Operational Description Kiln Data Collector

Circuit functions:

The Kiln Data Collector determines the electrical resistance of 2 sensors:
- Pt100 connected directly to circuitry
- (optional) Pt100 connected permanently via shielded cable (length 1m) to circuitry

The results are converted into temperature readings.

In addition, readings originating from Kiln Data Transmitters are received and stored. Upon request from a host, all readings are downloaded to the host via a RS485-communication line.

Description of circuitry:

The device is powered by an external 9 - 24VDC supply.
The microcontroller is always running.

Every 6sec the microcontroller controls the measuring circuitry and interprets the measuring signals to determine new temperature readings.

When data arrives from a Kiln Data Transmitter the signal (916.5MHz in on-off keyed modulation mode) is picked up by the hybrid receiver chip and serially sent to the microcontroller at 2400Bd.
A permanently attached ¼-wave length stub is used as antenna.

Whenever a request message arrives from the host at the serial port of the microcontroller all readings are sent to the host at 9600Bd.