

Appendix E: System configurations

In the following sections, there are many most common configurations for different purposes and applications. The configuration is very flexible according to system design. For detail information regarding to data logger, contact with your local dealer; for information of network, you may ask your computer system designer and/or provider.

LAN connection with single Logger

It is the simplest configuration. The data logger is connected to a PV system and a computer installed with monitoring software. In this case, data logger is connected to computer directly by “crossover” Ethernet cable.

Before connecting to a computer, data logger must be set with IP address manually by other computer and method.

User can also use a router with DHCP function in between computer and data logger. In this case, the router can assign an IP to the data logger. To communicate with data logger, key in the IP address shown on LCD as stated in section 3.2.3 .

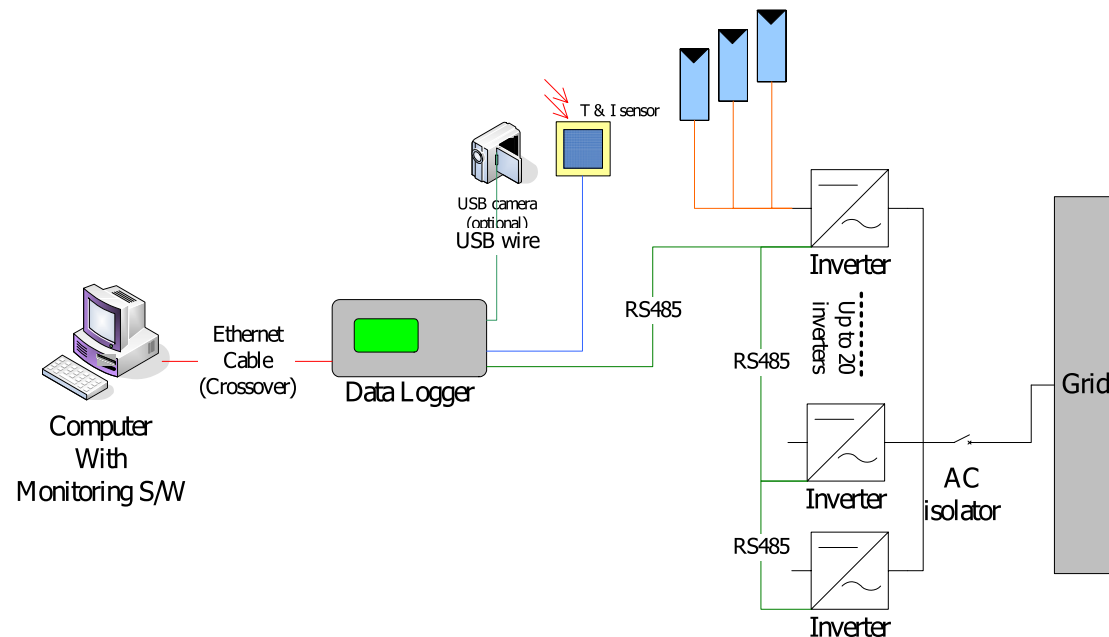


Fig.54. System configuration with single logger in LAN

LAN connection with multiple loggers

In this configuration, there are more than data loggers in the system. If a HUB with DHCP function is used, user has to setup the IP address of data logger as previous section. However, we recommend using a router with DHCP function instead of hub. Computer installed with monitoring program such as Protect PV Monitor can monitor multiple data loggers in the same time.

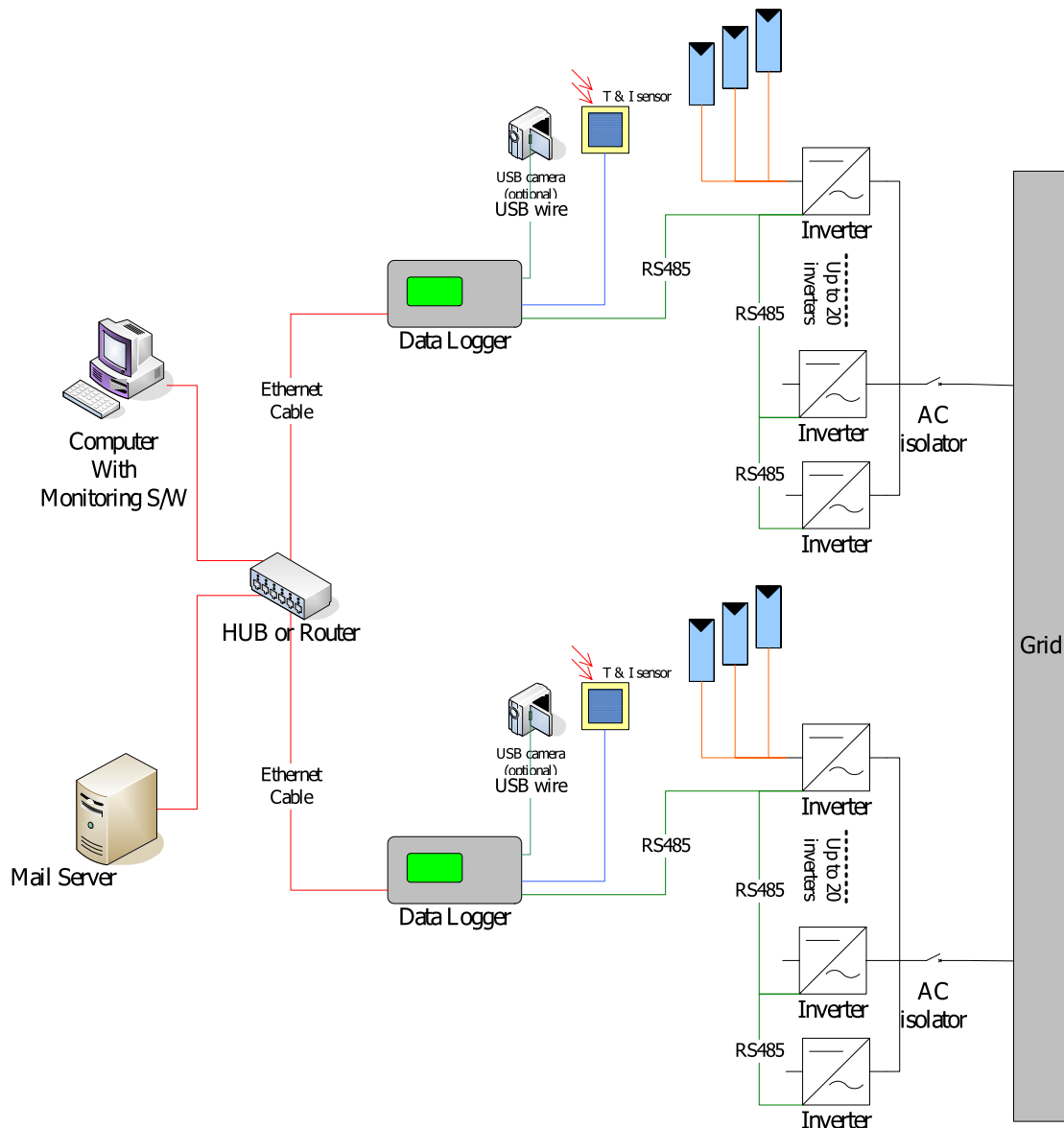


Fig.55. System configuration with multiple data loggers in LAN

LAN connection with wireless AP

The Ethernet cable can also be replaced to wireless connection. This can reduce the cost efforts to connect a system. In such configuration, you need a wireless AP connected to the hub or router; also a USB wireless dangle is used for data logger. For detail setup, refer to section 3.2.4 .

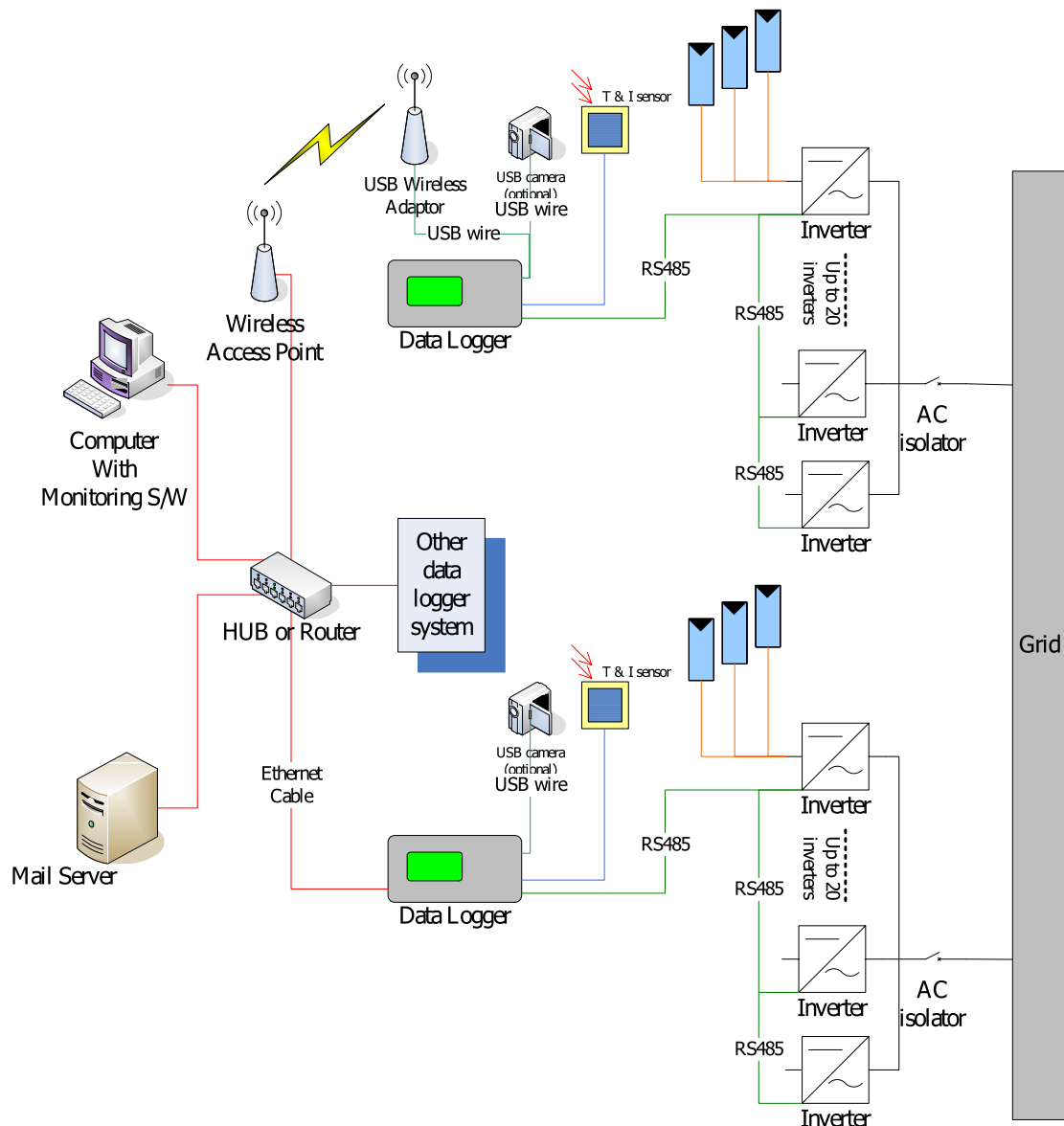


Fig.56. Wireless configuration with multiple data loggers in LAN

Internet Connection with multiple fixed IP

To connect to Internet, you need Internet IP from your ISP (Internet Service Provider). To be able accessed by computer in the Internet, each data logger need a public IP address individually. If the IP number given from ISP is less than number of data loggers, e.g. 1 public IP address for 3 data loggers, only 1 data logger can be accessed through Internet.

To reduce the setting efforts, we recommend applying fixed (static) IP from your ISP. If the IP is floating, you need to setup DDNS, please refer to section Internet Connection with multiple floating IP next.

If you use a router with DHCP function, the IP address assigned by router is different from IP from your ISP, in such case; user must set the NAT (Network Address Transfer) function to map your local IP address and Internet IP. In this situation, to access data logger, you are not able to key in the IP address shown on LCD, instead, you must key in the public IP address given by your ISP provider. An example below, to access data logger, you must key in IP that 201.150.49.43, not the IP shown on LCD.

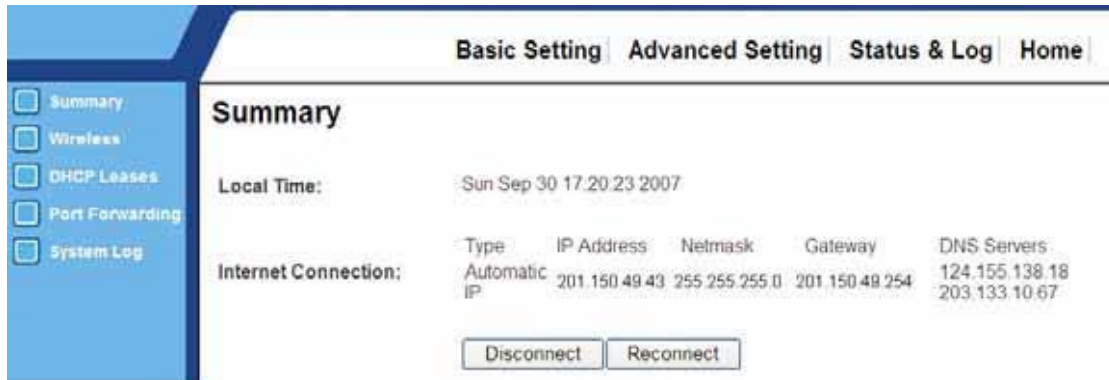


Fig.57. Public IP example in a router

For setting NAT, please refer to user manual of router.

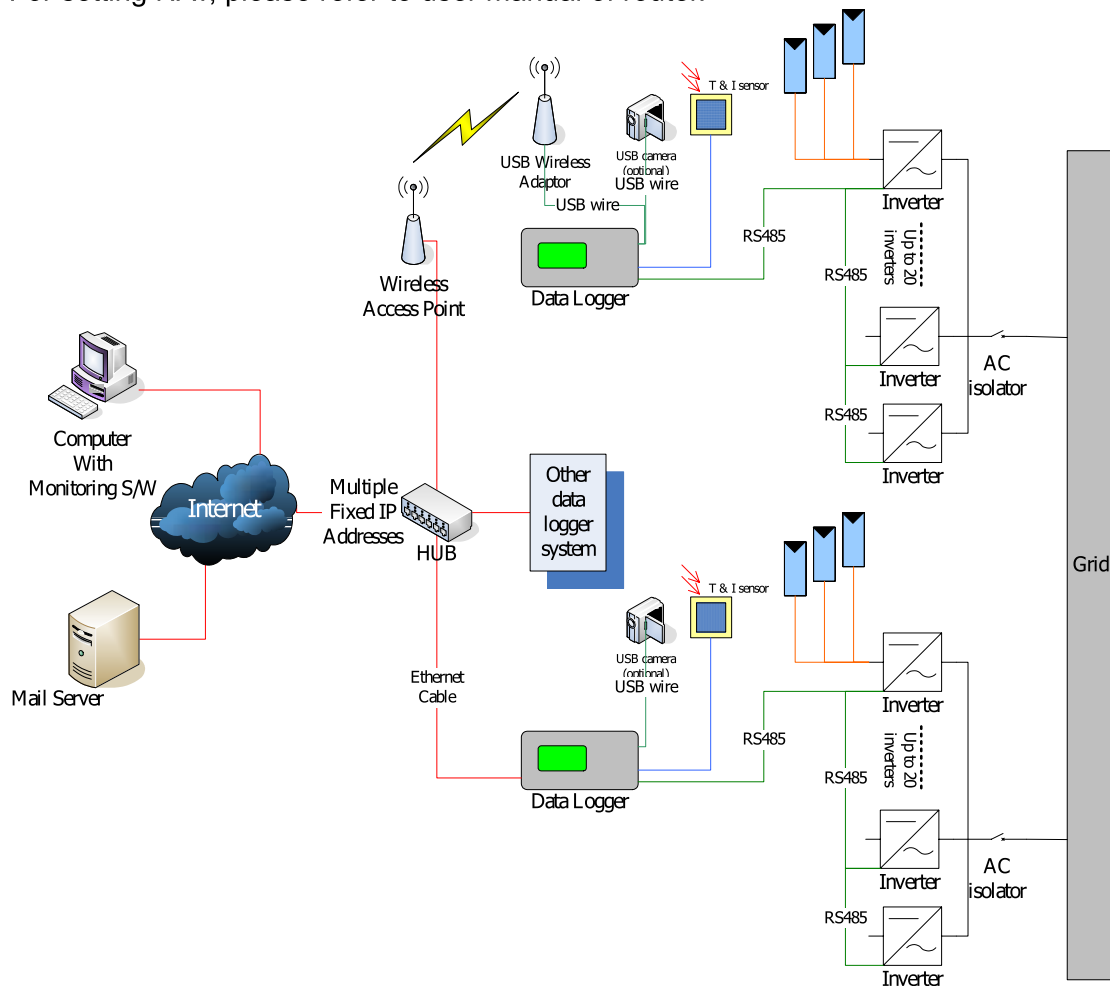


Fig.58. Internet connection

GPRS connection

Protect PV logger also supports GPRS Internet connection for rural area. The connection is shown below.

Please be aware that, due to bandwidth limitation, the data transfer rate (in the range of 15~50kbps) is much less than Ethernet cable, the response of the web could be very slow depends on real network conditions. We do not suggest to use GPRS network to transfer big data such as images.

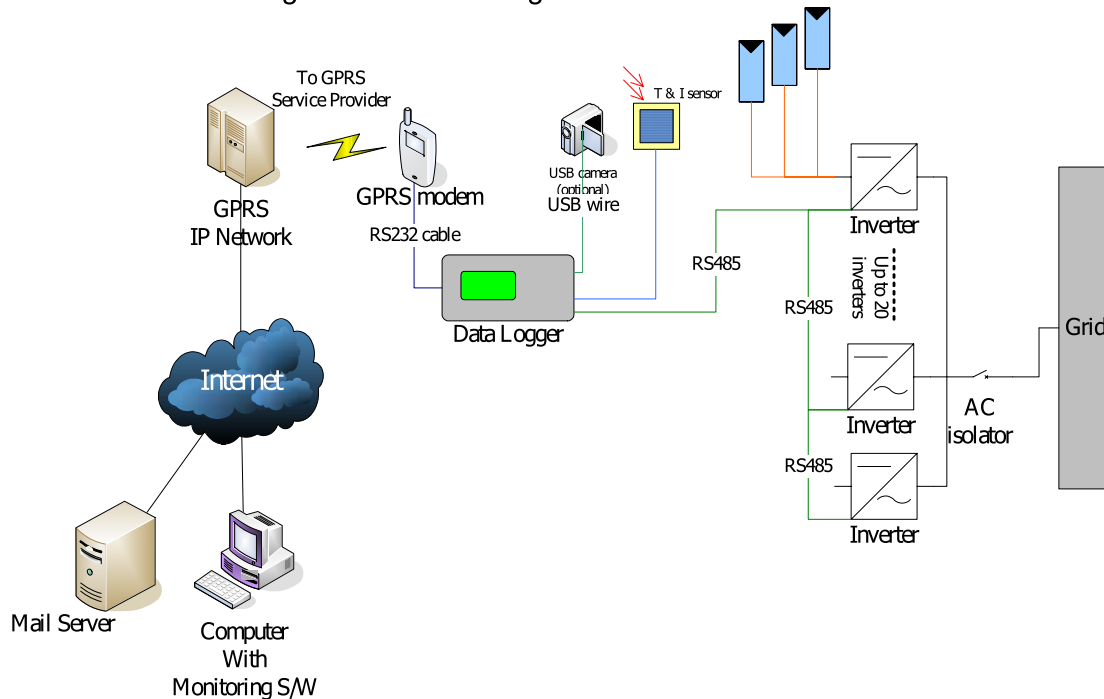


Fig.59. Internet connection by GPRS

Internet Connection with multiple floating IP

To access the data logger via Internet by floating IP, it is more complex than static IP. Because in a floating IP environment, the IP address might change frequently. In this case, you need to setup DDNS of data logger as stated in section 3.2.3 . The DDNS server is tracking your IP address all the time. To access the data logger, you just have to key in the name given by your DDNS service provider.

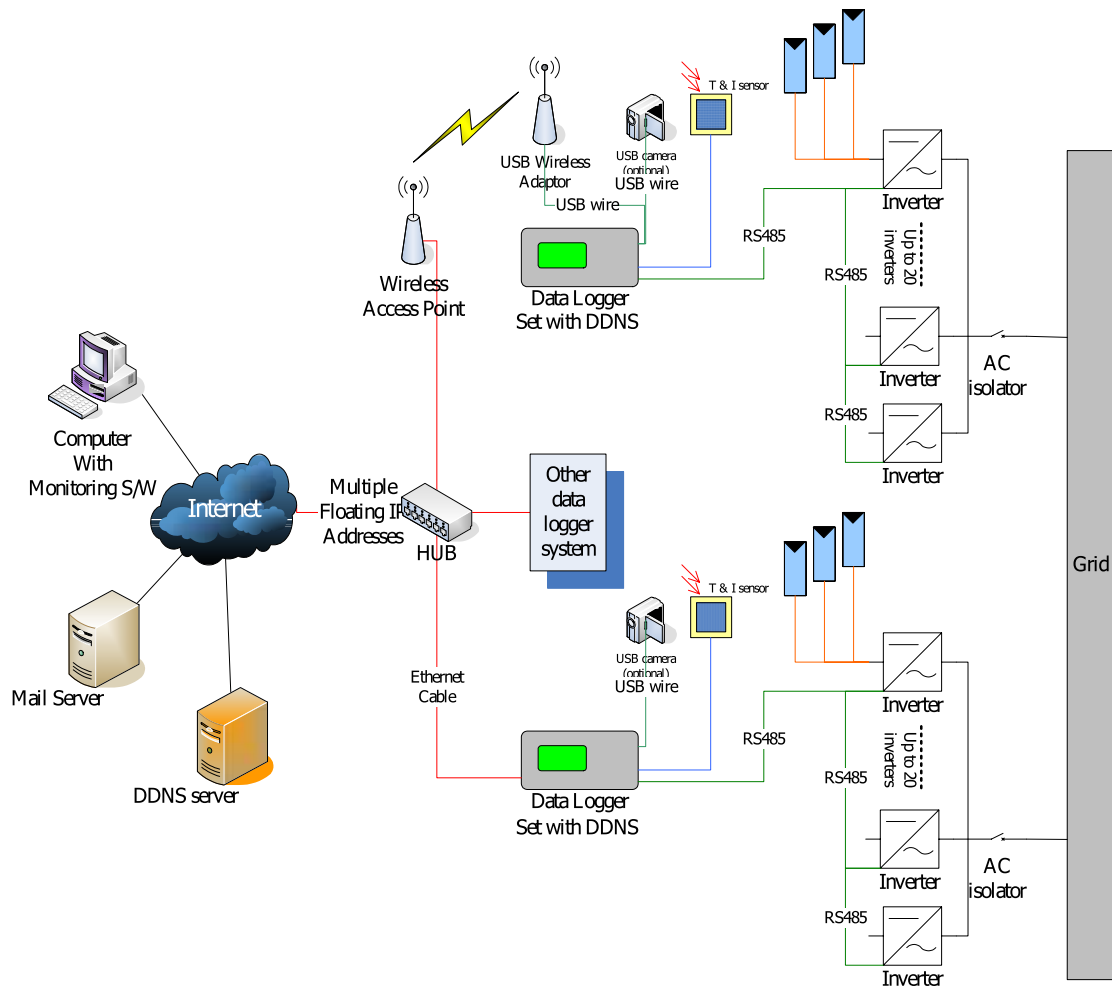


Fig.60. Internet connection by GPRS