

## Intrinsically safe dataloggers

# DL/Ex

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# Technical Specifications

## Pressure measuring range (bar)

	0.1 ... 0.5	> 0.5 ... 2	> 2 ... 25
<b>Overpressure</b>	3 bar	3 x FS ( $\geq 3$ bar)	3 x FS
<b>Burst pressure</b>	> 200 bar	> 200 bar	> 200 bar
<b>Accuracy, (2), (<math>\pm</math> % FS)</b>	$\leq 0.25$	$\leq 0.1$	$\leq 0.1$
<b>Thermal shift, (<math>\pm</math> % FS/<math>^{\circ}</math>C)</b>			
Zero point 0...70 $^{\circ}$ C	$\leq 0.06$	$\leq 0.03$	$\leq 0.015$
Zero point -25...85 $^{\circ}$ C	$\leq 0.08$	$\leq 0.04$	$\leq 0.02$
Zero point -40...85 $^{\circ}$ C	$\leq 0.09$	$\leq 0.06$	$\leq 0.03$
Span 0...70 $^{\circ}$ C	$\leq 0.015$	$\leq 0.015$	$\leq 0.015$
Span -25...85 $^{\circ}$ C	$\leq 0.02$	$\leq 0.02$	$\leq 0.02$
Span -40...85 $^{\circ}$ C	$\leq 0.05$	$\leq 0.05$	$\leq 0.05$
<b>Long term stability, (3)</b>	< 0.5% FS / < 4 mbar	< 0.2% FS / < 4 mbar	< 0.1% FS / < 0.2% FS

	> 25 ... 600, (1)	> 600 ... 1000
<b>Overpressure</b>	3 x FS ( $\leq 850$ / $\leq 1500$ bar)	1500 bar
<b>Burst pressure</b>	> 850 / $\leq 1500$ bar	> 1500 bar
<b>Accuracy, (2), (<math>\pm</math> % FS)</b>	$\leq 0.1$	$\leq 0.25$
<b>Thermal shift, (<math>\pm</math> % FS/<math>^{\circ}</math>C)</b>		
Zero point 0...70 $^{\circ}$ C	$\leq 0.015$	$\leq 0.015$
Zero point -25...85 $^{\circ}$ C	$\leq 0.02$	$\leq 0.02$
Zero point -40...85 $^{\circ}$ C	$\leq 0.03$	$\leq 0.03$
Span 0...70 $^{\circ}$ C	$\leq 0.015$	$\leq 0.015$
Span -25...85 $^{\circ}$ C	$\leq 0.02$	$\leq 0.02$
Span -40...85 $^{\circ}$ C	$\leq 0.05$	$\leq 0.05$
<b>Long term stability, (3)</b>	< 0.1% FS / < 0.2% FS	< 0.1% FS / < 0.2% FS

(1) Overpressure and burst pressure 1500 bar (stainless steel) optional

(2) Zero based accuracy according to DIN16086, incl. hysteresis and repeatability at ambient temperature

(3) 1 year (typ. / max.)

## Temperature range

<b>Operating temperature</b>	-40...85 $^{\circ}$ C
<b>Process temperatur</b>	-40...100 $^{\circ}$ C
<b>Storage temperatur</b>	-40...85 $^{\circ}$ C

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## Functions

<b>Data Transfer</b>	Data transfer of last measurement period, data transfer of all data, data transfer for a defined time-period, the data will be represented in a txt.file or in a graph
<b>Resolution</b>	< 0.01% FS
<b>Real time clock</b>	Quartz-precision clock with date, Start-time of datalogging configurable
<b>Data memory</b>	130'000 measurement values / non volatile, data kept in memory even without battery
<b>Interface</b>	RS232C / 9600 Baud
<b>Identification</b>	Each datalogger has a unique serial number, as well as a user-definable description
<b>Power supply</b>	1 x Lithium battery 3.6 V / size AA (on site battery change)
<b>Protection class</b>	IP 65 (cap closed)
<b>Configuration</b>	Sampling rate, number of replicates, time and date, description, starting time of first sample, tare, storage threshold value, density of the measuring media
<b>Data format</b>	Data are stored in an ASCII format file and can be processed with Excel™, Lotus™ or similar

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## System Requirements

<b>PC</b>	Processor: Min. 200 MHz Memory: Min. 50 MB RAM: Min. 64 MB
<b>Operating system</b>	Windows 2000 (Service Pack 4) / XP (Service Pack 3/32-Bit) / Vista (32-Bit) / 7 (32-Bit)

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## ATEX Approval

<b>Certificate, (1)</b>	SEV 11 ATEX 0106	
<b>Gas</b>	II 1/2G Ex ia IIC T4	EN 60079-0 / -11 / -26
<b>Additional standards</b>	EN 1127-1	
<b>Temperature class, (2)</b>	T4	
Ambient temperature	-40...50 °C	
Process temperature	-40...70 °C	
<b>Related equipment</b>	II (2)G [Ex ia] IIC	DL/Ex-Interface

(1) For detailed Ex specifications see certificate and operating an safety instructions

(2) Without any information about temperature class the transmitter will be delivered for T4

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## Qualifications

	Description	Level	Typical interferences
EN 61000-4-2	Electrostatic discharge	4 kV contact 8 kV air	
EN 61000-4-3	Irradiated RF	10 V/m (0.08...2.7 GHz, 3s)	Radio sets, wireless phones

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## Physical specifications

<b>Materials</b>	
Transducer	Stainless steel (316L / 1.4435), (1)
Housing	Aluminium AlMgCi1
Cap	POM
Seals	Viton (Standard), EPDM, Kalrez

(1) Hastelloy (C-276) on request

## Equipment

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### Overview

10.00.0091	Accessories overview

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### Interface

101163	DL/Ex - Interface

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### Software

101087	PC Software V2.26

## Additional documents

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### Manual

	Article number	Description
10.00.0205	DEB016	Operating instructions

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### Operating and safety instructions

10.88.0368	DMM031

## Ordering information

		X. XXXX.	XXXX.	XX.	XXX
<b>Type</b>					
	DL/Ex	37			
<b>Pressure type</b>					
	Gauge	1			
	Absolute (vacuum)	2			
	Sealed gauge	3			
<b>Pressure measuring range</b>					
	Any pressure measuring ranges between 0...100 mbar and 0...1000 bar available, (1)	XX			
<b>Process connection</b>					
	G 1/4 F, (Fig. 1)	00			
	G 1/4 M, (Fig. 2)	11			
	G 1/2 M, (Fig. 3)	13			
<b>Electrical connection</b>					
	RSF 5, 5-pin		08		
<b>Output signal</b>					
	RS232C		61		
<b>Accuracy</b>					
	$\leq \pm 0.25\%$ FS ( $\leq 500$ mbar / $> 600$ bar)			1	
	$\leq \pm 0.1\%$ FS ( $> 500$ mbar...600 bar)			2	
<b>Temperature range</b>					
	T4 (Ta: -40...50 °C) 0...70 °C compensated (allowed process temperature: -40...70°C)			0	
<b>Option 1</b>					
	Special oil filling: ASEOL Food (for food applications)				G
	Special oil filling: Halocarbon (for oxygen applications), (2)				H
<b>Option 2</b>					
<b>Option 3</b>					
	Seals: Viton (standard)				U
	Seals: EPDM				S
	Seals: Kalrez				T

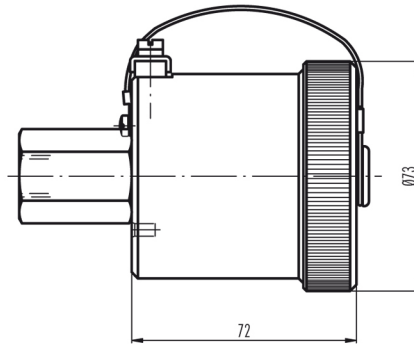
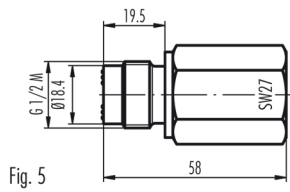
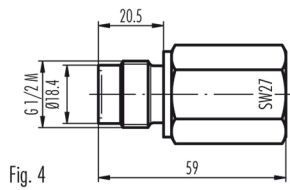
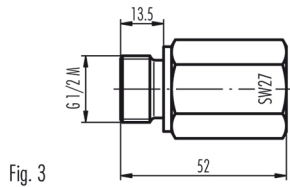
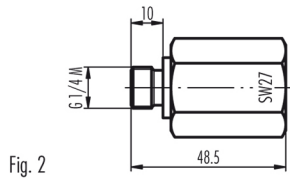
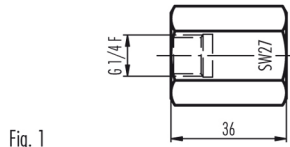
(1) mbar, PSI, kPa etc. available

(2) Maximum pressure measuring range  $\leq 270$  bar (burst pressure  $> 400$  bar)

# Technical drawings

## Pressure Connection

## Dimensions



Specifications may change without notice.

### STS Great Britain:

STS Great Britain Ltd.  
Box 3942 | Warwick | CV34 9AE, United Kingdom  
contact@stssensors.com | www.stssensors.co.uk

### STS Headquarters, Switzerland:

STS Sensor Technik Sirmach AG  
Rüthhofstrasse 8, 8370 Sirmach, Switzerland  
sales@stssensors.com | www.stssensors.com

### STS France:

STS France  
844 Route de la Caille, 74350 Allonzier la Caille, France  
info-fr@stssensors.com | www.stssensors.fr

### STS Germany:

STS Sensoren Transmitter Systeme GmbH  
Poststrasse 7, 71063 Sindelfingen, Germany  
info-de@stssensors.com | www.stssensors.de

### STS Italy:

STS Italia s.r.l.  
Via Gesù 5, 20090 Opera (Milano), Italy  
info-italia@stssensors.com | www.stssensors.it