SulfiLogger – RS-232 protocol

Version 103

Content

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Introduction

The SulfiLogger™ sensor can be controlled through its RS-232 interface using a simple text-based protocol and a set of commands described in this document.

From firmware version 2.7.0

Port setup

To communicate with the sensor, the RS-232 communication port must be set up as described in Table 1.

Baud rate	38400
Data bit count	8
Parity	None
Stop bit	1
Flow control	None

Table 1

Protocol

Command lines sent to the data logger should be terminated with LF (0xA). Response lines are terminated with LF (0xA). Commands are case-sensitive and encoded in ASCII.

The device only acts as slave. The response to a command consists of zero or more response lines followed by an acknowledgement character followed by LF.

Possible acknowledgement characters are summarized in Table 2.

Command acknowledgement character	**Description**
#	ACK (positive acknowledgement)
!	NAK (negative acknowledgement)
^	Abort complete (see *Aborting a command*)

Table 2

Response lines never start with any of the acknowledgement characters from Table 2. It can be assumed that a response is complete when a line has been received that starts with one of these acknowledgement characters.

Some commands expect parameters. A command and its parameters are separated with a SPACE (0x20). Parameters themselves are separated with a SPACE (0x20).

Some commands respond with multiple values (response fields). Response fields are separated with COLON (0x3A).

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Aborting a command

The processing of a command can be interrupted by sending an abort character (0x5E). This character can be sent to the sensor at any time. The data logger will abort the command that it currently is processing (if any) and acknowledge with the same abort character (0x5E). This gives the master a chance to put the logger in a valid start state even if it was previously interrupted while waiting for the logger to process a long-lasting command.

Command reference

PING

This command tests whether the sensor is online and responsive.

Parameter

Added with firmware version 2.8.0:

Add the parameter “CRC” to the command “PING”. After this all responses will have added a CRC to the end. The CRC is formatted “|0xXXXX|”. It is a hex number with a CRC16_CCITT and poly of 0x1021 and an initial value of 0xFFFF. To Disable CRC output again use “PING” without CRC. This parameter is not saved in flash-memory and is default off on power-up.

Eks: PING CRC -> #

GETSERIALNO -> 1005241|0xE70A| #

PING -> #

GETSERIALNO -> 1005241 #

GETVERSION

Gets firmware version.

Response

Firmware version formatted as major.minor.release.

GETSERIALNO

Gets sensor serial number.

Response

Serial number

REQUESTREBOOT

Requests the device to reset.

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GETDATA

Get a new sample, response can take up to 1 second.

Parameter

optional “ALL” can be used.

Without the Parameter, the output and unit will depend on the sensor media set by SWITCHSENSORMEDIA.

Response

A list of the sensor output, temperature, with units datapoints

Added with firmware version 2.8.0:

#	Description
CALI_CAP	value “1” or “0” indicate if the calibration cap is mounted or unmounted
ERROR	Active Errors, see GETERROR
STATUS	Hex number for manufacturer diagnostics

Eks: GETDATA -> 18.0068:PPM:24.0703:°C: #

Eks: GETDATA ALL -> 0.0143913:MG/L: 4.45787:PPM:24.6328:°C: CALI_CAP:0:ERROR:4,8:STATUS: 0x0000FFFF #

GETERROR

Reads current error on the sensor.

Response

A list of errors, multiple can be returned

Current list of errors are:

1 = No connection to transducer

2 = Transducer not working -> Requires service

4 = Risk of drift after power on -> Requires service.

8 = Last calibration attempt was rejected. May be due to lack of calibration gas low, or sensor was not sensitive to gas. Try to calibrate again and check the gas pressure on the manometer.

SWITCHSENSORMEDIA

Used to change Between mg/L and ppm output on 4-20mA

Specific parameter “PPM” or “MG/L” can be used.

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GETPRODUCTTYPE

Gets the product type string

GETLASTCALIBRATIONDATE

Added with firmware version 2.8.0:

Gets the last calibration time and date

Response

Eks: GETLASTCALIBRATIONDATE -> SLOPE_DATE:20220211175100 #

GETHOURCOUNT

Added with firmware version 2.8.0:

Gets hour count when sensor is powered

Response

Eks: GETHOURCOUNT -> 124 #

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