# Table of Contents

# Description

# Variables

## Measured

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Units/Type** | **Description** | **Range** |
| t | seconds | Time since last pulse | – |
| h\_atr\_pulse\_detected | boolean | Pulse detected in atrium | {True, False} |
| h\_vent\_pulse\_detected | boolean | Pulse detected in ventricle | {True, False} |

## Input

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Units/Type** | **Range** | **Range** |
| ATR\_CMP\_DETECT | boolean | Atrial signal voltage higher than threshold | {HIGH, LOW} |
| VENT\_CMP\_DETECT | boolean | Ventricular signal voltage higher than threshold | {HIGH, LOW} |

## Constant

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Units/Type** | **Description** | **Range** |
| p\_mode | mode | Pacemaker operational mode | {AOO,VOO,AAI,VVI} |
| p\_lower\_rate\_limit | ppm | Lowest allowable heart rate | 30–175 ± 8 ms |
| p\_upper\_rate\_limit | ppm | Highest allowable heart rate | 50–175 ± 8ms |
| p\_atr\_pulse\_amplitude | V | Desired amplitude of paced atrial pulses | 0.5–7.0 ± 12% |
| p\_vent\_pulse\_amplitude | V | Desired amplitude of paced ventricular pulses | 0.5–7.0 ± 12% |
| p\_atr\_pulse\_width | ms | Desired pulse width of paced atrial pulses | 0.05–1.9 ± 0.2 ms |
| p\_vent\_pulse\_width | ms | Desired pulse width of paced ventricular pulses | 0.05–1.9 ± 0.2 ms |
| p\_atr\_sensitivity | mV | Threshold voltage for sensing spontaneous atrial pulses | 0.25–10 ± 20% |
| p\_vent\_sensitivity | mV | Threshold voltage for sensing spontaneous atrial pulses | 0.25–10 ± 20% |
| p\_vrp | ms | Ventricular Refractory Period | 150–500 ± 8 ms |
| p\_arp | ms | Atrial Refractory Period | 150–500 ± 8 ms |
| p\_pvarp | ms | Post-Ventricular Atrial Refractory Period | 150–500 ± 8 ms |
| p\_hysteresis\_enable | boolean | Hysteresis mode enabled | {True, False} |
| p\_hysteresis\_rate\_limit | ppm | Hysteresis rate limit | 30–175 ± 8 ms |
| p\_rate\_smoothing\_enable | boolean | Rate smoothing enabled | {True, False} |
| p\_rate\_smoothing\_percent | percent | Maximum allowable pacing rate change | 3–25 ± 1% |

## Controlled

## Output

# Modes

## AOO

### Variables

#### Measured

#### Constant

#### Controlled

### Requirements

### State Transitions

### Design details

### Testing

## VOO

### Variables

#### Measured

#### Constant

#### Controlled

### Requirements

### State Transitions

### Design details

### Testing

## AAI

### Variables

#### Measured

#### Constant

#### Controlled

### Requirements

### State Transitions

### Design details

### Testing

## VVI

### Variables

#### Measured

#### Constant

#### Controlled

### Requirements

### State Transitions

### Design details

### Testing