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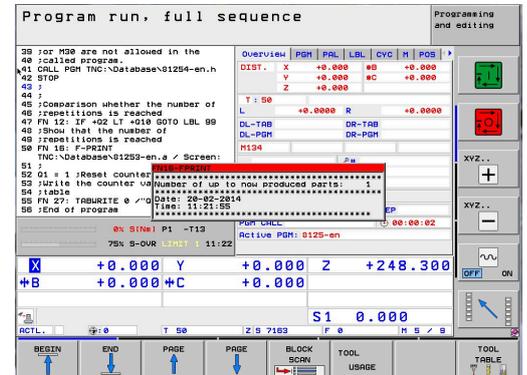
NC Solutions

Description of NC Program 8125

English (en)
02/2020

1 Description of NC program 8125_en.h

NC program for counting the number of program runs.



Requirement

You need to produce a certain number of workpieces. In order to monitor the machining progress, the control should automatically count the number of program runs. Production is interrupted by the execution of other programs or during the night. The counter must therefore be connected with the NC program and must be retained beyond a control restart. Furthermore, when starting the program, the machine operator should see on the screen how many program runs have already been executed. Additionally, a message should appear when the required number of program runs has been reached.

Solution

The requirement was met with a freely defined table. In this table, the control saves the number of program runs. Since the table is assigned to the NC program, the execution of other NC programs is not counted. The value of the table is retained beyond shutdown of the control. The message can be displayed on the control screen with the FN16 function.

NC program 8125_en.h

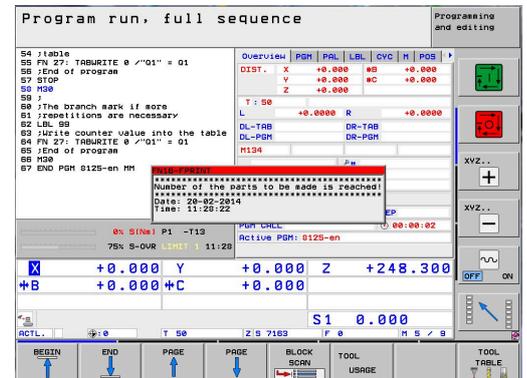
First define the number of required program runs in the NC program. Then define with the FN16 function the path of the table in which the counter is saved. In the next program step, the control reads out the current count from row 0 column Q1. It saves this value in the parameter Q1.

Subsequently, the control saves the counter value in the parameter Q2. Then it calculates the number of already executed program runs from the counter. With the FN16 function, the control displays the content of the mask file 81252-en.a on the screen. While doing so it fills the placeholders in the mask file with the number of program runs so far.

In the next step, the control increments the value in the parameter Q1 by one. Then the actual machining of the workpiece begins. For this machining process, the example program calls the NC program 81254-en.h in which the tool movements are programmed.

Then the control checks whether the number of required program runs has been reached.

- If the number of program runs has not been reached, the control performs a jump. Then it writes the new counter value into the table and ends the NC program
- When the number has been reached, the control displays the content of the mask file 81253-en.a with an FN16 function on the screen. Then it sets the counter value back to one and writes this counter value into the table. Subsequently, it ends the NC program



Parameter	Name	Meaning
Q10	NUMBER OF REPETITIONS	Number of program runs necessary until a message is displayed on the screen and the counter is reset.



Program runs in the Test Run operating mode also increment the counter!

Table 81251-en.tab

The freely definable table serves to save the count beyond a power interruption on the control. The table consists of the column Q1 and row 0.



When starting a series, the count in the table must be one!



Program runs in the Test Run operating mode also increment the counter!

Mask 81252_en.a

With this mask file, the control displays the current count on the screen at program start. Furthermore, the current date and time are displayed.

```

"*****";
"Number of up to now produced parts: %4.0LF",Q5;
"*****";
"Date: %02D-%02D-%4D",DAY,MONTH,YEAR4;
"Time: %2D:%2.2D:%02.2D",HOUR,MIN,SEC;
"*****";
M_Close;

```

Mask file 81253_en.a

When the number of defined program runs is reached, the control displays the content of this mask file on the screen.

```

"*****";
"Number of the parts to be made is reached!";
"*****";
"Date: %02D-%02D-%4D",DAY,MONTH,YEAR4;
"Time: %2D:%2.2D:%02.2D",HOUR,MIN,SEC;
" ";
M_Close;

```

NC program 81254-en.h

The NC program serves as machining program in this example. A tool movement is programmed in two NC blocks.