LAN adapter

Instruction for use

Description of LAN adapter

Adapter is designed for connection of Sxxxx, Rxxxx loggers to the personal computer by means of Ethernet network.

Exceeding of adjusted limits can be alarmed by sending e-mail message or trap message to user defined e-mail addresses. E-mail and warning trap is also sent in case of memory occupation of logger from 90% to 100%, low battery voltage or supposed end of battery and if communication error between logger and LAN adapter occurs. LAN adapter has no control elements - all settings of LAN adapter are performed by means of the computer and Program for data loggers, or telnet (or another program for remote administration).

Operation of LAN adapter

LAN adapter is delivered with ac/dc adapter. Set correctly LAN adapter and PC driver (delivered on CD) before operation.

Check if the following items are available:
- PC with operational system Windows98 (or higher) connected to LAN network with TCP/IP protocol
- cable with RJ-45 connectors to LAN network
- free IP address, to assign to the LAN adapter. – **ask your network administrator to assign suitable IP address!**

!!!Attention: in case of assignment of already used IP address collapse of network can be caused!!!

1) Connection of LAN adapter

- Connect LAN adapter to your LAN network by means of RJ-45 connector.
- Connect power.
- Plug optical socket of LAN adapter to logger guide slots at its side.

Warning! Safety reception of warning messages (e-mail, trap) depends on actual accessability of required network services. It is recommended to protect device against the unauthorized access to device settings and connection of cables.
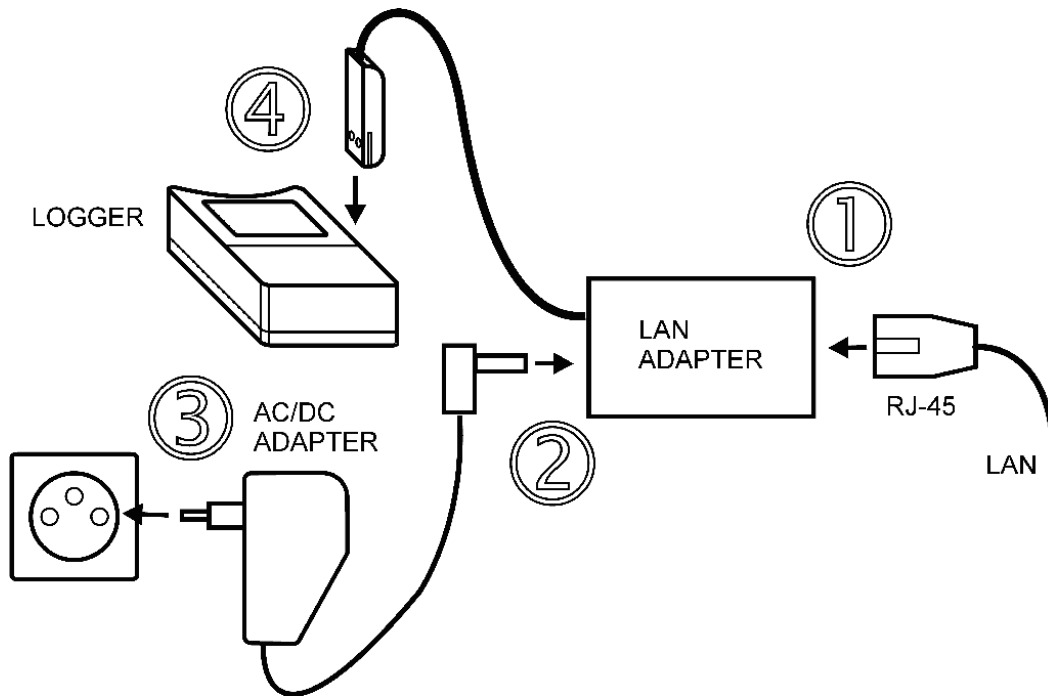
Figure 1 – wiring diagram - follow the numbering order 1 to 4

2) Configuration of LAN adapter via personal computer

Before starting to use LAN adapter it is necessary to change its IP address, which is preset to 192.168.1.254 from the manufacturer or optionally other functions. Setting is enabled by Program for data loggers or telnet. This manual describes setting of LAN adapter by means of Program for data loggers. Setting by means of telnet is described at http://www.cometsystem.cz. (Command for entering the setting by means of telnet is `telnet IP_address_LAN_adapter 9999.` Example: IP address of LAN adapter is 192.168.1.254. Command to connect to telnet is `telnet 192.168.1.254 9999`)

Configuration of LAN adapter by means of Program for data loggers

Program for data loggers exists in two versions: basic version (freeware) enables to work only with one logger connected via LAN adapter, optional version enables to define a list of loggers connected via LAN adapters and then simply select required data logger.

In both cases Program for data loggers is necessary to set to search connected logger in the Ethernet network not at COM ports.

Basic Program version for data loggers

Open dialog window "Program options" (menu File - Options), click "LAN Adapter (Ethernet network)" at folder "Communication" (figure 2a). Enter IP address of LAN adapter to IP address field. Enter address manually or use function "Search" to find LAN Adapter (figure 5). IP address of new LAN adapter is set to 192.168.1.254 from the manufacturer. To change selected LAN adapter setting press "Set LAN adapter".
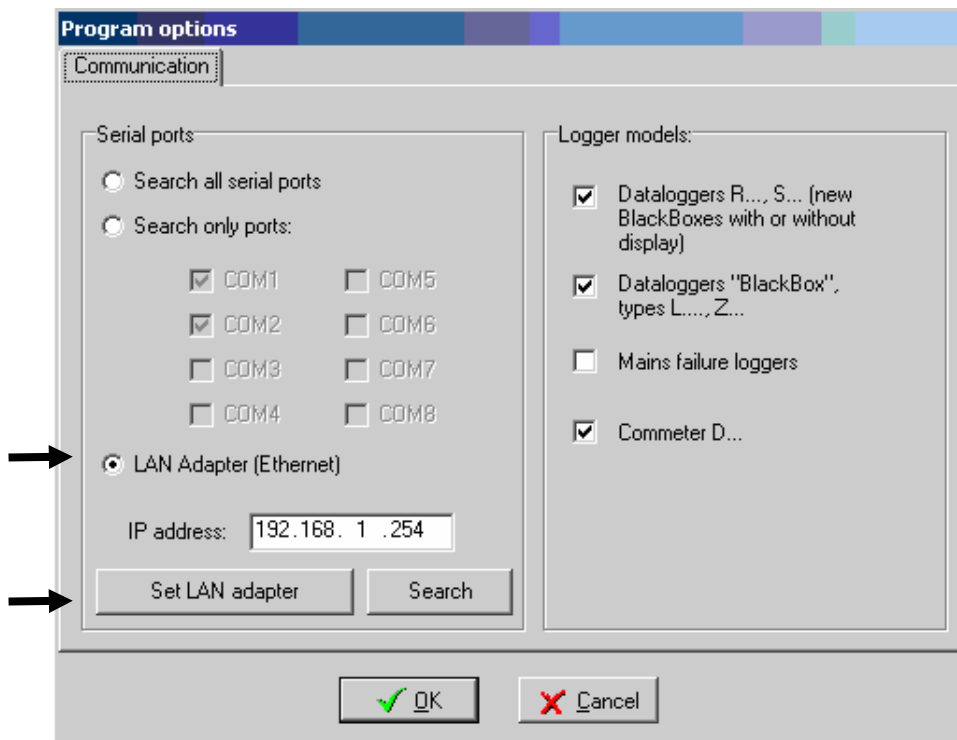
Figure 2a – Options of basic program version

Continue accordingly with chapter Setting of LAN adapter.

Optional version of Program for data logger

Open dialog window "Program options" (menu File - Options), click "Select port manually" at "Communication" folder (figure 2b) and then click button "List of ports".
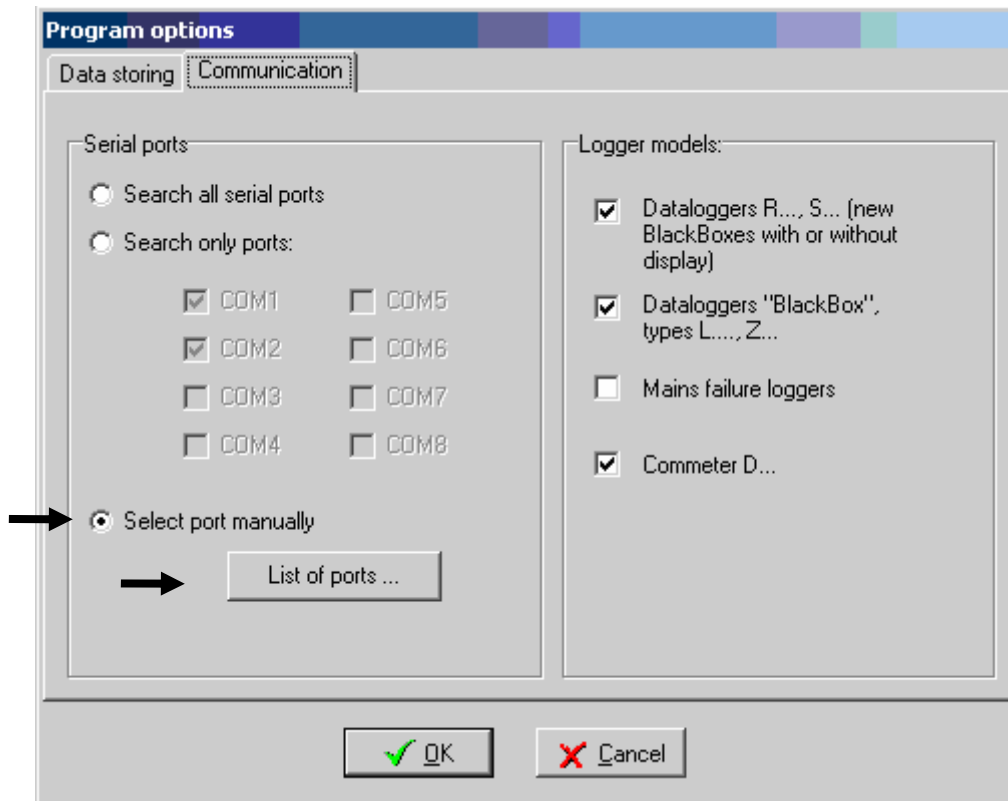

Figure 2b – Program options of optional version of the program

Window "List of communication ports" (figure 3a) opens. Click button "Add port", in following window (figure 3b) select LAN Adapter (Ethernet network) and continue by pressing button "Next".
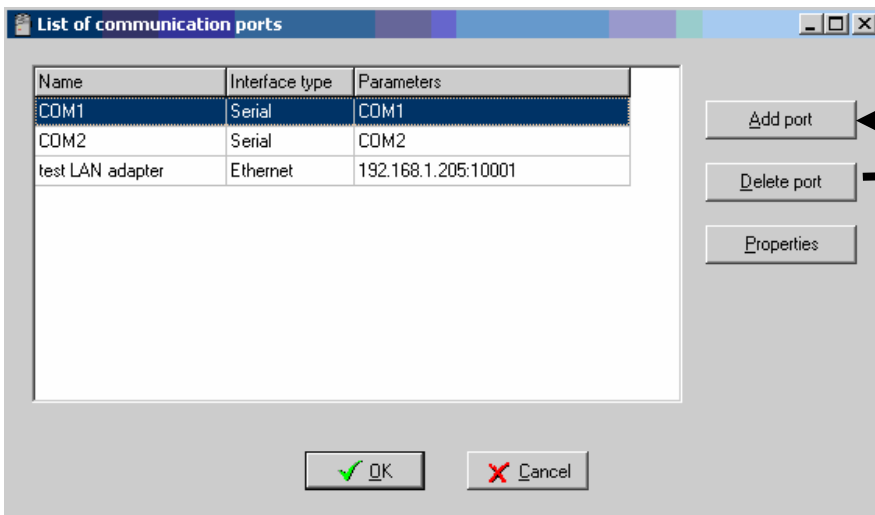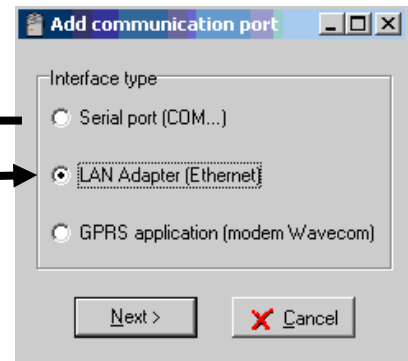

Figure 3a – List of communication ports   Figure 3b – Selection of port

Enter port name in next dialog window (figure 4) enter port name (any name can be used) and IP address of LAN Adapter (IP address of new LAN adapter is set to 192.168.1.254). Another way to enter IP address is by pressing button "Search", select required device by mouse and by button

"Select" (figure 5) get back to the List of communication ports window. Let Port number unchanged (10001) and press "LAN adapter settings" (figure 6).
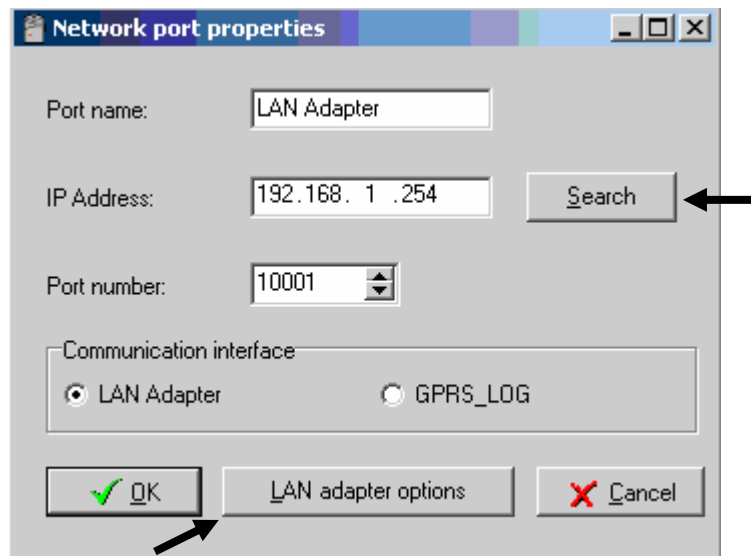

Figure 4 – Network port properties

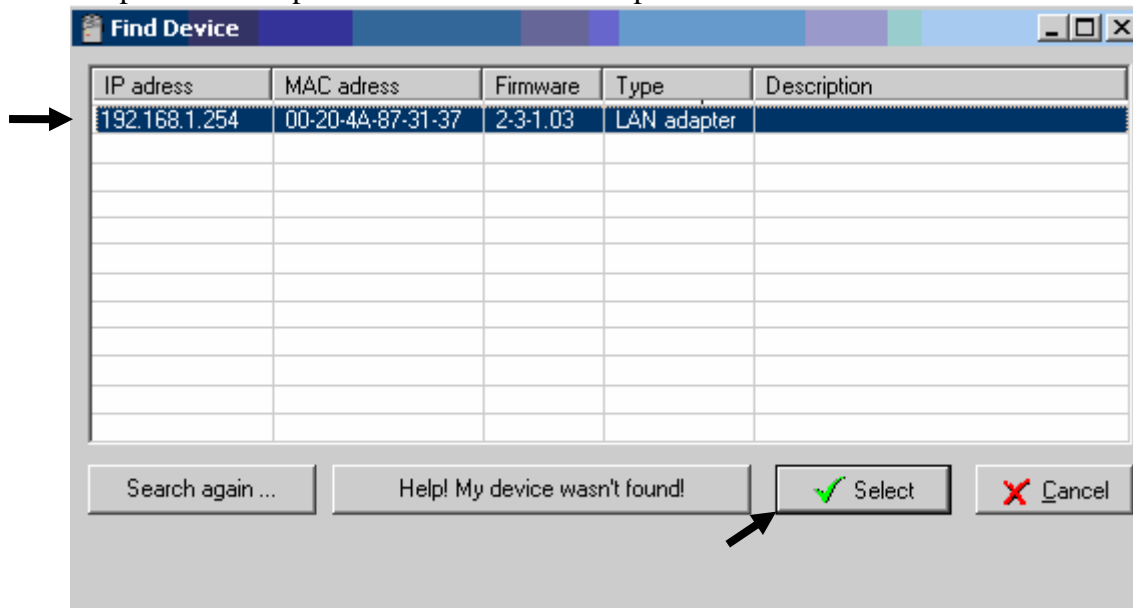See chapter Possible problems in case LAN adapter was not found.

Figure 5 – Finding of the device

Setting of LAN adapter

Figure 6 – Setting of LAN adapter

Meaning of items:

Global setting

IP address   IP address LAN adapter must be unique in your network

IP gateway address   address of gateway or router, serving for communication with other LAN segments. Address of gateway must be in the same network segment as LAN adapter.

Number of bits of network mask – specifies, how many bits from IP address are defined for the device.

Example:

mask	number of bits
255.255.255.252	2
255.255.255.0	8
255.128.0.0	23

Password for telnet access - password for setting of LAN adapter

Device name - description for easy LAN adapter recognition.

Setting of e-mails

Sending of warning e-mails – if enabled, LAN adapter sends e-mails to below addresses

IP address of DNS server - IP address of your mail server

Recipient 1-3   e-mail addresses of recipients of messages

SNMP

Send traps   sends traps to below defined IP addresses

Password for read   password for read of MIB tables

Password for write   password for write to MIB tables

Trap IP 1-3   IP addresses of trap recipients (max. length 55 chars)

Setting of measurement

Reading interval from logger defines how often LAN adapter checks if logger reports alarm or not. Higher value saves logger battery, lower value decreases delay between alarm creation and its detection by LAN Adapter.

Buttons

Reset to factory defaults – sets LAN adapter to default value
  o IP addresses of trap recipients are cleared
  o e-mail addresses of mail recipients and IP address of SMTP server are cleared
  o sending of e-mail messages is disabled
  o interval of alarm checking is set to 30 seconds

Write settings to LAN adapter – saves actual value to LAN adapter

Cancel – no changes are saved

Possible problems

Problem:
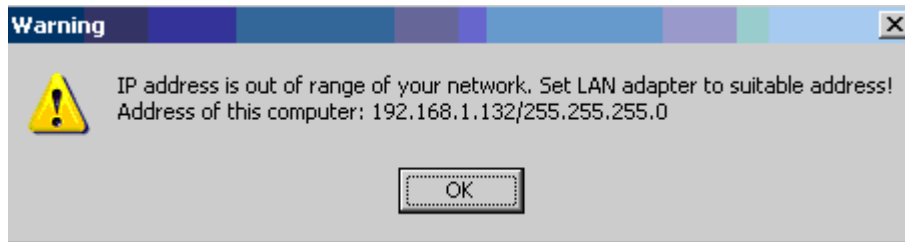After attempt to set LAN adapter notice from figure 7 appears.

Figure 7 - Warning

Solution:
After confirmation by OK window appears enabling to change IP address of device (figure 8). Enter new free IP address of LAN adapter to field "New IP address" for your internal network and press "Set IP". IP address of LAN adapter will be changed.
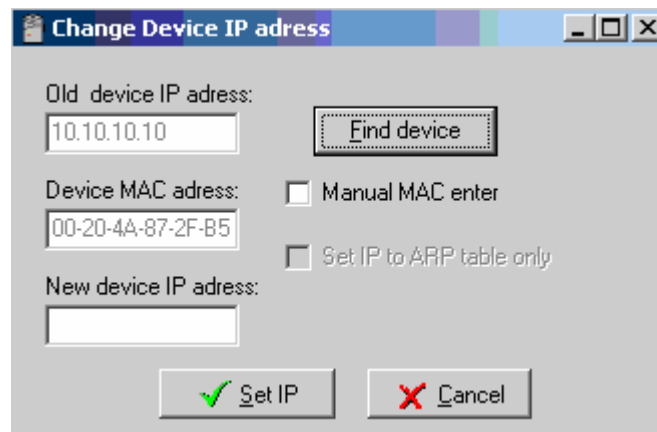

Figure 8 – Change of IP address

Problem:
In Find device window (figure 5) LAN adapter cannot be found.

Solution:
Press button "Help! My device was not found!". You get to window from figure 8. Here tick field "Manual MAC address", enter MAC address of LAN adapter to "MAC address" field, enter free IP address at range of your network to "New IP address" field and press "Set IP". MAC address of the device can be found on the LAN adapter label.

Problem:
Even after finishing previous step LAN adapter cannot be found.

Solution:
Tick field "Manual MAC address" and "Set IP to ARP table only" (figure 8). Enter MAC address of LAN adapter. Enter free IP address at range of your network to "New IP address" field and press "Set IP".

Run command line of MS Windows (Start / Run) and enter `telnet new_IP_address 9999`. You get to the text mode of LAN adapter setting. The following listing appears:

```
********  LAN adapter Setup ver.2-3-1.02 ********
MAC address 00204A872FB5
Software version V┗Äěő (050907) CPK_580_XPTEX

Press Enter for Setup Mode
```

Press enter key and then 0 - Global Settings, set IP address of the device, cancel IP address of the gateway, bit number of the mask set to 0. Confirm the rest by enter key to get to menu enabling to Save and Exit by selection 9. Then connection is cancelled. Now it is possible to connect to LAN adapter by means of Program for data loggers.

Appendix 1.

SNMP protocol – MIB table and traps

Traps are sent both in case of alarm activation and deactivation. Actual alarm state of all channels is possible to read from LAN adapter by means of the mib table LANadapter.mib and RFC1213.mib, downloadable from http://www.cometsytem.cz. The path to LAN adapter is then iso.org.dod.internet.private.enterprises.comet.products.lanadapter.

Description of traps sent by data logger:

1/0	restart LAN adapter
6/3	90 % of logger memory is occupied
6/4	100 % of logger memory is occupied
6/5	real time clock failure in data logger (battery problem)
6/6	the end of calculated battery life in logger
6/7	low battery voltage in data logger
6/8	communication error with logger – after communication is re-established trap is not sent
6/9	logger is switched off
6/21	alarm at channel 1
6/22	alarm at channel 2
6/23	alarm at channel 3
6/24	alarm at channel 4
6/25	alarm at channel 5
6/26	alarm at channel 6