



HEIDENHAIN



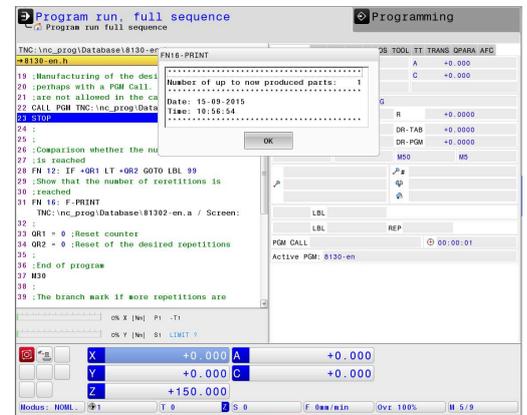
NC Solutions

Description of NC Program 8130

English (en)
02/2020

1 Description of the NC program 8130_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 non-volatile parameter. In this parameter, the control saves the number of program runs. When this parameter is assigned to one NC program only, the execution of other NC programs is not counted. The value in the parameter is retained beyond shutdown of the control. The message can be displayed on the control screen with the FN16 function.



Non-volatile parameters (QR) are available in the NC software 340 49x-05 or higher of the iTNC 530.

NC program 8130-en.h

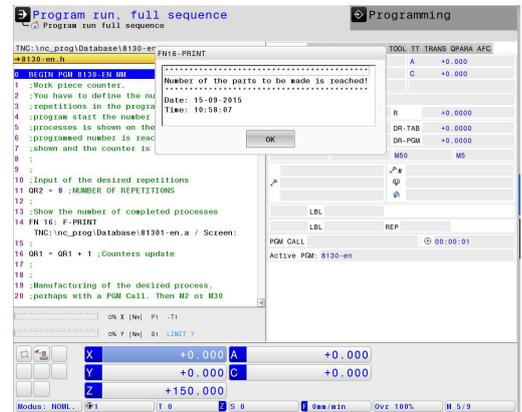
First define the number of required program runs in the NC program.

Subsequently, the control displays the content of the mask file 81301_en.a on the screen with the FN16 function. While doing so it fills the placeholders in the mask file with the number of program runs so far, which is saved in the non-volatile parameter QR1.

In the next step, the control increments the value of the parameter QR1 by one. Then the actual machining of the workpiece begins. For this machining process, the example program calls the NC program 81303-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 and ends the program
- When the number has been reached, the control displays the content of the mask file 81302-en.a with an FN16 function on the screen. Then it resets the parameter for the counter value and the parameter for the required number of repetitions to zero. Subsequently, it ends the NC program



Parameter	Name	Meaning
QR2	NUMBER OF REPETITIONS	Number of program runs necessary until a message is displayed on the screen and the counter is reset.

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

Mask 81301_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",QR1;
"*****",
"Date: %02D-%02D-%4D",DAY,MONTH,YEAR4;
"Time: %2D:%2.2D:%02.2D",HOUR,MIN,SEC;
"*****",
M_Close;
    
```

Mask file 81302_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 81303-en.h

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