



Part Number: SXIPM-AGA - AGA Gas Flow Calculations

Add a powerful gas flow computer to most IPm DCS controllers and RTUs. This advanced IPm Add-on software will enable your IPm to perform AGA calculations for up to five pipes (runs). It will totalize transferred volumes based on calculated flow. Validation capability qualifies this software for custody transfer applications. This software is highly configurable and will run in most IPm-based DCS controllers and RTUs including all VT-IPM, ST-IPM, ST-GT-1210, VT MIPM and VT-UIPM models. Please note that it will not run in the ET-GT-ST-3.

This add-on software is comprised of the following:

- The gas flow computer run-time software that resides in the IPm Controller or RTU, configurable for up to five runs, all performing the same type of calculation.
- The gas flow computer configuration software integrated with the SIXNET I/O Tool Kit plus complete on-line documentation

The following types of calculations are supported:

- AGA-3 (orifice plate)
- AGA-7 (turbine meter)
- Accelabar (pitot tube from Veris, Inc.)
- SY/T6143-2004 (China)
- Obtain gas density from an AGA-8, SGERG-88 or ISO12213-2/-3 calculation or use an external density meter

The gas density input required for AGA flow calculations can be provided either by AGA-8, SGERG-88 or ISO12213-2/-3 gas density calculations or by an external density transmitter connected to an analog input channel. The AGA-8 and other supported algorithms are implemented as part of the run-time software in the IPm.

The gas composition data required by the AGA-8 and other supported gas density energy calculations are entered by means of the configuration software. Alternatively, the run-time software can be configured to obtain the gas composition data directly from an external gas chromatograph connected to the IPm. The communications between the IPm and the optional external gas chromatograph is via Modbus protocol.

Datalogging of flow calculation results, averages, user changes and events is optional (requires a Sixlog feature set license) and meets API 21.1 requirements: 35 days of hourly and daily averages, 700 user changes and events, as well as 300 process alarms. In addition, flexible datalogging may be configured using the standard capabilities of the Sixlog feature set.

All input measured data required for calculations, as well as calculations results are available through the IPm's I/O database. This means that flow computer data can be referenced by all other applications in the IPm, including ISaGRAF IEC 61131 Programming, Sixlog Datalogging, I/O Transfers, Modbus / HART / DNP3 protocol drivers, and third party add-on applications.

The configuration software that is integrated with the SIXNET I/O Tool Kit allows you to configure the run-time Flow calculations behavior. Among the configurable parameters, you can enter and configure the following:

- Gas properties (composition, heating value and density)
- Primary flow element type (Turbine meter, orifice plate or Accelabar pitot tube)
- Primary flow element parameters (Pipe internal diameter and orifice size, turbine meter output frequency calibration value or Accelabar pitot tube characteristics)
- Gas flow calculation algorithms to use (AGA3, AGA-7, Accelabar or SY/T6143-2004)
- Gas density calculation algorithms to use (AGA-8 or other supported method)
- Gas density source (manual as entered in the configuration software, calculated by AGA-8, SGERG-88 or ISO12213-2/-3, or measured from an external densitometer connected to the IPm)
- Gas composition source (manual as entered in the configuration software or measured from an external gas composition analyzer connected to the IPm)
- Alarms, events and configuration change logging parameters for audit trail.
- Measured input variables and calculation result locations within the IPm I/O database (I/O mapping)
- Engineering units (Imperial or SI)



331 Ushers Road • Ballston Lake, NY 12019 • USA
518.877.5173 • Fax 518.877.8346 • sales@sixnet.com



- Temperature (degrees C or degrees F)



331 Ushers Road • Ballston Lake, NY 12019 • USA
518.877.5173 • Fax 518.877.8346 • sales@sixnet.com