

Transmitter



FEATURES

- Analog output $\pm 10\text{VDC}$, 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 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. 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 outputs having a response time of less than 20 msec. for use in high precision level control applications.

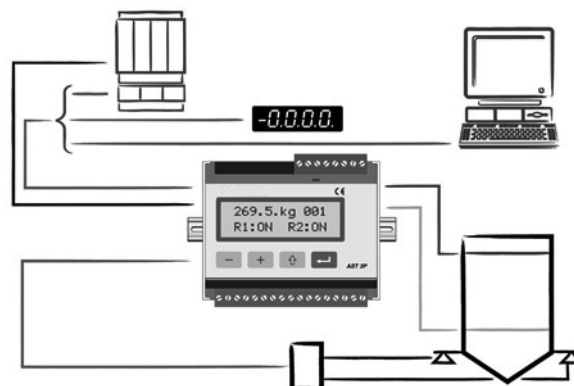
A unique and patented A/D converter, of high resolution and stability, serves as the heart of the transmitter. This advanced technology provides both analogue and serial outputs which can be conditioned to give the user accurate, stable and rapid response measurement information.

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



SPECIFICATION

TECHNICAL DATA

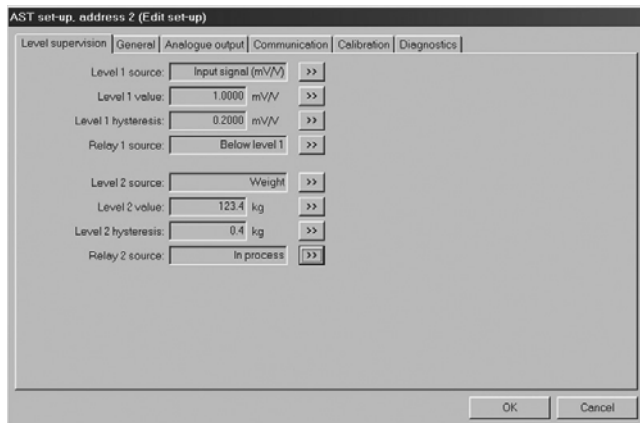
PERFORMANCE

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.

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