

Sensus Turbo Prover



The Turbo Prover is a battery powered, portable instrument that connects directly to any Sensus Auto-Adjust Turbo-Meter (AAT). With the unique AAT parameters programmed into the Turbo Prover, it is able to perform all of the AAT algorithms to compute the self-checking and self-adjusting equations for the connected AAT meter.

The Turbo Prover is approved for Class 1, Div-1 and Class 2, Div-2 operation, so it can be connected directly to the AAT in service.

Since MasterLink is the primary interface software, technicians may already be familiar with how to access instrument data. MasterLink also provides real time graphing of main rotor frequency, sensing rotor frequency, Delta-A and adjusted volume flow rate – all on a single graph.

Additional features

- On/Off Power Switch
- Level 1 and Level 2 Delta-A alarms with separate Form-A output channels with user-defined alarm limits
- Pulsating gas alarm
- Adjusted volume pulses (Form-A output)
- 4-20 mA output signal for either Delta-A or adjusted volume rate flow
- 4-year warranty

Sensus Turbo Prover

Providing local access to turbine meter data.

General description

The primary component, the Turbine Interface Board (TIB), provides an excitation voltage to the sensors, inputs the pulses from the AAT sensors, computes the algorithms, and provides output volume pulses along with a 4-20 mA signal.

The Turbo Prover provides an RS-232 serial data port for local communications. Through a serial connection, MasterLink software simultaneously graphs main rotor frequency, sensing rotor

frequency, Delta-A, and adjusted volume flow rate. The live graphing feature enables quick and easy AAT meter proving.

The Turbo Prover can also provide output for Form-A adjusted volume pulses to a RTU (or pulse accumulator), 4-20 mA signal (representing either adjusted volume flow rate or Delta-A), plus independent alarm channels for normal and abnormal alarms.

Power supply

- Alkaline battery power only

New parameters

configured into separate item codes

- AAT serial number
- Mechanical output factor (Kmo)
- Main rotor factor (Km)
- Sensing rotor factor (Ks)
- Average relative adjustment (Abar)

Computed parameter

available as separate item codes

- Adjusted volume
- High resolution adjusted volume
- Unadjusted volume
- Adjusted volume flow rate
- Unadjusted volume flow rate
- Instantaneous Delta-A
- Average Delta-A
- Main rotor frequency
- Sensing rotor frequency

Note:

Use of the MasterLink software and a laptop are not approved for use in a hazardous area when the Turbo-Prover is connected directly to a Sensus Auto-Adjust Turbo-Meter.



Alarms

- Level 1 Delta-A alarm
- Level 2 Delta-A alarm
- Pulsing gas alarm
- Internal fault

Outputs

- Level 1 Delta-A alarm (Form-A alarm pulse)
- Level 2 Delta-A alarm (Form-A alarm pulse)
- Adjusted volume (Form-A volume pulse)
- Adjusted volume flow rate or Delta-A (4-20 mA analog)
- Main rotor frequency (buffered)
- Sensing rotor frequency (buffered)

LCD/pushbutton scroll items

default display = adjusted volume

- Alarms (if present)
- Display test
- Adjusted volume
- Unadjusted volume
- Battery voltage
- Delta-A

SENSUS

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