Transmitter

FEATURES

- Analog output ± 10VDC, ± 20mA, 0-20 or 4-20mA
- Serial communication: RS-485, MODBUS RTU protocol
- Fieldbus interface: Profibus DP (certified)
- Tare, Gross/Net and Zero function (power failure safe)
- Internal resolution >8,000,000 counts
- Relay outputs (level mode/setpoint mode)
- Compact DIN rail mounting
- CE compliant - EMC and Low Voltage

DESCRIPTION

WST 3 Transmitters are high performance, DIN rail-mounted instruments designed for strain gage based transducer applications. They convert load cell(s) input signals into highly stable analog and digital output signals suitable for PC or PLC based control systems.

WST 3 Transmitters typically are used where a local display is essential either for weight/force indication or front panel setup. Setup and calibration procedures are accomplished easily using the front panel or by using PC based deltaCOM software running under Windows 95/98/2000/ NT4/ME/XP. All setup data can be stored in a host computer and quickly downloaded into another WST 3 replacement unit (full deltaCOM software option required).

Units are equipped with two relay outputs having a response time of less than 20 msec. for use in high accuracy, level control applications.

A unique and patented A/D converter, of high resolution and stability, serves as the heart of the transmitter. This advanced A/D drives both the analog and serial outputs which can be user configured to transmit rapid, accurate, and stable weight/force measurements.

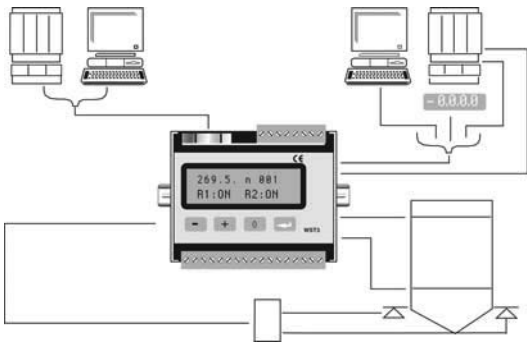
WST 3 Transmitters offer on-board fieldbus communication using the Profibus DP format. Fieldbus versions of Profibus DP, DeviceNet, and Modbus Plus also are available through the GATE 3S network module from Nobel.

WST 3 Transmitters are compatible with other Nobel instruments and communicate via standard RS-485/ MODBUS RTU protocol with a common process control host - PC/PLC.

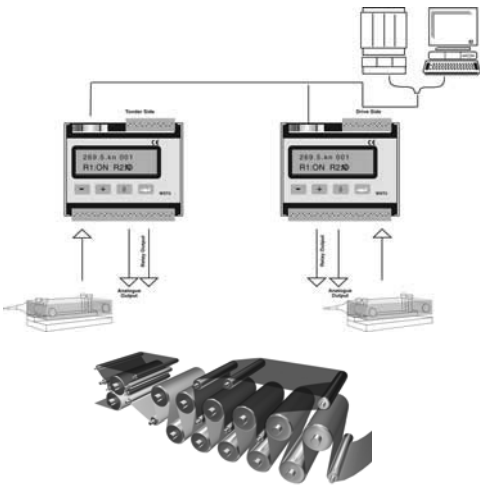
The transmitter is CE marked, and fully compliant with EMC and Low Voltage directives.

CONFIGURATION

Process Weighing



Force Measurement



SPECIFICATIONS

PERFORMANCE

Resolution	8300000 counts
Conversion Speed	0.5 to 300Hz Accuracy 0.015%
Full Scale Range	± 3.3mV/V
Non-Linearity	<0.005% of used range
Excitation Voltage	8.8VDC to 5.5VDC with 1 to 8 of 350 ohm transducers, isolated 500V
Number of 350 ohm	8 pcs (Total load > 45 ohms)
Filter	0.05 to 75Hz, type FIR, selectable bandwidth
Offset, drift	<0.04µV/°C
Gain drift	<0.0015% of actual value/°C
Calibration Methods	Data sheet, Table, Dead weight

ENVIRONMENTAL

Operating Temperature	- 10°C to + 50°C
Storage Temperature	- 25°C to + 85°C
Relative Humidity	95%
IP Level	IP 20

FRONT PANEL

Display Type and Size	2 x 16 character LCD display with backlight
Keyboard	4 buttons for menu control and data entry

POWER SUPPLY

Voltage	24VDC ± 20%
Power Consumption	8W
Isolation	Digital inputs common with power supply. Other parts 500V

ANALOG OUTPUT

Type	Isolated 16-bit bipolar D/A converter
Accuracy	0.04%
Non-Linearity	<0.01% of used range
Gain Drift	<0.003% of actual value/°C
Filter	0.05 to 75Hz, type FIR, selectable bandwidth
Voltage	0-10 or ± 10VDC
Load Data	min 500 ohm
Offset Drift	<0.35mV/°C
Current	0-20mA, ± 20mA, 4-20mA or - 12-20mA
Load Data	max 500 ohm
Offset Drift	<0.7µA/°C

DIGITAL INPUTS

Inputs	2 pcs (for Tare and Gross/Net switching)
Type and Load	24VDC, 6mA

RELAY OUTPUTS

Number	2 pcs (each with 1 switching group)
Load	Max 1A, 30V AC or DC

COMMUNICATION INTERFACE

Interface	RS-485 (two-wires or four-wires), isolated 500V
Protocol	MODBUS RTU or ASCII
Baud Rate	Up to 115.2 kbaud
Function	For control communication (MODBUS RTU) or external display (ASCII)

FIELDBUS INTERFACE

Type	Profibus DP, modular slave
Baud Rate	Up to 12 Mbit/s (autodetect)
Compatibility	Compatible with Gate 3/ Gate 3S (6/20 byte mapping)
Function	Access to all data and functions in WST 3 through memory mapping
Mapping	6 bytes in/out (Commands in. Weight and status out.) 20 bytes in/out (Commands and data in. Weight, status info and data out.) 86 bytes in/ 20 bytes out, extended 20 bytes mapping.

MECHANICAL DATA

Dimensions	75 x 100 x 110mm (H x W x D)
Standard Mounting	DIN 46277 and DIN EN 50022
Connector Type	Plug-in screw terminals, D-sub (Profibus)
Certifications	CE, Profibus Certification

Subject to change without notice.