|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Button (base class) | ButtonAdv | ButtonBas | ButtonAna | ButtonGrp | ButtonEnc |
| ***Attributes*** |  |  |  |  |  |  |
| Tag / Name\* / Data (16 bit) | 1 | 1 | 1 | 1 | 1 | 1 |
| ***Events*** |  |  |  |  |  |  |
| Press/Release |  | x | x | x | x | x |
| Long press |  | x |  |  | x | x |
| Repeat |  | x |  | x | x |  |
| Debounce |  | x | x | x |  |  |
| ***Sources*** |  |  |  |  |  |  |
| Direct value (*ButtonStatus*) | x\* | x | x | x |  |  |
| Events (*ButtonStatus*) | x\* |  |  |  | x | x |
| Pin no. | x\* | x | x | x | x\*\* | x\*\* |
| Source variable | *opt\** | *opt* | *opt* | *opt* |  |  |
| HW input | x\* | x | x |  |  |  |
| Analog input |  | x | x | x |  |  |
| Digital input vector |  | x | x |  |  |  |
| ***Outputs*** |  |  |  |  |  |  |
| Mirror variable | *opt* | *opt* | *opt* | *opt* | *opt* | *opt* |

\* (support for derived classes only)

\*\* Pin/index no. only stored as data, not used for input selection

Description:

* *Button* is a base class only, not instantiable.
* *ButtonAdv* is the most feature-rich of the generic buttons (*Adv, Bas, Ana*).
* *ButtonBas* is a version of *ButtonAdv* without its most "expensive" features in terms of memory, for better price/performance ratio
* *ButtonAna* is a version of *ButtonBas* (with additional "repeat" feature) but tailored for analog inputs only
* *ButtonGrp* does not process actual inputs (in order to detect events), but it receives a set of events and basically just invokes the corresponding callbacks
* *ButtonEnc* is a slightly simpler version of *ButtonGrp* targeted to encoder buttons

An analog input is 'active' between the thresholds (with a settablehysteresis value), 'inactive' otherwise.   
>>> Option: 'active' outside? (e.g. passing lower > upper)  
>>> Option: hysteresis for *ButtonAna*?