[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) / 15. 状态反馈信息



**15.** 状态反馈信息

**15.1.** 状态反馈信息对照表

*在* *Python* *版本发⽣变更:* SDK-v2.0.8-3.7.8

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| --- | --- |
| 变量 | 含义 |
| program\_state | 程序运⾏状态，1-停⽌； 2-运⾏； 3-暂停 |
| robot\_state | 机器⼈运动状态，1-停⽌； 2-运⾏； 3-暂停；4-拖动 |
| main\_code | 主故障码 |
| sub\_code | ⼦故障码” |
| robot\_mode | 机器⼈模式，0-⾃动模式；1-⼿动模式 |
| jt\_cur\_pos[i] | 关节当前位置,单位deg,i:0~5 |
| tl\_cur\_pos[i] | ⼯具当前位姿,单位deg&mm,i:0~5 |
| ﬂange\_cur\_pos[i] | 末端法兰当前位姿,单位deg&mm,i:0~5 |
| actual\_qd[i] | 机器⼈当前关节速度,单位deg/s^2,i:0~5 |
| actual\_qdd[i] | 机器⼈当前关节加速度,单位mm/s,i:0~5 |
| target\_TCP\_CmpSpeed[i] | 机器⼈TCP合成指令速度,单位mm/s&deg/s,i:0~1 |
| target\_TCP\_Speed[i] | 机器⼈TCP指令速度,单位mm/s&deg/s,i:0~5 |
| actual\_TCP\_CmpSpeed[i] | 机器⼈TCP合成实际速度,单位mm/s&deg/s,i:0~1 |
| actual\_TCP\_Speed[i] | 机器⼈TCP实际速度,单位mm/s&deg/s,i:0~5 |
| jt\_cur\_tor[i] | 当前扭矩,单位N ·m ,i:0~5 |
| tool | 应⽤的⼯具坐标系编号 |
| user | 应⽤的⼯件坐标系编号 |
| cl\_dgt\_output\_h | 控制箱数字量IO输出15-8 |
| cl\_dgt\_output\_l | 控制箱数字量IO输出7-0 |
| tl\_dgt\_output\_l | ⼯具数字量IO输出7-0 ，仅bit0-bit1有效 |
| dgt\_input\_h | 控制箱数字量IO输⼊15-8 |
| cl\_dgt\_input\_l | 控制箱数字量IO输⼊7-0 |
| tl\_dgt\_input\_l | ⼯具数字量IO输⼊7-0 ，仅bit0-bit1有效 |

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| 变量  lates  t | 含义 |
| cl\_analog\_input[i] | 控制箱模拟量输⼊ ,i:0~2 |
| tl\_anglog\_input | ⼯具模拟量输⼊ |
| ft\_sensor\_raw\_data | ⼒矩传感器原始数据,单位N&Nm,i:0~5 |
| ft\_sensor\_data | ⼒矩传感器数据,单位N&Nm,i:0~5 |
| ft\_sensor\_active | ⼒矩传感器激活状态，0-复位，1-激活 |
| EmergencyStop | 急停标志,0-急停未按下,1-急停按下 |
| motion\_done | 运动到位信号,1-到位，0-未到位 |
| gripper\_motiondone | 夹⽖运动完成信号,1-完成，0-未完成 |
| mc\_queue\_len | 运动指令队列⻓度 |
| collisionState | 碰撞检测,1-碰撞，0-⽆碰撞 |
| trajectory\_pnum | 轨迹点编号 |
| safety\_stop0\_state | 安全停⽌信号SI0 |
| safety\_stop1\_state | 安全停⽌信号SI1 |
| gripper\_fault\_id | 错误夹⽖号 |
| gripper\_fault | 夹⽖故障 |
| gripper\_active | 夹⽖激活状态，0-未激活，1-激活 |
| gripper\_position | 夹⽖位置(百分⽐) |
| gripper\_speed | 夹⽖速度(百分⽐) |
| gripper\_current | 夹⽖电流(百分⽐) |
| gripper\_tmp | 夹⽖温度,单位℃ |
| gripper\_voltage | 夹⽖电压,单位V |
| auxState.servoId | 485扩展轴,伺服驱动器ID号,i:0~3 |
| auxState.servoErrCode | 485扩展轴,伺服驱动器故障码,i:0~3 |
| auxState.servoState | 485扩展轴,伺服驱动器状态,i:0~3 |
| auxState.servoPos | 485扩展轴,伺服当前位置,i:0~3 |
| auxState.servoVel | 485扩展轴,伺服当前速度,i:0~3 |
| auxState.servoTorque | 485扩展轴,伺服当前转矩,i:0~3 |
| extAxisStatus[i].pos | UDP扩展轴,位置,i:0~3 |
| extAxisStatus[i].vel | UDP扩展轴,速度,i:0~3 |
| extAxisStatus[i].errorCode | UDP扩展轴,故障码,i:0~3 |
| extAxisStatus[i].ready | UDP扩展轴,伺服准备好,i:0~3 |

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| 变量  lates  t | 含义 |
| extAxisStatus[i].inPos | UDP扩展轴,伺服到位,i:0~3 |
| extAxisStatus[i].alarm | UDP扩展轴,伺服报警,i:0~3 |
| extAxisStatus[i].ﬁerr | UDP扩展轴,跟随误差,i:0~3 |
| extAxisStatus[i].nlimit | UDP扩展轴,到负限位,i:0~3 |
| extAxisStatus[i].pLimit | UDP扩展轴,到正限位,i:0~3 |
| extAxisStatus[i].mdbsOﬀLine | UDP扩展轴,驱动器485总线掉线 |
| extAxisStatus[i].mdbsTimeout | UDP扩展轴,控制卡与控制箱485通信超时 |
| extAxisStatus[i].homingStatus | UDP扩展轴,回零状态 |
| extDIState | 扩展数字输⼊状态 |
| extDOState | 扩展数字输出状态 |
| extAIState | 扩展模拟输⼊状态 |
| extAOState | 扩展模拟输出状态 |
| rbtEnableState | 机器⼈使能状态 |
| jointDriverTorque | 关节驱动器当前扭矩 |
| jointDriverTemperature | 关节驱动器当前温度 |
| year | 年 |
| mouth | ⽉ |
| day | ⽇ |
| hour | ⼩时 |
| minute | 分 |
| second | 秒 |
| millisecond | 毫秒 |
| softwareUpgradeState | 机器⼈软件升级状态 |
| cl\_analog\_output[i] | 控制箱模拟量输出,i:0~1 |
| tl\_analog\_output | ⼯具模拟量输出 |
| gripperRotNum | 旋转夹⽖当前旋转圈数 |
| gripperRotSpeed | 旋转夹⽖当前旋转速度百分⽐ |
| gripperRotTorque | 旋转夹⽖当前旋转⼒矩百分⽐ |
| endLuaErrCode | 末端LUA运⾏状态 |

**15.1.1.** 代码示例

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| 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  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54  55  56  57  58  59  60 | **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)  print("program\_state:", robot.robot\_state\_pkg.program\_state)  print("robot\_state:", robot.robot\_state\_pkg.robot\_state)  print("main\_code:", robot.robot\_state\_pkg.main\_code)  print("sub\_code:", robot.robot\_state\_pkg.sub\_code)  print("robot\_mode:", robot.robot\_state\_pkg.robot\_mode)  print("jt\_cur\_pos0:", robot.robot\_state\_pkg.jt\_cur\_pos [0])  print("jt\_cur\_pos1:", robot.robot\_state\_pkg.jt\_cur\_pos [1])  print("jt\_cur\_pos2:", robot.robot\_state\_pkg.jt\_cur\_pos [2])  print("jt\_cur\_pos3:", robot.robot\_state\_pkg.jt\_cur\_pos [3])  print("jt\_cur\_pos4:", robot.robot\_state\_pkg.jt\_cur\_pos [4])  print("jt\_cur\_pos5:", robot.robot\_state\_pkg.jt\_cur\_pos [5])  print("tl\_cur\_pos0:", robot.robot\_state\_pkg.tl\_cur\_pos [0])  print("tl\_cur\_pos1:", robot.robot\_state\_pkg.tl\_cur\_pos [1])  print("tl\_cur\_pos2:", robot.robot\_state\_pkg.tl\_cur\_pos [2])  print("tl\_cur\_pos3:", robot.robot\_state\_pkg.tl\_cur\_pos [3])  print("tl\_cur\_pos4:", robot.robot\_state\_pkg.tl\_cur\_pos [4])  print("tl\_cur\_pos5:", robot.robot\_state\_pkg.tl\_cur\_pos [5])  print("flange\_cur\_pos0:", robot.robot\_state\_pkg.flange\_cur\_pos [0])  print("flange\_cur\_pos1:", robot.robot\_state\_pkg.flange\_cur\_pos [1])  print("flange\_cur\_pos2:", robot.robot\_state\_pkg.flange\_cur\_pos [2])  print("flange\_cur\_pos3:", robot.robot\_state\_pkg.flange\_cur\_pos [3])  print("flange\_cur\_pos4:", robot.robot\_state\_pkg.flange\_cur\_pos [4])  print("flange\_cur\_pos5:", robot.robot\_state\_pkg.flange\_cur\_pos [5])  print("actual\_qd0:", robot.robot\_state\_pkg.actual\_qd [0])  print("actual\_qd1:", robot.robot\_state\_pkg.actual\_qd [1])  print("actual\_qd2:", robot.robot\_state\_pkg.actual\_qd [2])  print("actual\_qd3:", robot.robot\_state\_pkg.actual\_qd [3])  print("actual\_qd4:", robot.robot\_state\_pkg.actual\_qd [4])  print("actual\_qd5:", robot.robot\_state\_pkg.actual\_qd [5])  print("actual\_qdd0:", robot.robot\_state\_pkg.actual\_qdd [0])  print("actual\_qdd1:", robot.robot\_state\_pkg.actual\_qdd [1])  print("actual\_qdd2:", robot.robot\_state\_pkg.actual\_qdd [2])  print("actual\_qdd3:", robot.robot\_state\_pkg.actual\_qdd [3])  print("actual\_qdd4:", robot.robot\_state\_pkg.actual\_qdd [4])  print("actual\_qdd5:", robot.robot\_state\_pkg.actual\_qdd [5])  print("target\_TCP\_CmpSpeed0:", robot.robot\_state\_pkg.target\_TCP\_CmpSpeed [0])  print("target\_TCP\_CmpSpeed1:", robot.robot\_state\_pkg.target\_TCP\_CmpSpeed [1])  print("target\_TCP\_Speed0:", robot.robot\_state\_pkg.target\_TCP\_Speed [0])  print("target\_TCP\_Speed1:", robot.robot\_state\_pkg.target\_TCP\_Speed [1])  print("target\_TCP\_Speed2:", robot.robot\_state\_pkg.target\_TCP\_Speed [2])  print("target\_TCP\_Speed3:", robot.robot\_state\_pkg.target\_TCP\_Speed [3])  print("target\_TCP\_Speed4:", robot.robot\_state\_pkg.target\_TCP\_Speed [4])  print("target\_TCP\_Speed5:", robot.robot\_state\_pkg.target\_TCP\_Speed [5])  print("actual\_TCP\_CmpSpeed0:", robot.robot\_state\_pkg.actual\_TCP\_CmpSpeed [0])  print("actual\_TCP\_CmpSpeed1:", robot.robot\_state\_pkg.actual\_TCP\_CmpSpeed [1]) | |
| print("actual\_TCP\_Speed0:", robot.robot\_state\_pkg.actual\_TCP\_Speed [0])  print("actual\_TCP\_Speed1:", robot.robot\_state\_pkg.actual\_TCP\_Speed [1])  print("actual\_TCP\_Speed2:", robot.robot\_state\_pkg.actual\_TCP\_Speed [2])  print("actual\_TCP\_Speed3:", robot.robot\_state\_pkg.actual\_TCP\_Speed [3])  print("actual\_TCP\_Speed4:", robot.robot\_state\_pkg.actual\_TCP\_Speed [4])  print("actual\_TCP\_Speed5:", robot.robot\_state\_pkg.actual\_TCP\_Speed [5])  print("jt\_cur\_tor0:", robot.robot\_state\_pkg.jt\_cur\_tor [0])  print("jt\_cur\_tor1:", robot.robot\_state\_pkg.jt\_cur\_tor [1])  print("jt\_cur\_tor2:", robot.robot\_state\_pkg.jt\_cur\_tor [2])  print("jt\_cur\_tor3:", robot.robot\_state\_pkg.jt\_cur\_tor [3])  print("jt\_cur\_tor4:", robot.robot\_state\_pkg.jt\_cur\_tor [4])  print("jt\_cur\_tor5:", robot.robot\_state\_pkg.jt\_cur\_tor [5]) | latest |

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| 61 | print("tool:", robot.robot\_state\_pkg.tool) | |
| 62 | print("user:", robot.robot\_state\_pkg.user) | |
| 63 | print("cl\_dgt\_output\_h:", robot.robot\_state\_pkg.cl\_dgt\_output\_h) | |
| 64 | print("cl\_dgt\_output\_l:", robot.robot\_state\_pkg.cl\_dgt\_output\_l) | |
| 65 | print("tl\_dgt\_output\_l:", robot.robot\_state\_pkg.tl\_dgt\_output\_l) | |
| 66 | print("cl\_dgt\_input\_h:", robot.robot\_state\_pkg.cl\_dgt\_input\_h) | |
| 67 | print("cl\_dgt\_input\_l:", robot.robot\_state\_pkg.cl\_dgt\_input\_l) | |
| 68 | print("tl\_dgt\_input\_l:", robot.robot\_state\_pkg.tl\_dgt\_input\_l) | |
| 69 | print("cl\_analog\_input0:", robot.robot\_state\_pkg.cl\_analog\_input [0]) | |
| 70 | print("cl\_analog\_input1:", robot.robot\_state\_pkg.cl\_analog\_input [1]) | |
| 71 | print("tl\_anglog\_input:", robot.robot\_state\_pkg.tl\_anglog\_input) | |
| 72 | print("ft\_sensor\_raw\_data0:", robot.robot\_state\_pkg.ft\_sensor\_raw\_data [0]) | |
| 73 | print("ft\_sensor\_raw\_data1:", robot.robot\_state\_pkg.ft\_sensor\_raw\_data [1]) | |
| 74 | print("ft\_sensor\_raw\_data2:", robot.robot\_state\_pkg.ft\_sensor\_raw\_data [2]) | |
| 75 | print("ft\_sensor\_raw\_data3:", robot.robot\_state\_pkg.ft\_sensor\_raw\_data [3]) | |
| 76 | print("ft\_sensor\_raw\_data4:", robot.robot\_state\_pkg.ft\_sensor\_raw\_data [4]) | |
| 77 | print("ft\_sensor\_raw\_data5:", robot.robot\_state\_pkg.ft\_sensor\_raw\_data [5]) | |
| 78 | print("ft\_sensor\_data0:", robot.robot\_state\_pkg.ft\_sensor\_data [0]) | |
| 79 | print("ft\_sensor\_data1:", robot.robot\_state\_pkg.ft\_sensor\_data [1]) | |
| 80 | print("ft\_sensor\_data2:", robot.robot\_state\_pkg.ft\_sensor\_data [2]) | |
| 81 | print("ft\_sensor\_data3:", robot.robot\_state\_pkg.ft\_sensor\_data [3]) | |
| 82 | print("ft\_sensor\_data4:", robot.robot\_state\_pkg.ft\_sensor\_data [4]) | |
| 83 | print("ft\_sensor\_data5:", robot.robot\_state\_pkg.ft\_sensor\_data [5]) | |
| 84 | print("ft\_sensor\_active:", robot.robot\_state\_pkg.ft\_sensor\_active) | |
| 85 | print("EmergencyStop:", robot.robot\_state\_pkg.EmergencyStop) | |
| 86 | print("motion\_done:", robot.robot\_state\_pkg.motion\_done) | |
| 87 | print("gripper\_motiondone:", robot.robot\_state\_pkg.gripper\_motiondone) | |
| 88 | print("mc\_queue\_len:", robot.robot\_state\_pkg.mc\_queue\_len) | |
| 89 | print("collisionState:", robot.robot\_state\_pkg.collisionState) | |
| 90 | print("trajectory\_pnum:", robot.robot\_state\_pkg.trajectory\_pnum) | |
| 91 | print("safety\_stop0\_state:", robot.robot\_state\_pkg.safety\_stop0\_state) | |
| 92 | print("safety\_stop1\_state:", robot.robot\_state\_pkg.safety\_stop1\_state) | |
| 93 | print("gripper\_fault\_id:", robot.robot\_state\_pkg.gripper\_fault\_id) | |
| 94 | print("gripper\_fault:", robot.robot\_state\_pkg.gripper\_fault) | |
| 95 | print("gripper\_active:", robot.robot\_state\_pkg.gripper\_active) | |
| 96 | print("gripper\_position:", robot.robot\_state\_pkg.gripper\_position) | |
| 97 | print("gripper\_speed:", robot.robot\_state\_pkg.gripper\_speed) | |
| 98 | print("gripper\_current:", robot.robot\_state\_pkg.gripper\_current) | |
| 99 | print("gripper\_tmp:", robot.robot\_state\_pkg.gripper\_tmp) | |
| 100 | print("gripper\_voltage:", robot.robot\_state\_pkg.gripper\_voltage) | |
| 101 | print("auxState.servoId:", robot.robot\_state\_pkg.auxState.servoId) | |
| 102 | print("auxState.servoErrCode:", robot.robot\_state\_pkg.auxState.servoErrCode) | |
| 103 | print("auxState.servoState:", robot.robot\_state\_pkg.auxState.servoState) | |
| 104 | print("auxState.servoPos:", robot.robot\_state\_pkg.auxState.servoPos) | |
| 105 | print("auxState.servoVel:", robot.robot\_state\_pkg.auxState.servoVel) | |
| 106 | print("auxState.servoTorque:", robot.robot\_state\_pkg.auxState.servoTorque) | |
| 107 | **for** i **in** range(4): | |
| 108 | print("extAxisStatus.pos:", i,robot.robot\_state\_pkg.extAxisStatus [i].pos) | |
| 109 | print("extAxisStatus.vel:", i,robot.robot\_state\_pkg.extAxisStatus [i].vel) | |
| 110 print("extAxisStatus.errorCode:",  i,robot.robot\_state\_pkg.extAxisStatus [i].errorCode) | | |
| 111  print("extAxisStatus.ready:",  i,robot.robot\_state\_pkg.extAxisStatus [i].ready) | | |
| 112  print("extAxisStatus.inPos:",  i,robot.robot\_state\_pkg.extAxisStatus [i].inPos) | | |
| 113 | print("extAxisStatus.alarm:", | |
| i,robot.robot\_state\_pkg.extAxisStatus [i].alarm)  114  print("extAxisStatus.flerr:",  i,robot.robot\_state\_pkg.extAxisStatus [i].flerr) | | |
| 115  print("extAxisStatus.nlimit:",  i,robot.robot\_state\_pkg.extAxisStatus [i].nlimit) | | latest |
| 116  print("extAxisStatus.pLimit:",  i,robot.robot\_state\_pkg.extAxisStatus [i].pLimit) | | |
| 117  print("extAxisStatus.mdbsOffLine:", | | |

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| i,robot.robot\_state\_pkg.extAxisStatus [i].mdbsOffLine)  118  print("extAxisStatus.mdbsTimeout:",  i,robot.robot\_state\_pkg.extAxisStatus [i].mdbsTimeout)  119  print("extAxisStatus.homingStatus:",  i,robot.robot\_state\_pkg.extAxisStatus [i].homingStatus)  120  **for** i **in** range(8):  121  print("extDIState:",i, robot.robot\_state\_pkg.extDIState [i])  122  print("extDOState:", i,robot.robot\_state\_pkg.extDOState [i])  123  **for** i **in** range(4):  124  print("extAIState:", i,robot.robot\_state\_pkg.extAIState [i])  125  print("extAOState:", robot.robot\_state\_pkg.extAOState [i])  126  print("rbtEnableState:", robot.robot\_state\_pkg.rbtEnableState)  127  print("jointDriverTorque0:", robot.robot\_state\_pkg.jointDriverTorque[0])  128  print("jointDriverTorque1:", robot.robot\_state\_pkg.jointDriverTorque[1])  129  print("jointDriverTorque2:", robot.robot\_state\_pkg.jointDriverTorque[2])  130  print("jointDriverTorque3:", robot.robot\_state\_pkg.jointDriverTorque[3])  131  print("jointDriverTorque4:", robot.robot\_state\_pkg.jointDriverTorque[4])  132  print("jointDriverTorque5:", robot.robot\_state\_pkg.jointDriverTorque[5])  133  print("jointDriverTemperature:",  robot.robot\_state\_pkg.jointDriverTemperature[0])  134  print("jointDriverTemperature:",  robot.robot\_state\_pkg.jointDriverTemperature[1])  135  print("jointDriverTemperature:",  robot.robot\_state\_pkg.jointDriverTemperature[2])  136  print("jointDriverTemperature:",  robot.robot\_state\_pkg.jointDriverTemperature[3])  137  print("jointDriverTemperature:",  robot.robot\_state\_pkg.jointDriverTemperature[4])  138  print("jointDriverTemperature:",  robot.robot\_state\_pkg.jointDriverTemperature[5])  139  print("year:", robot.robot\_state\_pkg.year)  140  print("mouth:", robot.robot\_state\_pkg.mouth)  141  print("day:", robot.robot\_state\_pkg.day)  142  print("hour:", robot.robot\_state\_pkg.hour)  143  print("minute:", robot.robot\_state\_pkg.minute)  144  print("second:", robot.robot\_state\_pkg.second)  145  print("millisecond:", robot.robot\_state\_pkg.millisecond)  146  print("softwareUpgradeState:", robot.robot\_state\_pkg.softwareUpgradeState)  147  print("cl\_analog\_output[0]:",robot.robot\_state\_pkg.cl\_analog\_output [0])  148  print("cl\_analog\_output[1]:",robot.robot\_state\_pkg.cl\_analog\_output [1])  149  print("tl\_analog\_output:",robot.robot\_state\_pkg.tl\_analog\_output)  150  print("gripperRotNum:",robot.robot\_state\_pkg.gripperRotNum)  151  print("gripperRotSpeed:",robot.robot\_state\_pkg.gripperRotSpeed)  152  print("gripperRotTorque:",robot.robot\_state\_pkg.gripperRotTorque)  153  print("endLuaE rrCode:", robot.robot\_state\_pkg.endLuaE rrCode) |

