# Transmitter


## FEATURES

- Analog output ±10VDC, 0-20 or 4-20mA
- Serial communications: RS-485, MODBUS RTU protocol
- Internal resolution > 8000000 counts
- Relay outputs
- Compact DIN rail mounting
- CE compliant - EMC and Low Voltage

## DESCRIPTION

AST 3P is a DIN rail mounted, high performance transmitter designed for apllications with strain gauge transducers. It converts the output from connected loadcells into a very stable signal suitable for PC or PLC based control systems

AST 3P is typically used where a local display is essential either for displaying data or for front panel set-up. The set-up and calibration procedure is easily performed either from the front panel or by using the deltaCOM programme via a standard PC running under Windows 95/98/2000/NT4/ME/XP. All set-up data can be stored in the host computer and downloaded in case of replacement of the transmitter (full deltaCOM version is required).

The transmitter is fitted with two relay ouputs having a response time of less than 20 msec. for use in high precision level control applications.

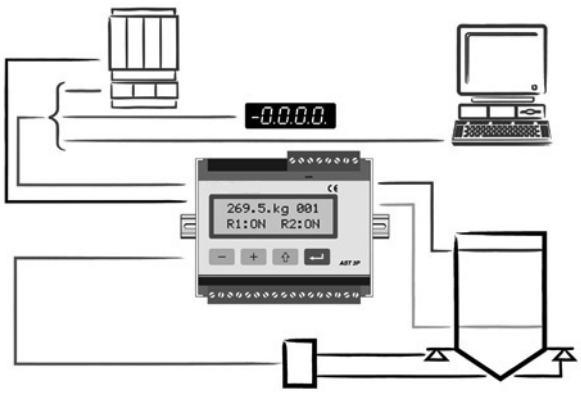
A unique and patented A/D converter, of high resolution and stability, serves as the heart of the transmitter. This advanced technology provides both analogue and serial outputs which can be conditioned to give the user accurate, stable and rapid response measurement information.

The AST 3P is compatible with other instruments in the Nobel programme and can communicate via standard RS-485/MODBUS RTU protocol with a common process control host - PC/PLC.

Fieldbus communication is possible via the GATE 3S module from Nobel.

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

## CONFIGURATION



# AST 3P

Nobel Weighing Systems — Transmitter

VISHAY PRECISION GROUP

## SPECIFICATION

### TECHNICAL DATA

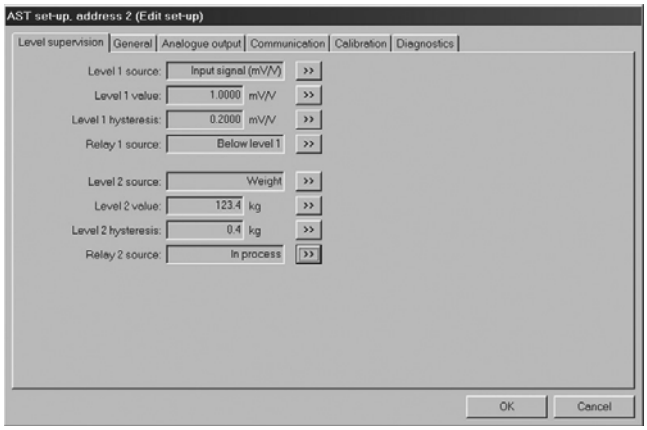
#### PERFORMANCE

| | |
|---|---|
| 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 |
| No. of 350Ω load cells | 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 full scale |
| 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 |

#### Setup Example




#### 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 | 7W |
| 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 full scale |
| Gain Drift | <0.003% of full scale/°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 (option) |
| 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) |

#### 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 |
| Certifications | CE |

Subject to change without notice.