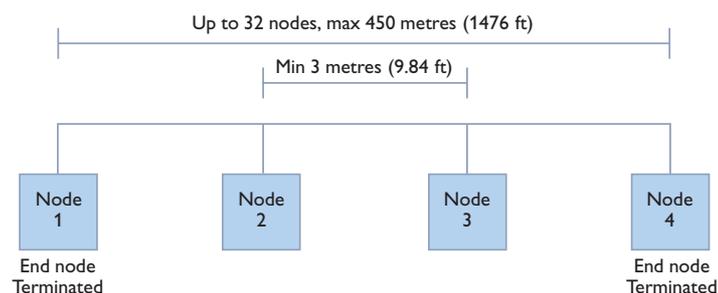


### Modbus Plus

Modbus Plus is an industrial application network that utilises token exchange, peer-to-peer communication. Token exchange and peer-to-peer involves communicating over a logical ring where all nodes can initiate communication, however, a node can not send until it has obtained the token. The transfer rate is 1 Mbit/s over screened twisted pair cable. Modbus Plus is an open network for information exchange between nodes in the network, which creates the possibility to control and monitor industrial processes.

The network is transparent, i.e. it is possible to reach all system devices via the connection point.

The interface is based on RS-485 and consists of sections where up to 64 nodes can be connected to each section. Up to 32 nodes can be connected directly to a cable segment, maximum transmission range on one segment is 450 metres (1476 ft). A repeater can be installed when greater distances are required, or when more than 32 nodes need to be connected to one segment. The maximum section length is 1800 metre (1.11 mi), or you can use a fibre optic modem for longer distances.



### MODBUS/TCP

MODBUS/TCP is a variant of MODBUS, a straightforward supplier independent communications protocol for control and monitoring of automation equipment. The protocol utilises the properties of MODBUS with the communication media being the TCP/IP protocol which can traverse intranets or the Internet. It is possible to encapsulate a Modbus ASCII or Modbus RTU packet into a TCP or UDP packet using a serial server; this is not the same as ModbusTCP. In modbus TCP each node knows its IP address and communicates on TCP port 502.