FAT - Sorting Line With Colordetection

Test items:

When in resetting State

1 all equipment modules are resetted, the state Idle is activated next

When in execute State

2 the conveyerBelt is moving
3 a color measurement is automatically started and stopped based on the in- and output sensor
4 after a piece has been measured the belt stops at the correct magazine
5 after the belt has stopped the piece will be ejected into the magazine. (the ejection is halted while the magazine is already filled)
6 After a piece has been ejcted the next (completing) is activated

Errors

6 The measured color is outside of the range
7 A new piece was entered while color measurement was still busy
8 The ejection takes too long (piece doesn't fall)

Test #1 *all equipment modules are resetted, the state Idle is activated next*

Pre-conditions

1. The current active step is resetting

Als een error aanwezig is loop

Test steps

1. None

Expected result

The three Equipment modules are resetted. When no errors are active the idle state is activated.

Test #2 *the conveyerBelt is moving*

Pre-conditions

1. The current active step is Execute

Test steps

1. NONE

Expected result

The conveyerBelt is moving

Test #3 *a color measurement is automatically started and stopped based on the in- and output sensor*

Pre-conditions

1. The current active step is Execute

Test steps

1. Place a piece at the input of the station

Expected result

After the piece has passed the output sensor, an eColor value should be present at the ColorMeasuring equipment.

Test #4 *after a piece has been measured the belt stops at the correct magazine*

Pre-conditions

1. The current active step is Execute
2. Test **3** has been concluded (a piece has been measured)

Test steps

1. NONE

Expected result

Based on the measured color, the belt stops at one of the three magazines.

Test #5 *after the belt has stopped the piece will be ejected into the magazine. (the ejection is halted while the magazine is already filled)*

Pre-conditions

1. The current active step is Execute
2. Test 4 has been concluded (a piece has been measured, and belt has stopped)

Test steps

1. NONE

Expected result

When the belt has stopped, and when the magazine is empty the piston will extend to push the piece into the magazine.

Test #6 *After a piece has been ejcted the next (completing) is activated*

Pre-conditions

1. The current active step is Execute
2. Test 5 has been concluded (a piece has been ejected into a magazine)

Test steps

1. NONE

Expected result

After the ejection is (succesfully) done the Completing state is activated. The Completed state is activated immediatly after.

Test #6 *The measured color is outside of the range*

Pre-conditions

1. The current active step is Execute

Test steps

1. Activate input sensor (place no piece)
2. after 2 seconds activate output sensor

Expected result

The measurement is activated on the input sensor, and deactivated on the output sensor. Because no piece has passed the sensor an error should generate that the measured color is outside of the range.

Test #7 *A new piece was entered while color measurement was still busy*

Pre-conditions

1. The current active step is Execute

Test steps

1. Activate input sensor (place no piece)
2. after 2 seconds activate input sensor (again)

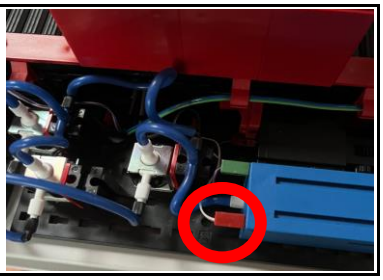
Expected result

The measurement is activated on the input sensor. Because the input sensor is activated for the second time an error should generate.

Test #8 *The ejection takes too long (piece doesn't fall)*

Pre-conditions

1. The current active step is Execute
2. A piece has been measured
3. Power is removed from the compressor



Test steps

1. None

Expected result

After the measurement has concluded and the belt has stopped, the compressor and valve are activated to eject the piece. Because the power is removed from the compressor, the piece will not be ejected. An error should generate after X seconds.