

Level Switches

Construction

GEMÜ 930-934 level switches incorporate a PP enclosure and have an integrated switch output. Enclosures in PFA (GEMÜ 930 and 932) and PVDF (GEMÜ 933) are also available. The Teflon coated cables are moulded into the housing which has a 3/4" thread connection.

Features

- GEMÜ 930: Ultrasonic
- GEMÜ 932: Capacitance
- GEMÜ 933: Float
- GEMÜ 934: Optical
- Exact switch point detection
- High repeatability
- GEMÜ 930 also available as Ex version or as overflow prevention acc. to WHG §19

Advantages

- Simple commissioning process
- Monitoring of liquid levels of inert and corrosive media
- For applications with open tanks or tanks under pressure
- Compact weight-saving design
- High enclosure protection IP 68
- Installation in connection housing possible (GEMÜ 1291)



GEMÜ 930



GEMÜ 932

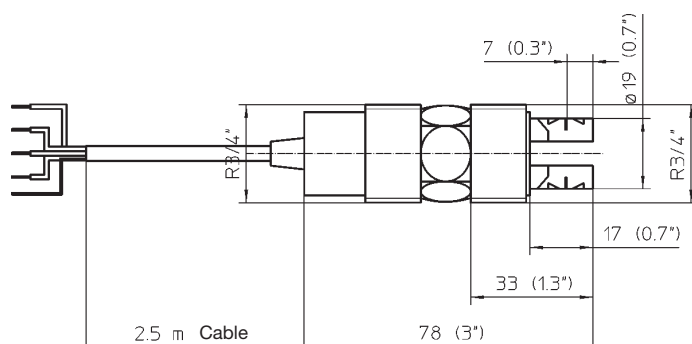
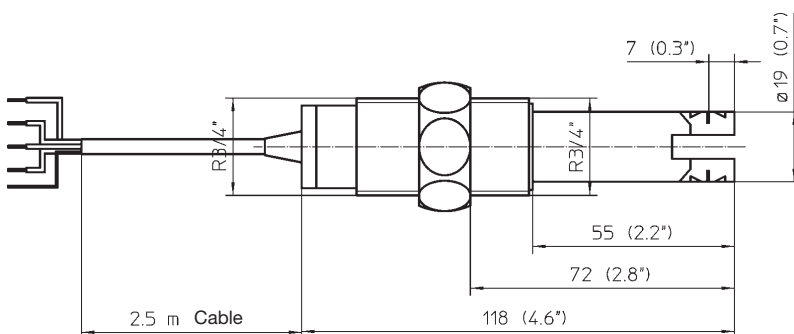


GEMÜ 933



GEMÜ 934

Dimensions - GEMÜ 930 (mm)



Dimensions of GEMÜ 931-934 see page 4.

Technical specifications

Electrical specifications

Power supply GEMÜ 930-934

	12-36 VDC
Current consumption	25 mA
Ex version 930I...	12 - 32 V DC / $I_1 \leq 300$ mA
	$P_1 \leq 1.3$ W
	$L_1 = 0$ mH / $C_1 = 0$ μ F

Output signals GEMÜ 930, 932, 934

1 relay output	60 VDC / VAC @ 1A
Relay function	NC or NO selectable

Output signals GEMÜ 933

1 reed contact	30 VAC / 60 VDC @ 0.1A
Reed function	NC or NO selectable

Electrical connection GEMÜ 930, 932, 934

Cable 2.5 m	4-wire + shield
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Electrical connection GEMÜ 933

Cable 2.5 m	3-wire + shield
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Measuring ranges

Accuracy	GEMÜ 930, 932, 934 ± 1 mm in water GEMÜ 933 ± 2 mm in water
Repeatability	GEMÜ 930, 932, 934 ± 0.5 mm in water GEMÜ 933 ± 1 mm in water
Frequency	GEMÜ 930: 1.5 MHz GEMÜ 932: - GEMÜ 933: - GEMÜ 934: -

GEMÜ 932 (capacitance)

Conductivity of medium	> 100 μ S / cm
Dielectric range of medium	$\epsilon_r > 20$

GEMÜ 933 (float)

Extreme orientation	$\pm 20^\circ$ from vertical
Medium density	> 0.8 g / cm ³

General

Enclosure rating to EN 60529 IP 68

Weights	GEMÜ 930: 0.14 kg GEMÜ 932: 0.14 kg GEMÜ 933: 0.11 kg GEMÜ 934: 0.12 kg
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Dimensions L x W x H see dimensional drawings

Mounting position optional

Mounting note see operating instructions

Directives

EC-EMC directive	89/336/EEC
EC low voltage directive	73/23/EEC
Emission of interference	EN 55011
Immunity to interference	EN 50082-2
Safety regulations	EN 61010-1
Ex approval (version 930I...)	Ex ib IIC T6
Certificate number	LCIE 01.E6048 X
WHG (version 930S...)	§19

Working conditions

Ambient temperature	-40°C...+90°C
Storage temperature	-40°C...+90°C
Medium temperature	-40°C...+90°C
Working pressure	10 bar @ 25°C 2 bar @ 25°C (GEMÜ 933) -0.113 bar/°C above 25°C

Materials

GEMÜ 930:

Enclosure + Sensor	PP/PFA
Gasket	Viton®

GEMÜ 932:

Enclosure + Sensor	PP/PFA
Gasket	Viton®

GEMÜ 933:

Enclosure + Sensor	PP/PVDF
Gasket	Viton®

GEMÜ 934:

Enclosure + Sensor	PP
Gasket	Viton®

Order specifications

Version	Type
GEMÜ 930 (Ultrasonic)	930
GEMÜ 932 (Capacitance)	932
GEMÜ 933 (Float)	933
GEMÜ 934 (Optical)	934

Mechanical connection	Ref. no.
Thread G 3/4" (with long sensor ref. no. L)	G12
Thread R 3/4" (with short sensor ref. no. S)	R12
Note: Short level switches with R / NPT threads have to be used for GEMÜ 940 / 941 multiple / single rod systems.	

Area of application	Ref. no.
Standard	S
Ex i (intrinsically safe; only GEMÜ 930)	I

Output signal	Ref. no.
Relay	1R

Sensor material	Ref. no.
PP	5
PVDF (only GEMÜ 933)	20
PFA (not GEMÜ 933)	30

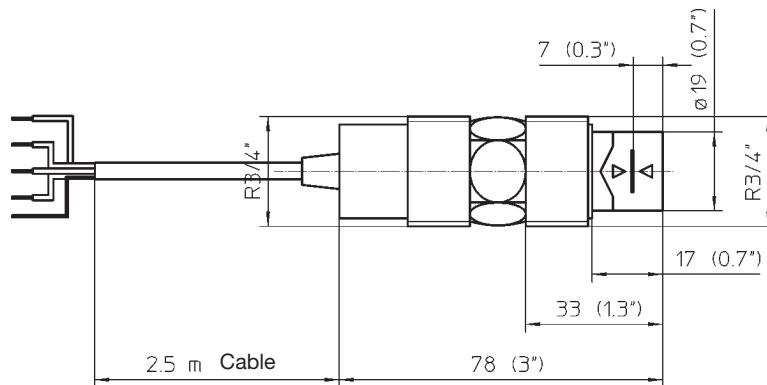
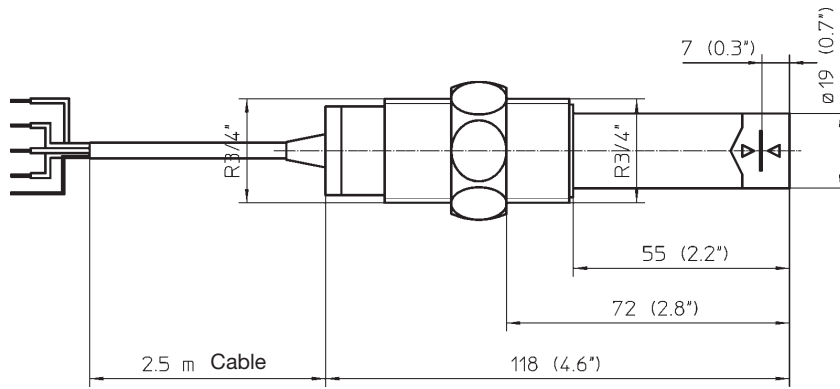
Supply voltage	Ref. no.
24 VDC	C1

Measuring length	Ref. no.
Short	S
Long	L
Vertical (only GEMÜ 933)	V

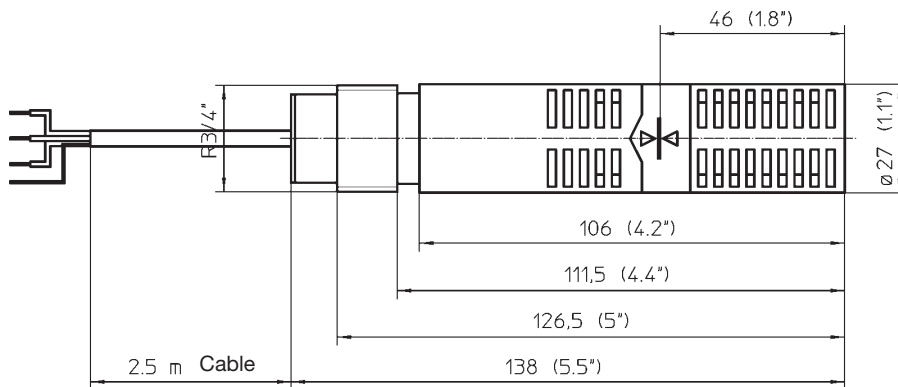
Electrical connection	Ref. no.
Cable 2.5 m	K2M5

Order example	930	S	5	L	G12	1R	C1	K2M5
Type	930							
Area of application (ref. no.)		S						
Sensor material (ref. no.)			5					
Measuring length (ref. no.)				L				
Mechanical connection (ref. no.)					G12			
Output signal (ref. no.)						1R		
Supply voltage (ref. no.)							C1	
Electrical connection (ref. no.)								K2M5

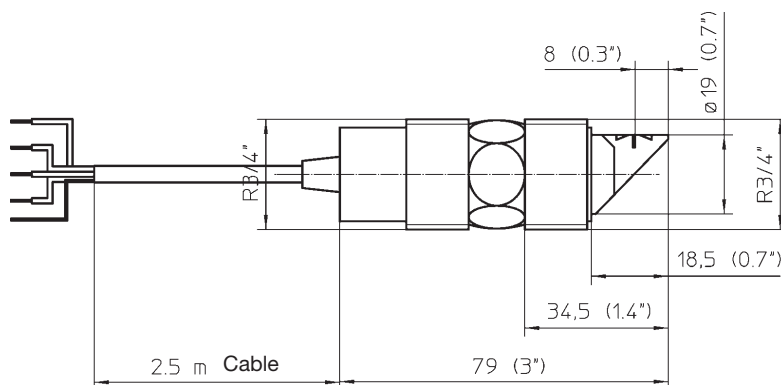
Dimensions - GEMÜ 932 (mm)



Dimensions - GEMÜ 933 (mm)

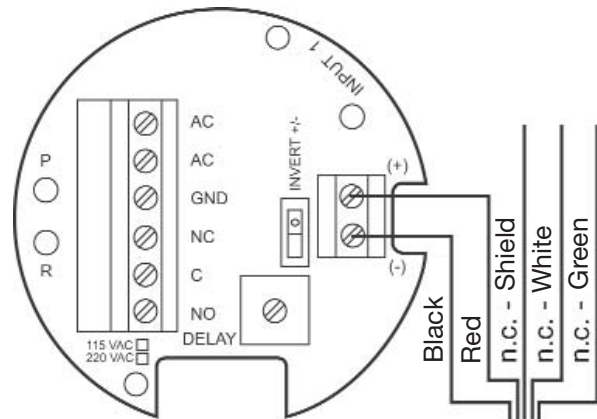
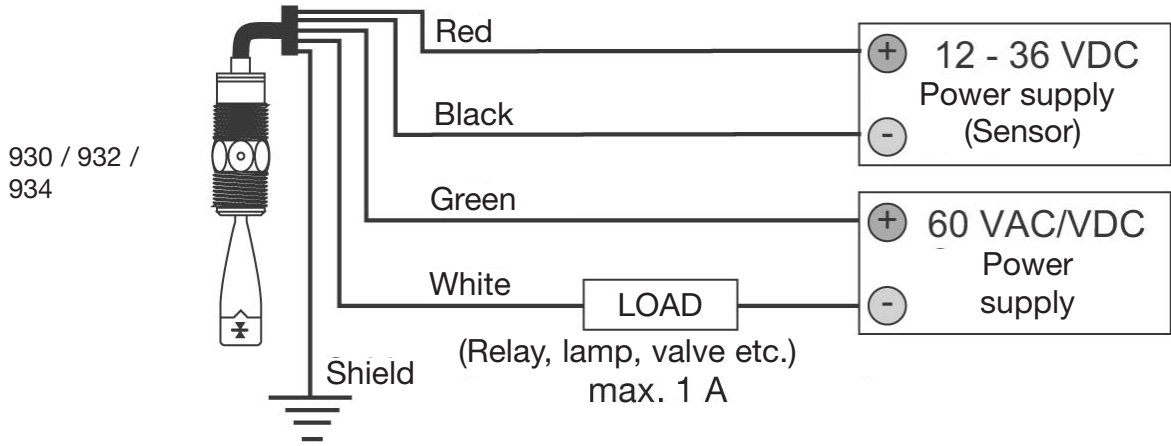


Dimensions - GEMÜ 934 (mm)



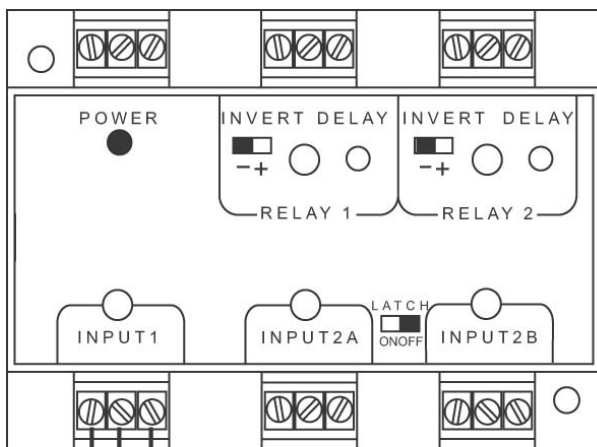
Electrical connection options GEMÜ 930 - 934

Examples: Relay output Reverse red + black wires for NC

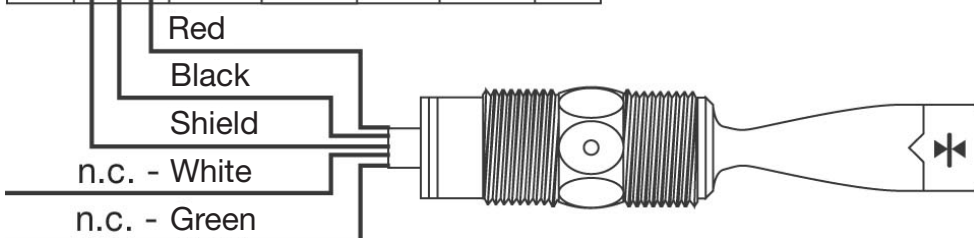


GEMÜ 1291

930 - 934



GEMÜ 1290



Accessories



GEMÜ 1290 SDAF21...



GEMÜ 1290 SDAF32...



GEMÜ 1290 SDHL11...



GEMÜ® VALVES, ACTUATORS
AND CONTROL SYSTEMS