trafag
sensors controls

8838
Submersible Transmitter

Piezoresistiver Tauchtransmitter

Anwendungen

Füllstand- und Pegelmessung in
- Brunnen, Seen, Flüssen
- Bohrlöchern
- Abwasseranlagen
- Gefässen
- Klärwerke
- Chemikalien
- aggressive Medien

Vorteile

- kleine Druckbereiche (bis100mbar)
- keine O-Ring Dichtungen
- PUR- oder Teflonkabel
- Chemiebeständige Kunststoffausführung
- EMV–Schutz, IEC 61000
- Optionaler Blitzschutz (IEC 61000-4-5); 10kA (8/20 µs)

Transmetteur à immersion piézorésistif

Applications

Vérification du niveau au
- Puits, lacs & rivières
- Trou de sondage
- Installations d'eaux usées
- Reservoirs
- Installation de clarification
- Produits chimiques
- Liquides aggresifs

Avantages principaux

- Petits plages de pression (à 100mbar)
- Pas d'o-rings qui contactant des médias
- Câble à PUR ou Teflon
- Resistant du chimie: construction en matière artificielle
- Protection CEM , CEI 61000
- Optional: Protection de parafoudre (IEC 61000-4-5); 10kA (8/20 µs)

Piezoresistive submersible Transmitter

Applications

Depth and level measurement in
- Wells, lakes & rivers
- Bore holes
- Waste water
- Reservoirs
- Sewage treatement plant
- Chemical products
- Aggressives fluids

Main features

- Small pressure ranges (to 100mbar)
- No media conatcted O-rings
- PUR or Teflon cables
- Chemical resistant synthetics-execution
- EMC Protection, IEC 61000
- Option:Lightning protection (IEC 61000-4-5); 10kA (8/20 µs)

Zulassungen / Approbations / Approvals

(GL, RINA, LRS: Vorbereitung / préparation / preparation)

Standardtypen / Types standards / Standard types

Messbereich Plage Range	Ausgangssignal Signal de sortie Output	Typ Type Type	**Bestellnummer No de commande Ordering number**
0 ... 0.1 bar	4 ... 20 mA	8838.66.P541.22.19	**NAL 0.1 A**
0 ... 0.2 bar	4 ... 20 mA	8838.68.P541.22.19	**NAL 0.2 A**
0 ... 1.0 bar	4 ... 20 mA	8838.71.P541.22.19	**NAL 1.0 A**

* Auf Anfrage / Sur demande / On request

Andere Typen siehe auf Rückseite "Bestellinformationen"
Autres types voir "Informations pour la commande"
Other types see back page "Ordering information"

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Spezifikationen

Elektrische Daten

Speisespannung	
4...20mA:	9...33V DC
0...10V DC:	15...30V DC
Spannungsfestigkeit:	500 V DC, 50 Hz
Isolationswiderstand:	>10MΩ, 250 VDC
Bürde:	
4...20mA:	$R_L \leq (U_S - 9V)/20mA$
0...10V DC:	$R_L > 10K\Omega$

Ausgang

Messbereich:	0 bis 40bar
Ausgangssignal:	4...20mA (optional: mit Blitzschutz) 0...10V DC
Reproduzierbarkeit:	±0.05% d.S.
Anstiegszeit:	typ. 1 ms/10...90% Nenndruck
Strombegrenzung (Überlast)	ca. 31 mA

Spécifications

Spécifications électriques

Tension d'alimentation:	
4...20mA:	9...33V DC
0...10V DC:	15...30V DC
Rigidité diélectrique:	500 V DC, 50 Hz
Résistance d'isolement:	>10MΩ, 250 VDC
Charge:	
4...20mA:	$R_L \leq (U_S - 9V)/20mA$
0...10V DC:	$R_L > 10K\Omega$

Sortie

Etendue de mesure:	0 à 40bar
Signal de Sortie:	4...20mA (optional: avec protectionn de parafoudre) 0...10V DC
Reproductibilité:	±0.05% d.S.
Sensibilité de réponse:	1 ms/10...90% typ. Pression nominale
Courant courts cirquit (Surcharge admissible):	ca. 31 mA

Specifications

Electrical data

Supply voltage:	
4...20mA:	9...33V DC
0...10V DC:	15...30V DC
Dielectric strength:	500 V DC, 50 Hz
Insulation resitance:	>10MΩ, 250 VDC
Load:	
4...20mA:	$R_L \leq (U_S - 9V)/20mA$
0...10V DC:	$R_L > 10K\Omega$

Output

Measuring range:	0 bis 40bar
Output:	4...20mA (optional: with lightning protection) 0...10V DC
Repeatability:	±0.05% d.S.
Rise time:	typ. 1 ms/10...90% rated pressure
Short cirquit current (overload):	ca. 31 mA

Bereiche / Plage / Range	**[bar]**	**0.1...0.5**	**0.5...2**	**2...25**	**25...40**
Genauigkeit NLH[1] / Précision NLH[1] / Accuracy NLH[1] [± % FS)		0.5	0.5	0.5	0.5
	Option	*0.25*	*0.25 / 0.1*	*0.25 / 0.1*	*0.25 / 0.1*
Temp.koeffizient/ *Influence therm.*/ Temp. coefficient[± % FS/K]					
Nullpunkt / Point zéro / Zero point	0...70°C	0.06	0.03	0.015	0.015
	Option -25...85°C	*0.08*	*0.04*	*0.02*	*0.02*
Spanne / Sensibilité / Span	0...70°C	0.015	0.015	0.015	0.015
	Option -25...85°C	*0.02*	*0.02*	*0.02*	*0.02*
Langzeitdrift / *Dérive en longue durée* / Long term drift[1 Jahr]		<4 mbar	<4 mbar	<0.2% FS	<0.2% FS

[1] BSL durch Null / *BSL par zéro* / BSL through zero

Umgebungsbedingungen

Betriebstemperatur:	0°...70°C (opt. -25...85°C)
Medientemperatur:	0° ...80°C (opt.-25...85°C)
Lagertemperatur:	0°...70°C
Feuchtigkeit:	max. 95% relativ
Vibration:	6 g (25 ... 2000 Hz)
Schock:	50 g / 1 ms

Mechanische Daten

Schutzart:	IP68
Material:	
Sensor:	1.4435
Gehäuse	1.4435 (Option:PVDF)
Dichtung	Viton
Anziehdrehmoment:	25 Nm
?Gewicht:	ca. 220 g

EMV Schutz

Emission:	IEC 61000–6–3
Immunität:	IEC 61000–6–2
ESD:	IEC 61000–4–2, Level 3
RFI:	IEC 61000–4–3, Level 3
Burst:	IEC 61000–4–4, Level 3
Surge (Option):	IEC 61000–4–5, Level 3 R_i=42Ω
Conducted immunity:	IEC 61000–4–6, Level 3

Conditions d'environnement

Température de service:	0°...70°C (opt. -25...85°C)
Température du fluide:	0° ...80°C (opt.-25...85°C)
Températ. de stockage:	0°...70°C
Humidité:	max. 95% relatif
Vibration:	6 g (25 ... 2000 Hz)
Choc:	50 g / 1 ms

Spécifications mécaniques

Protection:	IP68
Materiaux:	
Capteur:	1.4435
Boîtier:	1.4435 (Option:PVDF)
Joint:	Viton
Couple de serrage:	25 Nm
Poids:	env. 220 g

CEM Protection

Emission:	CEI 61000–6–3
Immunité:	CEI 61000–6–2
ESD:	CEI 61000–4–2, Level 3
RFI:	CEI 61000–4–3, Level 3
Burst:	CEI 61000–4–4, Level 3
Surge (Option):	CEI 61000–4–5, Level 3 R_i=42Ω
Immunité de conduction:	IEC 61000–4–6, Level 3

Environmental conditions

Operating temperature:	0°...70°C (opt. -25...85°C)
Media temperature:	0° ...80°C (opt.-25...85°C)
Storage temperature:	0°...70°C
Humidity:	max. 95% relative
Vibration:	6 g (25 ... 2000 Hz)
Shock:	50 g / 1 ms

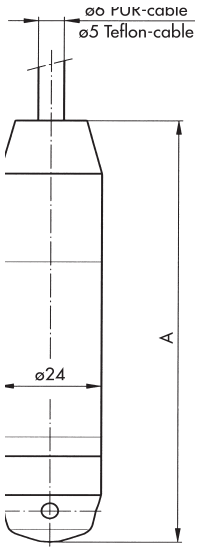
Physical data

Protection:	IP68
Material:	
Sensor:	1.4435
Housing:	1.4435 (Option:PVDF)
Seal:	Viton
Mounting torque:	25 Nm
Weight:	approx. 220 g

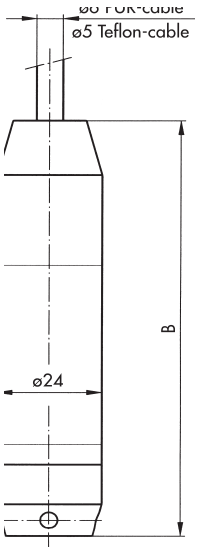
EMC Protection

Emission:	IEC 61000–6–3
Immunity:	IEC 61000–6–2
ESD:	IEC 61000–4–2, Level 3
RFI:	IEC 61000–4–3, Level 3
Burst:	IEC 61000–4–4, Level 3
Surge (Option):	IEC 61000–4–5, Level 3 R_i=42Ω
Conducted immunity:	IEC 61000–4–6, Level 3

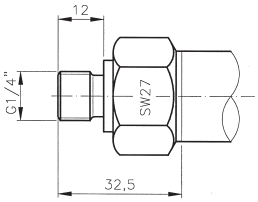
Massbild & el. Anschluss / Cotes d'encombrement & raccordement électr./ Dimensions & el. connection



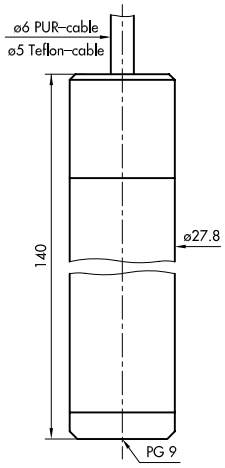
8838.XX.**41**.XX.XX.XX.XX...



8838.XX.**40**.XX.XX.XX.XX...

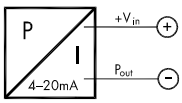


8838.XX.**15**.XX.XX.XX.XX...

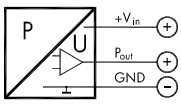


8838.XX.**40**.XX.XX.XX.**98**...

	A [mm]	B [mm]
Standard	108	104
mit Blitzschutz avec protection de parafoudre with lightning protection	157	153



4...20 mA



0...10 V DC

Farbe/ Couleur/ Color	4...20mA	0...10VDC
weiss/ blanc/ white	+Vin	+Vin
gelb/ jaune/ yellow	Pout	GND
braun/ brun/ brown		Pout

Bestellinformation / Information pour la commande / Ordering information

Standardtypen siehe Frontseite / Types standard regardez page frontal / Standard types see front page

XXXX.XX.XX.XX.XX.XX.XX.XX...

Typ / Type / Type relativ / relatif / relative **8838**

Bereich	0 ... 0.1	**Überdruck max.**	3	**Berstdruck max.**	200	**66**
Plage	0 ... 0.16	**Surcharge surpression**	3	**Surcharge destructive**	200	**67**
Range	0 ... 0.2	**Over pressure**	3	**Burst pressure**	200	**68**
	0 ... 0.4		3		200	**69**
bar	0 ... 0.6	bar	3	bar	200	**70**
	0 ... 1.0		3		200	**71**
	0 ... 1.6		4.8		200	**73**
	0 ... 2.5		7.5		200	**75**
	0 ... 4.0		12		200	**76**
	0 ... 6.0		18		200	**77**
	0 ... 10		30		200	**78**
	0 ... 16		48		200	**79**
	0 ... 25		75		200	**80**
	0 ... 40		120		850	**81**

Sonderbereich nach Kundenwunsch, z.B.:
plage à spécifier par le client, p. ex.: −1 ... +4 bar, 0 ... 5 bar, 0 ... 12 bar XX
customized ranges on request, e.g.:

Sensor	Typ 05 (Genauigkeit NLH / Précision NLH/ Accuracy NLH: ± 0.5 % FS)	**P5**
Capteur	Typ 02 (Genauigkeit NLH / Précision NLH/ Accuracy NLH: ± 0.25 % FS)	**P2**
Sensor	Typ 01* (Genauigkeit NLH / Précision NLH/ Accuracy NLH: ± 0.1 % FS)	**P1**

Druckanschluss	offen/ ouvert/ open	**40**
Raccord	geschlossen / fermé/ closed	**41**
Pressure connection	G 1/4" aussen/ mâle / male	**15**

Ausführung	PUR Kabel / câble PUR / PUR cable: Länge/ longueur / length ..... [mm]	**22**
Exécution	Teflon Kabel / câble Teflon / Teflon cable: Länge/ longueur / length ..... [mm]	**32**
Execution		

Ausgangssignal	4...20mA	**19**
Signal de sortie	4...20mA mit Blitzschutz / avec protction de parafoudre / with lightning protection (Surge)	**09**
Output	0...10V DC	**17**

Zubehör	Spez. Ölfüllung/ remplissage d'huile special / special oil filling Aseol	**94**
Accessoires	Halocarbon	**95**
Accessories	Elektronik vergossen/ électronique scellée / electronics packed in gel	**96**
	Betriebstemp./ Températ. de service/ Operating temp. -25...85°C (Medientemp./ Temp. du fluide/ Media temp. -25...85°C)	**68**
	Material Gehäuse/ Matière boîtier/ Material housing: PVDF	**98**
	Anwendung für Meerwasser/ Application pour eau de mer/ Application for Seawater	**97**

* auf Anfrage / sur demande / on request

Messmedium/ médium de mesurage /measurement medium: .....

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We reserve the right to make alterations as technical progress may warrant.