L&G ProfiBus

L&G ProfiBus communication protocol

Supported device types and versions

The protocol LGPROFIBUS implements communication with Landis&Gyr devices on the basis of the ProfiBus communication protocol.

This communication supports (is verified) these Landis&Gyr devices:

Table 1

Device	The version of software on the device	Version of protocol
PRU10.64		

Communication line configuration

The card KMFB02 (Incos a.s. Žilina) is used as a physical communication interface with the firmware by Ipesoft s.r.o. Žilina (stored in EPROM). The communication uses a baud rate of 93.75 kBd. Firmware in the card provides all basic tasks for access to the ProfiBus network. The card needs a KMFB02.SYS driver.

- Communication line category: **PROFIBUS**
- Line parameters (PROFIBUS tab):
    - Device ID – is ProfiBus Node Id, which is assigned to the KMFB02 card. It must be an unused number in the range of 0 up to 32 and reserved for the KMFB02 card in the ProfiBus network.

Communication station configuration

- Communication protocol: **L&G Profibus**
- The station address is ProfiBus Node Id of the device (PRU10) in the range of 0 up to 32.

Station protocol parameters

The parameters are configured in a dialog box – Communication station - configuration dialog box.

They influenced the behavior of the access to the communication medium. You can define the following parameters:

Table 2

Keyword	Full name	Meaning	Unit	Default value
WT	WR_TIME	Delay before the message is sent.	ms	80
RT	RD_TIME	Delay inserted into the executing of the transaction when the maximum count of transactions is exceeded.	ms	100
MTR	MAX_TRANSACTION_NUMBER	Maximum transactions that are unfinished.	-	5
MWR	MAX_WR_RETRY	Maximum retries during one record.	-	5
MTT	MAX_TRANSACTION_TIME	Maximum waiting time for the response to end the transaction.	sec	6
MMT	MAX_MESSAGE_TIME	Maximum time to complete at least one of unfinished transactions. After this timeout elapses, a communication error occurs in the station.	sec	10

The communication runs in the transaction way (Request/Response) for both data reading and writing. Data are read one point after another, always as a separate transaction.

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

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

Example:

```
WT=90;RT=200;MTR=7;
```

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

I/O tag configuration

I/O tags: **Ai, Ao, Ci, Co, Di, Do, TiR, ToR, TxtI, TxtO**

I/O tag types correspond to the following „Profibus_Type“:

Table 3

D2000 type	Profibus_Type
Ci, Co	Unsigned16
Ai, Ao	FloatingPoint
TxtI, TxtO	Bit_String
TiR, ToR	TimeDiff32, TimeDiff48
Di, Do	Unsigned16

The address is a number in the range of 0 up to 65535.

Note:
You can use the RefGen software for easy configuration and servicing of the addresses of I/O tags when changing software in PLC. L&G utility „pointrep“ enables generating a „*.adr” file, which is an input for RefGen. RefGen uses the columns “ProfiBus_Type” (Table 3), “OV_Index” (the address) and “Access_Right” (input/output).

Literature

-

Changes and modifications

-

Document revisions

- Ver. 1.1 – February 8, 2000 – Updating the document

Related pages:

Communication protocols