

CAD/CAM
INTEGRATION

Driving Manufacturing
Productivity for Over
Two Decades



SuiteFactory Technote

Document and Records Mangement Job Packets
DNC Wired and Wireless Ethernet Networks
Wired and Wireless RS-232 Consulting Services

Machine Status Collection:

- Remote Command
- Macro B Feature of CNC
- Digital and Analog I/O

Status Elements Supported

Status Element	Suggested Format	Method	Comments
Operator Name	OperID=	Remote Command	Logged in operator
Part Number	PartNo=	Remote Command or Macro B	Name of the Part Number running
Program Name	Prog=	Remote Command or Macro B	Name of the Part Program running
Program Start	ProgStatus=1	Remote Command, Macro B or Digital I/O	Cycle Start button pushed
Feed Hold	Hold=1 or 0	Digital I/O	Feed Hold button pushed
Current Feedrate	Feedrate=xxx.xx or mm/min)	Digital I/O or Analog I/O	This can be the programmed feedrate or the actual feedrate if this data is available in a system variable.
Feedrate Override at 100%	FeedOv=1 or 0	Digital I/O or Analog I/O	FRO Switch moved off of 100%
Spindle Speed	Spindle=xxxxx	Digital I/O or Analog I/O	This can be the programmed spindle speed or the actual spindle speed if this data is available in a system variable
Spindle Speed Override at 100%	SpinOv=1 or 0	Digital I/O or Analog I/O	SSO Switch moved off of 100%
Mode: Auto, Single, MDI, Manual	Mode=	Digital I/O	
Program Done	ProgStatus=0	Remote Command, Macro B or Digital I/O	Successful completion of program.
Program Aborted	ProgStatus=2	Remote Command or Digital I/O with software logic	Program stopped prematurely
Number of Parts Made	NumParts=	Remote Command or Macro B	
Number of Scraped Parts	Scrap=	Remote Command	

Scrapped Parts			
Lot Size	Lot=	Remote Command	
Setting Up New Job	MachState=SettingUp	Remote Command	
Running	MachState=Running	Remote Command, Macro B or Digital I/O	
Breaking Down Completed Job	MachState=BreakingDown	Remote Command	
Down for Maintenance	MachState=DownMaint	Remote Command	
Waiting for Program	MachState=WaitProg	Remote Command	
Waiting for Material	MachState=WaitMatl	Remote Command	
Machine Idle	MachState=Idle	Remote Command	

For Reference: Requirements for Machine Tool Builders

- Power Turned On – CNC is powered and ready to run
- Power Off – the CNC is off and no longer ready.
- Cycle Started – a part program has begun to be executed. (The CNC is in Automatic or Single Block mode and the Cycle Start button was pushed. Not in MDI, Jog or any other condition.)
- End of Cycle – the part program previously started is now completed. (M02, M30 or M99.)
- Normal End – the part was completed normally in Automatic mode.
- Cycle Aborted – the controller was taken out of Automatic Mode before the part was completed. For example, the CNC was reset in the middle of the program. Returning to Automatic mode and pressing Cycle Start results in a new Cycle on.
- In Axis Hold – meaning that the Feed Hold (or Cycle Stop) function has been executed and the axes are temporarily stopped.
- Feed Hold Canceled – part program execution continues.
- In Emergency Stop – meaning that the Emergency Stop Button was pushed.
- Not In Emergency Stop – the Emergency Stop condition is cleared.
- Not Automatic Mode – the control was taken out of Automatic mode. We want to determine that during the automatic cycle the part program was stopped by changing to Single Block, MDI or other mode, some manual operation done and then restarted.
- Edit – The CNC edit function has been entered.
- Feed rate override moved from 100%
- Feed rate override at 100%
- Single – the control was put in Single Block mode
- Not Single – the control was in Single and now is not.
- Spindle Speed Override moved from 100%
- Spindle Speed Override at 100%