

Transmitter



FEATURES

- Unique design to allow transducers in hazardous areas without the need of zener barriers
- Analog output $\pm 10\text{VDC}$, $\pm 0 - 20$ or $4 - 20\text{mA}$
- Serial communications: RS-485, MODBUS RTU protocol
- Relay outputs
- Compact DIN rail mounting
- CE compliant - EMC and Low Voltage
- ATEX approved

DESCRIPTION

AST 3IS is a DIN rail mounted, high performance isolation amplifier designed for applications with strain gauge transducers inside hazardous areas.

AST 3IS has at its heart a unique Nobel patented analog to digital converter. The unit is equipped with analog as well as digital outputs which can be conditioned to give the user accurate, stable and fast response measurement information.

The transmitter is fitted with two relay outputs having a short response time for use in high precision level control applications.

The set-up and calibration procedure is easily performed either from the front panel or by using the deltaCOM program via a standard PC running under windows

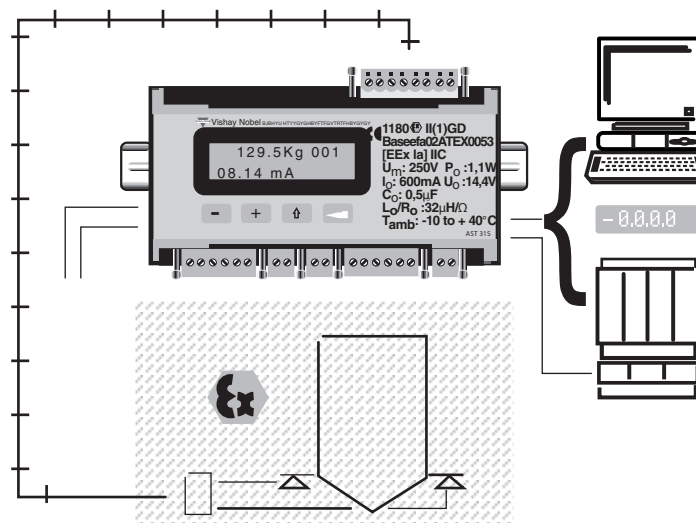
95/98/2000/NT4/ME/XP. All set-up data can be stored in the host computer and downloaded in case of replacement of the transmitter (full deltaCOM version is required).

The AST 3IS is compatible with other instruments in the Nobel program and can communicate via the 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

EX APPROVAL BASEEFA 02 ATEX 0053

PERFORMANCE

Resolution 8300000 counts
 Conversion Speed 0.5 to 300Hz Accuracy 0.015%
 Full Scale Range $\pm 3.3\text{mV/V}$
 Non-Linearity <0.005% of used range
 Excitation Voltage 8.8VDC to 6VDC with 1 to 6 of 350 ohm transducers, isolated 500V
 Number of 350 ohm Filter 6 pcs (Total load > 55 ohms)
 0.05 to 75Hz, type FIR, selectable bandwidth
 Offset, drift <0.04 $\mu\text{V}/^\circ\text{C}$
 Gain drift <0.0015% of actual value/ $^\circ\text{C}$
 Calibration Methods Data sheet, Table, Dead weight

ENVIRONMENTAL

Operating Temperature - 10 $^\circ\text{C}$ to + 40 $^\circ\text{C}$
 Storage Temperature - 25 $^\circ\text{C}$ to + 85 $^\circ\text{C}$
 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 $\pm 20\%$, stabilized voltage
 Power Consumption 6W
 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/ $^\circ\text{C}$
 Filter 0.05 to 75Hz, type FIR, selectable bandwidth

Voltage 0-10 or $\pm 10\text{VDC}$
 Load Data min 500 ohm

Offset Drift <0.35mV/ $^\circ\text{C}$
 Current 0-20mA, $\pm 20\text{mA}$, 4-20mA or - 12-20mA
 Load Data max 500 ohm
 Offset Drift <0.7 $\mu\text{A}/^\circ\text{C}$

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
 MODBUS RTU or ASCII
 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 149 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.

- ATEX II (1) GD approved
- Excellent performance in spite of EX version
- Fully isolated
- Simple earthing (compared with zener barriers)
- Direct connection of transducers in hazardous areas without the need of zener barriers



Disclaimer

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