

FANUC: MACHINE DATA

By using the utility program [FanucDataGui](#) you can acquire and output information and performance related machine data from your FOCAS enabled Fanuc controllers. [FanucDataGui](#) is an enhanced version of FanucStateGui.

Important: If your machine has a PC that is connected to the controller via HSSB (High Speed Serial Bus) or if you're using the HSSB features of FANUC's NCGUIDE simulation software see notes on HSSB below. In these cases run the test directly on the respective PC!

Tip: If you can access the controller via the network it is a good idea to use the program on a laptop with a network connection at the shop-floor in front of the machine. By doing so you can easily verify the results.

SETUP & USAGE

- Extract all contents of [fanucdata.zip](#) to a folder on your PC.
- Navigate to this folder.
- To verify that the controller is reachable you can open a command prompt (RUN->CMD) and type in 'ping DNSNAME or ping IPADDRESS' e.g. 'ping FANUC' in case the DNSNAME of the machine is FANUC. Verify that you get a response.
- Double click FanucDataGui.
- In the first field on the left side enter the IP Address or DNS Hostname of your controller.
- In the second field you can enter a different port if you configured FOCAS at the controller to use a port different to 8193.
- The number in the third field only has to be changed if you query data via HSSB (1 = 'real HSSB', 2 = HSSB functions from NCGUIDE)
- After clicking on the button 'Query' or simply hitting 'Enter' you should see output similar to the following (here the DNS Hostname of the controller is FANUC):

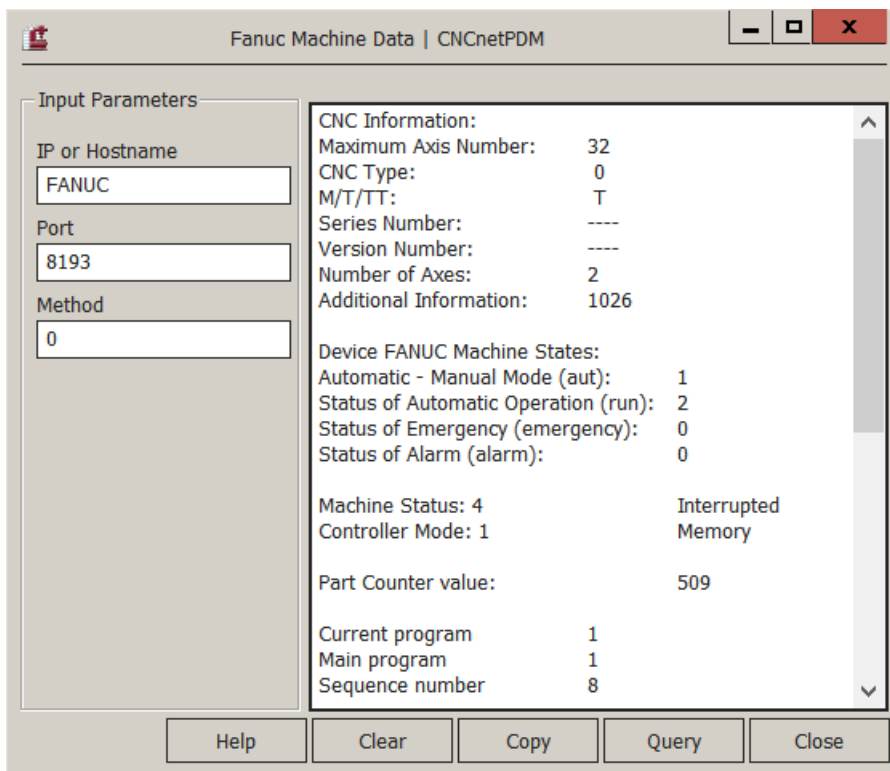


FIG 1: Fanucdatagui output

In the above example the controller replied which means that it is reachable and has the FOCAS option installed and enabled. If you get an error please look [here](#) to find out the reason.

- Clicking on button 'Clear' empties the output field on the right side.
- Button 'Copy' enables you to copy the data in the output field to your clipboard and paste it into a different program afterwards.

LICENSING

If you have installed CNCnetPDM on your PC with a license other than a 'free license' and run this program from the folder where CNCnetPDM is installed you get unlimited output. Otherwise the program outputs a restricted set of items. Please see [licensing](#) for details or [contact us](#) if you have any questions.

- Note: If you like to run this program from a different location on your PC you can simply copy your CNCnetPDM.ini file to this directory.

PROGRAM OUTPUT

FanucDataGui outputs the following information:

MACHINE INFORMATION

Here you get information about your machine.

Maximum Axis Number: Usually 32

CNC Type:

15 = Series 150/150i

16 = Series 160/160i

18 = Series 180/180i

21 = Series 210/210i

30 = Series 300i

31 = Series 310i

32 = Series 320i

0 = Series 0i

PD = Power Mate i-D

PH = Power Mate i-H

Machine type: Either M, T or TT

Series and version number

Number of Axes: Number of axes available on your machine

Additional Information: Numeric value

MACHINE STATE

Current state of your machine (Details)

Device (IP Address or DNS Hostname) Machine States:

Automatic - Manual Mode (aut): Possible values 0 - 11 =

MDI, Memory, ****, EDIT, Handle, JOG, Teach in JOG, Teach in Handle, INC-feed, Reference, Remote, TEST (Test operation mode)

Status of Automatic Operation (run): Possible values 0 - 4 =

**** (Reset), STOP, HOLD, Start, MSTR (during retraction and re-positioning of tool retraction and recovery, and operation of JOG MDI)

Status of Emergency (emergency): Possible values 0 - 2 =
(No emergency), Emergency, Reset

Status of Alarm (alarm): Possible values 0 - 3 =
(No Alarm), Alarm, Battery low, FAN Alarm

Machine Status: Possible numeric values 0 - 5 =
Off, On (half alive), Producing, Manual, Interrupted, Error

Controller Mode: Possible values 0 - 11 =
MDI, Memory, ****, EDIT, Handle, JOG, Teach in JOG, Teach in Handle, INC-feed, Reference,
Remote, TEST (Test operation mode)

PART COUNTER VALUE

Number of parts produced, queried via parameter 6711.

NC PROGRAM INFORMATION

Current program: Number of the current program
Main program: Number of the main program
Sequence number: Actual sequence e.g. 8 = N8
Program comment: Comment, Text in brackets ()
Program information: Path and name of the program

FEED RATE & SPINDLE SPEED

Actual feed rate
Actual spindle speed

ALARM STATUS

Possible values 0 - 3 =
(No Alarm), Alarm, Battery low, FAN Alarm

POSITION DATA

Depending on the number of axes of your machine you get the following output for each axis:

Absolute position axis (number)
Relative position axis (number)
Machine position axis (number)
Distance to go axis (number)

TOOL DATA

The actual tool number is queried via 2 different methods, modal and parameter. For tool number T05 the output would be:

Actual tool number (modal) 5
Actual tool number (macro) 5

ALARM STATUS

If there's no alarm FanucDataGui shows 'No Alarm' In case there is an alarm the program outputs the alarm number (0 - 15) and it's description. Depending on the type of controller you get different descriptions e.g. on a Fanuc 18i controller you'd see 'P/S alarm' if the NC Program got stuck an invalid G function.

SPINDLE LOAD METER & MOTOR SPEED

Reads the spindle load meter data (%) and the spindle motor speed data (rpm) from the first to up to 4 spindles.

HSSB

If your machine has a PC that is connected to the controller via HSSB or you use HSSB features of FANUC's NCGUIDE simulation software the above procedure is slightly different. In both cases do NOT use the dll files starting with fwlib (e.g. Fwlib32.dll) included in fanucdata.zip. For HSSB on a real machine use the fwlib dll's that the machine's PC uses (search for them). For NCGUIDE use the following 5 dll's that are installed by NCGUIDE: fwlib0DN.dll, Fwlib32.dll, fwlibNCG.dll, hssb.dll and mcnhssb.dll.

- For the test program instead of method 0 input method 1 for 'Real HSSB' or method 2 if you're using the HSSB functions of NCGUIDE.