

Number	Pages	Description	Remark
7520/4-01	5	Photo's of the instrument	
7520/4-02	3	Overview of the IZM converters/transmitters	
7520/4-03	3	Configuration scheme IZM-SE with IZM-SE Converter and IZMG1 or IZMG2 transmitter, with Display, Software version/checksum	
7520/4-04	3	Configuration scheme IZM-TE with IZM-TE Converter and IZMG1 or IZMG2 transmitter, with Display, Software version/checksum	
7520/4-05	4	Configuration scheme IZM-ZDC1 with IZM-ZDC1 Converter and IZMG1 or IZMG2 transmitter, with Display, Software version/checksum	
7520/4-06	2	Configuration scheme IZM-MEV with IZM-MEV Converter and IZMG1 or IZMG2 transmitter, with Display, Software version/checksum	
7520/6-01	1	Drawing of IZMAG	-
7520/4-07	4	Datasheet IZM	
7520/4-08	2	Datasheet IZM-SEV	
7520/4-09	2	Datasheet IZM-TEV	
7520/4-10	2	Datasheet IZM-MV	
7520/4-11	2	Datasheet Controller system 3 Thermoprinter	
7520/8-01	1	Markings	Example
7520/9-01	2	Markings	Example (Revised)
7520/5-01	5	Sealing	Example
7520/4-13	2	Overview of the parameters	
7520/4-14	1	Cable length specifications	



Documentation folder

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Project number 3780065
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Number	Pages	Description	Remark
7520/4-15	9	Pictures and drawings of the IZMAG2 flow transmitter	
7520/4-16	8	Drawings and discription of the IZM measuring device	
7520/4-17	4	Modified motherboard and display	



(integrated converter head)

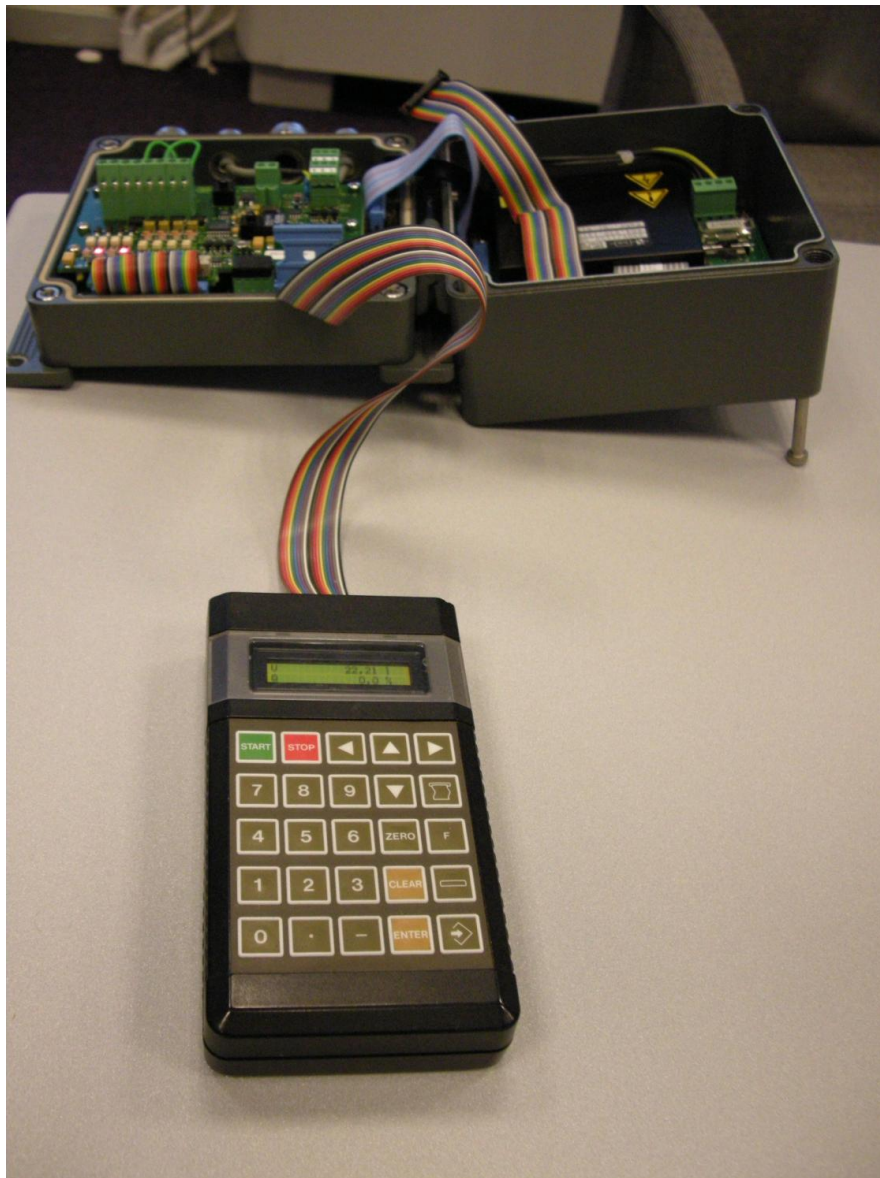


(measuring sensor/transmitter)

IZM measuring device (closed) with integrated converter head (without display)



(opened converterhead)

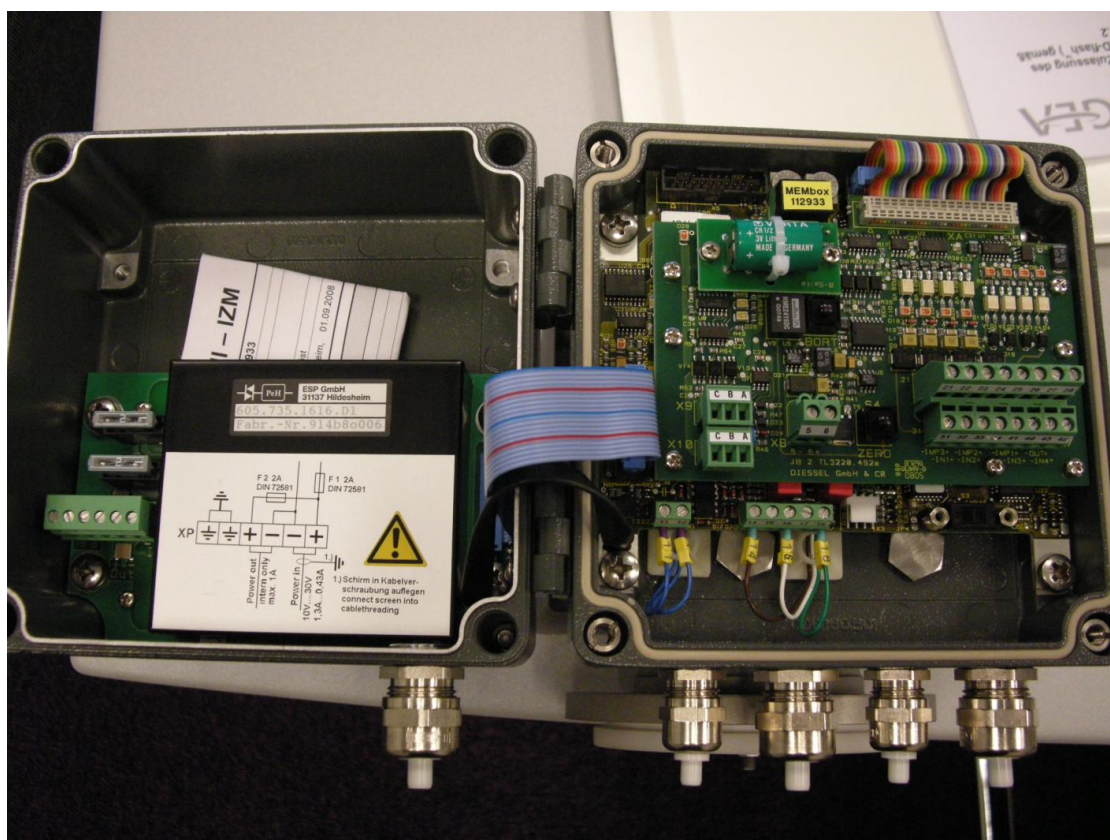


(Serviceterminal ST1)

Example of a connected "Service terminal ST1" with a opened Converter head (without display)



(construction without indicating device/display)



(M&W-switch to protect the metrological relevant parameters)

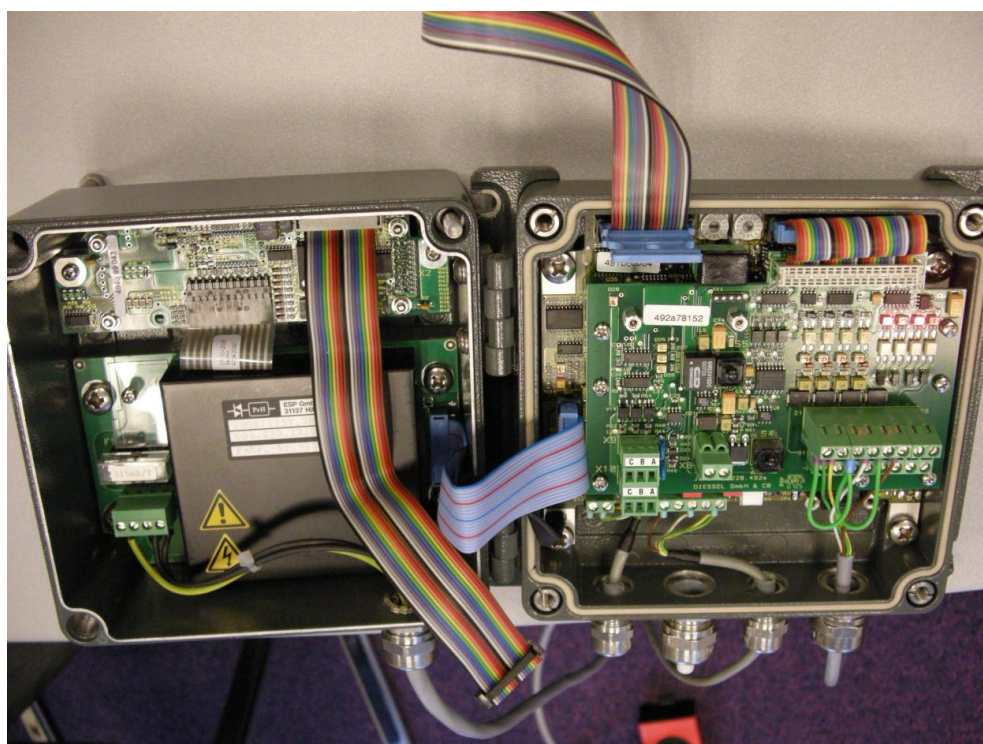
IZM Converter head (opened) without indicating device.



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(Indicating device / display)



M&W-switch to protect the metrological relevant parameters

IZM transmitterhead with indicating device / display (opened)



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(Display with the quantity in Litre)

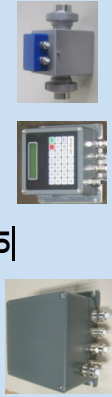
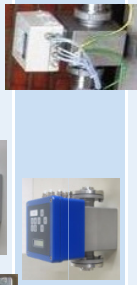
IZM Converter head with indicating device.



Magflow meter

converter type : **IZM-SE, IZM-TE plus transmitter IZMG1 or IZMG2**



Name (Manual)	Description	Hardware	Software	Check- sum	Photo Transmitter: Mounting version
IZM-SE + IZMG1 IZMG2 Manual B12.70	Standardfunction Option: Display Separated version	-Mainboard MB1A -Junctionboard JB2 -PowerPack -Option: Display LAP6	IZMSE C2 Typ V1.00	201402	
IZM-SEV + IZMG1 IZMG2	IZM-SE including Preselection	Including Display LAP6	IZMSE C2 Typ V1.00	201402	
IZM-SEG1 IZM-SEG2	IZM-SE compact with transmitter type IZMG1 or IZMG2	Display as Option	IZMSE C2 Typ V1.00	201402	
IZM-TE + IZMG1 IZMG2 Manual B12.71	Standard, but included Temperature meter Pt100 <u>Separated version</u>	-Mainboard MB1A -Junctionboard JB3 -PowerPack -Display LAP6R	IZMTE C3 Typ V1.00	151690	
IZM-TEG1 IZM-TEG2 Manual B12.71	Standard, but included Temperature meter Pt100 <u>Compact version</u>	-Mainboard MB1A -Junctionboard JB3 -PowerPack -Display LAP6R	IZMTE C3 Typ V1.00	151690	
IZM-TEV + IZMG1 IZMG2	IZM-TE including Preselection (<u>separated version</u>)	-Same as IZM-TE	IZMTE C3 Typ V1.00	151690	

Date 23.1.2009 / Hermann Hartmann

4/8

Process Engineering / GEA Diesel



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Magflow meter
converter type : **IZM-ZDC1, IZM-MEV plus transmitter IZMG1 or IZMG2**



Name (Manual)	Description	Hardware	Software	Check- sum	Photo Transmitter: Mounting version
IZM-ZDC1 + IZMG1 IZMG2 Manual B52.12	Standard, but data capture function Only: <u>Separated version</u>	-Mainboard MB1A -Junctionboard JB3 -PowerPack -Display LAP6R	User C1 1.07	124675	 
IZM-MEV + IZMG1 IZMG2 Manual B43.64	Modular technology , included Preselection function Only: <u>Separated version</u>	-Mag-Modul type M5 -TERM-Modul -PowerModul -Display 16x40	ZD-F V2.02	145974	 



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Nomenclature for GEA Diesel mag flow meter

(dated: 2004)

IZM **I**nduktiver **Z**ähler auf **M**ikroprozessorbasis
Inductive counter including microprocessor technique

start of development: in 1986

Versions for W&M approved applications:

SE	for W&M applications
TE	Option for temperature measurement
ZDC1	Option for data capture function
MEV	hardware in a modul housing
G1	basic transmitter with TEFLON (standard)
G2	special transmitter for truck application

Example for ordering

IZM-SEG1-050 F	integrated version of Standard meter (F = flange connection)
IZM-G1-TE100 M	seperated version of IZMTE (M = milk pipe connection)
IZM-G2-ZDC1065F	seperated version of IZM-ZDC1 (flange, size DN65)



Magflow meter
type : **IZM-SE**

IZM-SE Software name/version:

„IZMSE C2 Type V1.00“

IZM-SE Checksum of the approved software part:

201402



Electronic boards:

- **Power pack**
- **Mainboard MB1A**
- **Junctionboard: JB2**
- **Displayboard (Option) LAP6**

Converter:
IZM-SE



Without display
(for indication please use:
Service Terminal ST1)



with Display

transmitter: **IZMG1** or **IZMG2**



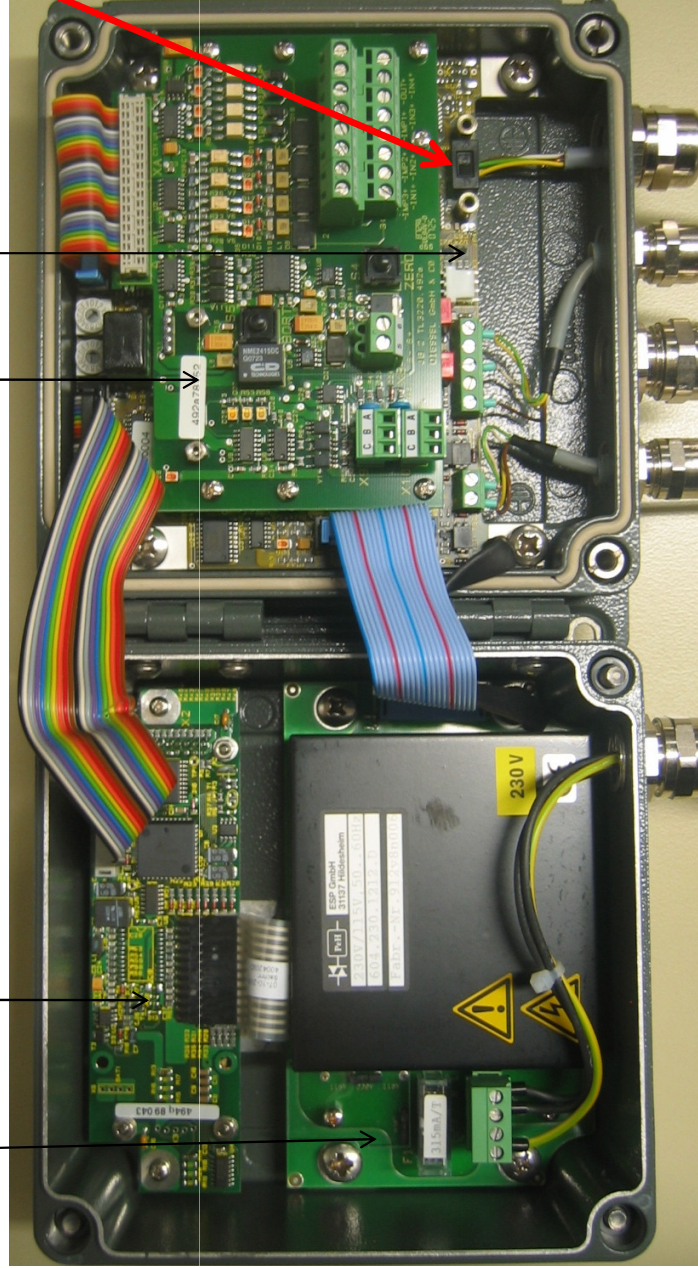
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Electronic boards:

- Power pack
- Mainboard MB1A
- Junctionboard: JB2
- Displayboard (Option) LAP6

CAL-switch





Magflow meter
type : **IZM-SE**

IZM-SE Software name/version:

„IZMSE C2 Type V1.00“

IZM-SE Checksum of the approved software part:

201402



indication of the software version:

„IZMSE C2 Type V1.00“

(during the start up phase)

(for appr. 2 sec.)

Auto Test

IZMSE C2 Type V1.00

indication of the Checksum:

„eprsum 201402“

see „menu 06“

V

0,0 L

eprsum

201402



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Check Values (will be activated automatically)									
Program checksum (officially W&M approved checksum)	"eprsum"	-	-	-	-	-	-	-	201402
Parameter checksum (checksum) of the CAL/MEAS data	"eparasum"	-	-	-	-	-	-	-	
Parameter checksum (checksum) of the other data	"nparasum"	-	-	-	-	-	-	-	
Sensor type	"senryp"	-	-	-	-	-	-	-	12289
Sensor number	"senno."	-	-	-	-	-	-	-	
Position of the calibration switch	"switch position"	-	-	-	-	-	-	-	MEAS
State of the MEMbox	"MEMBOX"	-	-	-	-	-	-	-	ok
Version number of the user program	"User C2"	-	-	-	-	-	-	-	
Version number of the system program	"System SS"	-	-	-	-	-	-	-	
Version number of the application program	"Appli SA"	-	-	-	-	-	-	-	
Date of the recent download	"download"	-	-	-	-	-	-	-	

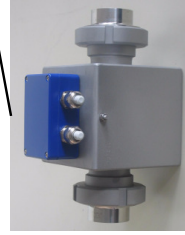
Electronic boards:

- **Power pack**
- **Mainboard MB1A**
- **Junctionboard: JB3**
- **Displayboard LAP6R**

Converter:
IZM-TE



with Display



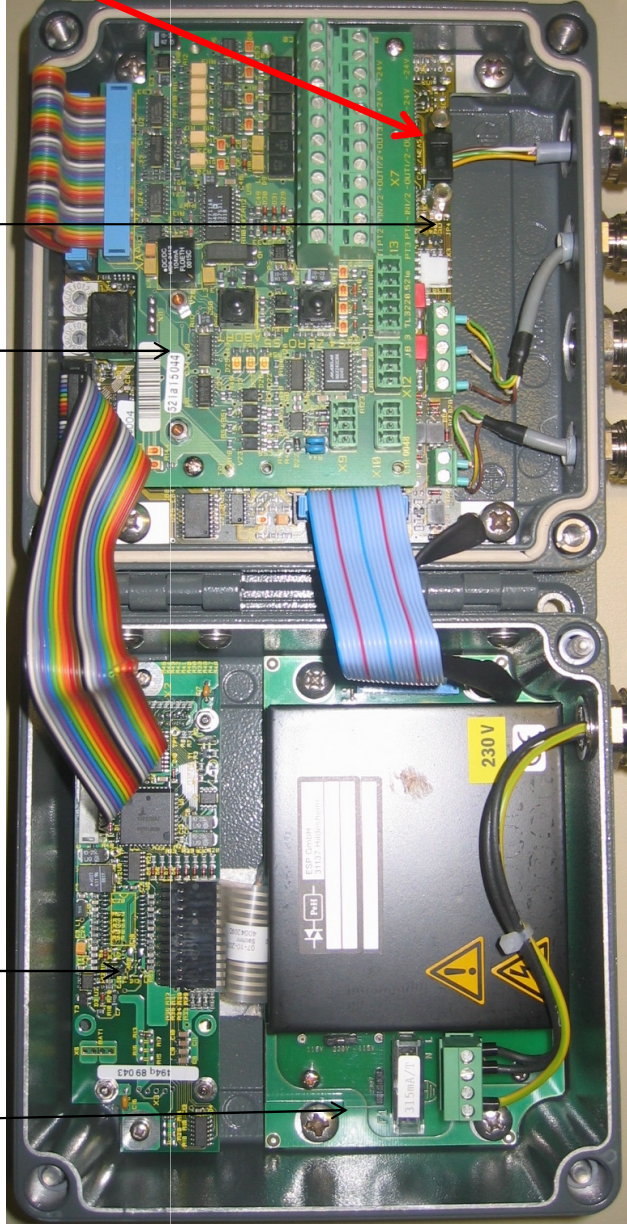
transmitter: **IZMG1** or **IZMG2**



Electronic boards:

- Power pack
- Mainboard MB1A
- Junctionboard: **JB3**
- Displayboard LAP6R

CAL-switch





Magflow meter
type : **IZM-TE**

IZM-TE Software name/version: „IZMTE C3 Type V1.00“
IZM-TE Checksum of the approved software part: **151690**



indication of the software version:

„IZMTE C3 Type V1.00“

(during the start up phase)

(for appr. 2 sec.)

Auto Test

IZMTE C2 Type V1.00

indication of the Checksum:

„eprsum 151690

see „menu 06“

V 0,0 L

eprsum 151690



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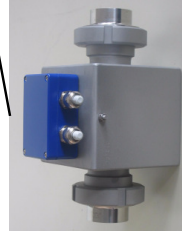
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06 (menu 06)		Program checksum (officially W&M approved checksum)	"eprsum"	-	-	-	151690
		Parameter checksum (checksum) of the CAL/MEAS data	"eparasum"	-	-	-	
		Parameter checksum (checksum) of the other data	"nparasum"	-	-	-	
		Sensor type	"sentyt"	-	-	-	12289
		Sensor number	"senno."	-	-	-	
		Position of the calibration switch	"switch position"	-	-	-	MEAS
		State of the MEMbox	"MEMBOX"	-	-	-	ok
		Version number of the user program	"User C2 "	-	-	-	
		Version number of the system program	"System SS"	-	-	-	
		Version number of the application program	"Appli SA"	-	-	-	
		Date of the recent download	"download"	-	-	-	

Electronic boards:

- **Power pack**
- **Mainboard MB1A**
- **Junctionboard: JB3**
- **Displayboard LAP6R**

Converter:
IZM-ZDC1



with Display



transmitter: **IZMG1** or **IZMG2**



Electronic boards:

- Power pack
- Mainboard MB1A
- Junctionboard: **JB3**
- Displayboard LAP6R

CAL-switch





Magflow meter
type: **IZM-ZDC1**

IZM-ZDC1 Software name/version: „**User C1 1.07**“
IZM-ZDC1 Checksum of the approved software part: **124675**



indication of the software version:

„**User C1 1.07**“

select via key board

„parameterlevel“

Parameterlevel	
User C1	1.07

indication of the Checksum:

„**eprsum 124675**“

Select via key board

„parameterlevel“



Parameterlevel	
eprsum	124675



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Magflow meter
type: **IZM-ZDC1**

IZM-ZDC1 Software name/version:
„User C1 1.07“
IZM-ZDC1 Checksum of the approved software part: **124675**



Procedure for indication:
„User C1: 1.07“
„eprsum 124675“



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GEA Diesel GmbH (Detlef Rürup, 26.1.2009)

Indication of **software versions** and the **checksum** of the approved part in the program of flow meter system: IZM-ZDC1

In the initial state, the display of IZM-ZDC1™ indicates:

26.01.09 10:00:00
<Start> Tourstart

Press 2x key and display switches to:

26.01.09 10:00:03
<Start> Parameter

and select the parameterlevel by pressing the -key

Parameter level
Day 09

Press 6x key and display switches to the indication of the Checksum "eprsum" for the approved part of the metering program :

Parameter level
Eprsum 124675

This Checksum is fixed an equal for all systems based on the IZM-ZDC1.

By pressing once more 3x key the name of the basic software version for this approved part will be indicated:

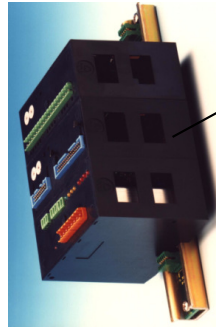
Parameter level
User C1: 1.07

Magflow meter
type : **IZM-MEV**

IZM-MEV Software name/version:

„ZD-F V2.02“

IZM-MEV **Checksum** of the approved software part: **145974**



Modul combination:

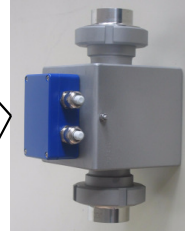
- Power modul (24 VDC)
- Term modul (Term232)
- Mag modul (M5)



Converter:
IZM-MEV

19"

Field
housing



transmitter: **IZMG1** or **IZMG2**



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Magflow meter
type : **IZM-MEV**

IZM-MEV Software name/version: **„ZD-F V2.02“**
IZM-MEV Checksum of the approved software part: **145974**



indication of the software version:

„ZD-F V2.02“

(during the start up phase)



indication of the Checksum:

„eprsum 145974“

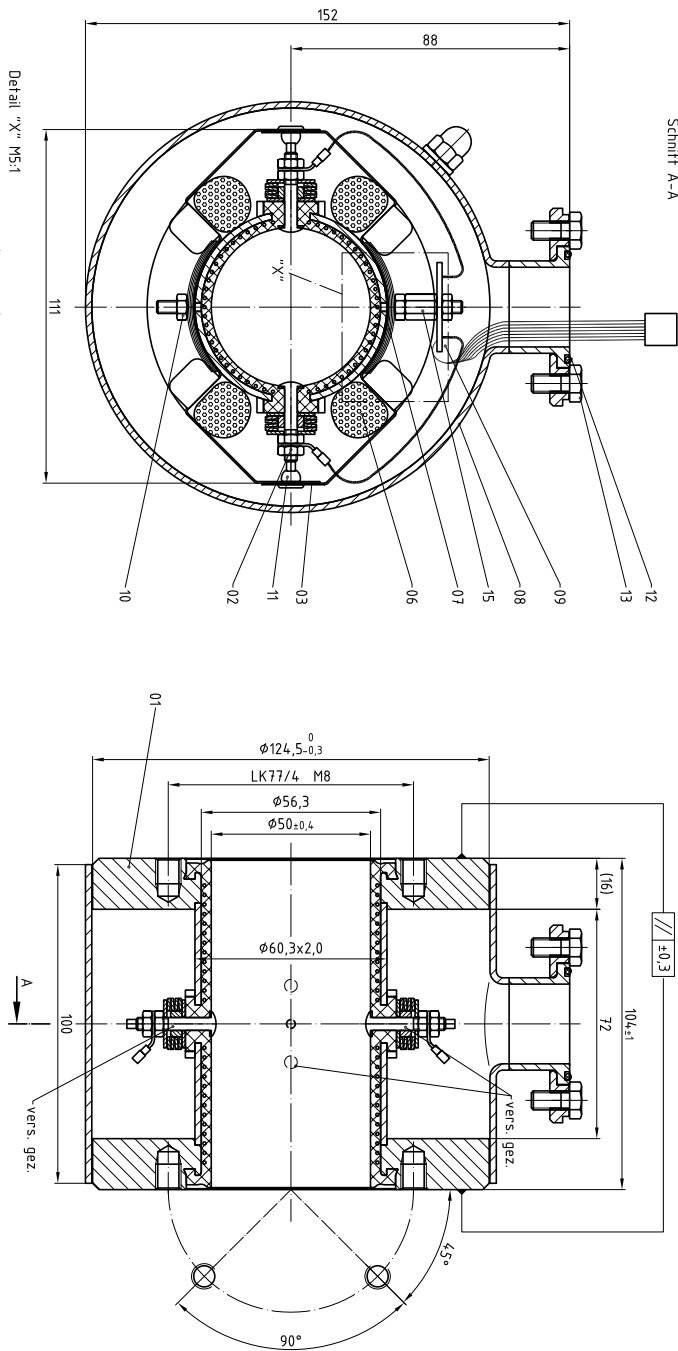
see „menu 06“



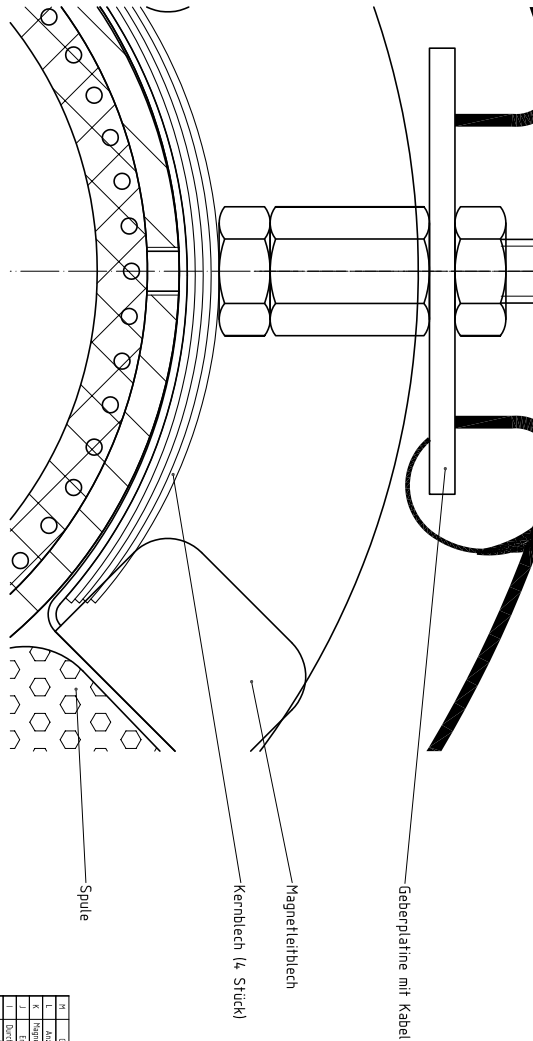
Kontrolldaten			
0: -->	eprsum	145974	
1:	eparasum	8452	
2:	nparasum	10787	
3:	senryp	12289	
4:	senno.	51255176	
5:	switch position	MEAS	
6:	User C2 :	1.25	
7:	System SS:	3.22	
8:	Appli. SA:	1.25	
9:	download	14.1.2009	
		MENU	ZURUECK



Schnitt A-A



Detail "X" m5:1



Spule

Kernblech (4 Stück)

Magnetblech

Geberplatte mit Kabel

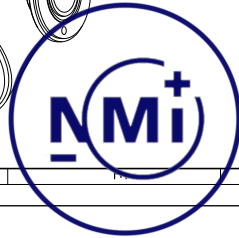
Pos.	Bezeichnung	Material	Maß	Stückzahl	Einheit
1	Geberplatte	Alu	152x88x10	1	Stück
2	Kernblech	Alu	111x111x10	4	Stück
3	Magnetblech	Alu	111x111x10	4	Stück
4	Spule	Alu	111x111x10	1	Stück

Pos.	Bezeichnung	Material	Maß	Stückzahl	Einheit
1	Geberplatte	Alu	152x88x10	1	Stück
2	Kernblech	Alu	111x111x10	4	Stück
3	Magnetblech	Alu	111x111x10	4	Stück
4	Spule	Alu	111x111x10	1	Stück

Pos.	Bezeichnung	Material	Maß	Stückzahl	Einheit
1	Geberplatte	Alu	152x88x10	1	Stück
2	Kernblech	Alu	111x111x10	4	Stück
3	Magnetblech	Alu	111x111x10	4	Stück
4	Spule	Alu	111x111x10	1	Stück

Pos.	Bezeichnung	Material	Maß	Stückzahl	Einheit
1	Geberplatte	Alu	152x88x10	1	Stück
2	Kernblech	Alu	111x111x10	4	Stück
3	Magnetblech	Alu	111x111x10	4	Stück
4	Spule	Alu	111x111x10	1	Stück

Pos.	Bezeichnung	Material	Maß	Stückzahl	Einheit
1	Geberplatte	Alu	152x88x10	1	Stück
2	Kernblech	Alu	111x111x10	4	Stück
3	Magnetblech	Alu	111x111x10	4	Stück
4	Spule	Alu	111x111x10	1	Stück



Data Sheet



Description

By means of the electromagnetic flow meter type **IZM™** both the flow and the volume of liquids can be measured with high accuracy.

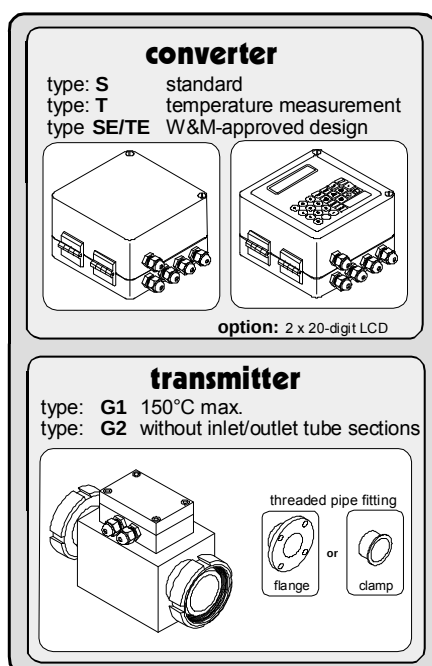
The measurement is independent of the product's pressure, temperature, viscosity, and density. Due to the smooth measuring tube the measuring method is wear-resistant, extremely rugged and, consequently, nearly unaffected by interferences. The transmitter has nearly no pressure drop.

The calibration data of the transmitter are stored in a **MEMbox**. The device is immediately ready for measurement after inserting the **MEMbox** into the converter.

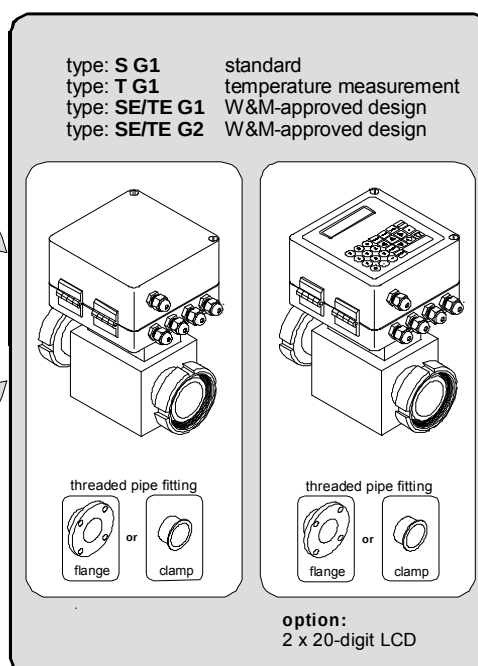
Special mathematical procedures, combined with some newly developed circuit methods, permit a reliable, precise flow measurement, which is nearly resistant against process-dependent or environmental variables. The flow and volume data are available for further processing either digitally or via a serial computer interface (BUS-oriented). Of course, the incorporation of a display including keyboard is possible whenever desired.

For volume measurements which are subject to official trade use, we have available devices suitable for calibration. Provided with appropriate control and monitoring equipment, the devices obtained the qualification approval by the German national legal metrology service PTB. If a display is incorporated it can be used for W&M approved applications.

separated design



integrated design



Options:

- Keyboard and 2 x 20-digit LC display
- Quantity preselection control (converter type **TV / TEV**, see data sheet D43.54)
- 2-component in-line blenders (converter type **R**, see data sheet D 46.64)
- Sampler control (converter type **P**, see data sheet D 55.07)

GEA Diessel GmbH
Steven 1
D-31135 Hildesheim
Germany
Tel.: +49 (0)5121-742-0

Electromagnetic Flow Meter
IZM™

D 12.70 E

Issued: 06.10.2008

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Special Features

- high precision/reproducibility
- typical tolerance of measured values: 0.25 % of measured value in nominal range 1 : 10 or 1 : 20
- nearly no pressure drop
- different designs available
- large temperature range
- measurement independent of density, viscosity, pressure and temperature
- wear-resistant measuring principle
- transmitter suitable for CIP
- easily installed and commissioned
- transmitter housing made of stainless steel
- self-monitoring with automatic error diagnosis
- remote maintenance via CS3-BUS connection (BUS-oriented interface) possible

- electronic system or transmitter can be exchanged without alignment due to **MEMbox** memory
- automatic conversion of measuring range in case of exceeding the flow rate
- measurement in forward and reverse flow
- user-friendly parameterization
- output of measured values unaffected by interferences (volt-free outputs)
- multi-channel and safe pulse transmission for counting suitable for W&M applications
- date and time (type **T/TE**)
- electromagnetically compatible design **CE**
- suitable for use on vehicles acc. to DIN40839 and OIML Doc. 11/A1.4.X. standards
- design suitable for W&M approved applications
- temperature measurement with external Pt100 (type **T/TE**)

Technical Data

Transmitter		G1	G2
Connections and nominal size:	FG flange	DN 25, 40, 50, 65, 80, 100, 125, 150	DN 50, 65, 80
	Tube fitting DIN 11 851	DN 10, 15, 25, 32, 50, 65, 80	DN 50, 65, 80
	Clamp	1/2" (connections 1"), 1 1/2", 2", 3" (connections 4")	2", 3"
Materials:	Measuring pipe:	Material-no.: 1.4301	
	Liner:	PTFE	FEP
	Electrodes:	Material-no.: 1.4404	
	Transmitter housing:	Material-no.: 1.4301 (blasted)	
	Connection housing:	Cast aluminium (with special corrosion-proof varnish)	
Electrical connection:		Coil supply to transmitter: 2 x 0,75 mm ² , shielded Electrode signal from transmitter: 3 x 1,5 mm ² CY, shielded Typical standard cable length: 5 m each (separated design) Coil resistance: 100 Ohms Calibration data in MEMbox to be plugged into converter	
Product temperature:		150°C max. / integrated design 120°C	50°C max.
Cleaning temperature		150°C max. / integrated design 130°C	80°C max. for 30 min.
Product conductivity:		5µS/cm min.	
Admissible pressure:		0.5 bar min. abs. at 20°C, 10 bar max. (higher pressures on demand)	
Flow velocities:		0,03 - 10 m/s	

Converter type S or SE

Power supply:	a) 115 / 230 V AC (-15% / +10%) 0,15A/0,07A b) 10 ... 30 V DC / 0,8 ... 0,3A	Housing:	Cast aluminium Protective type: IP 65
Power consumption:	max. 15 VA / 8 Watt	Serial interface:	RS485 57600 baud GEA Diessel CS3 BUS protocol
Fuse protection:	AC supply T315 mA DC supply M2,5 A	Indication of measured values (option):	2 x 20-digit - alphanumeric, illuminated LC display (digit height 5 mm) with keyboard
Digital outputs:	4 x Optocoupler; load 30V max. / 20 mA max. (passive) volume pulses, status pulses	Digital inputs:	4 x Optocoupler; activation: 10 ... 30V DC - count interruption (standby) and zeroing
Analog output:	0/4 ... 20 mA (active), load 500 Ω max.	Ambient temperature:	- 25 ... + 55 °C

Subject to technical alterations!

D 12.70 E

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L:\Meßgeräte_Messanlagen\01_Datenblätter\2_Origin\ENGLISCH\10_D1270E\ZMSG1.DOC



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Converter type T or TE			
Special features:	1.) Temperature measurement via external Pt100-Sensor 2.) Printer connection (RS232) for protocol or ticket print out with date/time information		
Power supply:	a) 115 / 230 V AC (-15% / +10%) 0.15A/0.07A b) 10 ... 30 V DC / 0.8 ... 0.3A	Housing:	Cast aluminium Protective type: IP 65
Power consumption:	15 VA max. / 8 watts	Serial interface:	RS485 57600 baud (GEA Diessel-BUS) or RS 232 (300 ... 19.200 baud)
Fuse protection:	AC supply T315 mA DC supply M2.5 A	Indication of measured values (option):	2 x 20- digit - alphanumeric, illuminated LC display (digit height 5 mm) with keyboard
Digital outputs:	4 x output active 200 mA Volume pulses, status pulses	Digital inputs:	2x Optocoupler; activation: 10...30V DC - count interruption (standby) and zeroing
Temperature input	4-wire Pt100	Ambient temperature:	- 25 ... + 55 °C

Measuring Ranges and Tolerances:

Nominal width mm	Minimum measuring range* l/h	Maximum measuring range l/h	Flow rate at a flow velocity of 1 m/s	Measuring tolerance		Unit
				< 0,25 %	< 1 %	
DN 10	17 - 170	450 - 4.500	280	> 60	> 17	l/h
DN 15	25 - 250	600 - 6.000	640	> 90	> 30	l/h
DN 25	60 - 600	2.000 - 20.000	1.800	> 240	> 60	l/h
DN 32	100 - 1.000	3.000 - 30.000	2.900	> 400	> 100	l/h
DN 40	150 - 1.500	4.500 - 45.000	4.500	> 400	> 100	l/h
DN 50	200 - 2.000	6.500 - 65.000	7.000	> 800	> 200	l/h
DN 65	400 - 4.000	10.000 - 100.000	12.000	> 1.400	> 400	l/h
DN 80	600 - 6.000	20.000 - 200.000	18.000	> 2.400	> 600	l/h
DN 100	1.500 - 15.000	40.000 - 400.000	28.000	> 6.000	> 1.500	l/h
DN 125	2.500 - 25.000	72.000 - 720.000	44.000	> 10.000	> 2.500	l/h
DN 150	4.000 - 40.000	120.000 - 1.200.000	64.000	> 16.000	> 4.000	l/h

* the minimum flow rate for measurements appropriate for W&M applications is approx. 4 times higher

General Data

Measurable are all liquid products with a minimum conductivity of 5 µS/cm. Due to the measuring principle both laminar and turbulent flows can be measured.

A major precondition for correct measurements is a continuously filled measuring pipe. Any control devices or other incorporations are to be installed behind the electromagnetic flow meter. An installation into an ascending tube is recommended. In case of horizontal installation, the electrode axis must be in horizontal direction, too.

Inlet and Outlet Lines:

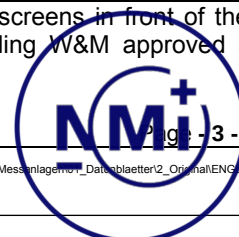
The length of the inlet and outlet lines depends on the conditions in front of and behind the transmitter. Minimum requirements should be:

Transmitter	not W & M approved		W & M approved	
	inlet	outlet	inlet *	outlet *
G1	5 x DN	3 x DN	10 x DN	5 x DN
G2	0	0	2 x DN	0

* In case of asymmetric flow profiles, e.g. due to valves or screens in front of the flow meter longer flow inlets and outlets become necessary. Regarding W&M approved systems the conditions of the approval authorities have to be met.

Subject to technical alterations!

D 12.70 E



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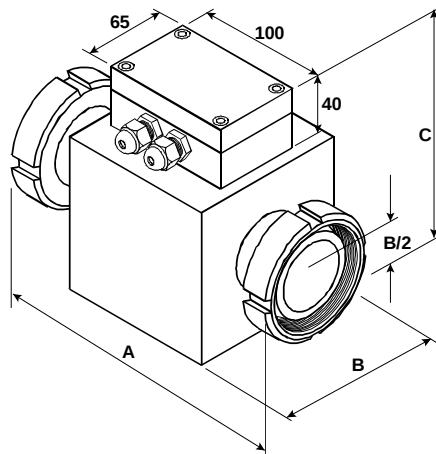
L:\Meßgeräte_Messanlagenvor_Datenablätter\2_Orginal\ENG\ISCH\10\ID1270E_IZMSG1.DOC



Doc no	7520/4-07
Page	3 of 4

Dimensions

A) Transmitter

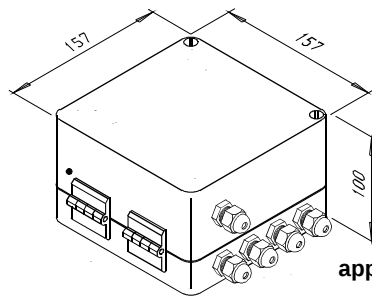


Type	DN	A [mm]	B [mm]	C [mm]	Weight [kg]
G 1	10	200	75	115	5
	15	200	75	115	5
	25	200*	100	140	6
	32	200*	100	140	7
	40	200*	130	170	8
	50	200*	130	170	8
	65	200**	165	205	12
	80	200**	165	205	14
	100	250	190	230	18
	125	250	215	255	22
G 2	50	200	100	140	8
	65	250	120	160	12
	80	250	150	190	14

* Design with DIN-flanges: 225 mm

** Design with DIN-flanges: 225 mm

B) Converter

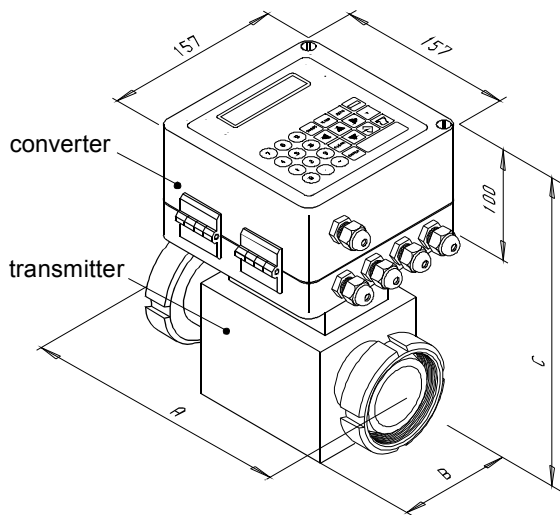


approx. 3 kg

ATTENTION

To be observed for mounting purposes:
in case of open in direction to the flap
side + 80 mm

C) Integrated design



Transmitter Type	DN	A [mm]	B [mm]	C [mm]	Weight [kg]
G 1	10	200	75	205	8
	15	200	75	205	8
	25	200*	100	230	9
	32	200*	100	230	10
	40	200*	130	260	11
	50	200*	130	260	11
	65	200**	165	295	15
	80	200**	165	295	17
	100	250	190	320	21
	125	250	215	345	25
G 2	50	200	100	230	11
	65	250	120	250	15
	80	250	150	280	17

ATTENTION:

to be observed for mounting purposes: in case of open cover: value C + 120 mm and in direction to the flap side + 80 mm.

Subject to technical alterations!

D 12.70 E

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L:\Meßgeräte_Messanlagen\01_Datenblätter\2_Origin\ENGLISCH\10_D1270E\ZMSG1.DOC



Doc no

7520/4-07

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Data Sheet



Description

Combined with an electromagnetic flow meter and an amplifier box, the converter **IZM** type **SV** or type **SEV** can be used for emptying and filling processes. The device can be supplied both in Weights & Measures approved and non-approved design. The operation of the device is enabled by the aid of an alphanumeric display and a membrane keypad.

The display can show the following values:

- individual quantity
- preset quantity and valve condition
- daily quantity
- total quantity (non-resettable)
- instantaneous flow rate
- and possibly an error message

Parameters (e.g. throttling phase at the beginning and the end of the measurement, range of switch-off compensation, selection of the volume unit, etc.) can be input via menu-driven images. Control via external signals is possible.

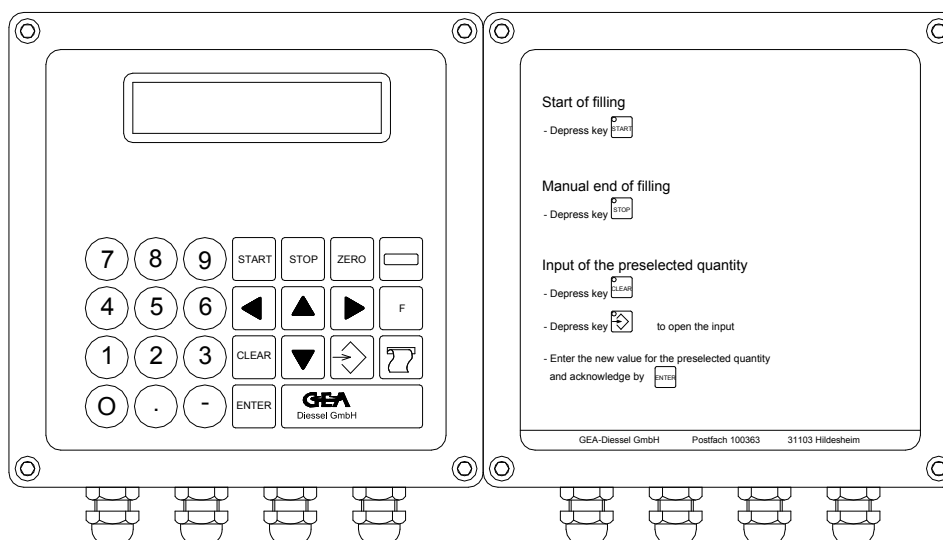
Flow meters **IZM** type **SV** or type **SEV** can be combined with a bus printer type **DI-PRINT** (D52.52E) for printing out the following data after each quantity preselection:

- current number (resettable by the user)
- actual value of quantity preselection

The amplification of the control signals in the amplifier box enables the direct control of solenoid valves for the operation of 1-stage or 2-stage pneumatic valves. Apart from that, a contact is available for controlling a pump or a motor-driven butterfly valve.

A throttled filling process is possible both at the start and the end of the procedure. Unless the function is switched off, the afterrun is automatically compensated. An external contact permits the valves and pump to be controlled independently of a preselection procedure.

Figure (2 separate field housings)



GEA Diessel GmbH
Steven 1
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Germany
☎ +49 (0)5121-742-0

Electromagnetic Flow Meter
IZM
Type SV/SEV with quantity preselection

D 43.53 E

Issued 11.2005
Page -1- of -2- pages



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Examples for the use of the quantity preselection:

- a) Product delivery to customers
- b) Product filling into bags or containers
- c) Automatic tank filling
- d) Production of multi-component mixtures
- e) Dosing tasks (yeast into wort, culture into milk, etc.)
- f) Product distribution

Special features

The 2-stage switch-off method (e.g. by a GEA Diessel 2-stage valve) is recommendable if high-precision filling quantities are required.

The activation of a horn (including acknowledgement) can be considered as an option.

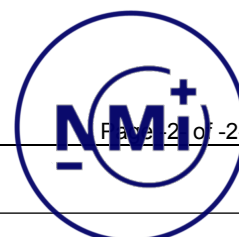
After a manual break of the filling process, it's possible to continue or to restart again. An adjustable "timeout" makes possible the automatic shut off at empty pipe or no flow.

Via the 2 digital inputs it is possible to select up to 4 different preselection quantities. There are statistic data of each selected quantity available.

Technical Data

Control outputs	3 x optocoupler 10 - 30 V, 20 mA max. are processed in the amplifier box to realize the following functions: 1 x volt-free contact 50 VA, 230 V AC, 1 A max. for: Error output or for: Quantity preselection run down, horn (option) 1 x volt-free contact 50 VA, 230 V AC max. 1 A max. (noninductive) <i>presignal</i> 2 x volt-free contact 50 VA, 230 V AC max. 1 A max. (noninductive) <i>final signal</i> for controlling a motor-driven valve and for controlling a pump contactor
Digital inputs	4 x optocoupler; 10 - 30 V-, Ri = 1,5 kilohms for: Start, stop, CIP, count interruption, selection of 4 quantities
Pulse output	Optocoupler 10 - 30 V, 20 mA max.
Analog output	0 (4) ... 20 mA (active), max. load 500 ohms
Serial interface	RS 485 with protocol for internal GEA DiesselCS3 bus (57600 bd)
Protection	Cast aluminium housing: IP 65
Dimensions (W x H x D) in mm	Aluminium housing: 316 x 157 x 100 mm for converter and amplifier box
Ambient temperature	0 ... +50° C
Power supply	230 V (115 V), -15% +10%, 50-60 Hz or 24 V DC ± 20%
Power consumption	Approx. 30 VA (including transmitter)

D43.53E



Page 2 of 2 pages



Doc no	7520/4-08
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Data Sheet



Description

Combined with an electromagnetic flow meter and an amplifier box, the converter type **IZM** type **TV** or type **TEV** can be used for emptying and filling processes. The device can be supplied both in Weights & Measures approved and non-approved design. The operation of the device is enabled by the aid of an alphanumeric display and a membrane keypad.

The display can show the following values:

- individual quantity
- preset quantity and valve condition
- daily quantity
- date and time
- total quantity (non-resettable)
- instantaneous flow rate
- and possibly an error message
- temperature (external Pt100 sensor)

Parameters (e.g. throttling phase at the beginning and the end of the measurement, range of switch-off compensation, selection of the volume unit, etc.) can be input via menu-driven images. Control via external signals is possible.

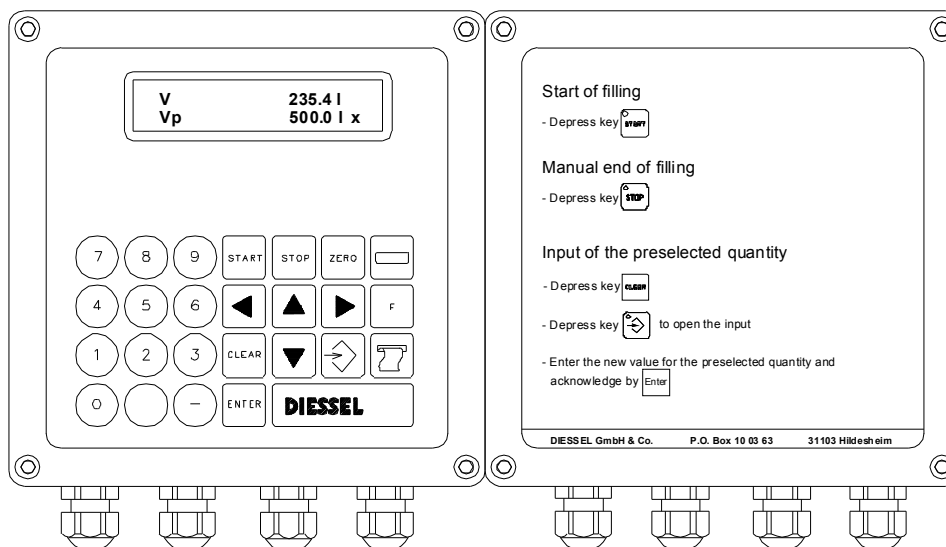
Flow meters **IZM** type **TV** or type **TEV** can be combined with a commercial printer including the serial link RS 232 for printing out the following data after each quantity preselection:

- 2 header lines (30 characters max., to be input by the user)
- current number (resettable by the user)
- date and time
- actual volume of quantity preselection

The amplification of the control signals in the amplifier box enables the direct control of solenoid valves for the operation of 1-stage or 2-stage pneumatic valves. Apart from that, a contact is available for controlling a pump or a motor-driven butterfly valve.

A throttled filling process is possible both at the start and the end of the procedure. Unless the function is switched off, the afterrun is automatically compensated.

Figure (2 separate field housings)



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Electromagnetic Flow Meter
IZM
Type TV/TEV with quantity preselection

D 43.54 E

Issued 03.2005
Page -1- of -2- pages



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Examples for the use of the quantity preselection:

- a) Product delivery to customers
- b) Product filling into bags or containers
- c) Automatic tank filling
- d) Production of multi-component mixtures
- e) Dosing tasks (yeast into wort, culture into milk, etc.)
- f) Product distribution

Special features

The 2-stage switch-off method (e.g. by a GEA Diessel 2-stage valve) is recommendable if high-precision filling quantities are required.

The activation of a horn (including acknowledgement) can be considered as an option.

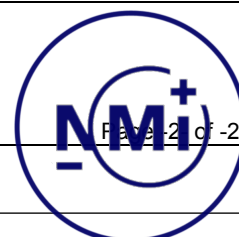
After a manual break of the filling process, it's possible to continue or to restart again. An adjustable "timeout" makes possible the automatic shut off at empty pipe or no flow. There are statistic data of each selected quantity available.

A special key-combination permits the valve and pump to be controlled independently of a preselection procedure.

Technical Data

Control outputs	3 x Transistor 10 - 30 V, 250 mA max. are processed in the amplifier box to realize the following functions: 1 x volt-free contact 50 VA, 230 V AC, 1 A max. for: Error output or for: Quantity preselection run down, horn (option) 1 x volt-free contact 50 VA, 230 V AC max. 1 A max. (noninductive) <i>presignal</i> 2 x volt-free contact 50 VA, 230 V AC max. 1 A max. (noninductive) <i>final signal</i> for controlling a motor-driven valve and for controlling a pump contactor
Digital inputs	2 x optocoupler; 10 - 30 V-, Ri = 1,5 kilohms for: Start, count interruption
Pulse output	Transistor 10 - 30 V, 250 mA max.
Temperature measurement	4 wire input for Pt 100 sensor
Serial interface (switched)	RS 232 for printer or PC connection (300...19.200 bd) <u>or</u> RS 485 with protocol for internal GEA Diessel CS3 bus (57600 bd)
Protection	Cast aluminium housing: IP 65
Dimensions (W x H x D) in mm	Aluminium housing: 316 x 157 x 100 mm for converter and amplifier box
Ambient temperature	0 ... +50° C
Power supply	230 V (115 V), -15% +10%, 50-60 Hz or 24 V DC ±20%
Power consumption	Approx. 30 VA (including transmitter)

D43.54E



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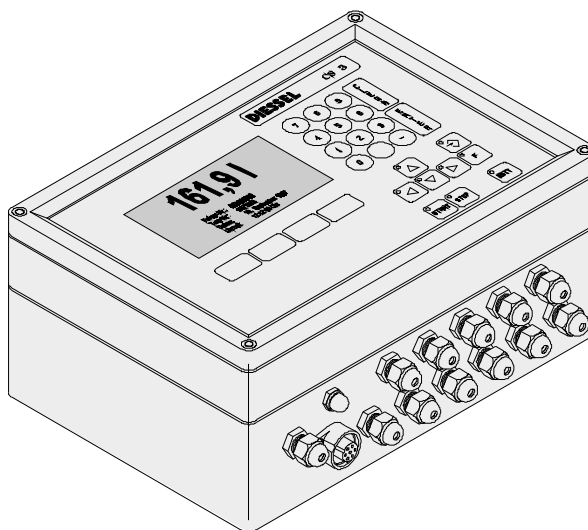
Doc no	7520/4-09
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Data Sheet



Description

The **IZM** converter type **MV** and type **MEV** controls emptying and filling processes combined with the electromagnetic transmitter. The device is available both in a design officially approved by Weights & Measures Authorities (type **MEV**) and in a non-approved design (type **MV**). The operation can be done by the alphanumeric display unit (16 x 40 characters) and the foil-protected keyboard.



The following values are shown on the LC display:

- current quantity (in 15 mm digit size)
- flow rate
- preset quantity
- total quantity
- device status
- valve status
- filling time

Parameters (e.g. throttling phase at the start and end of the measurement, range of the post-run correction, choice of the volume unit, etc.) can be entered via menu-led images.

The control can be also done via external and digital signals or via serial data transfer.

Optionally, a **BP110** Bus printer (D 52.49) or a common printer, too, can be connected to the **IZM** type **MV** and **MEV** resp. The device prints a single voucher or a protocol line after each effected quantity preselection.

A consecutive number, date, time and filled quantity are printed out on the protocol.

Printing-out of the following data is possible:

- heading lines (3 lines, max. 30 characters, to be entered by the customer (freely programmable))
- consecutive no. (resettable by the customer)
- date / time
- actual value quantity preselection

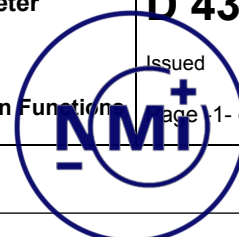
The solenoid valves for actuating one-stage or two-stage pneumatic valves can be directly controlled via the digital outputs. A contact is also available for the pump control and for an electro-driven valve. Quantity pulses can be transferred for remote controls.

Disturbances, error fillings, measurement and filling end can be called by further outputs.

Both at the start and at the end of filling, the two-stage quantity preselection controller makes filling possible in a throttled way. The post-run quantity can be corrected self-learning.

During cleaning the valves and the pump can be directly controlled through an external contact. An external selection of kegs of max. 16 different preset quantities is possible through four further digital inputs.

GEA Diessel GmbH Steven 1 D-31135 Hildesheim Germany ☎ +49 (0)5121-742-0	Electromagnetic Flow Meter IZM Type: MV with Quantity Preselection Functions	D 43.64 E Issued 10.2004 Page -1- of -2- pages
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The quantity preselection can be used e.g. for:

- a) Product delivery to the customers
- b) Filling into bags and containers
- c) Drum and keg filling
- d) Automatic tank filling
- d) Production of multi-purpose mixtures
- f) Dosing tasks (yeast into wort, culture into milk, etc.)
- g) Product distribution

Special features:

The 2-stage switching off e.g. by means of a GEA Diessel two-stage valve is recommended for highly precise filling processes.

The hooter control before the end of filling including possible feedback can be parametrized.

A settable time makes possible for the automatic closure of the valves in case of product deficiency or not being used liquid.

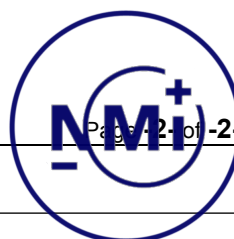
The measured value can be read well at any time by means of the 15 mm large-size display. Most simple operation by messages in clear text. 4 different operating languages can be chosen (German, English, French and Spanish).

An keg statistics program is internally available for the keg filling process.

Technical Data

Digital outputs	1 x volt-free contact max. 50 VA, 230 V AC, max. 1 A for: error output or for: quantity preselection run down, hooter (option) 1 x volt-free contact max. 50 VA, 230 V AC max. 1 A (non-inductive) Pre-signal 2 x volt-free contact max. 50 VA, 230 V AC max. 1 A (non-inductive) final signal for controlling a motor-driven valve as well as for controlling a pump contactor
Digital inputs	8 x Optocoupler; 10 - 30 V-, Ri = 1,5 kOhm for: start, stop, CIP, counting interruption 16 Preset quantities (BCD-coded)
Pulse output	Optocoupler 10 - 30 V, max. 250 mA
Serial interface	RS 485 with protocol for internal GEA Diessel CS3-Bus (57600 bd) or TTY interface (9.600 bd) (Option)
Protection class	Cast aluminium housing: IP 65
Dimensions (W x H x D)	Aluminium housing: each 330 x 230 x 151 mm
Ambient temperature	0 ... +50° C
Supply voltage	90 ... 260 V, 50-60 Hz
Power consumption	ca. 40 VA (including transmitter)

D43.64E



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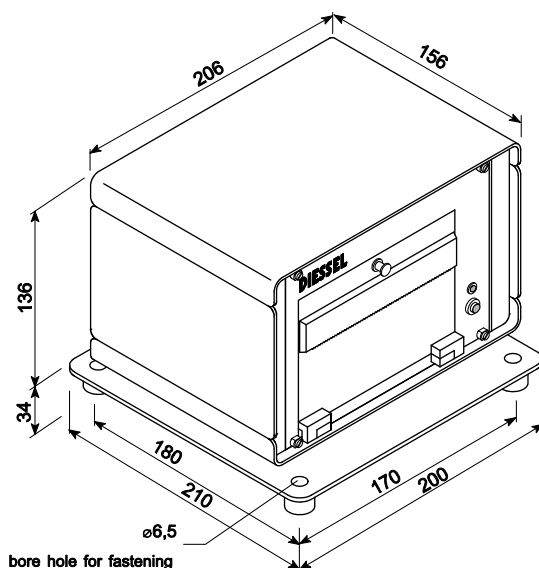
Doc no

7520/4-10

Page

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Data Sheet



Features of the printer:

- Thermoprinter:
Paper width: 112 mm, 832 dots per line.
- Can replace the **GEA Diessel** printer types **BP110**, **SD110**, and **JD84**.
- BUS-capable printer with integrated freely programmable computer.
- Print vouchers programmable in PASCAL.
- Possible control via different interfaces RS232, TTY, and RS485 CS3-Bus.
- Storage of the program for the print vouchers in the FLASH memory.
- Quick pulse counting input (e.g. odometer tap).
- Freely programmable *line feed key*.
- Selection of the different functions via escape control commands
- Weights & Measures-approved voucher print.
- Print-out of company's symbols, etc.
- Also available for front panel mounting.

Description

DI-PRINT™ is a freely programmable thermoprinter which is connected with the CS3 system via a serial interface (RS232, TTY) or the CS3-Bus connection. Thus, print vouchers can be directly stored in the memory and created by remote control. The existing interfaces enable a flexible print-out of data and messages of different systems (e.g. several meters or systems) via a printer.

The software of the built-in computer permits the number of characters per line, the character height, and the printing format to be selected.

The front panel is equipped with an LED which indicates the operating status and a key for the manual paper feed.

The printer features an automatic printing stop at paper end. Built into a field housing (for use on vehicles) it is installed on a mounting plate provided with shock absorbers. For stationary applications a version for front panel mounting is available.

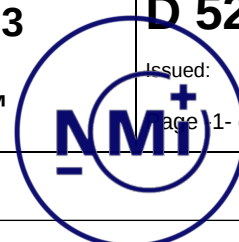
GEA Diessel GmbH
Steven 1
31135 Hildesheim
Germany
Phone: +49 (0)5121 / 742-0

Controller System 3
Thermoprinter
Type DI-PRINT™

D 52.52 E

Issued: 06.2005

Page 1- of -2- pages



Doc no	7520/4-11
Page	1 of 2

The following prints can be realised:

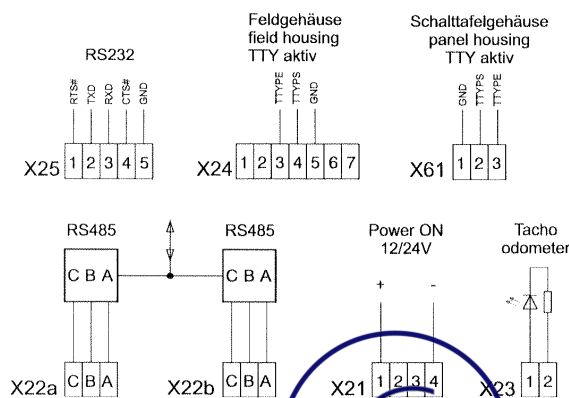
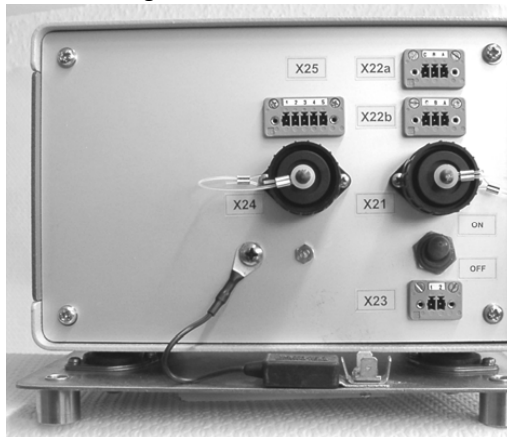
- Printing of protocols/tickets
- Printing of laboratory data
- Printing of W&M-approved vouchers
- etc.
- Remote-controlled printing stations
- Central printing stations

Technical data

Printing principle:	Thermoprinter, 832 dots/line
Characters/line:	20, 40, 80 and further character sets (see the DI-PRINT™ manual)
Character height:	3 different character heights (2.5 – 5.0 and 7.5 mm)
Printing speed:	9 lines/second (in case of 2.5 mm character height)
Interface:	RS232, TTY, and CS3-Bus connection (RS485)
Pulse input:	$f_{\max} = 2 \text{ kHz}$ $R_{\text{ein}} \Rightarrow 3 \text{ kilohms}$ $U_{\text{ein}} = 5 \dots 30 \text{ V}$
Operating voltage:	11.5 ... 30 V DC
Power consumption:	Static current: 210 mA / 12 V; 110 mA / 24 V Peak current: 5 A / 12 V; 2 A / 24 V
Connection cable for operating voltage:	2.5 mm ² min.
Ambient temperature:	-15 ... +50°C
Dimensions of the field housing:	170 x 210 x 200 mm (H x W x D)
Weight with field housing:	approx. 3.6 kg
Mounting dimensions of the front panel housing:	194 x 145 x 175 mm (H x W x D) (cut-out 186 x 137 mm)
Weight with front panel housing:	approx. 1.8 kg
Fitting position:	horizontal
PTB approval:	approval symbol  CE-compliant according to EMC regulations 89 / 336 / EEC
Paper:	Thermopaper, width 112 mm, 25 m roll, GEA Diessel stock no.: 231 229
System of protection:	IP30 (the printer may not be used directly in wet areas.)

Connections:

Field housing



Subject to technical alterations!

D52.52E

NMi

Page 2 of 2 pages

Proprietary notice pursuant to ISO 16016 to be observed!

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Doc no

7520/4-11

Page

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ANDERSON-NEGELE

WWW.ANDERSON-NEGELE.COM

IZMSA-C/FT050/S/D/DC/SV/E

Magnetic-Inductive Flow Meter

Supply: 24VDC +/- 10%

Process Temperature: -10°C...+50°C

Part#: 1094422 18/2023

Certificate#: TC7520

Anderson Instrument Company Inc,
156 Auriesville Road, Fultonville, NY 12072



Doc no

7520/8-01

Page

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REVISIONS			46650A0001	
REV.	CHANGE NO.	DESCRIPTION	BY	DATE
X01	-	PRELIMINARY	SKR	07/11/2023
X02	-	ADDED CE LOGO & UPDATED LABEL	SKR	01/08/2024
X03	-	ADDED YEAR OF MFG. IN LABEL	SKR	02/20/2024

SK-582-C1

SK-652



ANDERSON-NEGELE
WWW.ANDERSON-NEGELE.COM

MODEL#:
SERIAL#:
SPAN:
OFFSET:
QMAX:
CERTIFICATE#: TC7520
YEAR OF MFG.:
MAGNETIC-INDUCTIVE FLOW METER
VOLTAGE: 24VDC +/- 10%
PROCESS TEMP.: -10°C TO +50°C
ANDERSON INSTRUMENT COMPANY INC,
156 AURIESVILLE ROAD, FULTONVILLE,
NY 12072



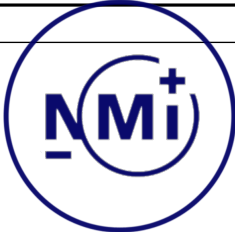
NOTES:

MATERIAL: .005" THICKNESS WHITE POLYESTER

ADHESIVE: 3M 7955 WITH SPLIT
BACK REMOVABLE PAPER

BACKGROUND: MATTE WHITE

PROPRIETARY INFORMATION				
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FINISH: SPLIT BACK		R & D DWG NO. REV.		
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GEA Diesel

SEALING PLAN
for
Flow meter types IZMSE, IZMTE



**Attachment for the
REVISION no. 5**



Process Engineering / GEA Diesel

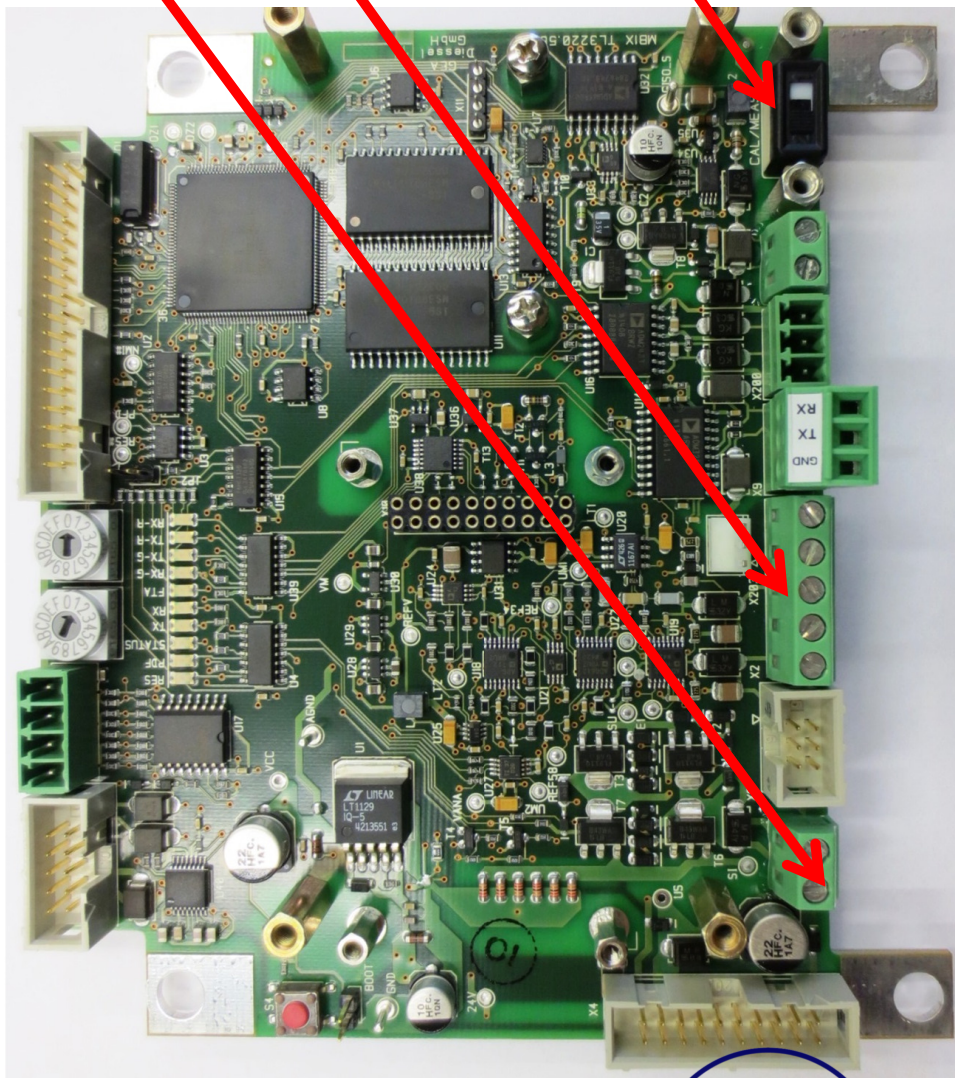
Hildesheim, 13.06.2018 / Georg Sonderhoff – Hermann Hartmann



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Page	1 of 5

Flow meter type IZM-SE, IZM-TE, IZM-ZDC1

CAL/MEAS switch at the mainboard type MB1X (or old version MB1A)



Coil connector
Without sealing-sticker

electrode connector
Without sealing-sticker

Protection switch
"CAL / MEAS"
Without sealing-sticker



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Flow meter type IZM-SE, IZM-TE, IZM-ZDC1

Version: **COMPACT**

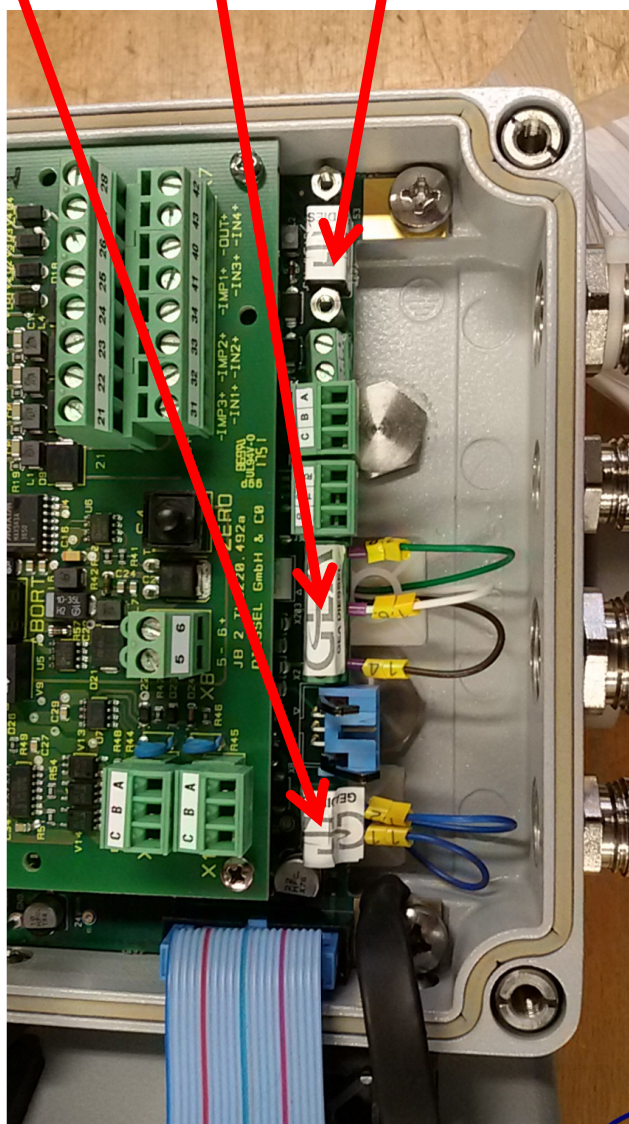
Sealed after calibration



Coil connector
sealed

electrode connector
sealed

Protection switch
"CAL / MEAS"
Sealed in the MEAS-position



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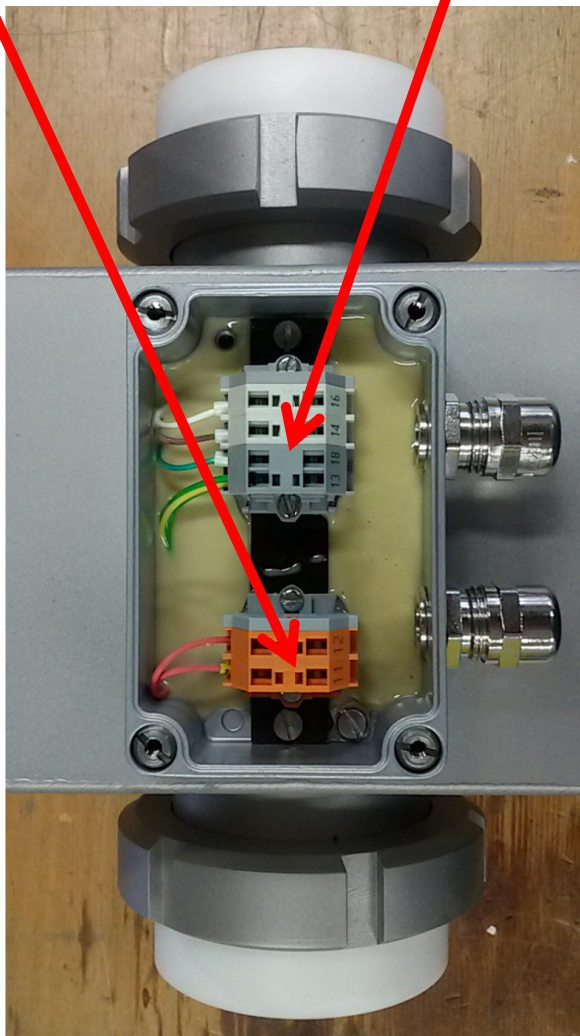
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Flow meter type IZM-SE, IZM-TE, IZM-ZDC1
Version: **SEPARATED**
Sensor / transmitter



Coil connector SENSOR
Without sealing-sticker

Electrode connector SENSOR
Without sealing-sticker



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Flow meter type IZM-SE, IZM-TE, IZM-ZDC1

Version: **SEPARATED**

Sensor / transmitter

Sealed after calibration



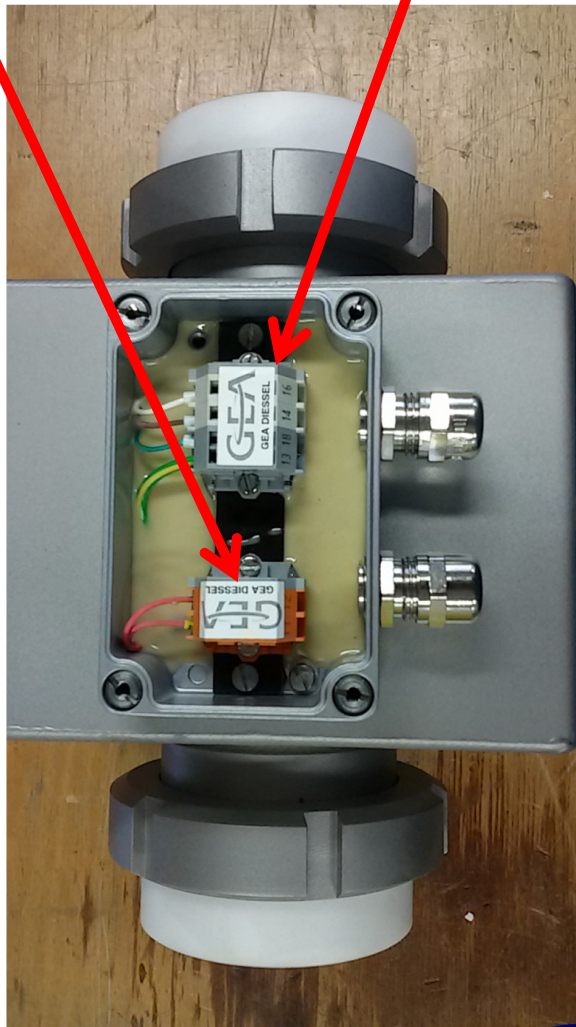
Coil connector SENSOR

sealed

Electrode connector

SENSOR

sealed



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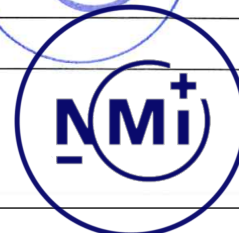
Parameterization

8.3. Synoptical Table of Parameters

Keys	Basic settings (valid for the protective function "parameter mode 2") and the MEAS position of the calibration switch	Parameter protected by:			Standard setting
		function 98	CAL/MEAS	Code	
 00 (menu 00)	Reading of the measured values				
	- no data modification possible				
 02 (menu 02)	Device parameters				
	Nominal width of the pipe "DN"	X	X		MEMbox
	Volume unit "unit"	X			litres
	Low flow suppression "LFS"	X			2.0%
	Functional mode of the digital outputs "output mode"	X			1
	Number of averaged values "average"	X			8
	Mode for the analog output "currmode 0/4 ... 20 mA"	X			4 - 20
	EMPTY pipe detection "pipe detect"	X			pipe detect
	Function of the digital input IN1 "standby mode"	X			2
	Protection against modification of parameters "parameter mode"	X			2
 03 (menu 03)	Input/output parameters				
	100% flow value for the measuring range "Qmax"	X			
	Value of the digital pulse output IMP1 (also valid for the 2- and 3-channel pulse output) "pv1"	X			
	Value of the digital pulse output IMP2 "pv2"	X			
	Maximum duration of the output pulses of outputs IMP1 and IMP2 "tp1 / tp2"	X			125 ms
	Attenuation of the analog output "tp3"	X			1
	Minimum pulse length for the activation of inputs IN1 ... IN4 "lt1 ... lt4"	X			125 ms
 04 (menu 04)	Display parameters				
	Selection of the flow rate indication (l/h or l/min) "Q-Typ"	X			l/h
	Digits after the decimal points of the main counter "V-Format frac"		X		1
	Digits after the decimal points of the daily counter "V2-Format frac"	X			1
	Decimal symbol displayed by "decimal point"	X			.
	Display monitoring "display mode"	X			0
	Activation of the printer output "printer mode"	X			0



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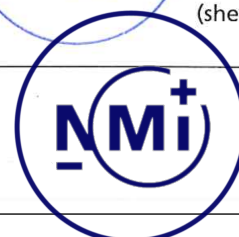
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Parameterization

Keys	Basic settings (valid for the protective function "parameter mode 2") and the MEAS position of the calibration switch	Parameter protected by:			Standard setting
		function 98	CAL/MEAS	Code	
 05 (menu 05)	Calibration parameters				
		Transmitter constant - type plate	"Span"	X X	MEMbox
		Transmitter constant - type plate	"Offset"	X X	MEMbox
		Calibration factor	"m spe"	X	1.000
		Evaluation factor for the positive flow	"p spe"	X	1.000
		Evaluation factor for the negative flow	"n spe"	X	1.000
		Adaptation value for low flow rates	"b spe"	X	0.000
		Conversion factor for the volume unit	"m dim"	X	1.000
		Smallest metering quantity (for W&M-approved systems)	"Vmin"	X	20.000
		Input of any freely definable unit	"free unit text"	X	
 06 (menu 06)	Check Values (will be activated automatically)				
		Program checksum (officially W&M approved checksum)	"eprsum"	- - -	201402
		Parameter checksum (checksum) of the CAL/MEAS data	"eparasum"	- - -	
		Parameter checksum (checksum) of the other data	"nparasum"	- - -	
		Sensor type	"sentyp"	- - -	12289
		Sensor number	"senno."	- - -	
		Position of the calibration switch	"switch position"	- - -	MEAS
		State of the MEMbox	"MEMBOX"	- - -	ok
		Version number of the user program	"User C2 "	- - -	
		Version number of the system program	"System SS"	- - -	
		Version number of the application program	"Appli SA"	- - -	
		Date of the recent download	"download"	- - -	

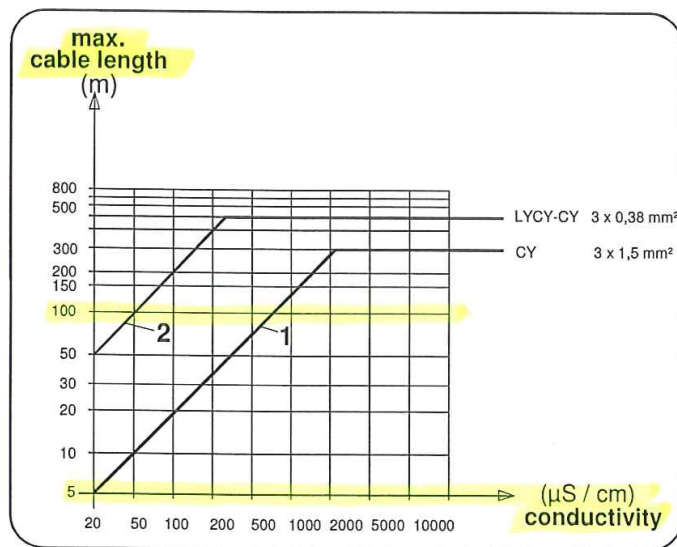
Table 9: Parameters and Basic Settings



4.4. Cable Lengths for the Separated Version

For the separated version we recommend to install the converter at a short distance (<5 m) to the transmitter. Unless such a short distance is possible, the restriction of the distance given by the conductivity of the measured product should be taken into account. In any case, the electric cables between transmitter and converter are not allowed to be jointly laid with other power lines, e.g. controls of frequency converters etc.

Admissible cable lengths between transmitter and converter at different conductivities:

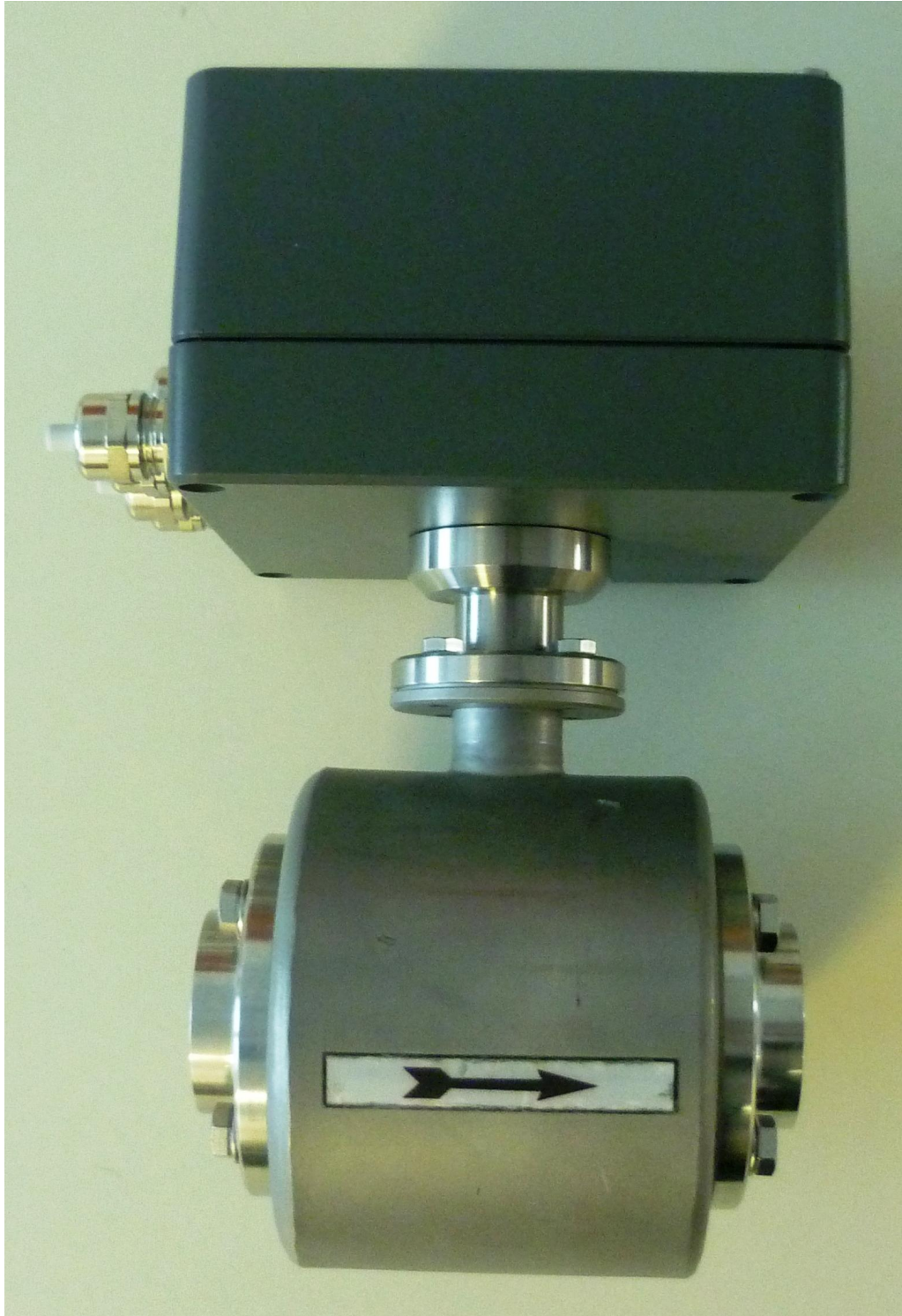


1. Standard cable CY 4 x 0.5 mm²
2. Special cable LYCY-CY 3 x 0.38 mm²



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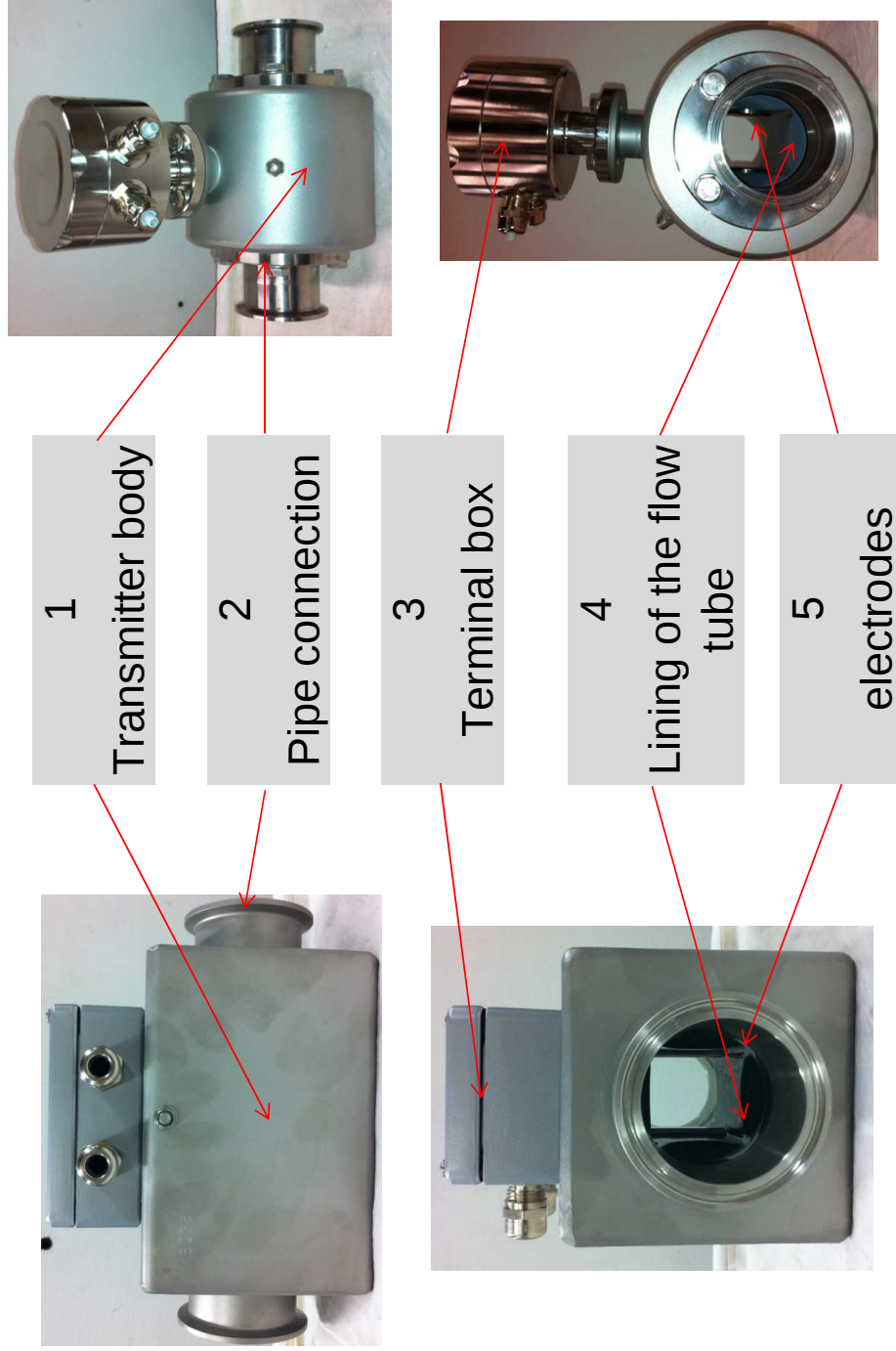




Picture of the IZM-SEAG2 Flow Transmitter.



IZMAG² comparsion to transmitter type IZMG2

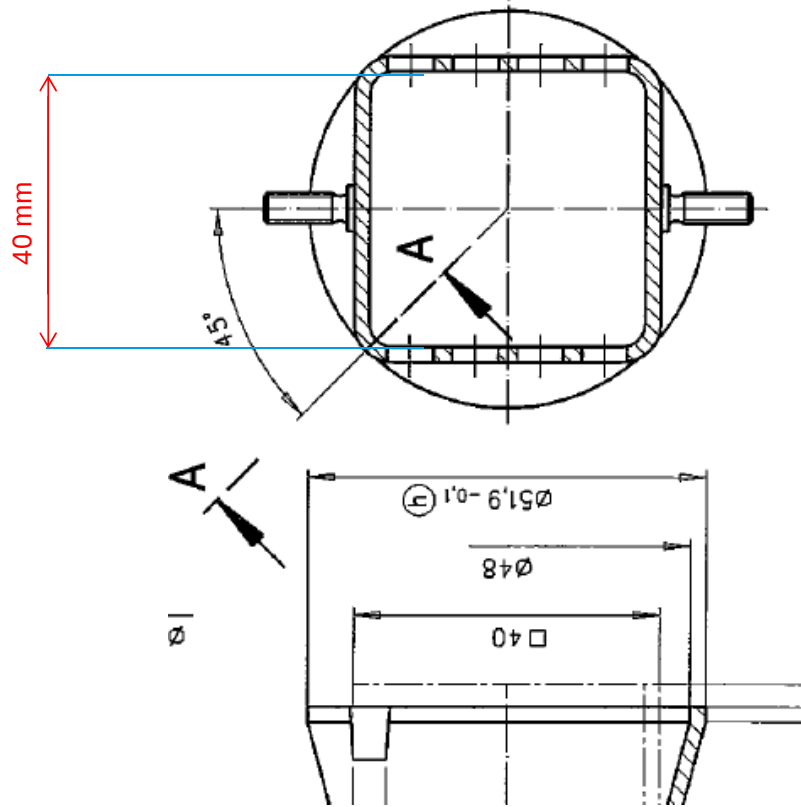


Relevant parameter of the transmitter type **IZMG2 DN50**



profile = square

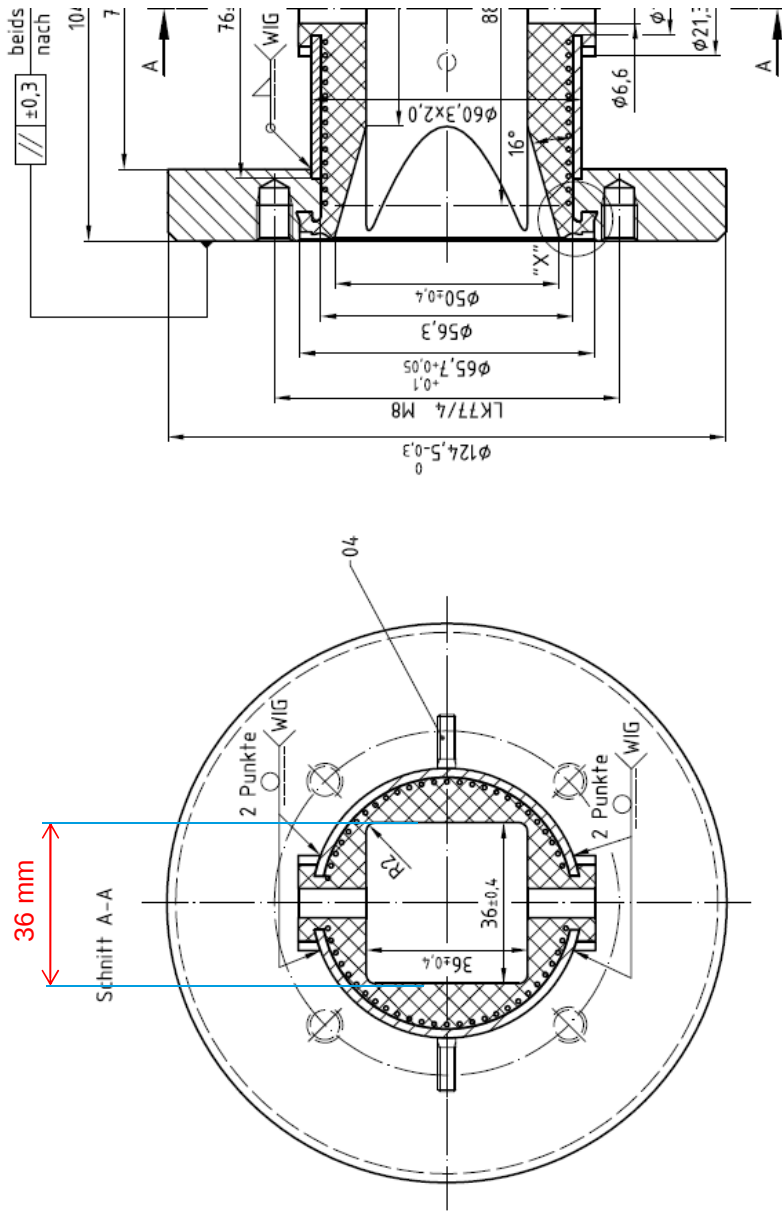
Length of the edge = 40 mm



Relevant parameter of the transmitter type IZMAG²- 050



profile = square
Length of the edge = 36 mm

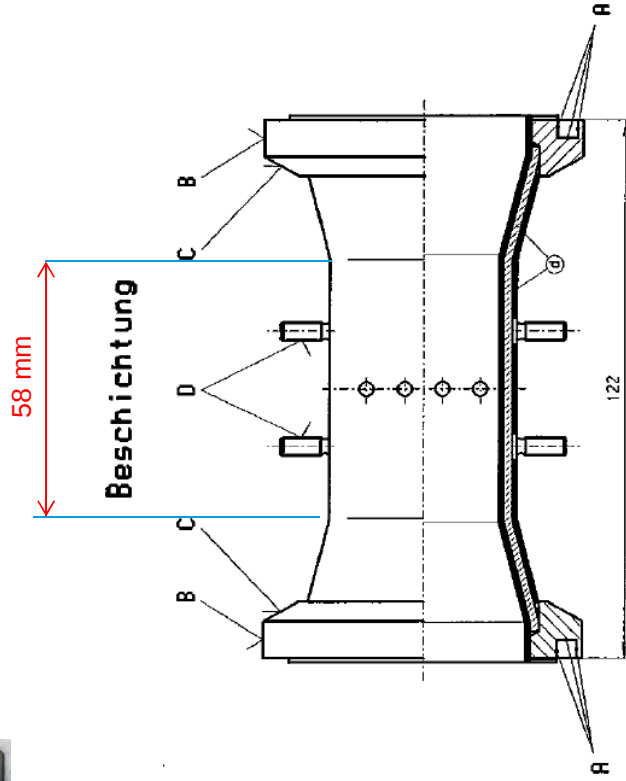


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Relevant parameter of the transmitter type **IZMG2 DN50**



Length in the tube of square profile = **58 mm**



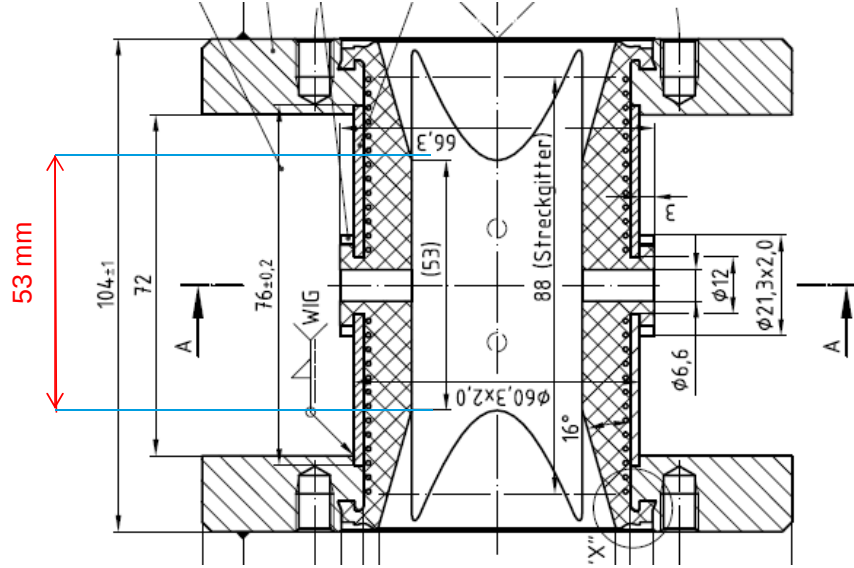
Flächen A - D dürfen nicht beschichtet werden.
Beschichtungsdicke: $0,2^{+0,05}_{-0,05}$ mm ③



Relevant parameter of the transmitter type IZMAG²- 050



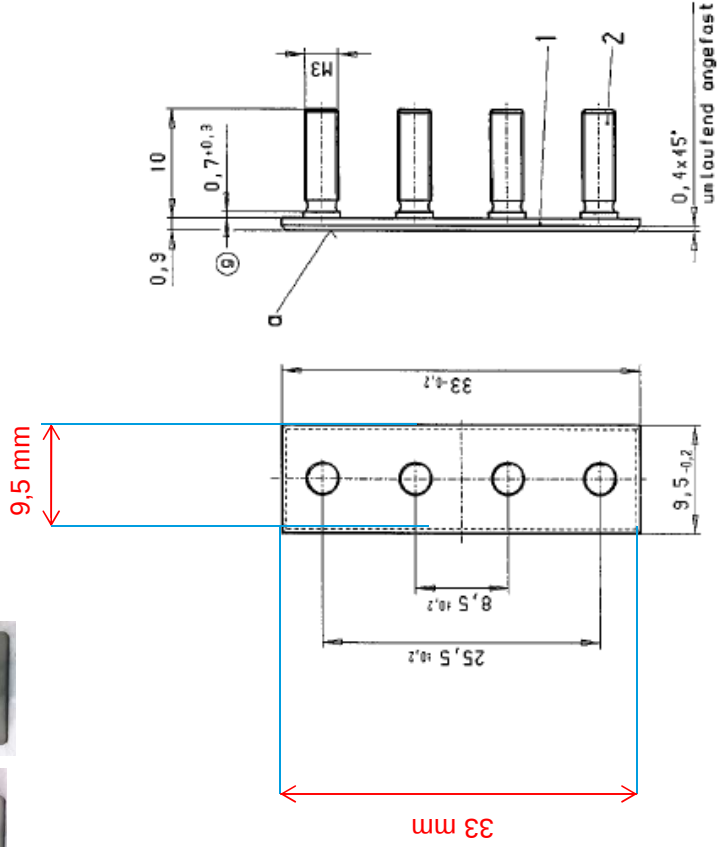
Length in the tube of square profile = 53 mm



Relevant parameter of the transmitter type IZMG2 DN50



Length of the electrode = 33 mm
Area of the electrode = 313,5 mm²



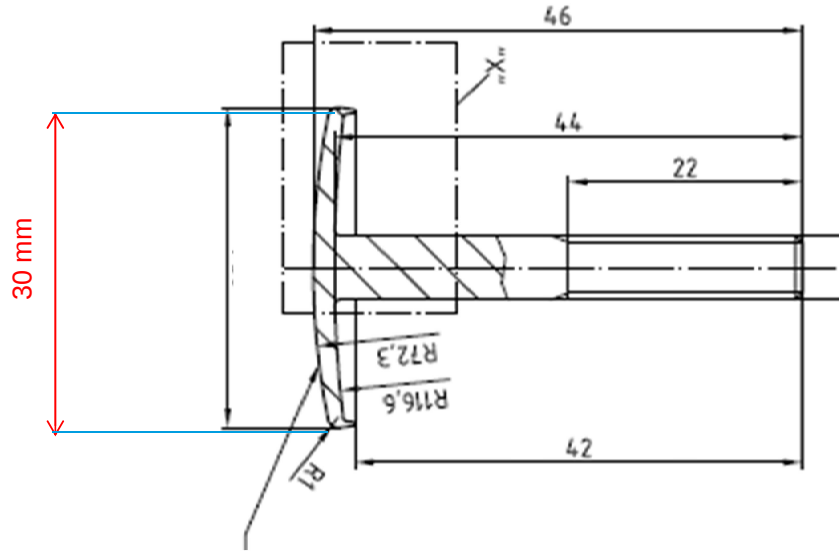
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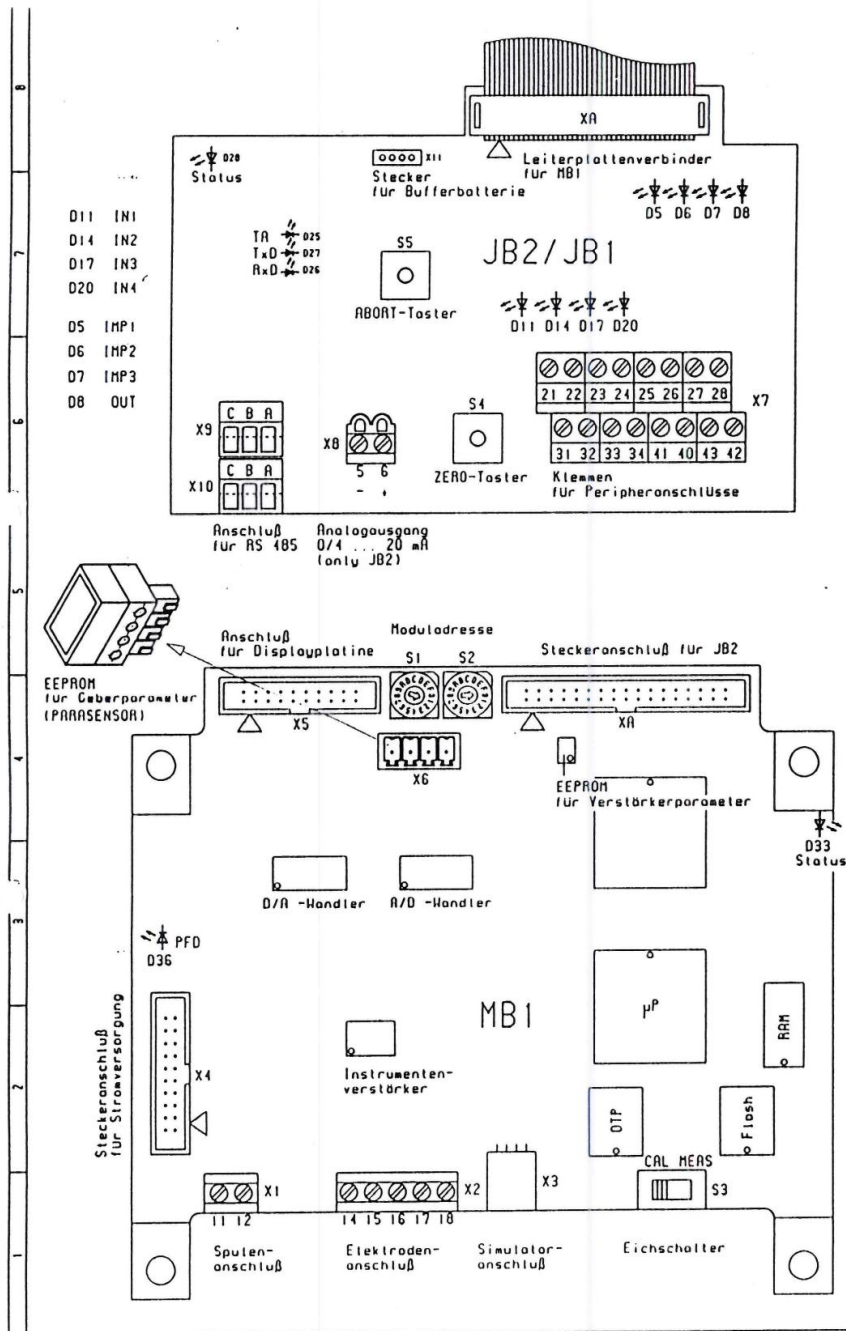
Relevant parameter of the transmitter type **IZMAG²- 050**



Length of the electrode = **30 mm**
Area of the electrode = **706,9 mm²**



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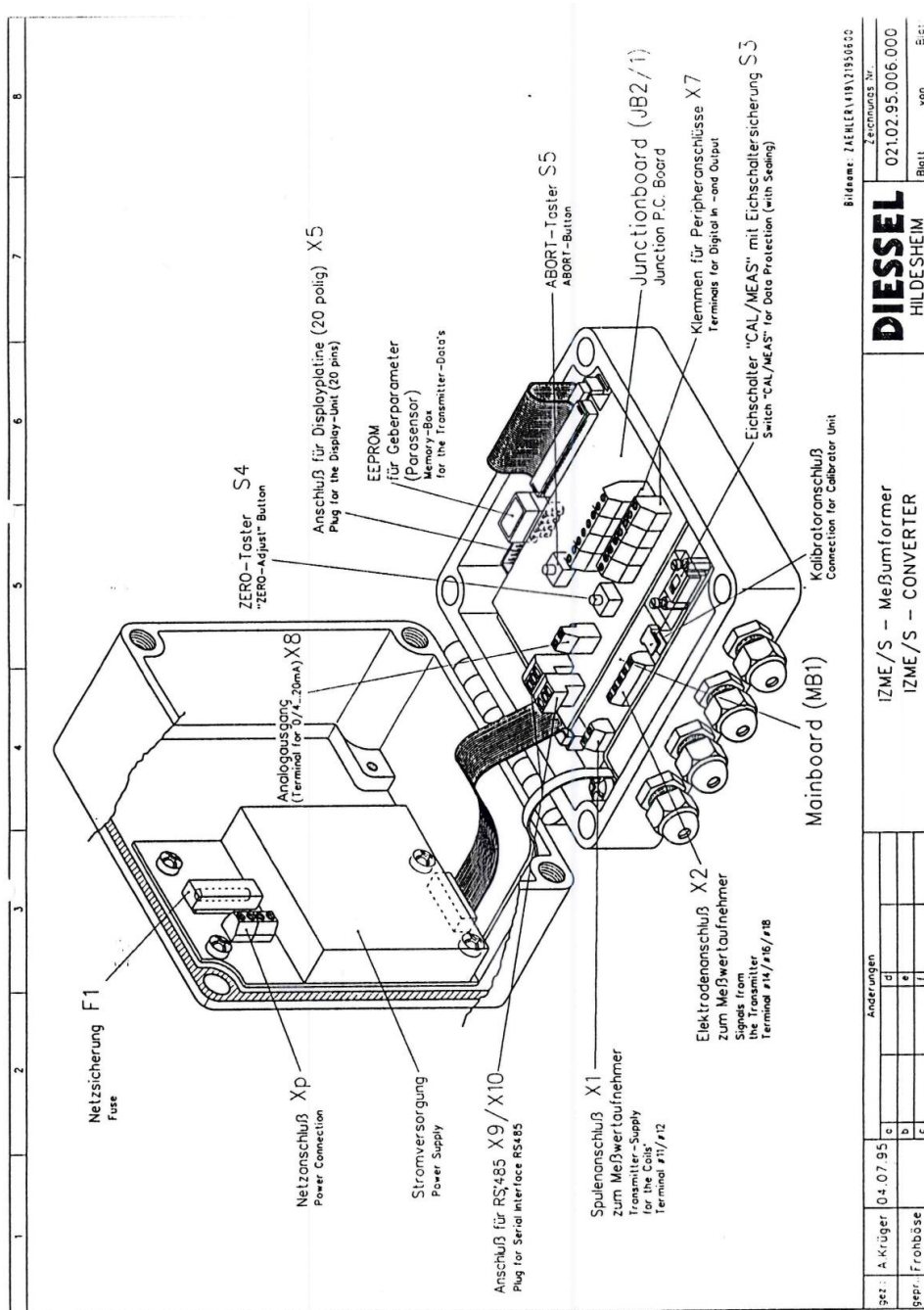
Bilddaten: DIVERSES\419\ZGM\21950200		Technische Nr.							
		021.02.95.002.000							
		Blatt 1 von 1 Blatt							
		DIESEL							
		HILDESHEIM							
		Mainboard 1 (MB1) und Junctionboard 2/1 (JB2 / JB1)							
		Forderungen							
		<table><tr><td>a</td><td>d</td></tr><tr><td>b</td><td>e</td></tr><tr><td>c</td><td>f</td></tr></table>		a	d	b	e	c	f
a	d								
b	e								
c	f								
30 5 95									
R. Krüger									
gepr									
Engsch									





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Spez. : A-Krüger		04.07.95	c	Änderungen							
gepr. Frohböse			c			d					
			b			e					
			c			f					

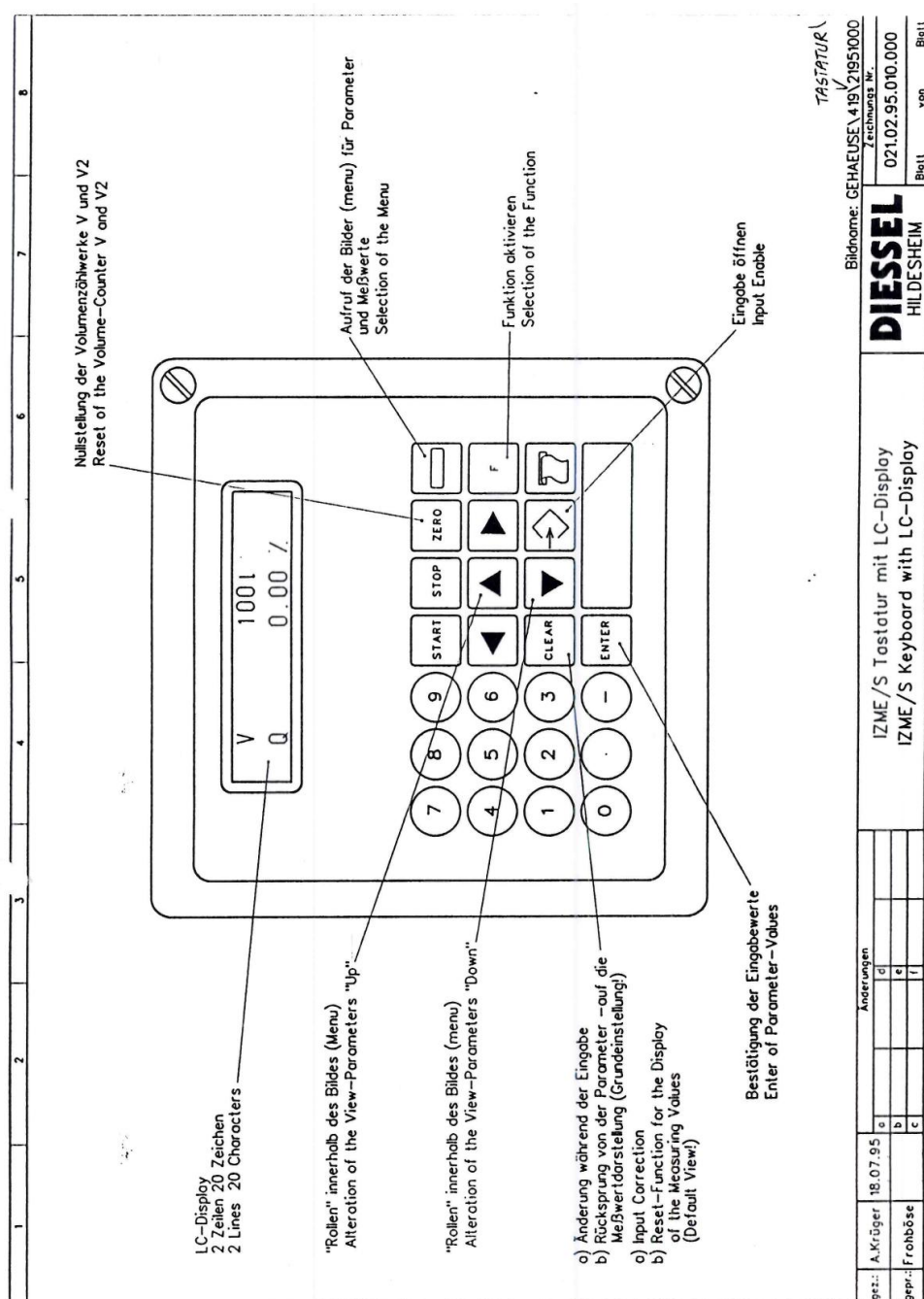
IZME/S - Meßumformer		DIESEL		Zeichnungs-Nr.	
IZME/S - CONVERTER		HILDESHEIM		02102.95.006.000	
				Beit	
				von	
				Eck	

Bildname: ZAEHLER\19\21950520



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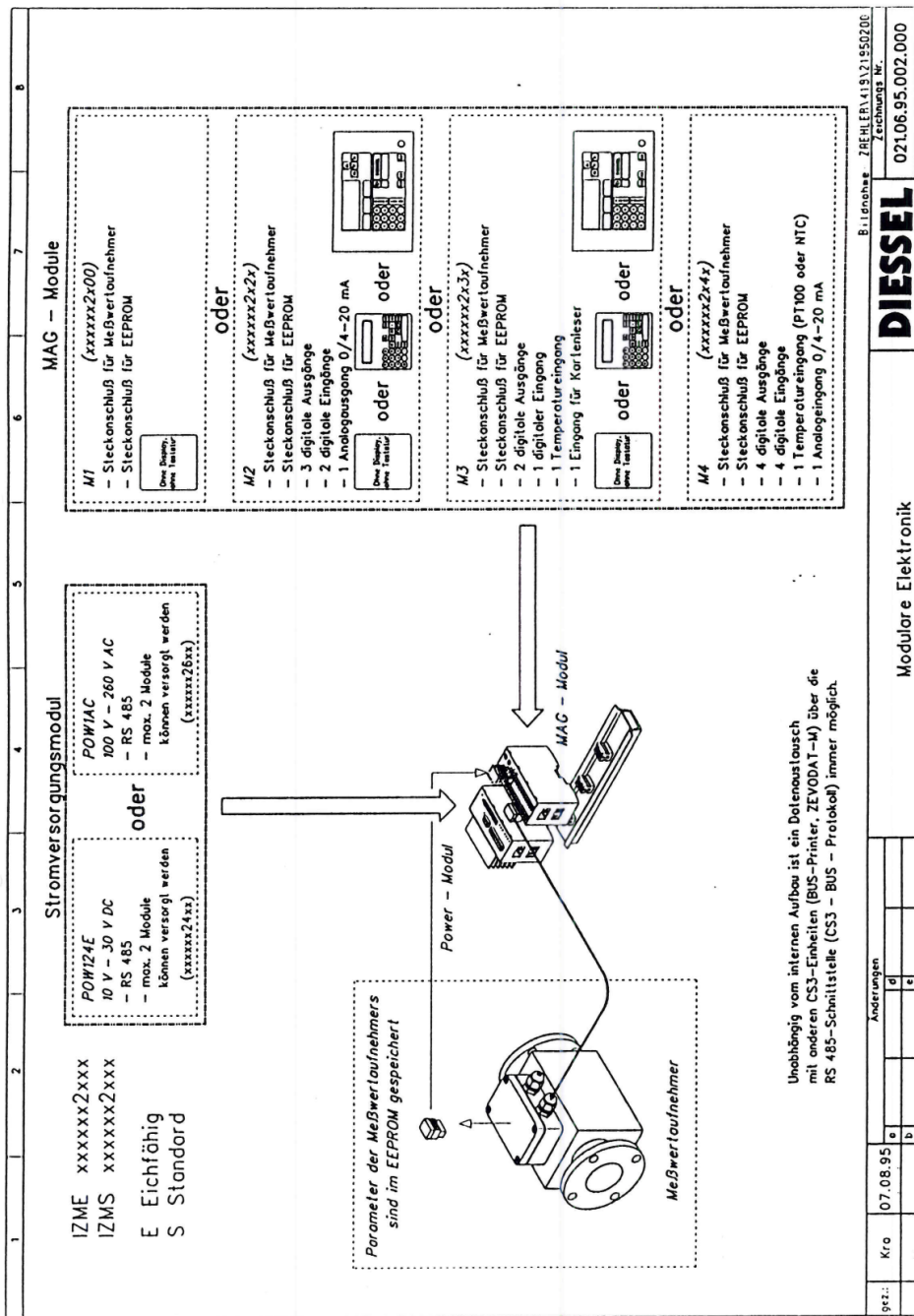


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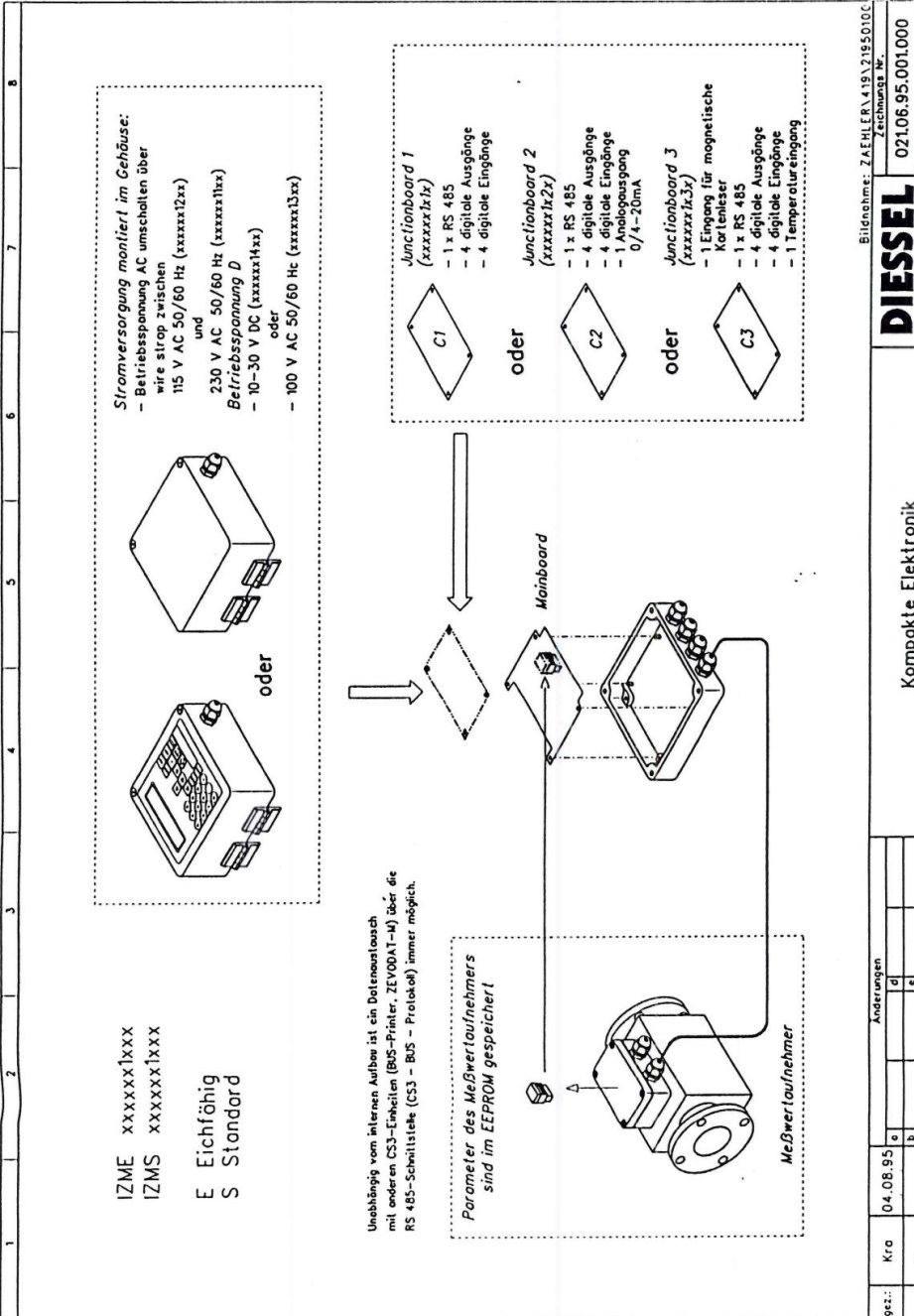


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This scheme shows a complete system. The best of our delivery range
Lieferumfang sind Angebot und Auftragsbestätigung.
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kopiert, noch dellen Personen mitgeteilt, noch anderweitig mündlich benutzt werden



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Auf dieser Zeichnung ist eine komplette Anlage dargestellt. Grundlage des
Lieferumfangs sind Angebot und Auftragsbestätigung.

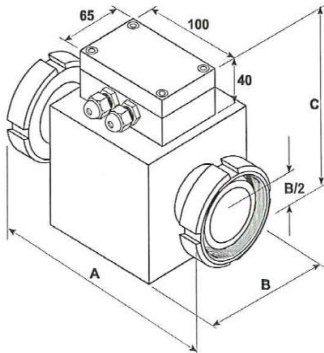
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This scheme shows a complete system. The basis of our actual range
of delivery is the quotation and order confirmation.



Transport

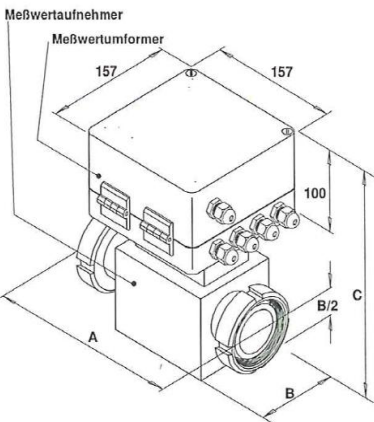
3.3. Dimensions and Weight

3.3.1. Transmitter



Type	DN	A [mm]	B [mm]	C [mm]	Weight [kg]
G 1	10	200	75	115	5
	15	200	75	115	5
	25	200	100	140	6
	32	200*	100	140	7
	40	200*	130	170	8
	50	200*	130	170	8
	65	200**	165	205	12
	80	200**	165	205	14
	100	250	190	230	18
	125	250	215	255	22
G 2	150	250	240	280	24
	50	200	100	140	8
	65	250	120	160	12
	80	250	150	190	14

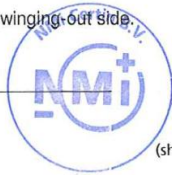
3.3.2. Integrated Design



Transmitter type	DN	A [mm]	B [mm]	C [mm]	Weight [kg]
G 1	10	200	75	205	8
	15	200	75	205	8
	25	200	100	230	9
	32	200*	100	230	10
	40	200*	130	260	11
	50	200*	130	260	11
	65	200**	165	295	15
	80	200**	165	295	17
	100	250	190	320	21
	125	250	215	345	25
G 2	150	250	240	370	27
	50	200	100	230	11
	65	250	120	250	15
	80	250	150	280	17

* 225 mm if equipped with DIN flanges
250 mm if equipped with DIN flanges

To be considered for the assembly:
When the cover is open: Dimension C + 120 mm and + 80 mm to the swinging-out side.



Installation

5.2.3. Brief Instructions

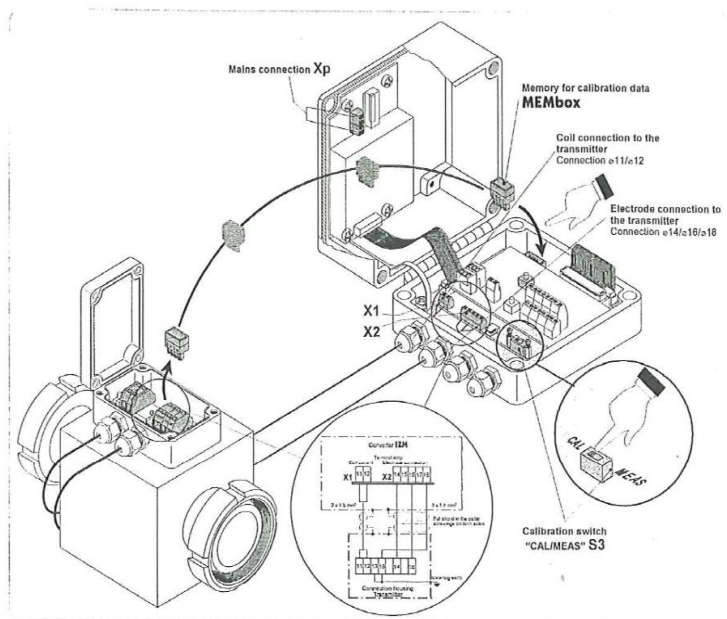


Figure 4: Electric Connection of the Separated Version

- (1) Connect the **coil cable** (2-wire, simply shielded / 0.5 mm²) in an electromagnetically compatible manner to the transmitter (terminals #11 and #12) and the converter (terminals X1 #11 and #12).
- (2) Connect the **electrode cable** (4-wire, simply shielded / 0.5 mm²) in an electromagnetically compatible manner to the transmitter (terminals [brown] #14 / [white] #16 / [green/yellow] #18) and the converter (terminals X2 #14 and #16 and #18).
- (3) Pay attention to a correct connection of the **power supply** (according to the type plate) inside the converter.
- (4) Remove the calibration data memory (**MEMbox**) from the transmitter and plug it into the 4-pole slot of the converter.
- (5) **Switch S3** has to be set to "CAL". Switch on the power supply after the correct wiring. To protect the parameters against any unauthorized modifications, wait at least for 10 seconds and push **switch S3** to "MEAS".
- (6) Now the flow meter is calibrated and ready to measure.



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General Description

1.4.2. Transmitter

Transmitter		G1	G2
Connections and nominal widths:	FG small flange:	DN 25, 40, 50, 65, 80, 100, 125, 150	DN 50, 65, 80
	Threaded pipe (DIN 11851):	DN 10, 15, 25, 32, 50, 65, 80	DN 50, 65, 80
	Clamp:	1/2" (1" connections), 1 1/2", 2", 3" (4" connections)	2", 3"
Materials:	Meter tube:	Material no.: 1.4301 / AISI 304	
	Lining:	PTFE	FEP
	Electrodes:	Material no.: 1.4404 / AISI 316 L	
	Transmitter housing:	Material no.: 1.4301 / AISI 304 (blasted)	
	Connecting housing:	Cast aluminium (with special anticorrosive coat of varnish)	
	System of protection:	IP65	
Electric connection:		Coil supply of the transmitter: 2 x 0.5 mm², shielded Electrode signal to the transmitter: 4 x 0.5 mm² CY, shielded Typical standard cable length: 5 m each (separated design) Coil resistance: 100 ohms Calibration data in the MEMbox to be plugged into the converter	
Product temperature:		150°C max. / integrated design: 120°C	50°C max.
Cleaning temperature:		150°C max. / integrated design: 130°C	80°C max. for 30 minutes max.
Product conductivity:		5 µS/cm min.	
Admissible pressure:		0.5 bars absolute at 20°C, 16 bars max.	
Flow velocities:		0.03...10 m/s	

Measuring Ranges and Error Limits

Nominal width mm	Minimum measuring range *) l/h	Maximum measuring range l/h	Flow rate at a flow velocity of 1 m/s	Measuring tolerance		Unit
				<0.25 %	<1 %	
DN 10	17 - 170	450 - 4500	280	> 60	> 17	l/h
DN 15	25 - 250	600 - 6000	640	> 90	> 30	l/h
DN 25	60 - 600	2000 - 20000	1800	> 240	> 60	l/h
DN 32	100 - 1000	3000 - 30000	2900	> 400	> 100	l/h
DN 40	150 - 1500	3000 - 45000	4500	> 600	> 150	l/h
DN 50	200 - 2000	6500 - 65000	7000	> 800	> 200	l/h
DN 65	400 - 4000	10000 - 100000	12000	> 1400	> 400	l/h
DN 80	600 - 6000	20000 - 200000	18000	> 2400	> 600	l/h
DN100	1500 - 15000	40000 - 400000	28000	> 6000	> 1500	l/h
DN125	2500 - 25000	72000 - 720000	44000	> 10000	> 2500	l/h
DN150	4000 - 40000	120000 - 1200000	64000	> 16000	> 4000	l/h

*) For Weights and Measures-approved measurements the minimum flow rate is approx. 4 times higher.



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GEA Diesel



**Evaluation
Certificate**

Number TC7520 revision 3
Project number SO13200642
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Modification

Flow meter type as IZM-SEG1, IZM-TEG1



Hildesheim, 23.10.2014

Process Engineering / GEA Diesel

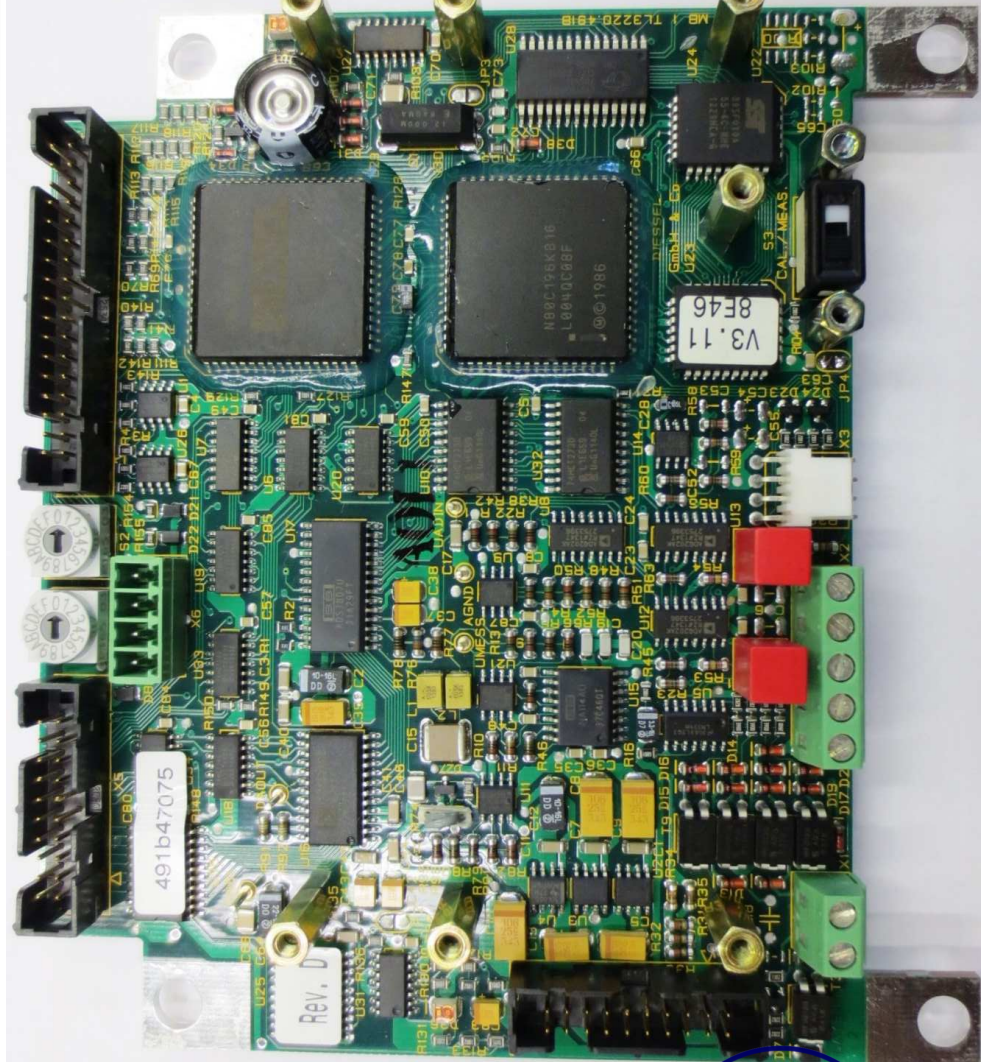


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Modification: Hardware of the mother board

Current hardware version MB1



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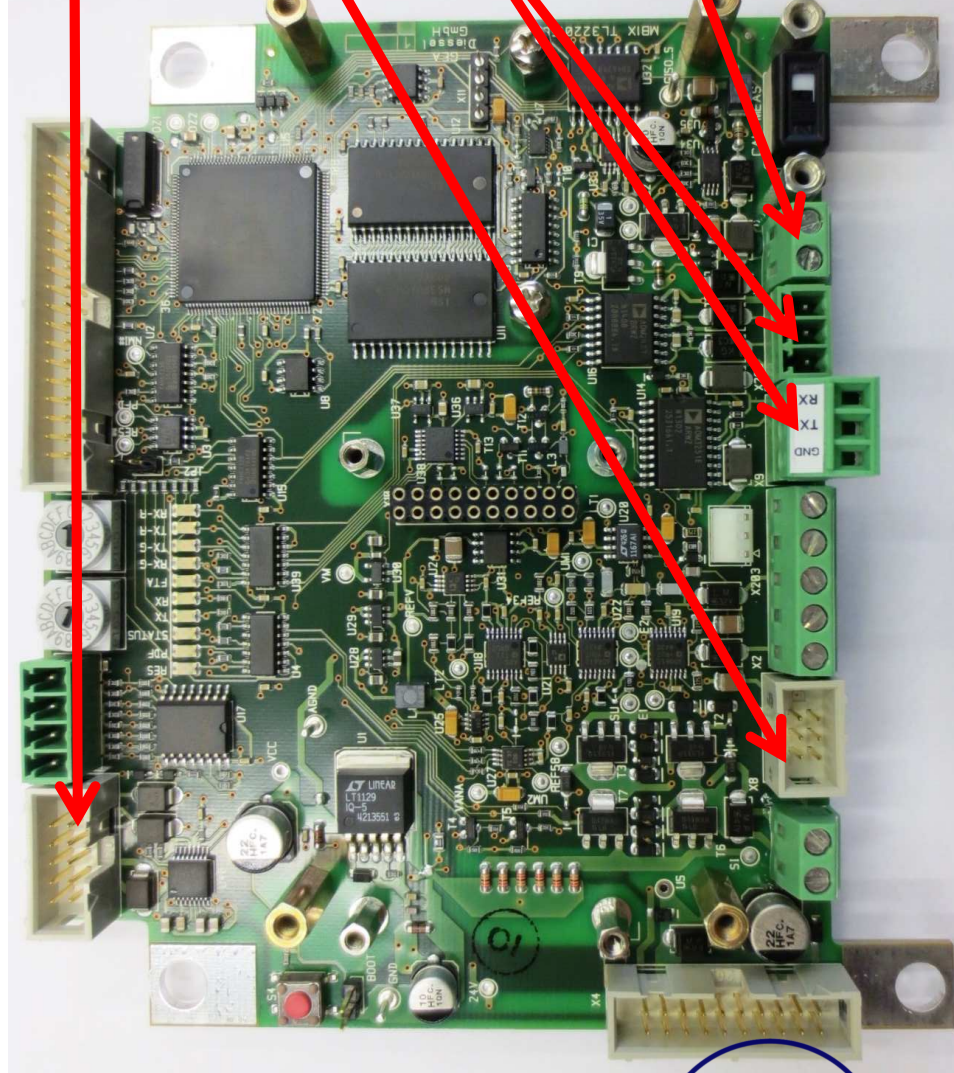


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Modification: Hardware of the mother board

Updated version type: MB1X



NEW:
Connector for display
module type OLED
(hardware type LAP6x)

NEW:
Connector for the
transmitter type
IZMAG²

NEW:
Connector for more
CS3-Bus-user

NEW:
Connector for a flow
indicator
4 – 20 mA



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Modification: Hardware of the display module (type LAP6x)



current display module
(LCD including back light illumination)



New display module
(OLED-technology)



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