

# Measuring devices

## 7KT1 390 LAN server

### Benefits

- Limit value signals with time stamp for all measured values increase plant safety
- Open software structure enables implementation of customized solutions for the display and analysis of measured data
- Global communication of measured values over LAN
- One LAN server for 10 devices.

### Function

#### *Connection of LAN server to a LAN*

Each station in a LAN must be assigned its own IP address. On delivery, or after a reset, the LAN server has a standard IP address. This address must be set in the LAN server during commissioning. To do this, the LAN server must first be directly linked to a PC using a so-called "crossover cable". This is a network cable in which the transmit and receive wires are cross-connected. This creates a small LAN with 2 stations - the PC and the LAN server can communicate with each other directly. The supplied LAN server configuration tool must be installed on the PC. This direct connection can then be used to set a new IP address in the LAN server, as well as other network parameters, such as subnet mask and default gateway. The LAN server must then be connected to the network, as communication is subsequently only possible with the new settings.

#### *Connection of measuring devices to the LAN server*

E-counters are connected to the LAN server over a LAN interface and multiconverters over a LAN or Modbus interface. The network is an RS 485 network in which devices are connected over a shielded 2-wire cable. If using the Modbus, use normal device addresses and transfer speed settings, as the LAN server automatically detects and identifies the connected E-counters and Multiconverters as soon as it is switched on. You can then use the LAN server configuration tool (over the LAN network) to tell the LAN server from which device you want to retrieve the measurement data.

The LAN server carries out a so-called "polling" cycle during runtime. This cyclically retrieves the most recently gathered measurement data from the measuring devices and buffers them in the LAN server. These can then be called up at any time over the LAN.

#### *Data transmission from LAN server to PC*

This data transmission is PC-controlled. A software tool runs in the background on the PC and uses the network to cyclically retrieve any measurement data from all available LAN servers and save it to the hard disk.

#### *Software tool*

The software tool included in delivery has the following functions:

- Background transmission of measurement data from multiconverters and E-counters and a number of LAN servers
- Full display of device measurement data through an MS Excel-based macro
- Adjustable limit value signals for measured variables
- Limit violations are signaled with time stamp.

You will find further information on Modbus operation on the Internet at <http://www.siemens.com/beta>.

# Measuring devices

7KT1 390 LAN server

## Display of measurement data on the PC

A Visual Basic macro for MS Excel is supplied with the LAN server for the display of measurement data on the PC. Among other things, this software tool lets you display all 35 measurement data of a 7KT 34 on a single panel. You can then select the various measuring devices you want to display from a small list box. The software also lets you set alarm limits for up to 10 measured values of a multicounter.

If a measured value exceeds or falls below the specified limits, the relevant indication is output, complete with time stamp from the PC clock.

SIEMENS										
Gerät		Multimeter_02		Alarmgrenzen lesen		Display Darstellung				
Datum Auslesung		28.02.2004 8:15:37		Messwerte lesen		Alarme setzen		Alarme Reset		
Messwert	Anzeige	Einheit	Zuordnung	Wert	Maßstab	Alarmgrenzen	größer	Verzögerung	Datum	Alarm
Wirkleistung	1	W	L1	156438						
Spannung	1	V	L1	235						
Strom	1	A	L1	845						
Scheinleistung	1	VA	L1	92784						
cos φ	1	comp	L1	0,96						
Spannung	1	V	L1,L2	495						
Wirkleistung	2	W	L2	94423						
Spannung	2	V	L2	236						
Strom	2	A	L2	799						
Scheinleistung	2	VA	L2	90924						
cos φ	2	comp	L2	11,98						
Spannung	2	V	L2,L3	1262						
Wirkleistung	3	W	L3	45						
Spannung	3	V	L3	1982						
Strom	3	A	L3	55						
Scheinleistung	3	VA	L3	719						
cos φ	3	comp	L3	47,98						
Spannung	3	V	L3,L1	426						
Wirkleistung	4	W	L1	2221						
Scheinleistung	4	VA	L1	11						
Blindleistung	4	VAR	L1	3714						
Frequenz	5	Hz	L1	50						
cos φ	5	comp	L1	1751,98						
Konfiguration										
Server-Adresse		192.168.8.55								
Gerätewahl		1								
Multimeter_01		12306/78976								
Multimeter_02		12306/89765								

Display of measurement data of a multicounter

## Simultaneous display of measurement data on more than one PC

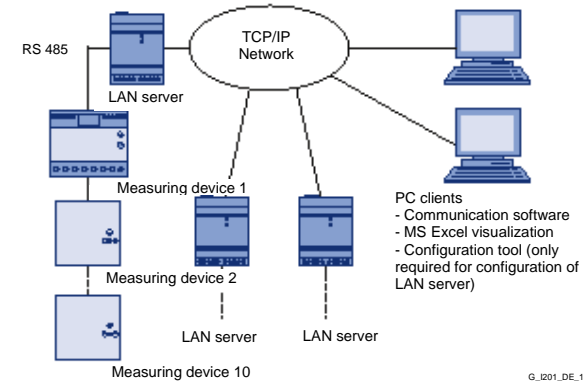
The software supplied with the LAN server supports display of measurement data on any number of PCs connected to the network over a client-server architecture.

A PC acts as the server, similar to an Intranet or Internet server. This PC runs the software components that retrieve the measurement data from the LAN servers and save it to hard disk. The MS Excel macro can be used to visualize the measurement data on both the server PC and the clients.

Other client PCs can access the data pool of the server PC to visualize the measurement data.

## Open software architecture

The architecture of the software tool is open and can be customized to suit user requirements. The MS Excel macros are freely accessible and can also be customized.



Block diagram of a system

G\_ID01\_DE\_13445