

When reliability matters

WiFi is a technology that enables data transfer over specified radio frequencies, this in turn removes the need for cabled connections between the DNC Server and CNC machine tools.

The DNC-Max software works in just the same way whether it is connected to the CNC machines by cables or by a wireless network infrastructure to IEEE802.11b standard.

Security

To prevent unauthorized access to the NC data transmitted by the wireless network, the integrated WEP (Wired Equivalent Privacy) algorithm with key lengths of optional 64-/128- /256-bits and RC4 encryption may be activated.

Distance

To use wireless technology the Wireless Access Point antenna must have "line of sight" with the CNC machines Wireless Client antenna. This can then provide a transmission distance as far as 100 metres

Data Reliability

The operational reliability of wireless data transmission in workshops with strong electromagnetic interference is not a problem. During transmission of the CNC program a multiple check of data packets is performed by the Ethernet TCP protocol. If the data packets cannot be verified perfectly (via header and contents check sums) they are rejected and sent again until the check sums match. This verification ensures that the CNC program arrives safely at the correct machine.

Fitting Wireless Clients

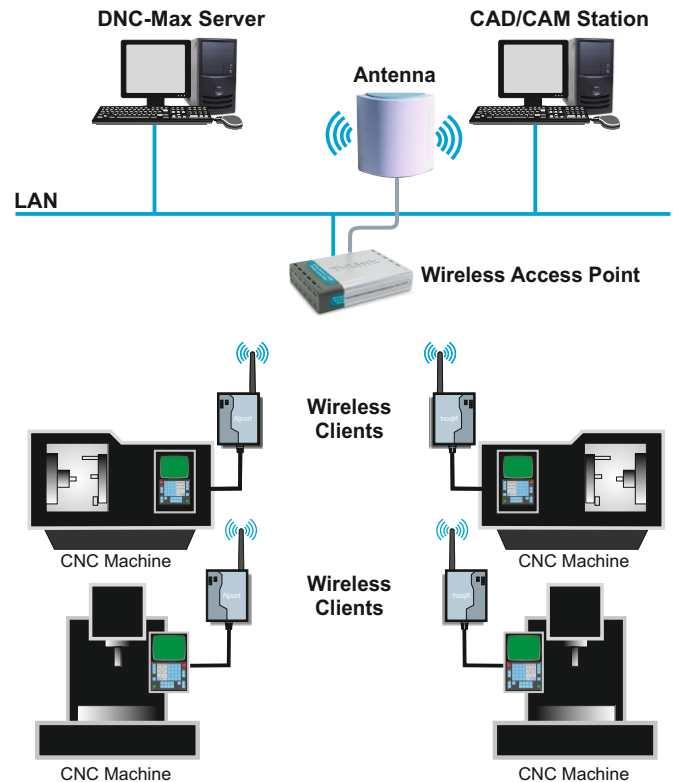
Wireless Clients are mounted inside the control enclosure of each CNC machine. A short stub antenna is then fixed to the top of the machine control with in line sight of the Wireless Access point antenna. The machine control's RS232 port is then re-sited inside the control and connected to the Wireless Client. This leaves a neat job without any external cables.



Each wireless client is programmed with a unique IP Address which ensures that a CNC program cannot be sent to the wrong machine. It also means that all machines can load programs at the same time.

Fitting Wireless Access Point & High Gain Antenna

A high gain Antenna is fitted to a wall at a point that has "line of sight" with all the machine tools. The antenna is then connected to the Wireless Access point which is in turn connected to your network.



Why Wireless DNC

To decide if wireless DNC is the solution for you consider the following points

- ➔ Your CNC machines need to be moved on a regular basis.
- ➔ You may be considering moving factory within the near future.
- ➔ Running of cables would be difficult due to heights above 4 metres
- ➔ Shop floor equipment such as overhead cranes make cabling difficult
- ➔ Eliminates working at height which requires special equipment and trained operators (Health & Safety)
- ➔ No cables getting in the way of machine operator.
- ➔ Power surges will not be transferred from CNC machines to computer system as they are not physically connected.

RoHS Compliance

All equipment supplied by us is compliant to the RoHS Directive which stands for "the restriction of the use of certain hazardous substances in electrical and electronic equipment". This Directive bans the placing on the EU market of new electrical and electronic equipment containing more than agreed levels of lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) flame retardants.



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