



Smart Tool Monitor



Quick Start Guide

STM 7700 Operation Manual

This quick start guide is for basic reference, and the Smart Operation manual should be used for complete instructions for proper operation.

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1 IMPORTANT INSTRUCTIONS AND WARNING

Refer to NSK/Nakanishi Controller manual for safe handling and electrical connections before operation of the NSK/Nakanishi controller.

2 BASIC PACKAGE

When opening the package, check if it includes all items listed in " Table.1 Packing List Contents ".

Table. 1 Packing List Contents:

- 1) Smart Live Tool Computer.
- 2) Machine Interface Box
- 3) 24VDC M-M Power Cable
- 4) USB-C Machine interface cable
- 5) Motor I/O Extender Cable ABC
- 6) Machine I/O Extender Cable XYZ
- 7) AC power Y-cable
- 8) LED Signal tower

3 MOUNTING AND DIMENSIONS

Smart Tool Monitoring system is mounted to the Host machine cabinet via a Magnetic base. The computer monitor can be mounted vertically or horizontally, whichever is most ergonomic for the operator.

The Machine Interface Box is magnetically mounted close enough to the Nakanishi/NSK controller to allow DB25 I/O cable connection.

4 POWER CONNECTION

System power is via Y- AC Power cable. Remove the power cable to the Nakanishi/NSK controller and install the Y-AC Power cable to the Machine Interface Box and the Controller. The machine Interface Box will operate on 50/60Hz 100-240VAC

Use the Male-Male power cord provided to connect 24VDC to the Smart monitor computer power plug.

All I/O signals and power functions are limited to 24VDC. And circuits are protected internally.

5 HOST MACHINE TO STM CONNECTION

- 1) Initial procedure is to test Host Machine to NSK/Nakanishi controller per Electrical Connection as directed in the NSK/Nakanishi Controller manual.
- 2) Test all functions to the NSK/Nakanishi controller to confirm proper Motor/spindle operation remotely via Host machine I/O.
- 3) Remove the DB25 cable from the front panel of the NSK/Nakanishi controller and using "Machine I/O Extender cable XYZ", plug it into the Machine Interface Box "Machine I/O" DB25 input.
- 4) Using the "Drive I/O" Extender cable ABC provided, connect the "Drive I/O" DB25 output connector to the NSK/Nakanishi front Panel I/O DB25 connector.

6 NSK/NAKANISHI CONTROLLER INITIAL SETUP

- 1) Turn the NSK/Nakanishi Controller Power ON while holding down the RESET Button for 3 seconds. (This will allow access to the parameters on the NSK Controller.)

- 2) Set NSK/Nakanishi Parameter P1 to "ON".
- 3) Press Controller "Reset" and Cycle power OFF for 5 seconds then turn back ON to set this parameter.

7 STM INITIAL SETUP

- 1) Power up the Machine and follow the prompts on STM. This will take a few minutes for the system to boot up.

8 OPERATION PROCEDURES

- 1) When Host machine Setup is complete and the operator is ready to begin continuous production, press the "Learn Start" button to initiate the Learn sequence. This process will establish the base parameters to be monitored for tool wear.
- 2) Start the Host machine in continuous production "run" mode. The STM will Learn the parameters and store them in memory upon completion of the first part cycle.
- 3) The STM will automatically begin monitoring tool wear with part cycle #2.
- 4) If the optional light bar is used a Green light will indicate tool is cutting nominally. (Good)
- 5) Follow the Operation Manual for detailed setup and running.