

NILE Console Serial Spec

The operator console currently expects two forms of communication:

- From the console to the stand it expects to send “commands”
- And from the stand to the console it expects to receive “fields”

Both commands and fields are separated by newlines, so a stream of fields would have one field on each line, and a stream of commands would likewise have one command per line. Definitions for both below, items in square brackets represent a placeholder for an actual value or text.

Commands

Currently there are two kinds of commands, valve commands and an extra ignite command. Valve commands look like one of these two command templates:

- OPEN:[valve name]
- CLOSE:[valve name]

Where “[valve name]” is currently one of “NP1”, “NP2”, “NP3”, “NP4”, “IP1”, “IP2”, or “IP3”. The “OPEN:[valve name]” should open the corresponding valve, and the “CLOSE:[valve name]” should close the same.

The ignite command is simply the constant string “IGNITE”, and should activate the ignition match.

Fields

Fields are more general. The format for fields is so:

[name]:[type]=[value]

Where:

- “[name]” is an arbitrary string with any ASCII characters other than a colon, equal sign, or newline
- “[type]” is one of “u”, “i”, “f”, or “b”:
 - “u” represents an unsigned integer
 - “i” represents a signed integer
 - “f” represents a floating point number
 - And “b” represents a boolean
- “[value]” is a value determined by the field’s type, value should be a textual representation of the value. Boolean fields use either “TRUE” or “FALSE”, in all caps.

Example Fields:

Indicates that valve NP1 is open:

NP1_OPEN:b=TRUE

An integer with value -32:

MY_INT:i=-32

A floating point value:

SOME_FLOAT:f=0.43