

MODBUS SCT PPU

MODBUS SCT PPU communication protocol

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Supported device types and versions

This protocol supports the communication with the telemetric stations for remote measurement on gas meters of SCT company. It ensures the parallel measurement of data from the meters for wholesale gas consumption and medium one of SPP-Distribúcia a.s. .

Communication line configuration

- Communication line category: [Serial](#), [SerialOverUDP](#) [Device Redundant](#).

Communication station configuration

- Communication protocol "**MODBUS SCT PPU**".
- Station address is a decimal number in the range of 0 to 255 (usually 1).

Station protocol parameters

[Communication station - configuration dialog box](#) - tab **Protocol parameters**.
These parameters influence some of optional protocol parameters. You can define the following station parameters:

Table 1

Parameter	Meaning	Units	Default value
Retry Count	Maximum retries of call. If any response is not received after these callings, the station switches to the communication error state.	-	2
Retry Timeout	Timeout before the retrying the call if any response has not been received.	ms	500
Wait First Timeout	Timeout between sending the call and first reading the response.	ms	200
Wait Timeout	Timeout between the response readings.	ms	200
Max. Wait Retry	Maximum retries of reading the response.	-	30
Send Valid Data Only	Send only valid data to D2000 System kernel. If it is set on YES, the <i>Invalid</i> values are not send to the system.	YES/NO	YES
Future Data Filter	Filtering data that has a time stamp shifted forward by this value from the current time (in hours). The setting on 0 hours switches off this filter.	0-168 hours	24
History Data Filter	Filtering data that have the time stamp shifted back by this parameter from the current time (in days). The setting on 0 days switches off this filter.	0-730 days	31
Full debug	Extra debug information about communication on the line including debug information about all gained I/O tag values.	YES/NO	NO

I/O tag configuration

I/O tags for non-variable mode: **Ai,Ci,TiA**

I/o tag address:

Table 2 contains the list of supported I/O tag addresses. The address is in the text format - the value from the column "*Address*".

Table 2

Address	Value type	Tech. units	Meaning
VER	Ci	-	Protocol version (0x01).

ECSID	Ci	-	ID of conversion device, it is numbered from 0.
RTURDTM	TiA	-	RTU time of last reading the current data from the conversion devices.
ECSDTM	TiA	-	Time on the conversion device when the last reading the current data.
P	Ai	kPa	Current absolute pressure.
T	Ai	°C	Current temperature.
F	Ai	m3/hour	Instantaneous flow.
CLO	Ai	m3	Current status of counter for calculated quantity of LO.
CHI	Ai	m3	Current status of counter for calculated quantity of HI.
C	Ai	m3	Current status of counter for calculated quantity, calculated as $C = 10000 * CHI + CLO$.
C8LO	Ai	m3	Status of counter for calculated quantity at 8:00 - LO.
C8HI	Ai	m3	Status of counter for calculated quantity at 8:00 - HI.
C8	Ai	m3	Status of counter for calculated quantity at 8:00, calculated as $C8 = 10000 * C8HI + C8LO$.
VH	Ai	m3	Calculated quantity for the previous hour.
VD	Ai	m3	Calculated quantity for the previous day.

All values of current data ("P", "T", "F", "CLO", "CHI" and "C") are sent with the time stamp according to "ECSDTM" (i.e. time on conversion device when the last reading the current data) to the D2000 System kernel. A period of data reading is set according to the conversion device. For a device with mains power supply, it is about 10 minutes.

Time for RTU and conversion device is set remotely from a dispatching of SPP-Distribúcia a.s.

Archival data loading

The values of "VH", "CLO", "CHI" and "C" can be read again from the so-called hour archive (max. 192 hour records).

The values of "VD", "C8LO", "C8HI" and "C8" can be read again from the so-called daily archive (max. 32 daily records).

Archival data can be loaded by Tell command [GETOLDVAL](#) with the parameters a station name and time from which you need these data.

Literature

- Parallel data transmission from telemetry system of SPP-Distribúcia a.s. for wholesale gas customers, Revision 0.4, (c) SCT s.r.o. Košice, <http://www.sct.sk>.

Changes and modifications

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Document revisions

- Ver. 1.0 - 13. august 2010 - Creation of document



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