MODBUS SCT PPU

MODBUS SCT PPU communication protocol

Supported device types and versions
Communication line configuration
Communication station configuration
I/O tag configuration
Literature
Changes and modifications
Document revisions

Supported device types and versions

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

Communication line configuration

- Communication line category: Serial, SerialOverUDP Device Redundant.

Communication station configuration

- Communication protocol "**MODBUS SCT PPU**".
- The 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 the optional protocol parameters. You can define the following station parameters:

Table 1

Parameter	Meaning	Units	Default value
Retry Count	Maximum count of request retries. If no reply returns after a request had been sent, the station's status will change to a communication error.	-	2
Retry Timeout	Timeout before resending a request if no reply has been received.	ms	500
Wait First Timeout	The delay after sending the request and before reading the response.	ms	200
Wait Timeout	The delay between the reply readings.	ms	200
Max. Wait Retry	The maximum number of retries of the reply reading.	-	30
Send Valid Data Only	Send only valid data to the D2000 System. If it is set on YES, the *Invalid* values are not sent to the system.	YES/NO	YES
Future Data Filter	Filtering of data with a timestamp at least this value hours in the future. The setting to 0 hours disables this filter.	0-168 hours	24
History Data Filter	Filtering of data with a timestamp at least this value days in the past. The setting to 0 hours disables 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	-	The 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 the counter for the calculated quantity of LO.
CHI	Ai	m3	Current status of the counter for the 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 the counter for calculated quantity at 8:00 - LO.
C8HI	Ai	m3	Status of the 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 a mains power supply, it is about 10 minutes.

Time for RTU and conversion device is set remotely from 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 the Tell command GETOLDVAL with the parameters a station name and time from which you need these data.

Literature

- Parallel data transmission from the 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

Related pages:

Communication protocols