Remote Calibration Check control for airpointer and airQlog - Draft

Preamble:

A sophisticated zero / span check system is available. This allows an automatic zero span check at a user specified interval individual for each module or instrument connected. The zero / span check is done in a configurable cycle. The default setup is a period of 12min on zero, where the data of the last 2 minutes are averaged and stored as zero value. The next 12 minutes are on span, here also the last 2 minutes are averaged as the span value. The next 3 minutes are used for purging out, the valves are switched back to sample, but the values are not taken into the normal averages to avoid wrong sample readings. For even more sophisticated setups span and zero cycles can be configured to use different intervals, as example a CO zero check every day, but the span check just once a week to save gas.

The user can also switch the zero/span valves manually or start a calibration cycle over the user interface. As standard setup the units are set back to sample after 8 hours.

Some customers need to have the zero/span checks integrated in their software package, for this application the recordum http cgi/download interface and also the Modbus interface is extended:

recordum_http_download_interface extensions:

To see what modules / instruments are available for zero/span-check use the command zsinfo.cgi

Example: http://172.19.7.59/cgi-bin/zsinfo.cgi?loginstring=user&user_pw=user)

Example response:

ZSTAG	Instrument	Sensor	Software	Group	Zero Valve	Span Valve
LL09	20xA AMX	20xA AMX	LinLog	9	1	1
LL10	43	43	LinLog	10	1	1
LL11	49	49	LinLog	11	1	1
LS01	airpointer NOxSensor	NOxSensor	LinSens	1	1	0
LS03	airpointer O3Sensor	O3Sensor	LinSens	3	1	1

In this example we have 5 units in available for zero/span check, ZSTAG is the identifier used in the following commands.

To switch the instruments valves we have 4 commands: sample, zero, span, zs_cycle

Examples:

zero

http://192.168.10.185/cgi-bin/zs_control.cgi?loginstring=user&user_pw=user?zero=LS01,LS03

If the module/instrument stays in zero the same time (default: 720sec) or longer as configured for a zero check, zero values are calculated and stored in the database.

span

http://192.168.10.185/cgi-bin/zs_control.cgi?loginstring=user&user_pw=user?span=LS01,LS03

If the module/instrument stays in span the same time (default: 720sec) or longer as configured for a span check, span values are calculated and stored in the database.

sample

http://192.168.10.185/cgi-bin/zs_control.cgi?loginstring=user&user_pw=user?span=LS01,LS03

The module/instrument is switched back to sample, the data is not stored until the configured purge out time is over (default: 180 seconds)

zs_cycle

http://192.168.10.185/cgi-bin/zs_control.cgi?loginstring=user&user_pw=user?zs_cycle=LS01,LS03

The module/instrument performs a zero/span cycle as configured and stores the calibration check data.

Modbus

Please see file "Modbus Interface LinOut" point 7 "Status and Zero/Span control" for details.