

LeanDNC – El sistema DNC completo para PYMES

El **LeanDNC** en combinación con los adaptadores de red Quinx, es un sistema de comunicación en red basado en Windows extremadamente fiable, que cuenta con cientos de instalaciones funcionando con éxito en todo el mundo. Gracias a su bajo coste, la inversión realizada se amortiza en pocos meses.



Software fiable e intuitivo

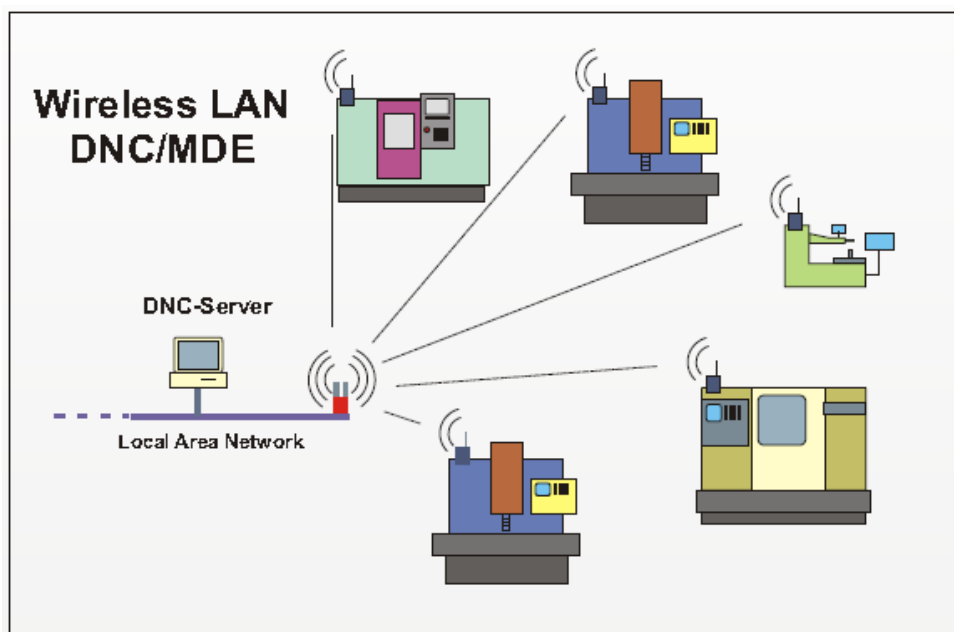


Módulo de comunicación DITB-702

Principales características

- El **LeanDNC** es un sistema completo de comunicación DNC diseñado para pequeñas y medianas empresas de mecanización, extremadamente fiable e intuitivo.
- La descarga de programas de mecanizado al CNC se gestiona mediante un pequeño programa que se edita en el mismo CNC: no es necesario desplazarse de la máquina para recibir los programas almacenados en el Servidor. Opcionalmente pueden emplearse lectores de código de barras o terminales portátiles.
- La transmisión de datos es muy fiable, gracias a la función de corrección de errores del protocolo TCP-IP.
- La transmisión puede hacerse siempre a la máxima velocidad que permita el CNC, sin peligro de pérdida de datos.
- Es compatible con cualquier máquina que posea un puerto serie o una tarjeta adaptadora de red.
- La función de gestión y clasificación de los programas de mecanizado es muy fácil de utilizar. Basta con añadir un sencillo identificador a cada programa de mecanizado.
- El Servidor compara automáticamente los programas que recibe de las máquinas con los que tiene almacenados, señalando los bloques que contienen las diferencias.

- Adicionalmente permite gestionar y almacenar archivos de texto, gráficos, AVI así como cualquier tipo de documentos.
- Puede recibir programas de mecanizado provenientes de diferentes sistemas CAD-CAM, así como datos generados por sistemas de gestión y pre-medición de herramientas.
- Las posibilidades de expansión son ilimitadas.



CÓMODO PROGRAMA DE GESTIÓN

La mayor parte de las tareas que habitualmente han de realizar los usuarios son ejecutadas por el **LeanDNC**, ya que trabaja de acuerdo con el lema: *todo trabajo susceptible de automatizarse debería ser realizado por el ordenador y sólo cuando deben tomarse decisiones se requiere la intervención del usuario*. Todas las funciones son accesibles a través de un simple clic con el ratón. Esto ahorra al usuario un 80% del trabajo que realizaría manualmente.

DEMOSTRACIÓN GRATUITA

Solicite una demostración gratuita sin compromiso enviándonos un e-mail a la siguiente dirección: lautech@lautech.com o llamando al teléfono 93 504 16 89.

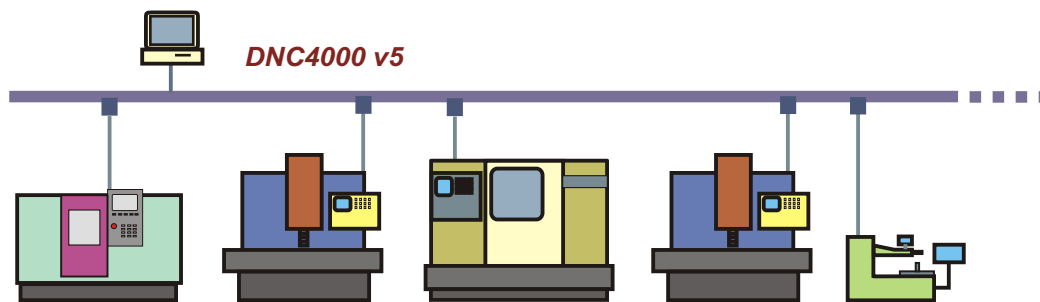
DNC4000 v5

The DNC4000 v5 is a light and easy to install stand-alone DNC system for smaller production. It's built based on the experience with several thousands of connected CNC machines. Its fundamental features include:

- **Secure nc-file transfer using state-of-the-art network protocols and transfer technology (LAN or WLAN)**
- **Support of CNC controls with serial interface**
- **Support of CNC controls with network card and Windows, Linux or any other operating system**
- **Remote access on nc-files directly from the control**

Software platform

The DNC4000 v5 uses components of Microsoft Framwork .NET 4.0



NC-file transfer via network

The protocol between machine and DNC server is TCP/IP and FTP, which makes the transfer reliable and fast. Machines with a serial interface are connected with a network adapter with DNC-in-the-box® technology. It allows to do real DNC including drip feeding and call part programs from the machine's keyboard. Machines with Windows, Linux or any other operating system and with a Ethernet interface can be connected directly. They are fully supported by the DNC4000 v5 according to their possibilities. Depending on the type of controller different protocols such as NFS, SMB, FTP or NetBIOS are used.

User-friendly data management

The DNC4000 v5 supports the structured management of NC files through significant designations.

All product-relevant documents e.g. synoptic drawings of work pieces, jpg-files as well as word-, excel and PDF-documents can be assigned to corresponding NC files. For the data management process a simple file-system is utilized.

DNC4000 v5

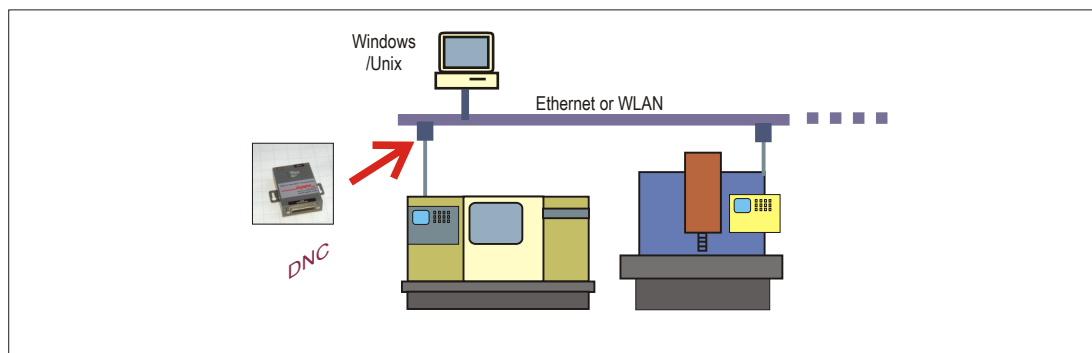
Smart DNC Network Adaptor

DNC-In-The-Box® (DITB) is the name of the firmware that converts dumb network adaptors into smart adaptors. DITB uses TCP/IP and FTP for the data transfer and hosts all machine specific settings for format and transfer of the data. Machine specific DNC protocols, such as Mazatrol or Heidenhain protocol are also embedded its firmware. It allows to connect machine tool controls with serial interface directly to the network and transfer files to and from any computer without need for a specific DNC program, using just any computer's FTP server software.

DNC-In-The-Box® is configured directly via network with Telnet or DeviceInstaller software. Once set up, it automatically recognizes uploads and downloads, stores files with its correct name on the server and delivers NC programs in the right format to the controller to which it is dedicated. All machine tool controls can access simultaneously their own files on a host computer. DITB allows all machines to retrieve NC programs directly from the control's keyboard.

Your benefit:

- Many simultaneous transfers possible
- 100% accurate file transfer via network
- Program access from keyboard of the control
- Runs with any Computer that supports an FTP server
- Program storage in target directory of each machine



Supported CNC Controls

Controls without protocol, such as: Fanuc, Siemens, Mitsubishi, Num, Okuma, Philips Bosch and many others.

Controls with their own protocol: Heidenhain, Mazatrol, others on request.

Requirements

Any computer with FTP server software (Windows, Apple, Unix, AS/400)

Network connection to the machine tool (Ethernet, WLAN),

110V/220 V power connector or 24V directly from machine

DNC-In-The-Box®

10 Good Reasons to Use DNC-In-The-Box®

1. DNC-In-The-Box gives you direct access from the keyboard of your control

- Save directly to a defined save directory (= upload), using simply the controller's punch function
- Direct request of NC programs from the controller's keyboard using a dummy program
- Load directly from the configured load path into the control (= download)

2. Simultaneous load and save from several machines

- Automatic multitasking, the FTP software allows many transfers at the same time
- All kinds of transfers are supported: simple file transfer and drip feed mode.

3. DNC-In-The-Box supports all controls

- All different controls are supported, provided they have a serial interface and are able to send and receive NC programs.
- Special protocols are supported, such as Mazatrol, Heidenhain, etc.

4. DNC-In-The-Box can be easily configured (via network)

4.1. Local parameters:

- IP address of the box (resp. machine)
- Target address of the host computer
- Serial speed, data format etc.

4.2. FTP settings:

- user name, password, etc.

4.3. DNC driver settings:

- Start-/end characters of NC program
- Leader/trailer etc.

5. DNC-In-The-Box provides secure access to only those part programs that fit the machine

- Identical machines can access common NC programs that belong to the machine group

6. DNC-In-The-Box gives you optimal transfer safety and data integrity

- Using the shortest possible RS-232 cables allows you to transfer at the highest speed (supported by the control)
- Data check and error correction is done by TCP/IP protocol

7. DNC-In-The-Box works with any data management software

- Either your computer's file manager application or
- A customer-owned database system (Access, SQL-Server, Oracle etc.) or
- A CAM system's data management tool or
- The sophisticated Quinx LeanDNC or DNC5000 data management systems

8. Unlimited growth of the system with DNC-In-The-Box

- Just one computer (e.g. a Windows PC etc.) can control any number of connected CNC machines on your network
- The number of machines on your network is limited only by the computer's and ethernet's limitations

9. DNC-In-The-Box is your ultimate DNC solution

- Computers may change over the time - the network, FTP protocol and the box will remain!
- DNC-In-The-Box can be used for as long as you work with your actual machines and can also be used with the next generations of machines

10. Return On Investment (ROI) in in less than one year!

- By reduced non-productive downtime for program changes
- By simplified and centralized data storage
- By automatized and simplified data backup
- Eliminated machine crashes and reduced scrap caused by noise on RS-232 lines

Real DNC never has been this affordable before!

DNC-In-The-Box®

Downloading CNC-programs at the control

Each control can access nc-files in the computer's database by the use of a «runner» program. Because controls are connected directly to the network, using Quinx Ethernet adapters the data is always transferred at the highest possible baud rate available on the control. Therefore program loading and saving become a matter of seconds.

Transaction monitoring

The DNC4000 v5 displays all transfers and activities in “real time”

Transaction statistics

The DNC4000 v5 contains a module which produces statistics from the log file and can display and print it in 2D or 3D graphs as well as in text format.

Automated NC program comparison

The DNC4000 v5 recognizes any change in a NC program. The integrated WinMerge editor compares the two versions and highlights the changes.



SCD-II (Smart Communication Device)



DITB-702 (Wibox)

Network adapters with DNC-in-the-Box (DITB)

The DNC4000 v5 uses standard device servers as well as Quinx smart device servers which support special protocols for Mazatrol and Heidenhain controls. SCD-II is a smart communication device with digital I/O's for MDC and DNC. DITB-701 is a Network Adapter for DNC over LAN. DITB-702W is a Network Adapter for DNC over WLAN.

DNC4000 v5

DNC 5000 v5

Intelligent nc file management and secure file transfer

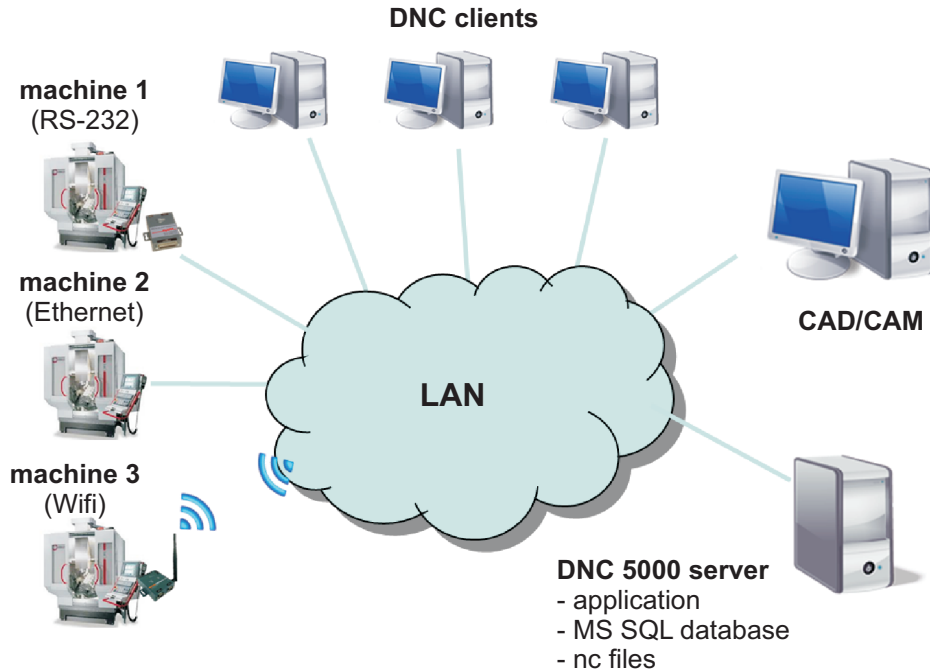
DNC 5000 v5 is an essential part of the PDM (product data management):

- **Structured manufacturing data management**
- **Consistent and consequent version control and change management**
- **Reliable archiving of nc programs**
- **Secure file transfer from and to the nc control**
- **ISO 9001, 13485 and FDA compliant**

The return on investment of a DNC 5000 v5 system is less than 1 year!

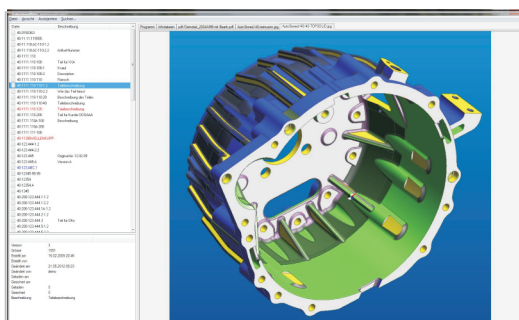
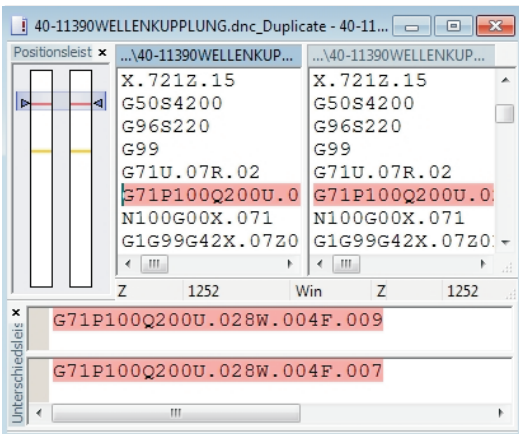
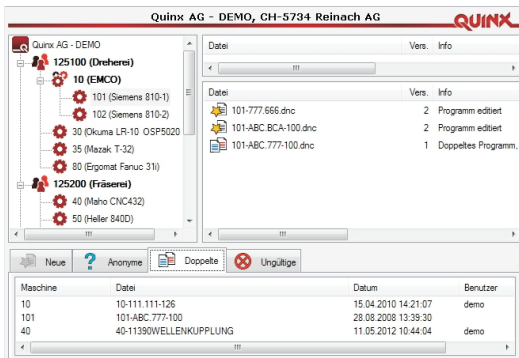
Data transfer via network

DNC 5000 can handle several hundred CNC machine controls at once. The protocol between machine and server is TCP/IP and FTP, which makes the transfer reliable and fast. Machines with serial interface are connected with a network adapter with embedded **DNC-in-the-Box®** (DITB) technology. DNC-in-the-Box® technology allows drip feeding and remote requests for NC programs directly from the machine's keyboard. Machines with Windows, Linux or any other operating system fitted with an Ethernet interface can be connected directly. They are fully supported by DNC 5000 subject to the limitations of the Ethernet interface.



Modern DNC platform and distributed application architecture

DNC 5000 is based on Microsoft .NET framework and uses a Microsoft SQL server to manage data. Both technologies are advanced, reliable and future-proof. DNC 5000 software supports all current and future devices and services supported by the .NET framework.



Userfriendly

After a training of 1-2 hours users can manages nc programs and initiate a transfer.

User rights management

NC programs can be viewed, edited, copied, approved, blocked and deleted depending on the specific user right of the person. All operations are logged and can be traced.

NC file access from machine control

Machine control operators can send a request for a NC program to the server directly from the machine control. The server responds to the request and returns the requested NC program immediately. NC file request can also be done via bar code reader (optional). This reduces the time and effort to load programs.

Automated NC program comparison

DNC 5000 recognizes any change in a NC program. The integrated comparison tool compares versions and automatically highlights changes. Before a modified NC program is made available for production use the changes need approval by an authorized person. Modified programs awaiting approval are quarantined in a simple to do list.

Transaction monitoring and log files

DNC 5000 displays all ongoing transfers and file movements on client work stations. All system transactions, versioning, changes etc are fully documented. This guarantees secure traceability allowing for FDA certification and compliance to industry standards such as ISO 9001, AS 9100 etc.

Manufacturing data management

Various documents e.g. CAD drawings of work pieces, jpg-files as well as word-, excel- and PDF-documents can be assigned in the DNC to corresponding NC programs by drag and drop. Templates specific to the company allow for a quick and consistent preparation of data sheets for each work piece, calculations or handling instructions. NC programs cannot get lost, old versions are automatically archived. DNC 5000 reduces the daily work load for managing NC file by approximately 90% due to its task driven user friendly interface and simple operation.

FTP-client for controls with Windows operating system (Option)

Companies in the medical and aerospace industry must be able to prove when, where (on which machine) and with the use of which program version a particular part was produced. This kind of logging is easily possible when using ftp - the base of all Quinx DNC applications. Therefore Quinx developed a ftp client which can be installed on various Windows-based controls.