BLH NOBEL
A VPG Brand

# Transmitter

## FEATURES

- Analog output ±10 VDC, ±20 mA, 0–20 or 4–20 mA
- 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/Windows 7/Windows 8/ Windows 10. All setup data can be stored in a host computer and quickly downloaded into another WST 3 replacement unit with PC software delatCOM.

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

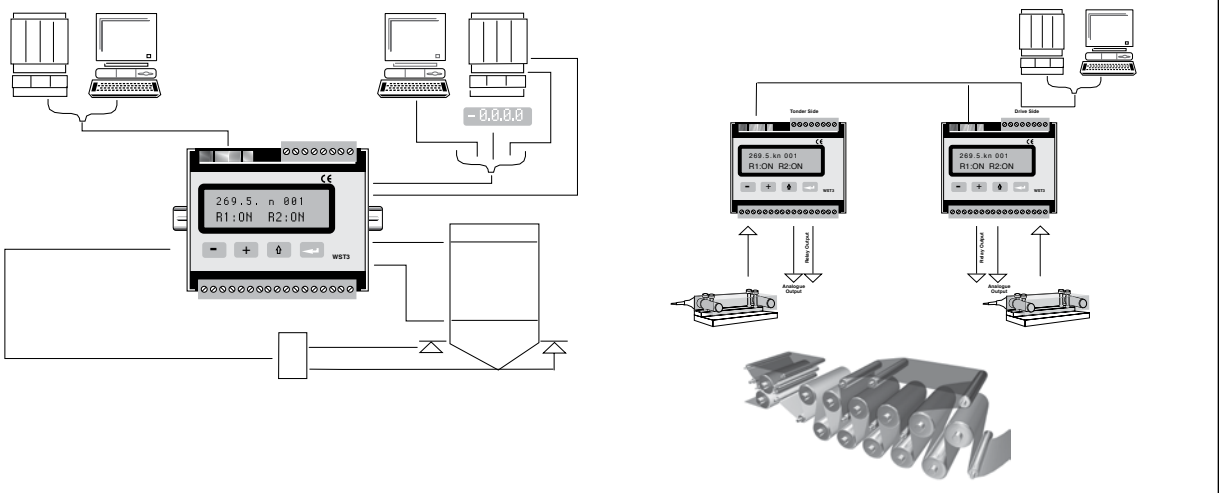
A unique and patented A/D converter, of high resolution and stability, serves as the heart of the transmitter. This advanced A/D drives both the analog and serial outputs which can be user configured to transmit rapid, accurate, and stable weight/force measurements.

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 BLH Nobel.

WST 3 Transmitters are compatible with other BLH 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

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## SPECIFICATIONS

| PARAMETER | VALUE |
|---|---|
| **PERFORMANCE** | |
| **Resolution** | 8,300,000 counts |
| **Conversion Speed** | 0.5 to 300 Hz accuracy 0.015% |
| **Full Scale Range** | ±3.3 mV/V |
| **Non-Linearity** | <0.005% of used range |
| **Excitation Voltage** | 8.8 VDC to 5.5 VDC with 1 to 8 of 350 Ω transducers, isolated 500 V |
| **No. of 350 Ω load cells** | 8 pcs (total load >45 Ω) |
| **Filter** | 0.05 to 75 Hz, type FIR, selectable bandwidth |
| **Offset, drift** | <0.04 µV/°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** | IP20 |
| **FRONT PANEL** | |
| **Display Type and Size** | 2×16 character LCD display with backlight |
| **Keyboard** | 4 buttons for menu control and data entry |
| **POWER SUPPLY** | |
| **Voltage** | 24 VDC ±20% |
| **Power Consumption** | 8 W |
| **Isolation** | Digital inputs common with power supply. Other parts 500 V |
| **ANALOG OUTPUT** | |
| **Type** | Isolated 16-bit bipolar D/A converter |
| **Non-Linearity** | <0.01% of used range |
| **Gain Drift** | <0.003% of actual value/°C |
| **Filter** | 0.05 to 75 Hz, type FIR, selectable bandwidth |
| **Voltage** | 0–10 or ±10 VDC |
| **Load Data** | min. 500 Ω |
| **Offset Drift** | <0.35 mV/°C |
| **Current** | 0 to 20 mA, ±20 mA, 4 to 20 mA or –12 to 20 mA |
| **Load Data** | max. 500 Ω |
| **Offset Drift** | <0.7 µA/°C |

| PARAMETER | VALUE |
|---|---|
| **DIGITAL INPUTS** | |
| **Inputs** | 2 pcs (for tare and gross/net switching) |
| **Type and Load** | 24 VDC, 6 mA |
| **RELAY OUTPUTS** | |
| **Number** | 2 pcs (each with 1 switching group) |
| **Load** | max. 1 A, 30 VAC or VDC |
| **COMMUNICATION INTERFACE** | |
| **Interface** | RS-485 (two-wires or four-wires), isolated 500 V |
| **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.)<br>20 bytes in/out (Commands and data in. Weight, status info and data out.)<br>86 bytes in/20 bytes out, extended 20 bytes mapping. |
| **MECHANICAL DATA** | |
| **Dimensions** | 75×100×110 mm (H×W×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.

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