[伶](https://fairino-doc-zhs.readthedocs.io/latest/index.html) / [SDK](https://fairino-doc-zhs.readthedocs.io/latest/SDKManual/index.html) / [Python](https://fairino-doc-zhs.readthedocs.io/latest/SDKManual/python_intro.html) / 4. 机器⼈常⽤设置



**4.** 机器⼈常⽤设置

**4.1.** 设置全局速度

|  |  |  |  |
| --- | --- | --- | --- |
| 原型 |  |  |  |
| SetSpeed(vel) |
|  |
| 描述 | 设置全局速度 | | |
| 必选参数 | . vel :速度百分⽐ ，范围[0~100] | | |
| 默认参数 | ⽆ | | |
| 返回值 | 错误码 成功-0 失败- errcode | | |

**4.1.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5 | **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  error = robot.SetSpeed(20)  print("设置全局速度错误码:",error) |

**4.2.** 设置系统变量值

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetSysVarValue(id,value) | | |
|  |  |  |
| 描述 | 设置系统变量 | | | | |
| 必选参数 | . id ：变量编号，范围[1~20];  · value ：变量值 | | | | |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |



 latest 

**4.2.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9 | **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  **for** i **in** range(1,21):  error = robot.SetSysVarValue(i,10)  robot.WaitMs(1000)  **for** i **in** range(1,21):  sys\_var = robot.GetSysVarValue(i) print("系统变量编号:",i,"值",sys\_var) |

**4.3.** 设置⼯具参考点**-**六点法

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetToolPoint(point\_num) | | |
|  |  |  |
| 描述 | 设置⼯具参考点-六点法 | | | | |
| 必选参数 | . point\_num ：点编号,范围[1~6] | | | | |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.3.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  t\_coord = [1.0,2.0,3.0,4.0,5.0,6.0]  **for** i **in** range(1,7):  robot.DragTeachSwitch(1)*#切⼊拖动示教模式*  time.sleep(5)  error = robot.SetToolPoint(i) *#实际应当控制机器⼈按照要求移动到合适位置后再发送指令* print("六点法设置⼯具坐标系，记录点",i,"错误码",error)  robot.DragTeachSwitch(0)  time.sleep(1)  error = robot.ComputeTool()  print("六点法设置⼯具坐标系错误码",error) |

**4.4.** 计算⼯具坐标系**-**六点法

latest 

|  |  |  |  |
| --- | --- | --- | --- |
| 原型 |  |  |  |
| ComputeTool() |
|  | |
| 描述 | 计算⼯具坐标系-六点法（设置完六个⼯具参考点后再进⾏计算） | | |
| 必选参数 | ⽆ | |  |
| 默认参数 | ⽆ | | |

|  |  |
| --- | --- |
| 返回值 | 错误码 成功-0 失败- errcode  . tcp\_pose= [x,y,z,rx,ry,rz] ：⼯具坐标系 |

**4.5.** 设置⼯具参考点**-**四点法

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 | |  | | --- | | SetTcp4RefPoint(point\_num) | | | | |
| 描述 | 设置⼯具参考点-四点法 | | | |
| 必选参数 |  | | | ：点编号,范围[1~4] |
|  | point\_num | |
|  |  |
| 默认参数 | ⽆ | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | |
|  | | |  | | --- | | tcp\_pose= | | |
| [x,y,z,rx,ry,rz] ：⼯具坐标系 | | | |

**4.5.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  t\_coord = [1.0,2.0,3.0,4.0,5.0,6.0]  **for** i **in** range(1,5):  robot.DragTeachSwitch(1)*#切⼊拖动示教模式*  time.sleep(5)  error = robot.SetTcp4RefPoint(i) *#应当控制机器⼈按照要求移动到合适位置后再发送指令* print("四点法设置⼯具坐标系，记录点",i,"错误码",error)  robot.DragTeachSwitch(0)  time.sleep(1)  error,t\_coord= robot.ComputeTcp4()  print("四点法设置⼯具坐标系错误码",error,"⼯具TCP",t\_coord) |

**4.6.** 计算⼯具坐标系**-**四点法

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |
| ComputeTcp4() | |
|  |  |
| 描述 | 计算⼯具坐标系-四点法（设置完四个⼯具参考点后再进⾏计算） | | | |
| 必选参数 | ⽆ | | | |
| 默认参数 | ⽆ | | | |
| 返回值 | 错误码 成功-0 失败- errcode  . tcp\_pose= [x,y,z,rx,ry,rz] ：⼯具坐标系 | | | |

**4.7.** 设置⼯具坐标系

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |  |  |
| SetToolCoord(id,t\_coord,type,install,toolID,loadNum) | | | | | |
|  |  |  |  |  |  |
| 描述 | 设置⼯具坐标系 | | | | | | | |
| 必选参数 |  | |  | :坐标系编号，范围[1~15]； | | | | |
| id |
| t\_coord | | | | :⼯具中⼼点相对末端法兰中⼼位姿，单位[mm][°]； | |
|  |  | :0-⼯具坐标系，1-传感器坐标系； | | | |
| type | |
| install | | | | :安装位置，0-机器⼈末端，1-机器⼈外部 | |
|  |  |  | :⼯具ID | | |
| toolID | | |
| loadNum | | | | :负载编号 | |
|  |  |  |  |
| 默认参数 | ⽆ | | | | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | | | | |

**4.7.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  t\_coord = [1.0,2.0,3.0,4.0,5.0,6.0]  error = robot.SetToolCoord(10,t\_coord,0,0,0,0) print("设置⼯具坐标系错误码",error) |

**4.8.** 设置⼯具坐标系列表

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |  |
| SetToolList(id,t\_coord ,type, install, loadNum) | | | | |
|  |  |  |  |  |
| 描述 | 设置⼯具坐标系列表 | | | | | | |
| 必选参数 | . id :坐标系编号，范围[1~15]；  . t\_coord :[x,y,z,rx,ry,rz] ⼯具中⼼点相对末端法兰中⼼位姿，单位[mm][°]；  . type :0-⼯具坐标系，1-传感器坐标系；  . install :安装位置，0-机器⼈末端，1-机器⼈外部  . loadNum :负载编号 | | | | | | |
| 默认参数 | ⽆ | | | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | | | |

**4.8.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  t\_coord = [1.0,2.0,3.0,4.0,5.0,6.0]  error = robot.SetToolList(10,t\_coord,0,0,0) print("设置⼯具坐标系列表错误码",error) |

**4.9.** 设置外部⼯具参考点**-**三点法

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetExTCPPoint(point\_num) | | |
|  |  |  |
| 描述 | 设置外部⼯具参考点-三点法 | | | | |
| 必选参数 | . point\_num ：点编号,范围[1~3] | | | | |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.9.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  etcp = [1.0,2.0,3.0,4.0,5.0,6.0]  etool = [21.0,22.0,23.0,24.0,25.0,26.0]  **for** i **in** range(1,4):  error = robot.SetExTCPPoint(i) *#应当控制机器⼈按照要求移动到合适位置后再发送指令* print("三点法设置外部⼯具坐标系，记录点",i,"错误码",error)  time.sleep(1)  error,etcp = robot.ComputeExTCF()  print("三点法设置外部⼯具坐标系错误码",error,"外部⼯具TCP",etcp)  error = robot.SetExToolCoord(10,etcp,etool)  print("设置外部⼯具坐标系错误码",error)  error = robot.SetExToolList(10,etcp,etool)  print("设置外部⼯具坐标系列表错误码",error) |

**4.10.** 计算外部⼯具坐标系**-**三点法

latest 

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  | |
| ComputeExTCF (point\_num) | |
|  |  |
| 描述 | 计算外部⼯具坐标系-三点法（设置完三个参考点后再进⾏计算） | | | | |
| 必选参数 |  |  | ：点编号,范围[1~3] | |  |
| point\_num |
|  |
| 默认参数 | ⽆ | | | | |

|  |  |
| --- | --- |
| 返回值 | 错误码 成功-0 失败- errcode  . etcp= [x,y,z,rx,ry,rz] ：外部⼯具坐标系 |

**4.11.** 设置外部⼯具坐标系

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |  |
| SetExToolCoord(id,etcp,etool) | | | | |
|  | | | | | |
| 描述 | 设置外部⼯具坐标系 | | | | | | |
| 必选参数 |  | | id :坐标系编号，范围[0~14]；  etcp :外部⼯具坐标系，单位[mm][°]；  etool :末端⼯具坐标系，单位[mm][°]； | | | | |
| 默认参数 | ⽆ | | | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | | | |

**4.11.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  etcp = [1.0,2.0,3.0,4.0,5.0,6.0]  etool = [21.0,22.0,23.0,24.0,25.0,26.0]  error = robot.SetExToolCoord(10,etcp,etool) print("设置外部⼯具坐标系错误码",error) |

**4.12.** 设置外部⼯具坐标系列表

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |  |
| SetExToolList(id,etcp ,etool) | | | | |
|  | | | | | |
| 描述 | 设置外部⼯具坐标系列表 | | | | | | |
| 必选参数 |  | | id :坐标系编号，范围[0~14]；  etcp :外部⼯具坐标系，单位[mm][°]；  etool :末端⼯具坐标系，单位[mm][°]； | | | | |
| 默认参数 | ⽆ | | | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | | | |

**4.12.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  etcp = [1.0,2.0,3.0,4.0,5.0,6.0]  etool = [21.0,22.0,23.0,24.0,25.0,26.0]  error = robot.SetExToolList(10,etcp,etool) print("设置外部⼯具坐标系列表错误码",error) |

**4.13.** 设置⼯件参考点**-**三点法

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |
| SetWObjCoordPoint(point\_num) | |
|  |  |
| 描述 | 设置⼯件参考点-三点法 | | | |
| 必选参数 | point\_num :点编号,范围[1~3] | | | |
| 默认参数 | ⽆ | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | |

**4.13.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  *指令*  10  11  12  13 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  w\_coord = [11.0,12.0,13.0,14.0,15.0,16.0]  robot.SetToolList(0,[0,0,0,0,0,0],0,0)*#设置参考点前应当将⼯具和⼯件号坐标系切换⾄0*  robot.SetWObjList(0,[0,0,0,0,0,0])  **for** i **in** range(1,4):  error = robot.SetWObjCoordPoint(i) *#实际应当控制机器⼈按照要求移动到合适位置后再发送*  print("三点法设置⼯件坐标系，记录点",i,"错误码",error)  time.sleep(1)  error, w\_coord = robot.ComputeWObjCoord(0,0)  print("三点法计算⼯件坐标系错误码",error,"⼯件坐标系", w\_coord) |

**4.14.** 计算⼯件坐标系**-**三点法

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |
| ComputeWObjCoord(method, refFrame) | | | |
|  |  |  |  |
| 描述 | 计算⼯件坐标系-三点法（三个参考点设置完成后再进⾏计算）; | | | | | |
| 必选参数 |  | |  | ：计算⽅式0：原点-x轴-z轴，1 ：原点-x轴-xy平⾯  latest | | |
| method |
| refFrame | | ：参考坐标系 |  |
|  |  |
| 默认参数 | ⽆ | | | | | |

|  |  |
| --- | --- |
| 返回值 | 错误码 成功-0 失败- errcode  . wobj\_pose= [x,y,z,rx,ry,rz] ：⼯件坐标系 |

**4.15.** 设置⼯件坐标系

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |  |
| SetWObjCoord(id, coord, refFrame) | | | | |
|  |  |  |  |  |
| 描述 | 设置⼯件坐标系 | | | | | | |
| 必选参数 |  | | id :坐标系编号，范围[0~14]；  coord :⼯件坐标系相对于末端法兰中⼼位姿，单位 [mm][°] | | | | |
| refFrame | | | :参考坐标系 | |
|  |  |  |
| 默认参数 | ⽆ | | | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | | | |

**4.15.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  w\_coord = [11.0,12.0,13.0,14.0,15.0,16.0]  error = robot.SetWObjCoord(id=11,coord=w\_coord,refFrame=0) print("设置⼯件坐标系错误码",error) |

**4.16.** 设置⼯件坐标系列表

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |  |
| SetWObj List(id, coord, refFrame) | | | | |
|  |  |  |  |  |
| 描述 | 设置⼯件坐标系列表 | | | | | | |
| 必选参数 |  | | id :坐标系编号，范围[0~14]；  coord :⼯件坐标系相对于末端法兰中⼼位姿，单位 [mm][°] | | | | |
| refFrame | | | :参考坐标系 | |
|  |  |  |
| 默认参数 | ⽆ | | | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | | | |

**4.16.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7 | **from fairino import** Robot  **import time**  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  w\_coord = [11.0,12.0,13.0,14.0,15.0,16.0]  error = robot.SetWObjList(id=11,coord=w\_coord,refFrame=0) print("设置⼯件坐标系列表错误码",error) |

**4.17.** 设置末端负载重量

*在* *Python 版本发⽣变更:* SDK-v2.0.8-3.7.8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetLoadWeight(loadNum, weight) | | |
|  |  |  |
| 描述 | 设置末端负载重量,错误负载重量设置可能会导致拖动模式下机器⼈失控 | | | | |
| 必选参数 | . loadNum :负载编号  . weight :单位[kg] | | | | |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.17.1.** 代码示例

|  |
| --- |
| **from fairino import** Robot  1  2  3  4  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  error = robot.SetLoadWeight(0,0)*#！！！* *负载重量设置应于实际相符(错误负载重量设置可能会导致*  *拖动模式下机器⼈失控)* |

**4.18.** 设置机器⼈安装⽅式**-**固定安装

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetRobotInstallPos(method) | | |
|  | | | |
| 描述 | 设置机器⼈安装⽅式-固定安装,错误安装⽅式设置会导致拖动模式下机器⼈失控 | | | | |
| 必选参数 |  | |  | :0-平装，1-侧装，2-挂装 | |
| method |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.18.1.** 代码示例

|  |
| --- |
| 1  **from fairino import** Robot  2  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象* 3  robot = Robot.RPC( I192.168.58.2I)  4  error = robot.SetRobotInstallPos(0) *#！！！* *安装⽅式设置应与实际—致* *0-正装，1-侧装，2-倒* *装* *(错误安装⽅式设置会导致拖动模式下机器⼈失控）*  5  print("设置机器⼈安装⽅式错误码",error) |

**4.19.** 设置机器⼈安装角度**-**⾃由安装

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetRobotInstallAngle(yangle,zangle) | | |
|  |  |  |
| 描述 | 设置机器⼈安装角度-⾃由安装,错误安装角度设置会导致拖动模式下机器⼈失控 | | | | |
| 必选参数 |  | |  | ：倾斜角  ：旋转角 | |
| yangle |
|  |
| zangle |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.19.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4 | **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  error = robot.SetRobotInstallAngle(0.0,0.0) *#！！！* *安装角度设置应与实际—致* *(错误安装角度* |
| *设置会导致拖动模式下机器⼈失控）*  5  print("设置机器⼈安装角度错误码",error) | |

**4.20.** 设置末端负载质⼼坐标

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetLoadCoord(x,y,z) | | |
|  |  |  |
| 描述 | 设置末端负载质⼼坐标,错误负载质⼼设置可能会导致拖动模式下机器⼈失控 | | | | |
| 必选参数 | . x : 质⼼坐标，单位[mm]  . y : 质⼼坐标，单位[mm]  . z : 质⼼坐标，单位[mm] | | | | |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.20.1.** 代码示例

|  |
| --- |
| **from fairino import** Robot  1  2  3  4  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  error = robot.SetLoadCoord(3.0,4.0,5.0) *#！！！* *负载质⼼设置应于实际相符(错误负载质⼼设置可*  *能会导致拖动模式下机器⼈失控)*  5  print("设置负载质⼼错误码",error) |

**4.21.** 等待指定时间

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| WaitMs(t\_ms) | | |
|  | | | |
| 描述 | 等待指定时间 | | | | |
| 必选参数 |  | |  | :单位[ms] | |
| t\_ms |
|  |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.21.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4  5 | **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  error = robot.WaitMs(1000)  print("等待指定时间错误码",error) |

**4.22.** 设置机器⼈加速度

*在* *python 版本加⼊:* SDK-v2.0.4

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| SetOaccScale(acc) | | |
|  | | | |
| 描述 | 设置机器⼈加速度 | | | | |
| 必选参数 |  | |  | :机器⼈加速度百分⽐ | |
| acc |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.22.1.** 代码示例

|  |  |
| --- | --- |
| 1  2  3  4 | **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  robot.SetOaccScale (20) |

**4.23.** 设置机器指定姿态速度开启

*在* *python 版本加⼊:* SDK-v2.0.5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| AngularSpeedStart(ratio) | | |
|  |  |  |
| 描述 | 指定姿态速度开启 | | | | |
| 必选参数 | . ratio :姿态速度百分⽐[0-300] | | | | |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |

**4.24.** 指定姿态速度关闭

*在* *python 版本加⼊:* SDK-v2.0.5

|  |  |  |  |
| --- | --- | --- | --- |
| 原型 |  |  |  |
| AngularSpeedEnd() |
|  | |
| 描述 | 指定姿态速度关闭 | | |
| 必选参数 | ⽆ | | |
| 默认参数 | ⽆ | | |
| 返回值 | 错误码 成功-0 失败- errcode | | |

**4.25.** ⼯具坐标系转换开始

*在* *Python 版本加⼊:* SDK-v2.0.8-3.7.8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |
| ToolTrsfStart(toolNum) | | |
|  |  |  |
| 描述 | ⼯具坐标系转换开始 | | | | |
| 必选参数 | . toolNum :⼯具坐标系编号[0-14] | | | | |
| 默认参数 | ⽆ | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | |



 latest 

**4.26.** ⼯具坐标系转换结束

*在* *Python 版本加⼊:* SDK-v2.0.8-3.7.8

|  |  |  |  |
| --- | --- | --- | --- |
| 原型 |  |  |  |
| ToolTrsfEnd() |
|  | |
| 描述 | ⼯具坐标系转换结束 | | |
| 必选参数 | ⽆ | | |
| 默认参数 | ⽆ | | |
| 返回值 | 错误码 成功-0 失败- errcode | | |

**4.26.1.** 代码示例

*在* *Python 版本加⼊:* SDK-v2.0.8-3.7.8

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15 | **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  startjointPos = [52.850, -84.327, 102.163, -112.843, -84.131, 0.063]  startdescPose = [-226.699, -501.969, 264.638, -174.973, 5.852, 143.301]  endjointPos = [52.850, -77.596, 111.785, -129.196, -84.131, 0.062]  enddescPose = [-226.702, -501.973, 155.833, -174.973, 5.852, 143.301]  robot.ToolTrsfStart(1)  rtn = robot.MoveJ(startjointPos, 0, 0, startdescPose)  print("rtn is ", rtn)  rtn = robot.MoveJ(endjointPos, 0, 0, enddescPose)  print("rtn is ", rtn)  robot.ToolTrsfEnd() |

**4.27.** 根据点位信息计算⼯具坐标系

*在* *Python 版本加⼊:* SDK-v2.0.8-3.7.8

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 原型 |  |  |  |  |  |  |
| ComputeToolCoordWithPoints(method, pos) | | | |
|  |  |  |  |
| 描述 | 根据点位信息计算⼯具坐标系 | | | | | |
| 必选参数 | . method ：计算⽅法；0-四点法；1-六点法  . pos ：关节位置组， 四点法时数组⻓度为4个，六点法时数组⻓度为6个 | | | | | |
| 默认参数 | ⽆ | | | | | |
| 返回值 | 错误码 成功-0 失败- errcode | | | | | latest |
|  | | |  | | --- | | tcp\_offset= | | | | |
| [x,y,z,rx,ry,rz] ：根据点位信息计算得到的⼯具坐标系，单位 [mm][°] | | | | | |

**4.27.1.** 代码示例

|  |
| --- |
| p1Desc = [-394.073, -276.405, 399.451, -133.692, 7.657, -139.047]  **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  p1Joint = [15.234, -88.178, 96.583, -68.314, -52.303, -122.926]  p2Desc = [-187.141, -444.908, 432.425, 148.662, 15.483, -90.637]  p2Joint = [61.796, -91.959, 101.693, -102.417, -124.511, -122.767]  p3Desc = [-368.695, -485.023, 426.640, -162.588, 31.433, -97.036]  p3Joint = [43.896, -64.590, 60.087, -50.269, -94.663, -122.652]  p4Desc = [-291.069, -376.976, 467.560, -179.272, -2.326, -107.757]  p4Joint = [39.559, -94.731, 96.307, -93.141, -88.131, -122.673]  p5Desc = [-284.140, -488.041, 478.579, 179.785, -1.396, -98.030]  p5Joint = [49.283, -82.423, 81.993, -90.861, -89.427, -122.678]  p6Desc = [-296.307, -385.991, 484.492, -178.637, -0.057, -107.059]  p6Joint = [40.141, -92.742, 91.410, -87.978, -88.824, -122.808]  exaxisPos = [0, 0, 0, 0]  offdese = [0, 0, 0, 0, 0, 0]  posJ = [p1Joint, p2Joint, p3Joint, p4Joint, p5Joint, p6Joint]  rtn, coordRtn = robot.ComputeToolCoordWithPoints(1, posJ)  print("ComputeToolCoordWithPoints ", rtn, "coord is ", coordRtn [0], coordRtn [1],  coordRtn [2], coordRtn [3], coordRtn [4], coordRtn [5])  robot.MoveJ(p1Joint, 0, 0, p1Desc)  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  robot.SetToolPoint(1)  robot.MoveJ(p2Joint, 0, 0, p2Desc)  robot.SetToolPoint(2)  robot.MoveJ(p3Joint, 0, 0, p3Desc)  robot.SetToolPoint(3)  robot.MoveJ(p4Joint, 0, 0, p4Desc)  robot.SetToolPoint(4)  robot.MoveJ(p5Joint, 0, 0, p5Desc)  robot.SetToolPoint(5)  robot.MoveJ(p6Joint, 0, 0, p6Desc)  robot.SetToolPoint(6)  rtn, coordRtn = robot.ComputeTool()  print("ComputeTool ", rtn, "coord is ", coordRtn [0], coordRtn [1], coordRtn [2],  coordRtn [3], coordRtn [4], coordRtn [5]) |

**4.28.** 根据点位信息计算⼯件坐标系

*在* *Python 版本加⼊:* SDK-v2.0.8-3.7.8

 latest

|  |  |  |  |
| --- | --- | --- | --- |
| 原型 | |  | | --- | | ComputeWObjCoordWithPoints(method, pos, refFrame) | |  |
| 描述 | 根据点位信息计算⼯件坐标系 | |

|  |  |  |
| --- | --- | --- |
| 必选参数 | . method ：计算⽅法；0 ：原点-x轴-z轴 1 ：原点-x轴-xy平⾯  . pos ：三个TCP位置组  . refFrame ：参考坐标系 | |
| 默认参数 | ⽆ | |
| 返回值 | 错误码 成功-0 失败- errcode | |
|  | |  | | --- | | wobj\_offset= | |
| [x,y,z,rx,ry,rz] ：根据点位信息计算得到的⼯件坐标系，单位 [mm][°] | |

**4.28.1.** 代码示例

|  |
| --- |
| p1Desc = [-275.046, -293.122, 28.747, 174.533, -1.301, -112.101]  **from fairino import** Robot  *# 与机器⼈控制器建⽴连接，* *连接成功返回—个机器⼈对象*  robot = Robot.RPC( I192.168.58.2I)  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  p1Joint = [35.207, -95.350, 133.703, -132.403, -93.897, -122.768]  p2Desc = [-280.339, -396.053, 29.762, 174.621, -3.448, -102.901]  p2Joint = [44.304, -85.020, 123.889, -134.679, -92.658, -122.768]  p3Desc = [-270.597, -290.603, 83.034, 179.314, 0.808, -114.171]  p3Joint = [32.975, -99.175, 125.966, -116.484, -91.014, -122.857]  exaxisPos = [0, 0, 0, 0]  offdese = [0, 0, 0, 0, 0, 0]  posTCP = [p1Desc, p2Desc, p3Desc]  rtn, coordRtn = robot.ComputeWObjCoordWithPoints(1, posTCP, 0)  print("ComputeWObjCoordWithPoints ", rtn, "coord is ", coordRtn [0], coordRtn [1],  coordRtn [2], coordRtn [3], coordRtn [4], coordRtn [5])  20  21  robot.MoveJ(p1Joint, 1, 0, p1Desc)  22  robot.SetWObjCoordPoint(1)  23  robot.MoveJ(p2Joint, 1, 0, p2Desc)  24  robot.SetWObjCoordPoint(2)  25  robot.MoveJ(p3Joint, 1, 0, p3Desc)  26  robot.SetWObjCoordPoint(3)  27  rtn, coordRtn = robot.ComputeWObjCoord(1, 0)  28  print("ComputeTool ", rtn, "coord is ", coordRtn [0], coordRtn [1], coordRtn [2],  coordRtn [3], coordRtn [4], coordRtn [5]) |

