

PCMBA/IEC870-FT1.2 Scan

PCMBA/IEC870-FT1.2 and PCMBA/IEC870-FT1.2 Scan communication protocols

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Supported device types and versions

Protocol PCMBA/IEC870-FT1.2 implements communication with RTU devices on the gas control stations.
Protocol PCMBA/IEC870-FT1.2 Scan supports monitoring of the communication between RTU devices on the gas control stations and SPP control center. The protocol can be used for monitoring the parameters of the natural gas take-off of wholesale customers (who have the own control stations). It monitors the parameters such as the quantity of take-off, instantaneous/hourly/daily gas flow, temperature, input and regulated pressure of the gas, etc. A technical device for monitoring the communication between RTU and radio modem (a galvanic read-only separator of communication) is delivered from SPP on demand of a wholesale customer.

Communication line configuration

- Communication line category: [Serial](#), [SerialOverUDP](#) [Device Redundant](#).
- Serial line parameters are 9600 Baud, 8 data bits, 1 stop bit, even parity. You should check the real values when receiving the device from a supplier (SPP).

Communication station configuration

- Communication protocol: **PCMBA/IEC870-FT1.2** or **PCMBA/IEC870-FT1.2 Scan**.
- The supplier should provide you the station address when receiving the device. A group number is another important address parameter. It is configured as a station protocol parameter (see below in the document).
- You must always configure only one station on one communication line.

Station protocol parameters

[Communication station - configuration dialog box](#) - tab "**Protocol parameters**".

They influence some of the optional protocol parameters. You can set the following parameters of protocol:

Table 1

Parameter	Meaning	Unit	Default value
Wait Timeout in Scan Mode	The delay between the readings of data (PCMBA/IEC870-FT1.2 Scan protocol only).	ss.mss	5 s.
Max. Wait Retry in Scan Mode	The number of unsuccessful data readings after which the station goes to the error state (PCMBA/IEC870-FT1.2 Scan protocol only).	-	720
Retry Count	The maximum number of repeated requests (not used for PCMBA/IEC870-FT1.2 Scan protocol).	-	2
Wait First Timeout	First delay before reading the response after sending the request (not used for PCMBA/IEC870-FT1.2 Scan protocol).	ss.mss	0.2 s
Wait Timeout	Timeout between readings of response until it is completed (not used for PCMBA/IEC870-FT1.2 Scan protocol).	ss.mss	0.1 s
Max Wait Retry	The number of repeated readings of response until it is completed (not used for PCMBA/IEC870-FT1.2 Scan protocol).	-	20
Group Address	Group address - the address parameter in the range of 0 up to 255.	-	0
Full Debug	High level of communication tracing. It shows the read values of I/O tags and other debug information.	YES /NO	NO

A string containing the protocol parameters is being defined as follows:

```
Key_word=value;Key_word=value; ...
```

Example:

WT=100;MWR=20;

If a keyword with an invalid value is used in the initialization string, the corresponding default value according to table 1 will be used.

Note: As protocol PCMBA/IEC870-FT1.2 Scan is passive (it monitors the communication), the start of data and checking their values can take longer. Complete recovery of all values should be done at the latest within 24 hours. To speed up this process, you can ask the SPP control center for priority data reading from the control station. If no data come for a period more than WT * MWR, all values become invalid and the station switches to HARDERR state.

I/O tag configuration

I/O tag values: **Ai, Di, Ao, Dout** (PCMBA/IEC870-FT1.2) resp. **Ai, Di** (PCMBA/IEC870-FT1.2 Scan).

The supplier should provide you with the addresses for the measurement. The addresses for analog or integer values are the numbers in the range 0 up to 255. The binary values are set in the form "Address.Offset", e.g. "10.1". The Address is the number in the range 0 up to 255 and offset from 0 up to 15.

Changes and problems

The error messages, mentioned below, may occur during the start or communication. It is recommended to activate the monitoring of communication in the configuration of the line for easier identification of the problem. You can choose it from these levels:

- Monitor (at least)
- Monitor & Disk (recommended)
- Disk (recommended)

When you set "Monitor & Disk" or "Disk", the file "line_name.LOG" occurs in the subdirectory "\TRACE" in application directory on the computer with the running communication process. This file contains all the debug and error messages.

Error:	PCMBA : Detected long data for different station (Received addr=x, Used addr=y) ! or PCMBA : Detected short data for different station (Received addr=x, Used addr=y) !
Description:	There were received data for the address x, while the address y is configured. Repair the station address in the station configuration.
Error:	PCMBA : Detected unknown data type (Type=xx) or PCMBA : Unknown long data format detected !
Description:	Unsupported type of data there was detected. Contact Ipesoft Technical Support.
Error:	PCMBA : Detected long data for different group (Received grp=x, Used grp=y) !
Description:	Data for the station from the x group were received, while the station belongs to the y group. Repair the group number using the Group Address protocol parameter.
Error:	PCMBA : Point address error : '<i>PointName</i>', address: '<i>PointAddress</i>' !
Description:	Wrong I/O tag address.
Error:	PCMBA : Station address error : '<i>StationName</i>' !
Description:	Wrong station address.

Literature

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Changes and modifications

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Document revisions

- Ver. 1.0 - October 29, 2002 - Creation of document



Related pages:

[Communication protocols](#)