

# Spirit<sup>IT</sup> Flow-X

## Gas USC application

### 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.

<b>Analog inputs</b>	
R1 Meter temperature - Run	<input type="text" value="Ain 1 *UNITS*"/>
R1 Meter pressure - Run	<input type="text" value="Ain 2 *TYPE*"/>
<b>Digital inputs</b>	
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"/>
<b>Digital outputs</b>	
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.

<b>Analog inputs</b>			
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.

<b>Input selection</b>			
Selected run	<input type="text" value="1"/>		
Deselect	<input type="button" value="Deselect"/>		
<b>Selected input</b>			
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"/>
<b>Zero offset</b>			
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"/>
<b>Clear calibration data</b>			
Clear calibration data	<input type="button" value="Clear calibration data"/>		
<b>Calibration / Verification</b>			
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)	<input type="text" value="1"/>	SNTP time of day (hh:mm) ⓘ	<input type="text" value="01:33"/>
NTP SERVER 1			
NTP server 1 - hostname / IP-address	<input type="text" value="0.nl.pool.ntp.org"/>	NTP server 1 - port number	<input type="text" value="123"/>
NTP SERVER 2			
NTP server 2 - hostname / IP-address	<input type="text" value="1.nl.pool.ntp.org"/>	NTP server 2 - port number	<input type="text" value="123"/>