DIMS Profibus Interface

Part No. 500214

DIMS User Manual

V1.07

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1 Introduction

The DIMS Profibus Interface is an extension for the Distance Sensors. It provides connectivity to the Profibus and allows the connection of up to 10 Distance Sensors (Multi-Sensor-Mode).
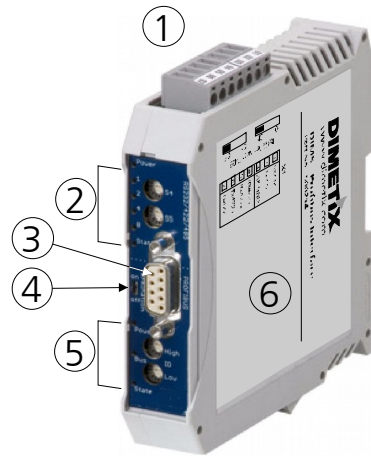
CAUTION

⚠   ❗ **Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.**

1.1 Basics

It is essential to have an understanding of Profibus and RS-232/RS-422 communication in order to use this manual appropriately.

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1.2 Components

1	**Serial Interface Connection** RS-422 and RS-232	**3**	**Profibus Connector**
2	**Status LED and Rotary Switch for Serial Interface** the rotary switches must both be set to 0	**4**	**Terminator Switch** Switch to set termination of the Profibus to on or off.
		5	**Switch for Profibus ID**
		6	**Product label** see 8 Labeling on page 27

2 Front Panel

2.1 Elements for Serial interface

2.1.1 Coding switch S4, S5

Always set this switches to 0.

2.1.2 LED Power (serial)

This LED is connected directly to the supply voltage of the serial interface.

2.1.3 LED 1, 2, 4, 8, status

Green:	The DIMS Profibus Interface is operational and communication with Distance Sensor has been processed.
Green, red blinking:	Profibus is connected but no answer received from Distance Sensor. After issue a command the LED changes to green.
red:	After startup if Profibus is not connected. If the LED is red while the Profibus is connected, the LED 1, 2, 4, 8 show the error code.

LED8	LED4	LED2	LED1	Error No.	Error Description
0	0	0	0	0	Reserved
0	0	0	1	1	Hardware fault
0	0	1	0	2	EEPROM error
0	0	1	1	3	Internal Memory Error
0	1	0	0	4	Fieldbus hardware error or wrong Fieldbus-ID
0	1	0	1	5	Script error
0	1	1	0	6	Reserved
0	1	1	1	7	RS-Transmit buffer overflow
1	0	0	0	8	RS-receive buffer overflow
1	0	0	1	9	RS timeout
1	0	1	0	10	General fieldbus error
1	0	1	1	11	Parity or frame check error
1	1	0	0	12	Rederved
1	1	0	1	13	Fieldbus configuration error
1	1	1	0	14	Fieldbus data buffer overflow
1	1	1	1	15	Reserved

2.2 Elements for Profibus
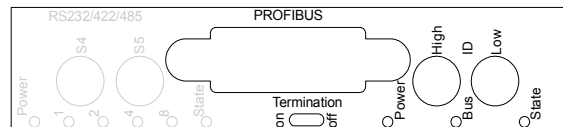
2.2.1 Coding Switches High, Low

With these two switches the Profibus-ID (00... 7D) is set in hexadecimal notation. This value is read in only once at startup.

2.2.2 Termination Switch

If the DIMS Profibus Interface is operated as the first or last physical device in the ProfibusDP, there must be a bus termination at this Gateway. In order to do this, either a bus terminating resistor must be activated in the connector or the resistor (220 Ω) integrated in the DIMS Profibus Interface must be activated. In order to do this, slide the slide switch to position ON. In all other cases, the slide switch must remain in position OFF. Please refer to the general Profibus literature for further information on the subject of bus termination.

☞	To activate or deactivate the bus termination, please remove the bus-connector and carefully set the switch to the desired position.

2.2.3 LED Power (Profibus)

This LED is connected directly to the electrically isolated supply voltage of the Profibus-side.

2.2.4 LED Bus

This LED signals that the Profibus is in the state "DATA EXCHANGE".

2.2.5 LED State

|	
Green:	Profibus in the state data exchange
Green blinking	DIMS Profibus Gateway waits for Profibus communication data
Green, red blinking:	DIMS Profibus Gateway waits for Profibus parameter data
red:	General Profibus error

2.3 Connectors

2.3.1 ProfibusDP Connector
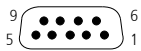
Pin	Name	Description
1	Shield	
2		
3	B	Not inverting input-/output- signal from Profibus
4	CNTR-P	Control signal / Repeater
5	M5	DGND – data reference potential
6	P5	5V supply voltage
7		
8	A	Inverting input-/output- signal from Profibus
9		

2.3.2 Serial Connection X1

⚠ **❗ Never connect RS-232 and RS-422 lines at the same time.**

X1

1	Rx232
2	Tx232
3	AP-GND
4	Rx422+
5	Rx422-
6	Tx422+
7	Tx422-
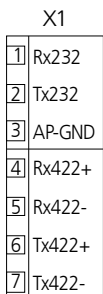
Pin	Name	Description
1	Rx 232	Receive signal
2	Tx 232	Transmit signal
3	AP-GND	Application Ground
4	Rx-422+	Receive Signal
5	Rx-422-	Receive Signal
6	Tx-422+	Receive Signal
7	Tx-422-	Receive Signal

2.3.3 Power Connection X2

X2

Tx-Debug	4
Rx-Debug	3
0V(Pwr)	2
V+(Pwr)	1
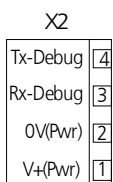
Pin	Name	Description
1	V+	Supply voltage 10..33V DC
2	0V	Supply voltage ground
3	Rx-Debug	Receive signal for test purpose only
4	Tx-Debug	Transmit signal for test purpose only

3 Operation

The DIMS Profibus Interface is ready to use. It only needs to be connected according the following description. It supports three operating modes:

1. Automatic measurement: This setup allows a single sensor communication. After the sensor powers on, the sensor start fastest possible measurements and provides the result as an ASCII- string (see chapter 3.1).

2. Controlled measurement: This setup allows a multi sensor communication with up to 10 addressed sensors (see chapter 3.2).

3. Transparent Mode: It allows the transmission of ASCII character to the Distance Sensor. Therefore all commands can be transferred to the Distance Sensor. However, the controller has to do all string parsing. (see chapter 6.3).

3.1 Automatic measurement

With this setup, the sensor starts measuring after power is applied. The measurement results are transferred in ASCII over the profibus.
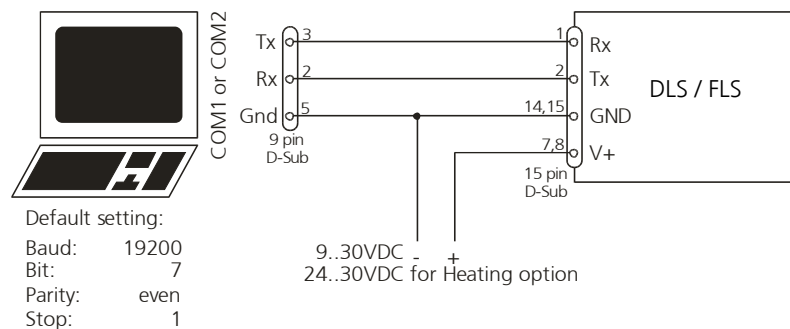
Automatic measurement operation is only possible with single sensor connection.

⚠️ **To save the lifetime of the laser diode, switch off the sensor if not used.**

3.1.1 Configuration (RS-232)

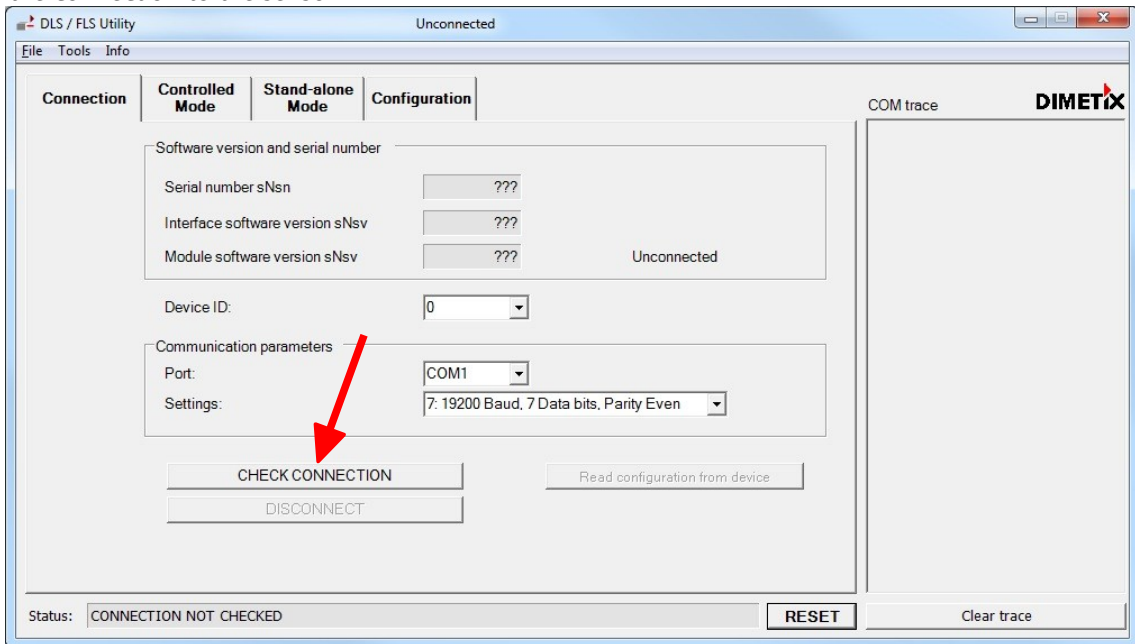Connect the DLS/FLS Sensor for the setup as shown in the following diagram.

Install and start the "Utility-Software". This software can be downloaded from www.dimetix.com.

Check the connection to the sensor

The UtilitySW shows information of the connected device after successful connecting the Laser distance sensor.
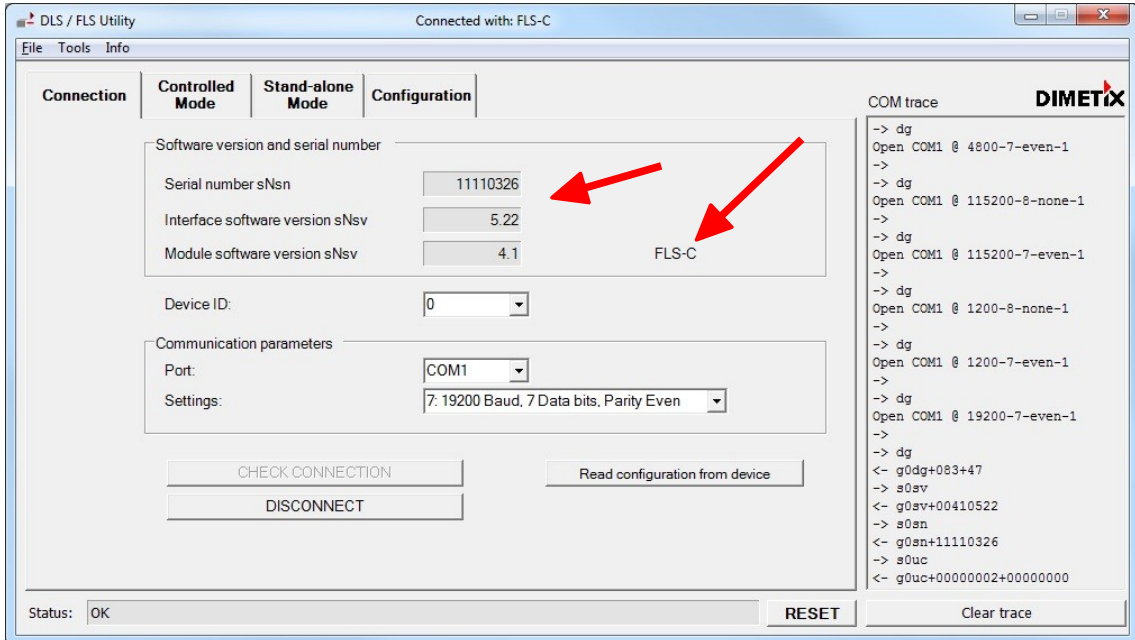
Navigate to Stand-alone Mode and open the Manual start configuration tab.
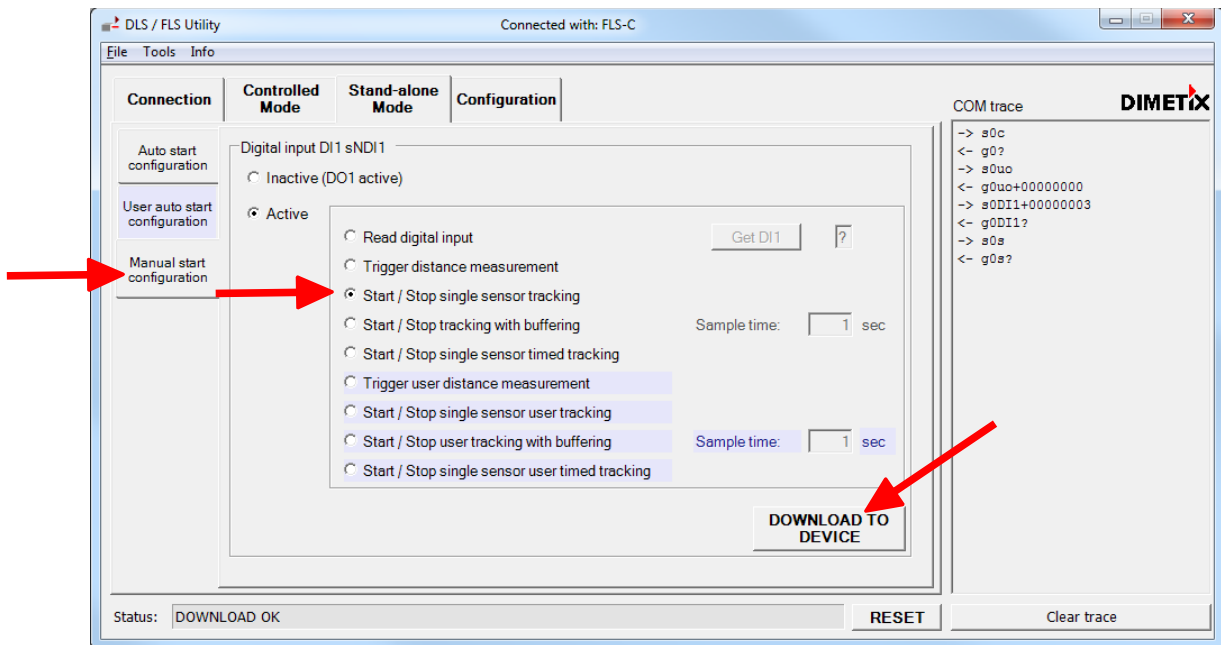
3.1.2 Single Sensor Connection (RS-422)

Connect the terminal "V+" and "DO1" using a 1 kohm resistor. This port can also be used as a digital input. For safety reasons, always use a resistor to protect the output circuit.

3.1.3 Data format for automatic measurement

- The message format, 16 Byte I/O (consistent) is organized as follow:
- Please note: Sensor ID in this example is '**0**'.

Return successful sample

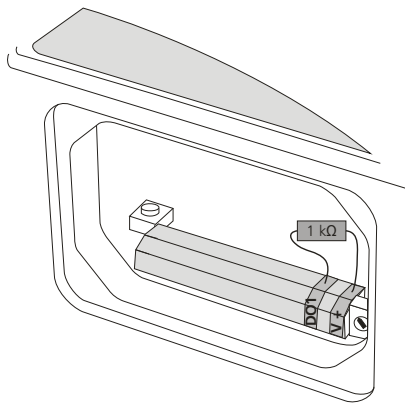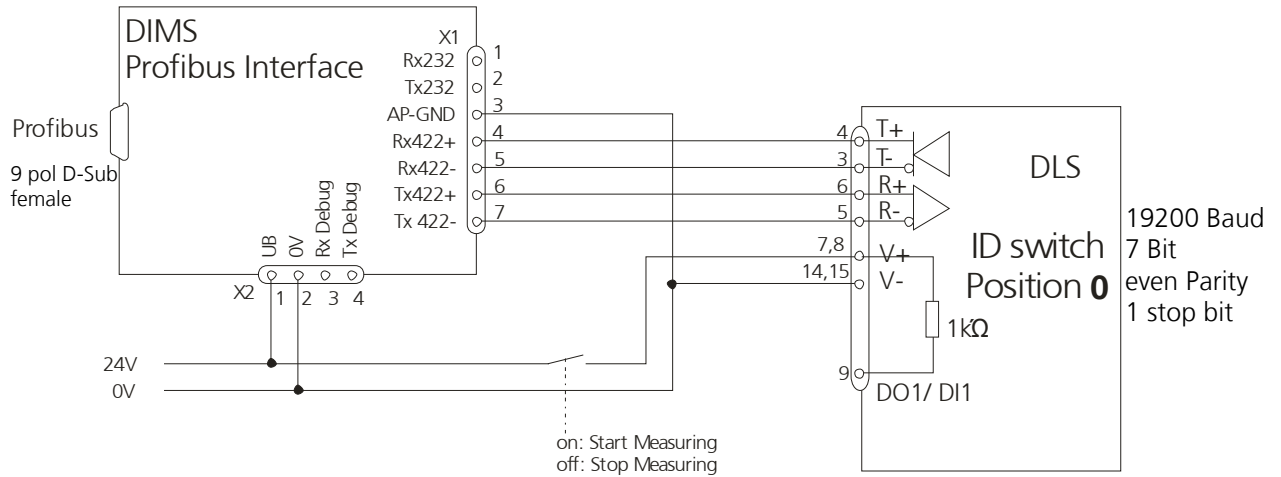|	Tog.	Data (ASCII Character)													
ASCII hex	00	67	39	68	2B	30	30	30	30	33	35	33	33	0D	0A	00
ASCII char.	00	'g'	**'0'**	'h'	'+'	**'0'**	**'0'**	**'0'**	**'0'**	**'3'**	**'5'**	**'3'**	**'3'**	'CR'	'LF'	'0'
			ID	Header		Last Measured Distance in 1/10 mm								Terminator		*filled*

3533 = 353.3mm

Return error sample

	Tog.	Data (ASCII Character)													
ASCII hex	00	67	30	40	45	32	33	34	0D	0A	00	00	00	00	00	00
ASCII char.	00	'g'	**'0'**	'@'	'E'	**'2'**	**'3'**	**'4'**	'CF'	'LF'	'0'	'0'	'0'	'0'	'0'	'0'
			ID	Header		Error code			Terminator				*filled*			

Sensor Start-Up String

	Tog.	Data (ASCII Character)													
ASCII hex	00	67	39		0	0	0	0	0	0	0	0	0	0	0	0
ASCII char.	00	'g'	**'0'**	'?'	'0'	'0'	'0'	'0'	'0'	'0'	'0'	'0'	'0'	'0'	'0'	'0'
			ID	Header					*filled*							

3.2 Controlled measurement

With this setup, the host controls the measurement of the sensors by commands over the profibus.

3.2.1 Single sensor connection (RS-422)

The following diagram shows the connection of a single distance Sensor with the DIMS Profibus Interface.
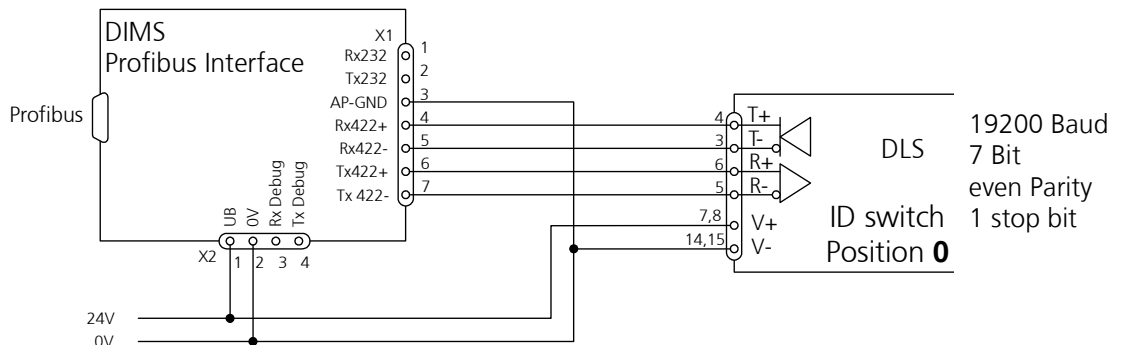
3.2.2 Multi sensor connection (RS-422)

The following diagram shows the connection of multiple Distance Sensor with the DIMS Profibus Interface.

3.2.3 Message format

The message format consist of 8 byte and is organized as follows:

Message from Master to DIMS Profibus Interface

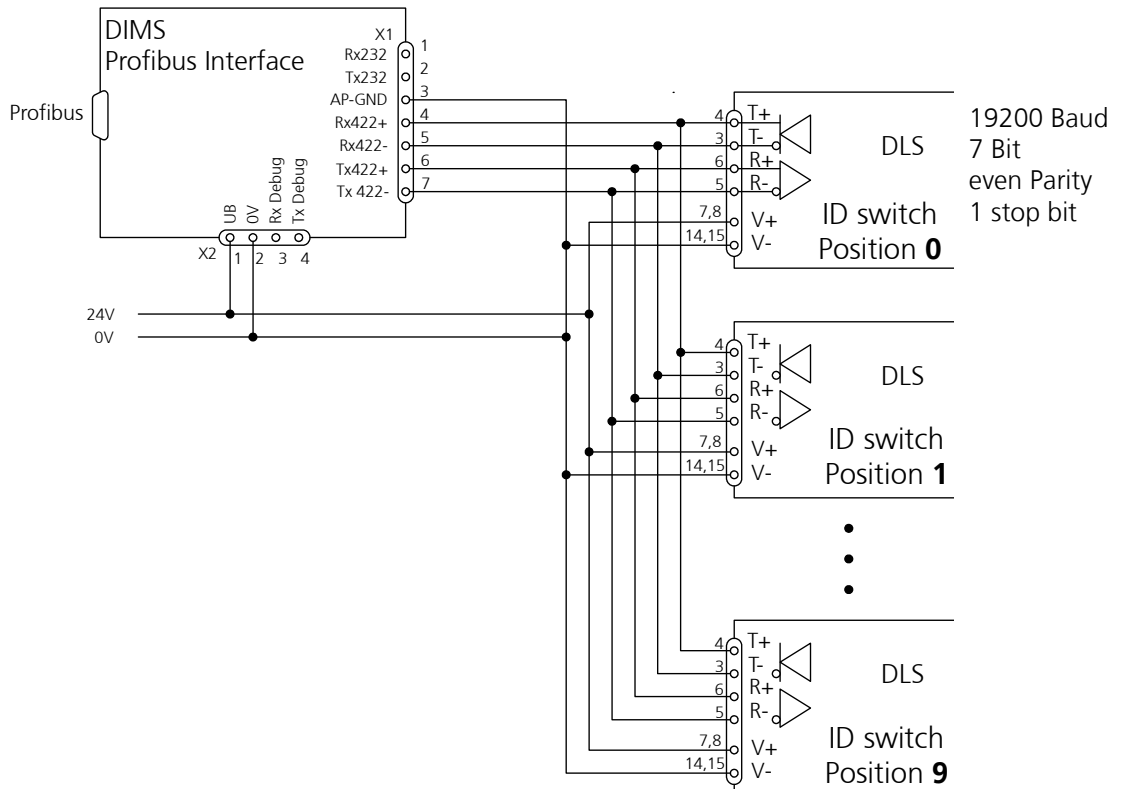| Toggle	cmd	Data			ID	Reserve

Answer Message from DIMS Profibus Interface

Toggle	'i'	Status Info	(Int)		Error	

Toggle: Counter Byte to identify answer messages. The DIMS Profibus Interface copy the content of the toggle byte to the answer message. Therefore the master can clearly assign the answer message to the sent message.

cmd: This byte is transferred as a string and is the command to be executed.

Data: Four data bytes contain the data for the command or the answer data to be transferred to the host. The representation of the data can be 32 bit integer or 32 bit float (IEEE-754).

ID: Number for the ID of the Distance Sensor to be addressed. The ID can be in a range from 0 to 9 and need to be set as an integer value. Please also refer to the Technical Reference Manual of the Distance Sensor.

Error: Contains the error number if any and zero if no error occurred.

3.2.4 Initialization at power up

At power up, if the Profibus is properly connected and configured, the DIMS Profibus searches for Distance Sensors on the serial interface. The recognized devices are stored in the DIMS Profibus Interface and only recognized Distance Sensors can be controlled.

3.2.5 Sensor detection manual

In order to the automatic sensor detection at power up, the detection of attached sensors can also be started manually by issuing the command 'i' as described below.

Data from Master to the DIMS

Toggle	'i'					reserve

If the above data are transferred to the DIMS Profibus Interface, it searches for Distance Sensors, like at power up.

Data from DIMS to Master

Toggle	'i'	status info	(int 32 bit)		error number	

The status info (4 Byte) contains the information about the found Distance Sensors. Bit 0 to bit 9 shows the status for the Distance Sensors corresponding to ID 0 to ID 9. If a status bit is set to 1, the sensor with the

corresponding ID has been found and is ready to receive commands. If a bit is 0, the sensor is not connected or not ready.

3.2.6 Clear / Stop

Data from Master to the DIMS

Toggle	'c'				ID	reserve

The DIMS Profibus interface sends the command Clear/Stop ('sNc') with N as the number specified in ID. The Distance Sensor stops the current execution.

Data from DIMS to Master

Toggle	'c'	status info	(int 32 bit)		error number

The return data from DIMS to the master contains the status information of the detected sensors as described in Data from DIMS to Master.

3.2.7 Distance Measurement

Data from Master to the DIMS

Toggle	'g'				ID	reserve

The Distance Sensor with the ID defined in the message executes a single measurement (sNg), while N is the ID.

Data from DIMS to Master

Toggle	'g'	distance	(float 32 bit)		error number

The answer message contains the measured distance as 32 bit float value (IEEE-754).

3.2.8 Start Tracking with buffering

Data from Master to the DIMS

Toggle	'f'	time in ms	(int 32 bit)		ID	reserve

If the DIMS Profibus Interface receives this message, the corresponding Distance Sensor will start the tracking with buffering (sNf), while N is the ID. The measurement frequency is defined by the time in ms as 32 bit integer number.
Attention: the time must be set to a value that is long enough to finish a measurement. For fastest possible measurement, set the time to 0.

Data from DIMS to Master

Toggle	'f'				error number	

The answer message contains an error number if the command failed, otherwise the error number will be zero.

3.2.9 Read Distance

While the Distance Sensor measures distances (tracking with buffering), the measured distances can be read by issuing the following message on the Profibus. The distance read out is only possible if the tracking with buffering is started.

Data from master to the DIMS

Toggle	'q'				ID	reserve

This message requests the measured distance value from the corresponding device (ID number).

Data from DIMS to Master

The DIMS Profibus Interface sends a message with the cmd byte '0', '1' or '2'. This cmd byte signals the status of the measured distance:
0 → No new measurement value since the last read.
1 → One new measurement value since the last read
2 → More than one new measurement since the last read

No new distance value since the last read

Toggle	'0'	distance	(float 32 bit)		error number	

Returns the last distance value. No new measurement value.

One new distance value since last read

Toggle	'1'	distance	(float 32 bit)		error number	

Returns the last measured distance value. Exactly one distance measurement has been done since the last read.

More than one new distance value since last read

Toggle	'2'	distance	(float 32 bit)		error number	

Returns the last measured distance value. More than one distance measurement has been done since the last read. All previous distances are lost, only the last one is transmitted.

3.2.10 Sensor error messages

All error messages from the Distance Sensors are transferred by the DIMS Profibus Interface to the master. For a description of the Distance Sensor error messages please refer to the Technical Reference Manual of the Distance Sensor.

3.2.11 DIMS Profibus Interface error messages

In addition the DIMS Profibus Interface has the following error messages.

No.	Meaning
100	Invalid ID selected. ID not in the range 0..9
101	The Distance Sensor with the ID issued in the message is not detected. Check ID and cabling between DIMS and the sensor
102	No Distance Sensor found during the detection process

3.3 Transparent Mode

The DIMS Profibus Interface select the transparent mode if the first command issued on the Profibus contains more than 8 bytes.

Toggle	Data (ASCII Char)						
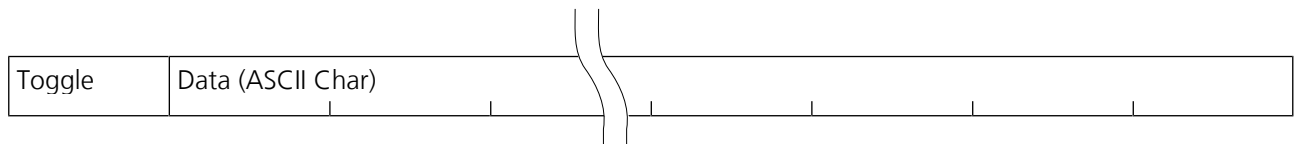
While in transparent mode, the DIMS Profibus Interface sends the characters received as data direct to the serial interface. The Data must contain all characters like described in the Technical Reference Manual of the Distance Sensor. Do not forget to terminate the command with a <CR><LF>.

The answer string from the Distance Sensor copied into the Data area of the answer message. Therefore the answer message also contains all characters received on the serial interface (including <CR><LF>).

4 Technical data

4.1 General specifications

| Power supply	10 ... 33V DC Typ. 0.15A @ 24V Typ. 0.35A @ 10V
Dimensions	23 x 111 x 117 mm
Temperature range during operation	-20 °C to +70 °C, not condensing
Temperature range during storage	-40 °C to +70 °C
Atmospheric pressure during operation	795hPa ... 1080 hPa
Atmospheric pressure during transport	660hPa ... 1080 hPa
Relative humidity	Max 80% non condensing, no corrosive atmosphere
Degree of Protection	IP20; IEC 529 (protected against foreign bodies)
Weight	130g

4.2 Interface specification

The table below lists the technical data of the interfaces and ports on the device. The data has been taken from the corresponding Standards.

Interface designation Physical interface	ProfibusDP RS-485	RS-232-C RS-232-C	RS-485/RS-422 RS-485/RS-422
Standard	EIA Standard	DIN 66020	EIA Standard
Transmission mode	Symmetrical asynchronous serial half-duplex → Difference signal	Asymmetrical asynchronous serial full duplex → Level	Symmetrical asynchronous serial half-duplex full duplex at RS-422 → Difference signal
Transmission method	Master / Slave	Master / Slave	Master / Slave
Number of users: - Transmitters - Receivers	32 32	1 1	32 32

Cable length: - Maximum
         - Baud rate
            dependent
	1200 m
	93.75 kBd → 1200 m
	187.5 kBd → 1000 m
	500 kBd → 400 m
	1.5 Mbd → 200 m
	>1.5 Mbd→ 100 m
		15 m
		no
			1200 m
			<93.75kBd → 1200 m
			312 kBd → 500 m
			625 kBd → 250 m

Bus topology	Line	Point-to-point	Line
Data rate: - Maximum - Standard values	12 Mbit/s 9.6 kBit/s 19.2 kBit/s 93.75 kBit/s 187.5 kBit/s 500 kBit/s 1.5 Mbit/s 3 Mbit/s 6 Mbit/s 12 Mbit/s	120 kBit/s 2.4 kBit/s 4.8 kBit/s 9.6 kBit/s 19.2 kBit/s 38.4 kBit/s	0.625 kBit/s 2.4 kBit/s 4.8 kBit/s 9.6 kBit/s 19.2 kBit/s 57.6 kBit/s 312.5 kBit/s 625 kBit/s

Transmitter: - Load
            - Maximum voltage
            - Signal, unloaded
            - Signal, loaded
	54 Ω
	- 7 V ... 12 V
	± 5 V
	± 1.5 V
		3 ... 7 kΩ
		± 25 V
		± 15 V
		± 5 V
			54 Ω
			- 7 V ... 12 V
			± 5 V
			± 1.5 V

Receiver: - Input resistance
          - Max. input signal
          - Sensitivity
	12 Ω
	- 7 V ... 12 V
	± 0.2V
		3 ... 7 Ω
		± 15 V
		± 3 V
			12 Ω
			- 7 V ... 12 V
			± 0.2 V

Transmit range (SPACE):
          - Voltage level
          - Logic level
	- 0.2 ... + 0.2 V
	0
		+ 3 ... + 15 V
		0
			- 0.2 ... + 0.2 V
			0

Transmit pause (MARK):
          - Voltage level
          - Logic level
	+ 1.5 ... +5 V
	1
		- 3 ... −15 V
		1
			+ 1.5 ... +5 V
			1

5 Physical dimensions

All dimension in mm

DIMETiX
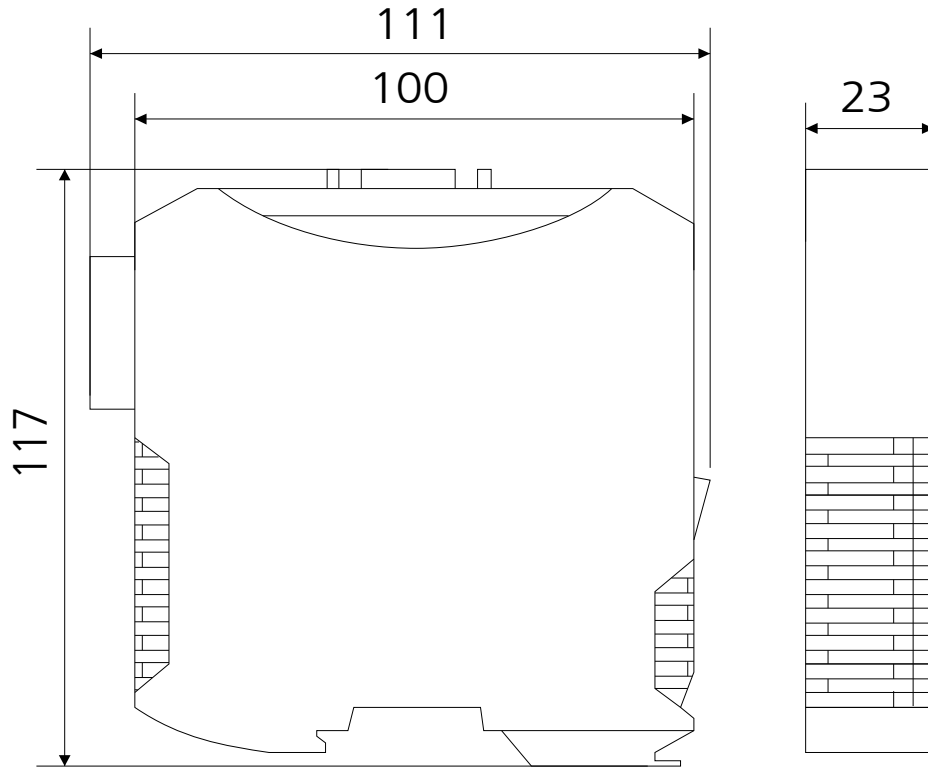
6 Installation guidelines

6.1 Installation of the module

The module with the dimensions 23 x 111 x 117 mm (W x H x D) has been developed for switch cabinet use (IP 20) and can thus be mounted only on a standard mounting channel (deep DIN-rail to EN 50022).

6.1.1 Mounting

- Engage the module from the top in the top-hat rail and swivel it down so that the module engages in position.
- Other modules may be rowed up to the left and right of the module.
- There must be at least 5 cm clearance for heat dissipation above and below the module.
- The standard mounting channel must be connected to the equipotential bonding strip of the switch cabinet. The connection wire must feature a cross-section of at least 10 mm².

6.1.2 Removal

- First disconnect the power supply and signal lines.
- Then push the module up and swivel it out of the top-hat rail.

6.2 Wiring

6.2.1 Connection systems

The following connection systems must resp. may be used when wiring the module:

- Standard screw-type/plug connection (power supply + RS)
- 9-pin D-SUB plug connector (ProfibusDP)

a) In the case of standard screw-type terminals, one lead can be clamped per connection point. It is best to then use a screwdriver with a blade width of 3.5 mm to firmly tighten the screw.

Permitted cross-sections of the line:

- Flexible line with wire-end ferrule: 1 x 0.25 ... 1.5 mm²
- Solid conductor: 1 x 0.25 ... 1.5 mm²
- Tightening torque: 0.5 ... 0.8 Nm

b) The plug-in connection terminal strip is a combination of standard screw-type terminal and plug connector. The plug connection section is coded and can thus not be plugged on the wrong way round.

c) The 9-pin D-SUB plug connector is secured with two screws with "4-40-UNC" thread. It is best to use a screwdriver with a blade width of 3.5 mm to screw the screw tight.
Tightening torque: 0.2... 0.4 Nm

Power supply

The device must be powered with 10..33 V DC.

- Connect the supply voltage to the 4-pole plug-in screw terminal in accordance with the labeling on the device.

Equipotential bonding connection

The connection to the potential equalization automatically takes place it is put on the DIN-rail.

6.2.2 ProfibusDP communication interface

Bus line with copper cable

- Plug the Profibus connector onto the SUB-D socket labeled "ProfibusDP".
- Firmly screw the securing screws of the plug connector tight using a screwdriver.
- If the module is located at the start or end of the Profibus line, you must connect the bus terminating resistor integrated in the gateway. In order to do this, slide the slide switch to the position labeled ...on...
- If the module is not located at the start or at the end, you must set the slide switch to position "off".

6.2.3 Line routing, shield and measures to combat interference voltage

This chapter deals with line routing in the case of bus, signal and power supply lines, with the aim of ensuring an EMC-compliant design of your system.

6.2.4 General information on line routing

In order to achieve EMC-compliant routing of the lines, it is advisable to split the lines into the fol-lowing line groups and to lay these groups separately.

Group A:
- shielded bus and data lines (e. g. for ProfibusDP, RS232C and printers etc.)
- shielded analogue lines
- unshielded lines for DC voltages ≥ 60 V
- unshielded lines for AC voltage ≥ 25 V
- coaxial lines for monitors

Group B:
- unshielded lines for DC voltages ≥ 60 V and ≥ 400 V
- unshielded lines for AC voltage ≥ 24 V and ≥ 400 V

Group C:
- unshielded lines for DC voltages > 400 V

The table below allows you to read off the conditions for laying the line groups on the basis of the combination of the individual groups.

	Group A	Group B	Group C
Group A	1	2	3
Group B	2	1	3
Group C	3	3	1

Tabelle 1: Line laying instructions as a function of the combination of line groups

1) Lines may be laid in common bunches or cable ducts.

2) Lines must be laid in separate bunches or cable ducts (without minimum clearance).

3) Lines must be laid in separate bunches or cable ducts inside cabinets but on separate cable racks with at least 10 cm clearance outside of cabinets but inside buildings.

Shielding of lines

Shielding is intended to weaken (attenuate) magnetic, electrical or electromagnetic interference fields. Interference currents on cable shields are discharged to earth via the shielding bus which is connected conductively to the chassis or housing. A low-impedance connection to the PE wire is particularly important in order to prevent these interference currents themselves becoming an interference source. Wherever possible, use only lines with braided shield. The coverage density of the shield should exceed 80%. Avoid lines with foil shield since the foil can be damaged very easily as the result of tensile and compressive stress on attachment. The consequence is a reduction in the shielding effect. In general, you should always connect the shields of cables at both ends. The only way of achieving good interference suppression in the higher frequency band is by connecting the shields at both ends. The shield may also be connected at one end only in exceptional cases. However, this then achieves only an attenuation of the lower frequencies. Connecting the shield at one end may be more favorable if

- it is not possible to lay an equipotential bonding line
- analogue signals (a few mV resp. mA) are to be transmitted
- foil shields (static shields) are used.

In the case of data lines for serial couplings, always use metallic or metalized plugs and connectors. Attach the shield of the data line to the plug or connector housing. If there are potential differences between the earthing points, a compensating current may flow via the shield connected at both ends. In this case, you should lay an additional equipotential bonding line.
Please note the following points when shielding:

- Use metal cable clips to secure the shield braiding. The clips must surround the shield over a large area and must have good contact.
- Downstream of the entry point of the line into the cabinet, connect the shield to a shielding bus. Continue the shield as far as the module, but do not connect it again at this point!

7 Safety instructions

The following instructions are to enable the person responsible for the DIMS Profibus Interface, and the user of the instrument, to anticipate and avoid operational hazards.

The DIMS Profibus Interface, is made to be integrated into technical systems. Basic technical training is therefore essential. This device may only be operated by trained personnel.

The person responsible for the instrument must ensure that all users understand these instructions and adhere to them.

If the DIMS Profibus Interface, is part of a system, the manufacturer of such a system is responsible for all safety-related issues, such as the manual, labeling and instruction.

7.1 Use of the instrument

Permitted use:

The permitted use of the DIMS Profibus Interface, is: measuring distances.

Prohibited use:

1) Use of the instrument without instruction

2) Use outside the stated limits

3) Deactivation of safety systems and removal of explanatory and hazard labels

4) Opening of the equipment

5) Carrying out modification or conversion of the product

6) Operation after failure in operation

7) Use of accessories from other manufacturers without the express approval of Dimetix.

WARNING

Prohibited use can lead to injury, malfunction, and material damage. It is the duty of the person responsible for the instrument to inform the user about hazards and how to counteract them. The DIMS Profibus Interface must not be operated until the user has been adequately instructed.

7.2 Limits to use

☞ See section "Technical Data"

Environment:

Suitable for use in an atmosphere appropriate for permanent human habitation. Must not be used in a caustic or explosive environment.

7.3 Areas of responsibility

Responsibilities of the manufacturer of the original equipment Dimetix AG, CH-9100 Herisau (Dimetix):

Dimetix is responsible for supplying the product, including the DIMS User Manual and original accessories, in a completely safe condition.

Responsibilities of the manufacturer of non-Dimetix accessories:

The manufacturers of non-Dimetix accessories for the DIMS Profibus Interface are responsible for developing, implementing and communicating safety concepts for their products. They are also responsible for the effectiveness of these safety concepts in combination with the Dimetix equipment.

Responsibilities of the person in charge of the instrument:

WARNING:

The person responsible for the instrument must ensure that the equipment is used in accordance with the instructions. This person is also accountable for the deployment of personnel and for their training and for the safety of the equipment when in use.

The person in charge of the instrument has the following duties:

1) To understand the safety instructions for the product and the instructions in the DIMS User Manual.

2) To be familiar with local safety regulations relating to accident prevention.

3) To inform Dimetix immediately if the equipment becomes unsafe.

7.4 Hazards in use

Important hazards in use

WARNING:

The absence of instruction, or the inadequate provision of instruction, can lead to incorrect or prohibited use, and can give rise to accidents with far-reaching personal, material and environmental consequences.

Precautions:

All users must follow the safety instructions given by the manufacturer and the directions of the person responsible for the instrument.

WARNING:

Operate the equipment appropriately in accordance with the regulations in force. Always prevent access to the equipment by unauthorized personnel.

7.5 EU Directive EMC

The following applies to the module described in this User Manual: Products which bear the CE mark comply with the requirements of EU Directive „Electromagnetic Compatibility" and the harmonized European Standards (EN) listed therein.
The EU Declarations of Conformity are available at the following location for perusal by the responsible authorities in accordance with the EU Directive, Article 10:

Dimetix AG Degersheimerstr. 14, CH9100 Herisau, Switzerland

7.5.1 Scope of application

7.5.2 Note installation guidelines

The module complies with the requirements if you

1. comply with the installation guidelines described in the User Manual when installing and operating the module.

2. also follow the rules below on installation of the equipment and on working on switch cabinets.

7.5.3 Installation of the unit

Modules must be installed in electrical equipment rooms/areas or in enclosed housings (e.g. switch boxes made of metal or plastic). Moreover, you must earth the unit and the switch box (metal box) or at least the top-hat rail (plastic box) onto which the module has been snapped.

7.5.4 Working on switch cabinets

In order to protect the modules against static electrical discharge, the personnel must discharge themselves electrostatically before opening switch cabinets or switch boxes.

7.6 Producer Standards

Dimetix hereby certifies that the product has been tested and complies with the specifications as stated in this 'Manual'. The test equipment used is in compliance with national and international standards. This is established by our Quality Management System. Further, the DIMS Profibus Interface is produced in compliance with 2002/95/EG «RoHS».

7.7 Disposal

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of the equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the dealer where you purchased the product.

In countries in which Dimetix has no subsidiaries, Dimetix delegates the duty for the disposal in compliance with 2002/96/EG«WEEE» to the local dealer or to the customer, if no dealer is present.

8 Labeling

The following two labels are attached to the DIMS Profibus Interface.

DIMETIX
www.dimetix.com

DIMS - Profibus Interface
Part No. **500214**

X1
1	Rx232
2	Tx232
3	AP-GND
4	Rx422+
5	Rx422-
6	Tx422+
7	Tx422-

Rx422 Termination Tx422
On / Off
On / Off

X2
4	Tx-Debug
3	Rx-Debug
2	0V(Pwr)
1	V+(Pwr)

DIMS Profibus Interface

Part No.: 500214   Ser. No.: 36400001

Made in Germany   C E

9 Service

If you need to service the device, please contact Dimetix for instructions.

This sample including its documentation is provided with no warranty for any problems this sample may cause.

Important Notice

Dimetix reserves the right to make corrections, modifications, enhancements, improvements and other changes to its products, documentation and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is up to date and complete. All products are sold subject to Dimetix terms and conditions of sale supplied at the time of order acknowledgment.

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