

TPLC MODBUS over TCP communications manual

TPLC server has an optional MODBUS TCP server. If enabled, it runs on port 502 and gives access to real-time temperature control information.

For additional security, the server must be provided with a list of IP addresses to allow connections from.

The server complies to the MODBUS standard.

PLC inputs and outputs can be queried using the “Read Coils” and “Read discrete inputs” commands on addresses starting from 0.

Temperature data can be queried using the standard “Read Input Registers” or “Read Holding Registers commands. The valid addresses using the command are in the range (0 - 0x6000).

Here is the mapping. Addresses are 0-based, meaning address 0 translates to MODBUS logical register 1:

Address (decimal)	Address (hex)	Value
0	0x0000	Silo count
2	0x0002	Aux temperature
4	0x0004	Aux pressure
6	0x0006	Aux humidity
	...	
4096	0x1000	Silo 0 probe count
4098	0x1002	Silo 0 gas probe count
	...	
4128	0x1020	Silo 0 probe 0 length
4130	0x1022	Silo 0 probe 1 length
4158	0x103e	Silo 0 probe 15 length
4160	0x1040	Silo 0 probe 0 value 0
4162	0x1042	Silo 0 probe 0 value 1
4192	0x1060	Silo 0 probe 1 value 0
	...	

4672	0x1240	Silo 0 co2 0
4674	0x1242	Silo 0 voc 0
4676	0x1244	Silo 0 humidity 0
4678	0x1246	Silo 0 measure vacuum 0
4680	0x1248	Silo 0 chamber temperature 0
4688	0x1250	Silo 0 co2 1
	...	
4864	0x1300	Silo 1 probe count
	...	

All values are 16-bit integers. All temperatures are stored in 1/10 degree, so a value of 100 means 10 degree celsius.