



MP18

Electronic submersible level transmitter

Quality, Environment and Safety Management System

DS18101
Rev. 18.02
Issued by: DB

ELECTRONIC
EQUIPMENT

ACOUSTIC

WEIGHING

ANTI-TILTING

VALVES

TEMPERATURE

DETECT
A FIRE®

FLOW/
RATE

DENSITY

INTERFACE

PRESSURE

LEVEL



The 181 series comprises electronic submersible level transmitters with a 4÷20mA output proportional to the hydrostatic flap detected using a ceramic sensor.

All versions of the 181 series feature a Ø18mm enclosure and fixed ranges.

Application areas

Series 181 transmitters are used in all sectors of industry to measure liquid levels in wells, pits, lakes, water treatment equipment, tanks, etc.

For versions not included in the specifications please consult our technical department.

VALCOM® - www.valcom.it - valcom@terranova-instruments.com a TERRANOVA® Srl brand - www.terranova-instruments.com
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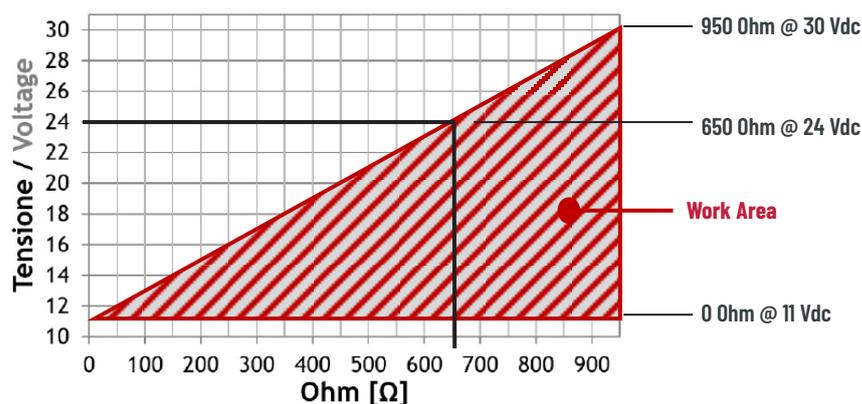
TF
27

Technical specifications

ELECTRONICS

Power supply	2 wires: 11 ÷ 30 Vdc
Output signal	2 wires: 4 ÷ 20 mA
Consumption	2 wires: 4 ÷ 20 mA
Load resistance	2 wires: $R_{\Omega} = (U_{supply})$
Maximum load	-12V/0.02A

As per the graph



MEASUREMENT PERFORMANCE

Total accuracy*	< ± 0.3 % FS
Zero offset	< ± 1 % FS
Zero-temperature-drift	< ± 0.025 % FS / °C (-10 ÷ 60°C)
Temperature span drift	< ± 0.01 % FS / °C
Long-term stability	< ± 0.12 % FS / year
Response time (63% FS)	Ceramic: 5 ms
De-range available	Ceramic Sensors: up to 2.5 times Nominal Range

*Includes hysteresis, non-linearity and non-repeatability (IEC 60770). Accuracy and drifts refer to instruments with integral sensor and membrane; they may vary depending on the type of sensor used and the diameter, thickness and material of the membrane. Zero and Span adjustment error < ± 0.6 % FS for non-standard designs. Calibrations below 0.1 bar should be considered non-standard. Calibrations also available with different units of measurement.

ENVIRONMENTAL CHARACTERISTICS

Ambient temperature	-40 ÷ +85°C
Process temperature	-10 ÷ +80°C
Storage temperature	-40 ÷ +90°C
Protection against intrusion	IP68
Transient protection	on the power supply and RFI/EMI filter
Relative Humidity	< 98% RH non-condensing

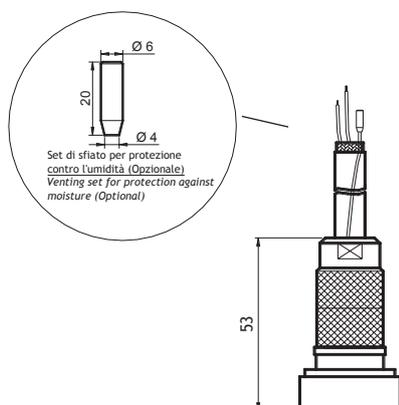
CONFORMITY

Directive 2014/30/EU (EMC)	Adequate level of electromagnetic compatibility
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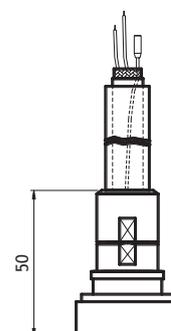
Electrical connections

The instruments are protected against reverse polarity. A shielded signal cable with a minimum conductor cross-section of 0.2 mm² (AWG24) and > 80 % shielding is recommended for connection.



Code 17

Cable gland AISI 316 double seal cable outlet IP68



Code 18

Cable gland AISI 316 double seal cable outlet IP68 with Rilsan\PTFE pipe protection

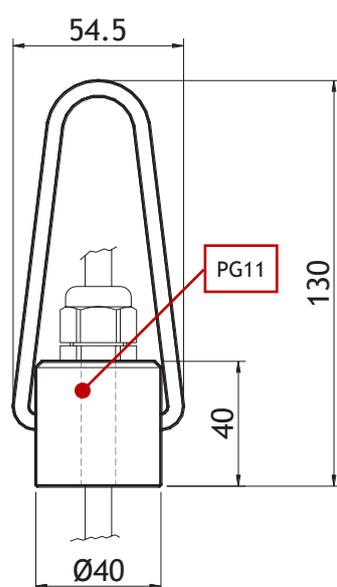
Code 27

Titanium cable gland double seal IP68

Code 28

Cable gland titanium cable outlet double seal IP68 with tube protection Rilsan\PTFE

Accessories

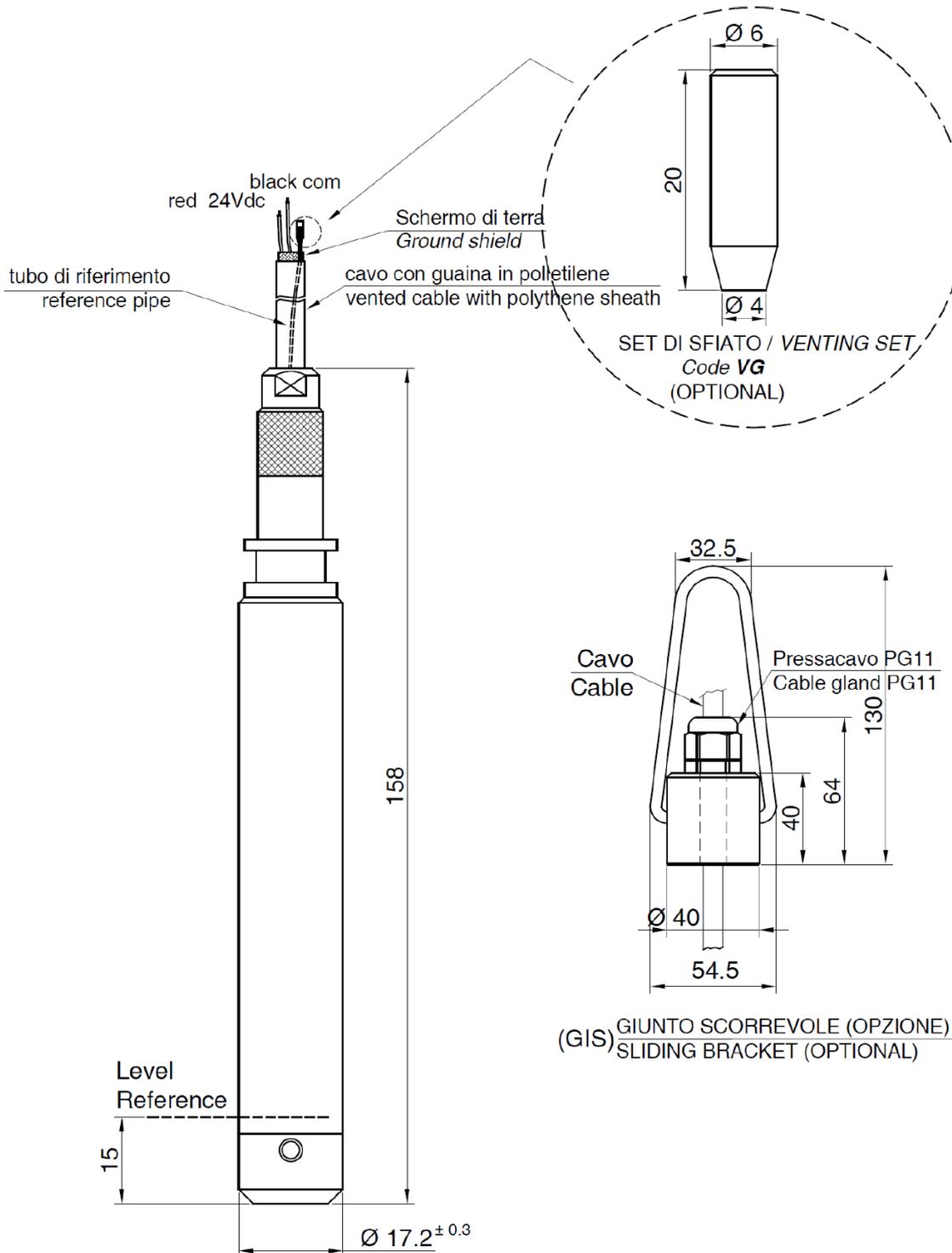


Code 05 - Sliding joint for cable fixing

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Materials and type of enclosure

- **Material:** AISI 316
- **Protection rating:** IP68
- **Enclosure code** A03 - Process connection I02



Ordering code

181	Trasmittitore di livello a immersione / Submersible Electronic level Transmitter		
01	Tipo di misura / Type of measure		
	C Pressione Relativa / Relative Pressure		
02	Tipo di sensore / Sensor type		
	CI Ceramico Integrale / Ceramic Integral		
03	Campo di misura / Measuring range		
	C01	1 bar	Ceramic Overpressure: 2 bar
	C02	2 bar	Ceramic Overpressure: 4 bar
	C03	5 bar	Ceramic Overpressure: 10 bar
	C04	10 bar	Ceramic Overpressure: 15 bar
	C05	20 bar	Ceramic Overpressure: 35 bar
	ZZZ	Speciale / Special	
	<div style="border: 1px solid black; padding: 5px;"> <p>NOTE / NOTES</p> <p>1) Per tutti i range sono ammessi campi negativi Negative or compound ranges are possible</p> </div>		
04	Olio di riempimento / Filling oil		
	N Nessun olio / No filling		
05	Limiti temperatura di processo / Process temperature limits		
	B -10 ÷ 80 °C		
06	Materiale e tipo custodia / Housing material and type		
	A03 AISI 316 Ø 18 mm		
07	Attacco al processo / Process connection		
	I02 Tappo forato / Plug with holes		
08	Lunghezza estensione / Extension length		
	B01	Cavo PE 6 poli con rif. / Cable PE 6 wires with ref.	(-30 / +60 °C) L = 1 mt
09	Materiale sensore (membrana) / Sensor material (diaphragm)		
	E Ceramica / Ceramic		
10	Guarnizione lato processo / Process gasket material		
	D FKM Viton		
11	Materiali parti bagnate / Wetted parts material		
	A AISI 316		
	Z Speciale / Special		
12	Connessione elettrica / Electrical connection		
	17	Pressacavo AISI 316 doppia tenuta IP68 / AISI 316 Cable gland double sealing IP68	
	18	Pressacavo AISI 316 IP68 + Rilsan / PTFE / AISI 316 Cable gland IP68 + Rilsan / PTFE	
	99	Speciale / Special	
13	Uscita elettrica / Electrical output		
	1 Corrente 4 ÷ 20 mA 2 fili		
14	Certificazione Ex / Ex type approval		
	N0 Nessuna certificazione Ex / No Ex certification		
15	Opzioni e accessori / Options and accessories		
	10	Rapporto di taratura su 5 punti / Calibration report on 5 points	
	11	Set sfiato con filtro Gore / Venting set with Gore filter anti moisture	
	01	Rapporto di test e materiali secondo EN 10204 / Test and material report according to EN 10204	
	05	Giunto scorrevole per fissaggio cavo / Sliding bracket on submersible cable	
	NN	Nessuna opzione / No options	

I codici elencati sono solo alcuni di quelli disponibili, per una codifica completa contattare valcom@terranova-instruments.com