

DSC100

DIGITAL SERVO CONTROLLER



- PASS
- FAULT
- ACTIVE
- NETWORK
- SERIAL
- ALARM
- SHUTDOWN

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- FAULT
- ACTIVE
- NETWORK
- SERIAL
- ALARM
- SHUTDOWN



NETWORK



TA1+
TA1-
E.L.D.



TA2+
TA2-
E.L.D.



V1+
V1-
E.L.D.

DSC100

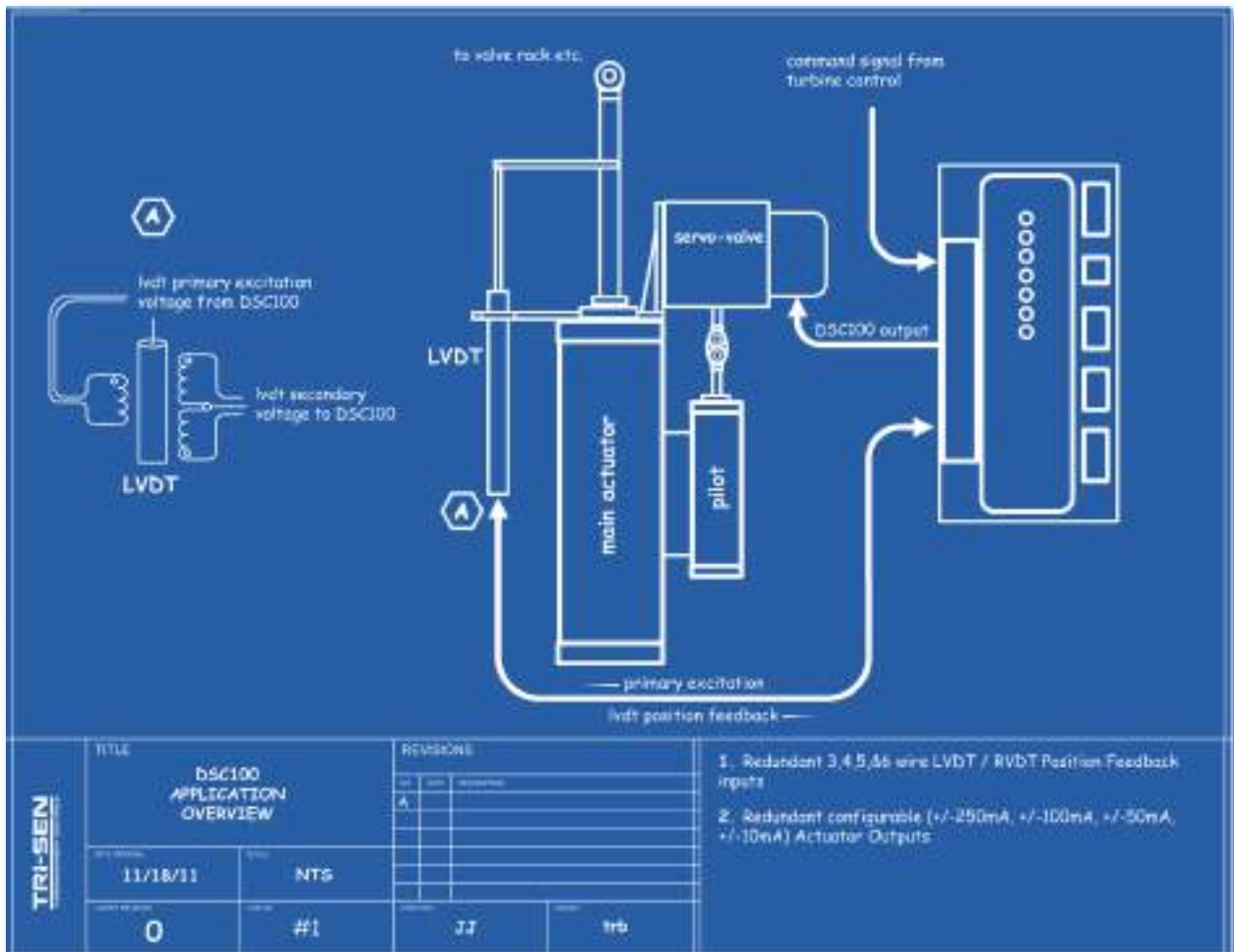
DIGITAL SERVO CONTROLLER

APPLICATION

The DSC100 is a compact digital servo controller that's used to position proportional or integrating hydraulic or pneumatic actuators based on the demand signal from the turbine controller.

The DSC100 positions the actuator using single or dual position feedback devices (LVDTs, RVDTs or DC current). The position demand signal can be sent to the DSC100 via your Network, Serial or 0-25mA connections.

The DSC100 provides an excitation voltage to the primary winding of the respective LVDT/RVDT. The output voltage of the secondary winding is proportionally linear to the position of the movable LVDT core indicating the valve position. The DSC100 generates a valve command output based on the error between the turbine control demand signal and the valve (LVDT/RVDT) position using a configurable / tunable PID controller.



DSC100

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FEATURES

- Compact Size
- Intuitive Configuration and Calibration
- Modbus TCP Communications and Configuration Interface
- Serial Modbus (485) Communications and Configuration Interface
- Redundant 3,4,5,& 6 wire LVDT / RVDT Position Feedback inputs
- Redundant configurable (+/-250mA, +/-100mA, +/-50mA, +/-10mA) Actuator Outputs
- DIN rail mounted
- Redundant 24vdc Powered

I/O

- (2) Redundant 3,4,5,&6 wire LVDT / RVDT Position Feedback inputs
- 2) Redundant DC Current / Voltage Position Feedback inputs
- (1) "Hard-wired" position demand input (0-25mA)
- (1) Configurable current Actuator Outputs
- (1) Digital Reset Command input
- (1) Digital External Shutdown Input
- (1) Alarm Output
- (1) Shutdown Output
- (1) Modbus RS-485 Connection
- (1) Modbus TCP Connection

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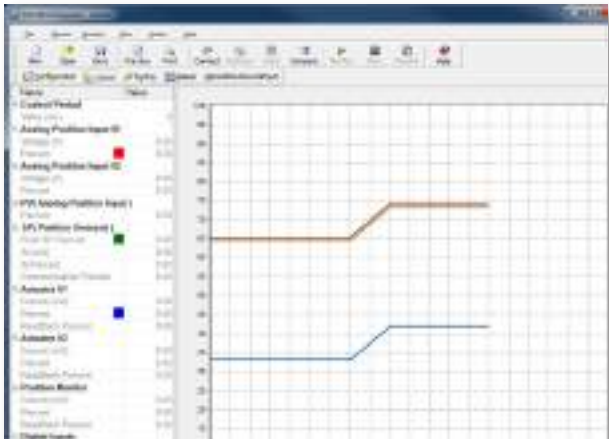
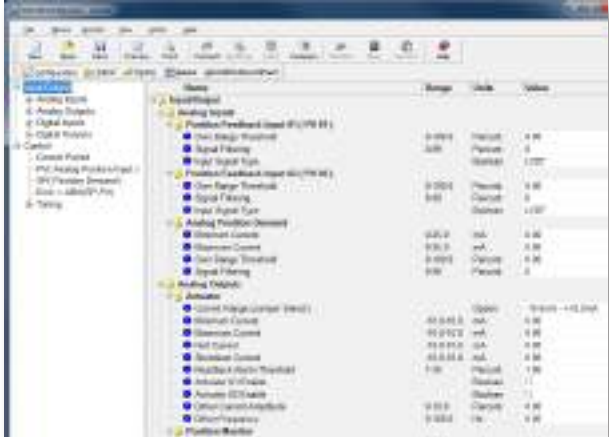
SOFTWARE

Calibration, Configuration and Monitoring

The DSC100 comes with an easy-to-use Windows-based software application that allows you to configure the DSC100 from a PC.

Calibrating and configuring the DSC100 is fast and easy. In addition to the autocalibrate, tuning, manual valve stroking and on-line adjustment functionality, the DSC100 configuration tool also includes a “built-in” trending tool to help validate tuning and graphically demonstrate valve response.

The DSC100 also records historical information in a .CSV file that can be easily imported into a data management tool like Excel for review.



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SPECIFICATIONS

Inputs

LVDT (AC) Input	2 redundant 3, 4, or 6 wire, Linearity: 0.1% of full scale or
Current Input	2 redundant ± 40 mA, ± 10 V DC max, input impedance 250 Ω
Digital inputs	6 channels (reset and shutdown, 4 reserved), dry contact, 10mA operation current

Outputs

Analog outputs	2 current channels: ± 10 mA, ± 25 mA, ± 50 mA, ± 100 mA ± 250 mA
Digital outputs	2 channels - alarm and shutdown, relay out, 500mA max current

Power Supply

Power Supply	2 redundant inputs 18-32V DC @ 1 amp
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Communications

Serial	2 Half Duplex, 2-wire, 485, Modbus, 4.8Mbps, 9.6Mbps, 38.4Mbps, 115.2Mbps
Ethernet	1 Modbus TCP, RJ45, 10/100

Environmental Specifications

Temperature	-15°C-60°C (5°F-140°F)
Humidity	5%-95%, non-condensing
Shock	15G for 11ms, half sine, in each axis
Vibration	Per axis: sinusoidal, 2.0G acceleration, 10 to 150Hz

DIMENSIONS

4.09"W x 6.93"H x 5.81"D

