

Spirit^{IT} Flow-X

Gas USC application

Gas_USC v3.1.0 (June 2023)

The Gas_USC version 3.1.0 application has been released in June 2023.

This application requires Flow-Xpress 3.2.6 or later.

The Gas_USC application is released in three different variations:

- **Gas_USC_Master_3.1.0.fxm**
Application for single run flow computers (e.g. X/C, X/M) and multiple run flow computers (e.g. X/P2, X/P3 etc.) running one run per module.
- **Gas_USC_Master_3.1.0_2runs.fxm**
Application for version 2 flow computers with 2 runs (e.g. X/C, X/M, X/P1).
- **Gas_USC_Master_3.1.0_4runs.fxm**
Application for version 2 flow computers with 3 or 4 runs (e.g. X/C, X/M, X/P1).

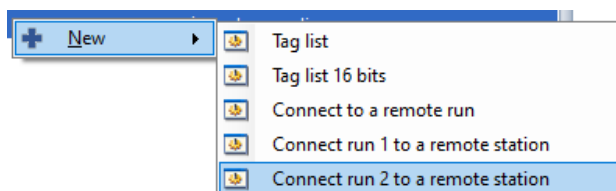
New Features/Changes

Besides the features and changes described below, this release also contains around 35 minor improvements and bug-fixes.

For a complete list of changes please contact ABB.

Use second run of remote flow computer as remote run

In previous versions, a remote run could only be the first (or only) run of a remote flow computer. From this version, it's also possible to connect to the second run as well.



Configurable analog output units

Formerly, analog output configuration was only possible using native application units (e.g. °F for temperature, lb/ft³ for density, MCF/hr for volume flow rate). Now analog outputs can also be configured using non-standard units (similar to the configuration of analog inputs). As the flow computer does the unit conversion, it's not needed anymore to manually convert the zero and full scale factors.

Analog outputs			
Analog output 1 type	4-20 mA	Analog output 1 tag	AOUT-123
Analog output 1 unit type	Density	Analog output 1 density unit	kg/m3
Analog output 1 zero scale	0.0000	Analog output 1 full scale	kg/m3
Analog output 1 dampening factor	0		g/cc
			lb/ft3

Meter / transmitter tags shown on all operator displays

Meter tags / transmitter tags have been added to all applicable operator displays for easier interpretation:

Flow meter	
Meter tag	FM-035
Pulse input	
Pulse frequency	998.00 Hz
Pulse input flow rate	3592.80 unit/hr
Meter units	
Nominal K-factor	

Run1

R1 Meter temperature tag	TT-202
R1 Meter temperature	73.7091 °F
R1 Meter temperature	Analog input
R1 Meter temperature override	Disabled
R1 Meter temperature override	0 °F

Support of new devices

The following Modbus drivers have been added:

- ABB PGC 5000 gas chromatograph
- Pietro Fiorentini FioSonic ultrasonic flow meter

Gas_USC v3.0.0 (September 2021)

The Gas_USC version 3.0.0 application has been released in September 2021.

This application requires Flow-Xpress 3.2.0 or later.

The Gas_USC application is released in three different variations:

- **Gas_USC_Master_3.0.0.fxm**
Application for single run flow computers (X/C, X/M, X/P1) or multiple run flow computers (one run per module).
- **Gas_USC_Master_3.0.0_2runs.fxm**
Application for version 2 flow computers with 2 runs (X/C, X/M, X/P1).
- **Gas_USC_Master_3.0.0_3runs.fxm**
Application for version 2 flow computers with 3 runs (X/C, X/M, X/P1).

No 'abbreviated' version (for version 1 multiple run flow computers) has been released.

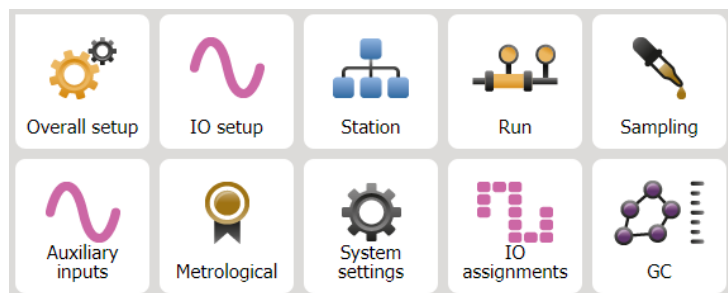
New Features/Changes

Starting from this version 3.0.0, the Gas_Metric and Gas_USC applications are released together and, except for the different native units, share the same functionality.

New menu structure for improved ease of configuration

Configuration has been made easier, using a more intuitive menu structure. All configuration parameters are now collected within one configuration menu which can be followed top down to configure the complete flow computer.

Furthermore, configuration displays have been optimised, hiding all non-applicable settings and thus avoiding confusion as much as possible.



Improved 'IO assignment' display.

The 'IO assignment' display, which provides a complete overview of all assigned IO, now also shows configuration errors like 'incorrect input type', 'incorrect module', 'incorrect unit' etc.

Analog inputs	
R1 Meter temperature - Run	<input type="text" value="Ain 1 *UNITS*"/>
R1 Meter pressure - Run	<input type="text" value="Ain 2 *TYPE*"/>
Digital inputs	
R1 Meter pulse input A	<input type="text" value="Dig 1"/>
R2 Meter pulse input A	<input type="text" value="*MODULE*"/>
R1 Meter pulse input B	<input type="text" value="Dig 2"/>
Digital outputs	
R1 Pulse output 1 - Run	<input type="text" value="Dig 9"/>

Support of non-standard transmitter units

Now transmitters with non-standard units (like pressure transmitters in kPa, or temperature transmitters in °C / °F) can be easily used, making use of the new capability to convert the input into the right units.

Analog inputs			
Analog input 1 type	<input type="text" value="4-20 mA"/>	Analog input 1 tag	<input type="text" value="PT-102"/>
Analog input 1 unit type	<input type="text" value="Pressure"/>	Analog input 1 pressure unit	<input type="text" value="kPa"/>
Analog input 1 averaging	<input type="text" value="Arithmetic mean"/>	Analog input 1 zero scale	<input type="text" value="0"/>
Analog input 1 full scale	<input type="text" value="5000"/>	Analog input 1 low fail limit	<input type="text" value="-2.5 %span"/>
Analog input 1 high fail limit	<input type="text" value="102.5 %span"/>		

New calibration / verification procedure

The application is provided with a new, extended procedure for calibration, verification and zeroing of process inputs, analog inputs, PT100 inputs, analog outputs and multivariable transmitters. Selection is by 'Meter run' (for process inputs) or by 'IO module' (for IO points). Inputs selected for calibration, verification or zero offset adjustment can be frozen before the calibration is started. Up to 5 calibration and up to 8 verification points are supported. Calibration results are stored at the end of the calibration sequence and a calibration / verification report is generated.

Input selection			
Selected run	<input type="text" value="1"/>		
Deselect	<input type="button" value="Deselect"/>		
Selected input			
Selected input	<input type="text" value="Meter pressure"/>	Frozen value	<input type="text" value="145.0377 psi"/>
Uncorrected value	<input type="text" value="145.0377 psi"/>	Corrected value	<input type="text" value="145.0377 psi"/>
Zero offset			
Zero offset	<input type="text" value="0.0000 psi"/>	Set zero offset value	<input type="text"/>
Set zero offset	<input type="button" value="Set zero offset"/>	Reset zero offset	<input type="button" value="Reset zero offset"/>
Clear calibration data			
Clear calibration data	<input type="button" value="Clear calibration data"/>		
Calibration / Verification			
Start calibration	<input type="button" value="Start calibration"/>	Start verification	<input type="button" value="Start verification"/>

SNTP Time Synchronization

From this application version, the Flow-X supports time synchronization with one or more NTP time servers. Both servers on local networks and on the Internet are supported. It's possible to configure communication with up to four separate NTP servers.

PERIOD DEFINITION	
SNTP period duration (days)	SNTP time of day (hh:mm)
1	01:33
NTP SERVER 1	
NTP server 1 - hostname / IP-address	NTP server 1 - port number
0.nl.pool.ntp.org	123
NTP SERVER 2	
NTP server 2 - hostname / IP-address	NTP server 2 - port number
1.nl.pool.ntp.org	123