Unigate Gateway
Profibus-DP for LDM 40 A

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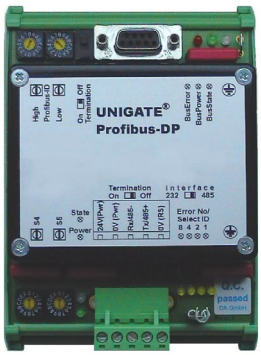

Application

- External Profibus-DP interface for distance sensor LDM 40 A
- Output 2x 8 Bit error information, 16 Bit measurement counter, 32 Bit time stamp and 32 Bit distance value

Product Description

The Gateway enables the connection of a LDM 40 A sensor to a Profibus-DP Master. It supports transmission rates up to 12 MBaud (Auto detect). The slave-address must be set with the switch „Profibus-ID“. The termination resistor can be switched to On or Off (last device on Profibus must be terminated, e.g. „Termination“ On). For connection a standard D-SUB connector can be used.
The changing of parameter of the LDM 40 A sensor is only possible via the serial interface and a PC with a terminal program. Please see next page for the important parameter.

Profibus Parameter

The Gateway must be configured as a standard Profibus-Slave. By the first parameter setting of the master the gateway knows its operation mode. The standard operation mode is binary transfer mode.
The ASCII mode transmits the original ASCII characters from the LDM 40 A.
It is very important that the parameter of the LDM 40 A are configured correctly. The parameter Baudrate (BR9600) String Format (SDh) and Auto start (ASdt) must be set via the RS 232 interface before you can connect the sensor to the Gateway.

Technical Data

Field bus-ID	via switch
ID-No.	**0x2079 (8313)**
Field bus baudrate	up to 12 MBaud (Auto detect)
Bus termination	switch
Bus connection	9 pin D-SUB
Power supply	10.8 up to 30 Volt
Mounting	DIN rail
Protection	IP 24
Dimensions	90 x 125 x 55 mm (B x H x T)
Weight	240 gram

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Mode	Profibus IN (Gateway Output)	Profibus Configuration	Profibus Configuration Bytes	Description
Standard	8 Bit Error Counter , 8 Bit Error Code, 16 Bit Counter, 32 Bit Time Stamp, **32 Bit Distance** [1])	**12 Byte IN, 0 Byte OUT**	155 0 0 (0x9B 0 0)	
ASCII	16 Bit Counter, 32 Bit Time Stamp, 8 Bit Number of Character, ASCII Character	**32 Byte IN, 0 Byte OUT**	223 0 0 (0xDF 0 0)	only for special applications

[1]) Scaling is depending on the LDM 40 A parameter

Connection of the serial interface RS485

LDM 40 A Pin 9 (black) - Gateway 03
LDM 40 A Pin 10 (violet) - Gateway 04

Gateway switch „Interface“ RS485
Gateway switch „Termination“ On
Gateway switch „S4“ and “S5” Zero

Hint: For LDM 40 A with RS232 interface you can use the RS422 transmission interface (Pin 9 and 10) for the Gateway.

Error Code

Code	Description
0 (0x00)	A correct measurement value was received; Error Counter will be set to zero
15 (0x0F)	Reflexes are too weak, use target board or distance between LDM 40 A (front edge) and target < 0.1 m
16 (0x10)	Reflexes are too strong, use target board
17 (0x11)	Too much steady light (e.g. sunlight)
23 (0x17)	Temperature below – 10°C
24 (0x18)	Temperature above + 50°C
61 (0x3D)	Wrong command
255 (0xFF)	String from LDM 40 A is not correctly (e.g. parameter SDh is not set)

Description of binary values

Error Counter	Counter of the errors since last correct measurement
Counter	Increment on every new correct measurement value
Time Stamp	Will be set on every correct measurement value (ms)

Parameter for LDM 40 A

BR9600	Baudrate 9600, **necessary**
SDh	Output format HEX, **necessary**
ASdt	Auto start „Distance tracking”, **necessary**
SA1	Sliding average, depending on application
ST0	Measurement time, depending on application
SF1	Scaling 1 mm; value 10 for 0,1 mm
OF0	Offset 0 mm, depending on application

Version information

Unigate Hardware Rev. 1; Gateway Firmware 1.1;
GSD-File Revision 1.0

Version 1.3 last update 2004-07-13 File LDM40_Profibus_E.doc

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