

## Transmitter

### FEATURES

- Analog output  $\pm 10$  VDC, 0–20 or 4–20 mA
- Serial communications: RS-485, MODBUS RTU protocol
- Internal resolution >8,000,000 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 applications 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/Windows 7/Windows 8/Windows 10. All set-up data can be stored in the host computer and downloaded in case of replacement of the transmitter with PC software deltaCOM.

The transmitter is fitted with two relay outputs having a response time of less than 20 ms. 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



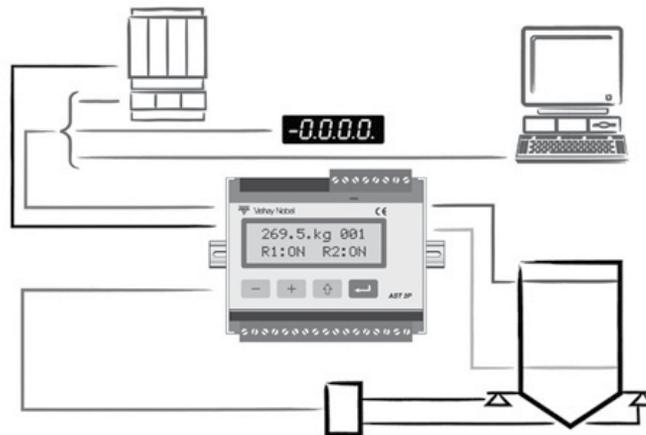
serial outputs which can be conditioned to give the user accurate, stable and rapid response measurement information.

The AST 3P is compatible with other instruments in the BLH Nobel program 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 BLH Nobel.

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

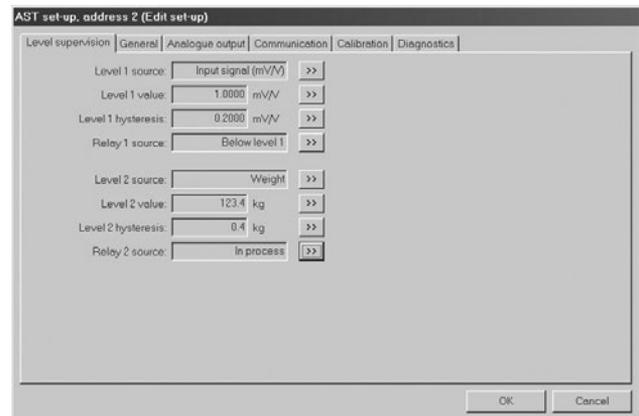
### CONFIGURATION



Transmitter

| SPECIFICATIONS                 |              | PARAMETER                    | VALUE   |
|--------------------------------|--------------|------------------------------|---|
| <b>PERFORMANCE</b>             |              | <b>Resolution</b>            | 8,300,000 counts  |
| <b>Conversion Speed</b>        |              |                              | 0.5 to 300 Hz accuracy 0.015%                                       |
| <b>Full Scale Range</b>        |              |                              | ±3.3 mV/V   |
| <b>Non-Linearity</b>           |              |                              | <0.005% of used range   |
| <b>Excitation Voltage</b>      |              |                              | 8.8 VDC to 5.5 VDC with 1 to 8 of 350 Ω transducers, isolated 500 V |
| <b>No. of 350 Ω load cells</b> |              |                              | 8 pcs (total load >45 Ω)  |
| <b>Filter</b>                  |              |                              | 0.05 to 75 Hz, type FIR, selectable bandwidth                       |
| <b>Offset, drift</b>           |              |                              | <0.04 μV/°C   |
| <b>Gain drift</b>              |              |                              | <0.0015% of full scale  |
| <b>Calibration Methods</b>     |              |                              | Data sheet, table, dead weight                                      |
| <b>ENVIRONMENTAL</b>           |              | <b>Operating Temperature</b> | -10°C to +50°C  |
| <b>Storage Temperature</b>     |              |                              | -25°C to +85°C  |
| <b>Relative Humidity</b>       |              |                              | 95%   |
| <b>IP Level</b>                |              |                              | IP20  |
| <b>FRONT PANEL</b>             |              | <b>Display Type and Size</b> | 2×6 character LCD display with backlight                            |
| <b>Keyboard</b>                |              |                              | 4 buttons for menu control and data entry                           |
| <b>POWER SUPPLY</b>            |              | <b>Voltage</b>               | 24 VDC ±20%   |
| <b>Power Consumption</b>       |              |                              | 7 W   |
| <b>Isolation</b>               |              |                              | Digital inputs common with power supply. Other parts -500 V         |
| <b>ANALOG OUTPUT</b>           |              | <b>Type</b>                  | Isolated 16-bit bipolar D/A converter                               |
| <b>Non-Linearity</b>           |              |                              | <0.01% of full scale  |
| <b>Gain Drift</b>              |              |                              | <0.003% of full scale/°C  |
| <b>Filter</b>                  |              |                              | 0.05 to 75 Hz, type FIR, selectable bandwidth                       |
| <b>Voltage</b>                 |              |                              | 0-10 or ±10 VDC   |
| <b>Load Data</b>               |              |                              | min. 500 Ω  |
| <b>Offset Drift</b>            |              |                              | <0.35 mV/°C   |
| <b>Current</b>                 |              |                              | 0 to 20 mA, ±20 mA, 4 to 20 mA or -12 to 20 mA                      |
| <b>Load Data</b>               |              |                              | max. 500 Ω  |
| <b>Offset Drift</b>            |              |                              | <0.7 μA/°C  |
| <b>PARAMETER</b>               | <b>VALUE</b> | <b>PARAMETER</b>             | <b>VALUE</b>  |
| <b>DIGITAL INPUTS</b>          |              | <b>Inputs</b>                | 2 pcs (option)  |
| <b>Type and Load</b>           |              |                              | 24 VDC, 6 mA  |
| <b>RELAY OUTPUTS</b>           |              | <b>Number</b>                | 2 pcs (each with 1 switching group)                                 |
| <b>Load</b>                    |              |                              | max. 1 A, 30 VAC or VDC   |
| <b>COMMUNICATION INTERFACE</b> |              | <b>Interface</b>             | RS-485 (two-wires or four-wires), isolated 500 V                    |
| <b>Protocol</b>                |              |                              | MODBUS RTU or ASCII   |
| <b>Baud Rate</b>               |              |                              | Up to 115.2 kbaud   |
| <b>Function</b>                |              |                              | For control communication (MODBUS RTU) or external display (ASCII)  |
| <b>MECHANICAL DATA</b>         |              | <b>Dimensions</b>            | 75 × 100 × 110 mm (H × W × D)                                       |
| <b>Standard Mounting</b>       |              |                              | DIN 46277 and DIN EN 50022  |
| <b>Connector Type</b>          |              |                              | Plug-in screw terminals   |
| <b>Certifications</b>          |              |                              | CE  |

Subject to change without notice.



Setup Example



## Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "VPG"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG's knowledge of typical requirements that are often placed on VPG products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at [vpgsensors.com](http://vpgsensors.com).

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.