TELECOMMUNICATIONS

TCP/IP NETWORKS

DL 3155E74

The design and construction of electronic circuits to solve practical problems is an essential technique in the fields of electronic engineering and computer engineering.

With this board the students can study TCP/IP networking principles and the installation, configuration and maintenance of Local Networks:

- Network installation and configuration.
- Maintenance, monitoring, testing and troubleshooting of LANs.

THEORETICAL TOPICS

- Introduction to local networks: components of a network, transmission media, network topologies, the OSI Model, LAN architectures / technologies / standards, Network devices and operating systems
- OSI model and LAN IEEE protocols
- Physical layer: Ethernet: 10 Mbps (10 Base-T), Fast Ethernet: 100 Mbps, Gigabit Ethernet: 1000 Mbps.
- Data link layer: Introduction to data link layer, LLC sublayer, MAC sublayer, CSMA/CD access method, token ring and token bus
- TCP/IP Protocols: Introduction to TCP/IP, IP Protocol, TCP Protocol, UDP Protocol, ICMP Protocol
- Session and application layers: NetBIOS, NetBEUI, IPX/SPX, FTP, E-Mail, World Wide Web, test and diagnostics TCP/IP tools
- Structured wiring: cabling standard, structured cabling topology, ,main elements and nomenclature, horizontal cabling
- Network architectures: Peer-to-Peer network, Client and Server network.

CIRCUIT BLOCKS

The hardware of the DL 3155E74 board is composed by two identical sections:

- Client
  - Microprocessor
  - LCD graphic display
  - Ethernet interface
- Server
  - Microprocessor
  - LCD graphic display
  - Ethernet interface

Complete with theoretical and practical manual.

Dimensions of the module: 297x260mm.

CAI SOFTWARE:
Each board of the TIME system can be supplied complete with a Student Navigator software that allows students to perform their learning activities through a Personal Computer, without the need for any other documentation.
Ordering code: please add SW after the code of the board (i.e. DL 3155E74SW)

Required:
POWER SUPPLY NOT INCLUDED
Base frame with power supply (completed with connecting cables):
➢ **DL 3155AL3** - Base frame with power supply and interface to pc and virtual instrumentation