

# MANUAL

## Conversion instruction EDM series to VDM100 series





With regard to the supply of products, the current issue of the following document is applicable:  
The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

Date of Issue: 2010-06


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## 1 Introduction

### 1.1 Purpose of this conversion guide

This conversion guide is designed to enable you to quickly convert an EDM device into a VDM100 device.

It does not replace the EDM manual or the VDM100 manual.

	<i>With storage and retrieval devices, care must always be taken to observe the applicable safety regulations. Failure to do so may result in serious or fatal injury!</i>
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## 2 Cross Reference List

Designation	Part No.		Designation	Part No.
EDM120-IBS	114826		VDM100-150-IBS	204897
EDM120-P	114827		VDM100-150-P	204896
EDM120-SSI	114825		VDM100-150-SSI	200018
EDM240-IBS	114830		VDM100-300-IBS	213317
EDM240-P	114831		VDM100-300-P	213316
EDM240-SSI	114829		VDM100-300-SSI	213315
EDM50-IBS	114822		VDM100-50-IBS	204895
EDM50-P	114823		VDM100-50-P	204893
EDM50-SSI	114821		VDM100-50-SSI	204894

Table 2.1: Cross Reference List



Other devices from the EDM series on request

## 3 Accessories

The following accessories may be required during the upgrade to a VDM100:

Part No.	Designation	Description
133698	OMH-LS610-01	Mounting bracket
127860	ICZ-TR-V15B	PROFIBUS terminal resistor
208872	V15SB-G-PG9	Field-attachable male cordset, M12 x 1, 5-pin, B-coded, straight (for IBS and P only)
208870	V15B-G-ABG-PG9	Field-attachable female cordset, M12 x 1, 5-pin, B-coding, straight
099774	V15-G-PG9	Field-attachable female cordset, M12 x 1, for operating voltage

Table 3.1: Accessories

## 4 Installation

### 4.1 Mounting

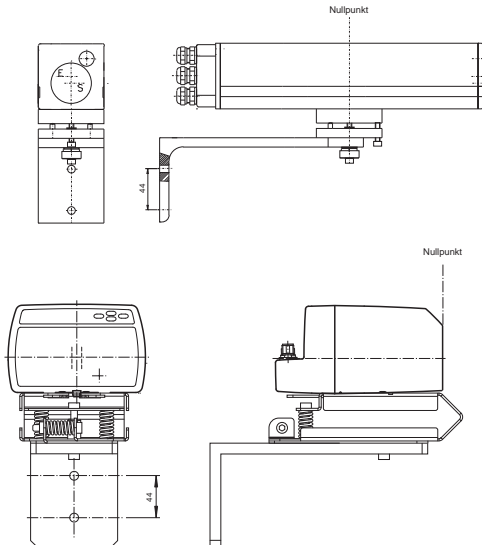


Figure 4.1: Mounting

The mounting accessories (OMH-LS610-01) consist of a mounting bracket and a pre-mounted adjustment device (x and y direction). The mounting accessories enable the desired beam direction ( $\pm 90^\circ$  rotation) to be set. The drilled hole spacing is the same as on the EDM mounting bracket, the factory-set zero point of the distance measurement sensor has been modified.

EDM zero point: center point of the fastening screw, 203 mm away from the wall.

VDM100 zero point: front edge of sensor, 228 mm away from the wall, 68 mm from the middle fastening screw.

This means that if the beam direction is straight, the offset on the VDM100 must be set to + 25 mm to obtain the same values..

If the beam direction is  $90^\circ$ , the offset on the VDM 100 must be set to - 68 mm.

### 4.2 Reflector selection



The EDM reflectors can still be used

### 4.3 Device connection

#### 4.3.1 Rewiring diagram EDM - VDM100

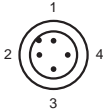
General	PIN	PIN	Plug
	EDM 4-pin strip X4	VDM100 Power plug	
24 V	1	1	
24 V	2		
0 V	3	3	
0 V	4		

Table 4.2: General wiring diagram

For shield grounding, use the pre-mounted insertion prong that is screwed onto the bus connector.

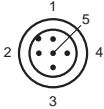
SSI	PIN	PIN	Plug
	EDM 14-pin strip	VDM100 connector	
	1		
	2		
	3		
	4		
	5		
	6		
	7		
CLK-	8	4	
CLK+	9	3	
DATA-	10	2	
DATA+	11	1	
	12		
	13		
GND (ISOL)	14	n.c.	

Table 4.3: SSI wiring diagram

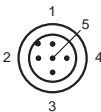
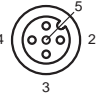
PROFIBUS DP	PIN	PIN	PIN	
	EDM 14-pin strip	VDM100 plug	VDM 100 socket	<p>Plug</p>  <p>Socket</p> 
		Bus In	Bus Out/ Termination	
	1			
	2			
	3			
	4			
	5			
	6			
	7			
P (B)	8	4		
N (A)	9	2		
	10			
P (B)	12		4	
N (A)	13		2	
GND (ISOL)	14			

Table 4.4: PROFIBUS DP wiring diagram

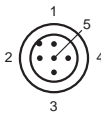
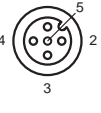



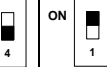
InterBus S	PIN	PIN	PIN	
	EDM 14-pin strip	VDM100 plug	VDM 100 socket	<p>Plug</p>  <p>Socket</p> 
		Remote Bus In	Remote Bus Out	
	1			
	2			
GND 2	3		5	
DI2	4		3	
/DI2	5		4	
DO2	6		1	
/DO2	7		2	
DI1	8	3		
/DI1	9	4		
DO1	10	1		
/DO1	11	2		
	12			
	13			
GND 1	14	5		

Table 4.5: Interbus S wiring diagram

Issue date: 2010-06

## 5 Settings

### 5.1 Operation modes

EDM	Mode 0	Mode 1	Mode 2	Mode 3
	ON 	ON 	ON 	ON 
Measured value age	50 ms	25 ms	50 ms	50 ms
<b>VDM100</b>				
Mode	Mode 50	Mode 25	Mode 50	Mode 50
Freeze	OFF	OFF	OFF	ON



Increasing the averaging depth at slow speeds is no longer necessary, as the VDM100 is not as noisy.

#### 5.1.1 Freeze

The "Freeze" function turns off the noise of the output distance value when the sensor is deactivated. The measured value still remains active, but it has a higher hysteresis depending on the noise factor.



Activate the "freeze" function to ensure compatibility with EDM mode 3.

#### 5.1.2 SSI

##### Code

This menu defines the code of the distance values output via the SSI. There is a choice between binary code and Gray code. The fault flag is not influenced by the code (See Chapter 5.2.2).



Select the Gray code to ensure EDM compatibility!

##### Error bit

This setting defines the behavior of the SSI error bit. The operator can select whether the setting should only apply for error messages (setting "No valid values") or error messages and warning messages (setting "Errors and warnings"). This setting also applies to the collective bit field in the error byte of the PROFIBUS and INTERBUS.



Select "No valid values" to ensure EDM compatibility



## 5.2 Description of Interfaces

### 5.2.1 General

- The value of the LSB can be set in the menu to 0.1 mm / 1 mm / 2 mm. The default is 1 mm.



Set the value to 0.1 mm to ensure EDM compatibility

### 5.2.2 SSI



Select the Gray code setting to ensure EDM compatibility.

### 5.2.3 INTERBUS

Data telegram:

Byte 0								Byte 1								Byte 2								Byte 3							
Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit	Bit
7							0	7							0	7							0	7							0
Error								Distance high								Distance middle								Distance low							

Table 5.1: INTERBUS data telegram

4 bytes are transferred digitally (1 error byte and 3 measured value bytes).

Bit 0 in the error byte is used as the error bit.



EDM: the byte sequence is reversed word by word, i.e. the sequence is byte2, byte3, byte0, byte1.

### 5.2.4 PROFIBUS DP

The last PROFIBUS node must be terminated with terminating resistors. To do this, screw the PROFIBUS termination (see Chapter 3) onto the termination connection. An address can be allocated via the PROFIBUS interface or the display. The default address is 126.

EDM120 device schematic:

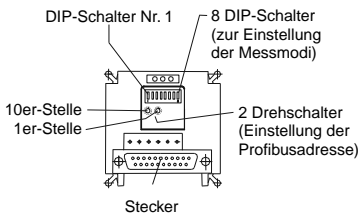


Figure 5.2: Device schematic and dimensions of the EDM product line





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DOCT-2084

06/2010