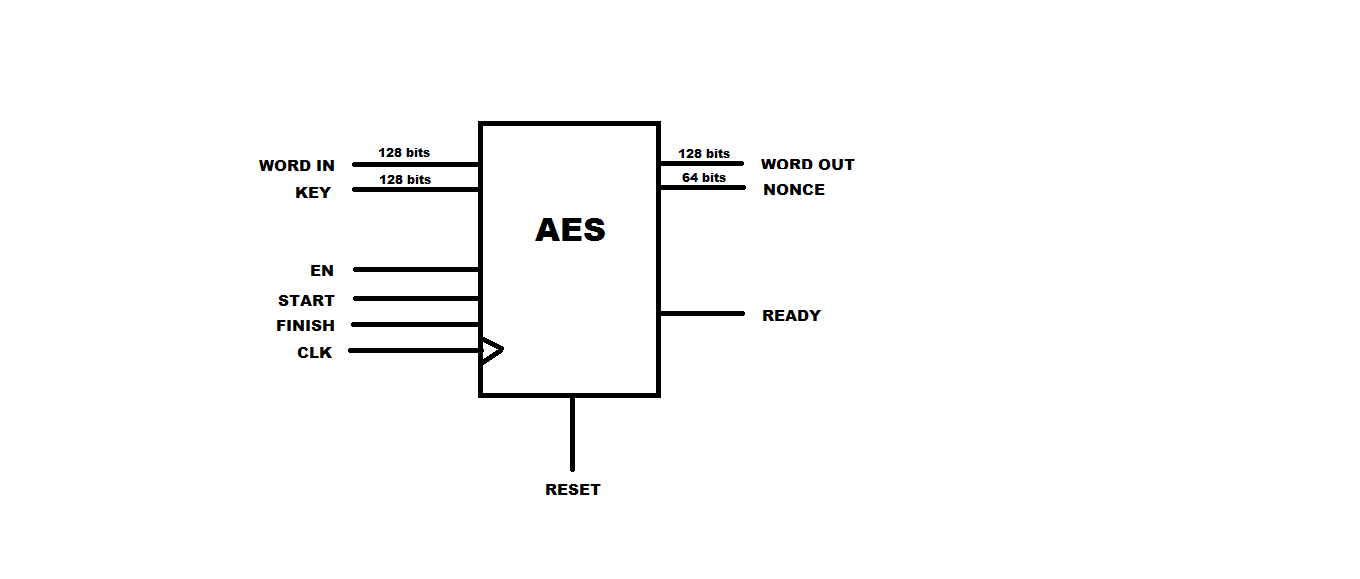
**AES pins**

|  |  |  |
| --- | --- | --- |
| **signal** | **Possible value** | **description** |
| **inputs** | | |
| **Clk** | **0 or 1** |  |
| **rst** | **0 or 1** | **When it becomes high, all signal reset** |
| **en** | **0 or 1** | **When it becomes high, system works  if it becomes low, system stops** |
| **Start** | **0 or 1** | **When it becomes high, system starts encrypt current word in by current key** |
| **finish** | **0 or 1** | **When it becomes high, nonce changes and counter start from 0 again** |
| **Word in** | **128 bits every bit is 0 or 1** | **Input Plain Text Data** |
| **key** | **128 bits every bit is 0 or 1** | **Encryption Key** |
| **Output** | | |
| **ready** | **0 or 1** | **Output data ready and valid** |
| **Word out** | **128 bits every bit is 0 or 1** | **Output Cipher Text Data** |
| **nonce** | **-64 bits every bit is 0 or 1** | **- randomly changes and concatenate with counter then encrypt it** |

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