |
|--|---|
| • Frequency range                      | 0.01 to 500 Hz  |
| • Multi-channel                        | Function generation with defined "mixer" functions (e.g. mix a low frequency offset with a higher frequency load) |
| • Waveforms                            | Sine, haversine, block, ramp, rounded ramp, random  |
| • Playback of large sequence spectrums |   |
| • Constant amplitude matching          |   |

### Standard Inputs (per channel)

- 2 x 18 bit resolution with selectable gain and  $\pm 5$  V bridge excitation for load cells, pressure transducers etc.
- Pot meter ( $\pm 5$  V, 5 mA) or LVDT input 18 bit (5 V RMS @ 3.5 kHz LVDT excitation)
- 18 bit A/D converter,  $\pm 10$  V differential
- 2 opto-coupled digital inputs

### Standard Outputs (per channel)

- 100 mA or  $\pm 10$  V valve driver output with a software limit from 0 to 100%
- 2 x 16 bit D/A converters,  $\pm 10$  V differential
- 2 opto-coupled digital outputs

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