Strain Probe with Integrated Amplifier
DSRH x16/x20

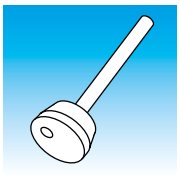
Features

- Simple strain measurements in deep holes
- Characteristic curve deviation < 1%
- For cyclical applications only
- Integrated amplifier with voltage or current output

Electrical Data	DSRH U	DSRH I
Measuring range	±1000 με	0 - 1000 με
Strain gage type	Foil gages	
S/G circuit	2 x 1/4 bridge bending compensated	
Output signal	±10 V calibrated (max. ±12 V)	4 - 20 mA max. load 500 Ω
Combined error	< 1% FS	
Linearity	< 0,5% FS	
Hysteresis	< 0,5% FS	
Supply voltage range	18 - 36 VDC	
Current draw	< 30 mA	< 45 mA
Output impedance	50 Ω	-
Zero reset active	< ±10 mV	< ±20 µA
Reset input galvanically isolated	15 - 45 VDC	
Reset/operate offset	< ±4 mV	< ±10 µA
Reset pulse (t1)	> 1 ms	
Reset settle time (t2)	≈ 60 ms	
Frequency range (3 dB)	120 Hz	
Rise time 10 - 90%	< 3 ms	
Signal polarity tensile load	positive	positive (only tensile load possible)

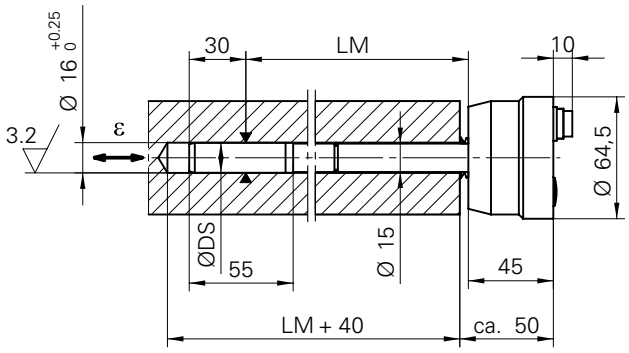
Mechanical Data	
Connection	7 pin male (Series 680/SGR 70)
Material - Amplifier enclosure - Tube - Support ring (Type 20)	 Aluminum anodized Stainless steel Aluminum anodized
Hexagon socket Installation torque	6 mm 3 Nm

Environmental Conditions	
Surface installation spot	Ra 3.2 (N8) or better
Operating temp. range	-5...+60 °C non condensing
Storage temperature	-20...+80 °C
Protection class	IP 54

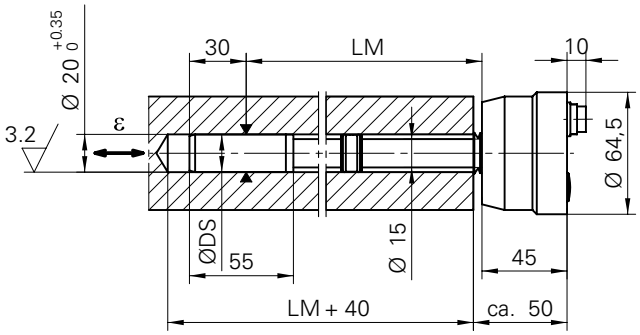


Dimensions (mm)

Type 16



Type 20



Ø DS = Tip diameter
LM = Measurement depth
ε = Strain
▲ = Gage location

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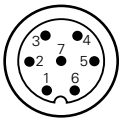
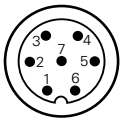
Electrical Connections

Current Output



Pin	Signal
1	+Vs (18 - 35 VDC)
2	$Test_{OUT}$
3	Reset (bipolar)
4	Reset (bipolar)
5	$+I_{OUT}$ (4 - 20 mA)
6	$-I_{OUT}$
7	GND

Voltage Output



Pin	Signal
1	+Vs (18 - 35 VDC)
2	$Test_{OUT}$
3	Reset (bipolar)
4	Reset (bipolar)
5	$+V_{OUT}$ (±10 V)
6	$-V_{OUT}$
7	GND

Order Code

DSRH □□□ - □□□□ **M**

Tip diameter (**Ø DS**) - Length (**LM**)

16-0200	**20-0200**
16-0240	**20-0240**
16-0320	**20-0320**
16-0400	**20-0400**
16-0500	**20-0500**
16-0600	**20-0600**
16-0760	**20-0760**
16-0800	**20-0800**
16-0900	**20-0900**
16-1050	**20-1050**
16-1300	**20-1300**
16-1400	**20-1400**

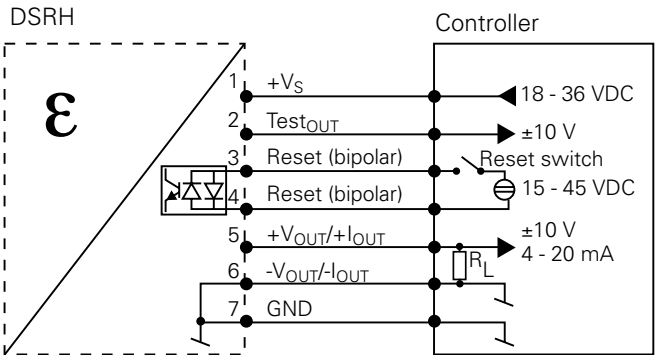
Output signal

U Voltage output ±10 V
±1000 µε = ±10 V

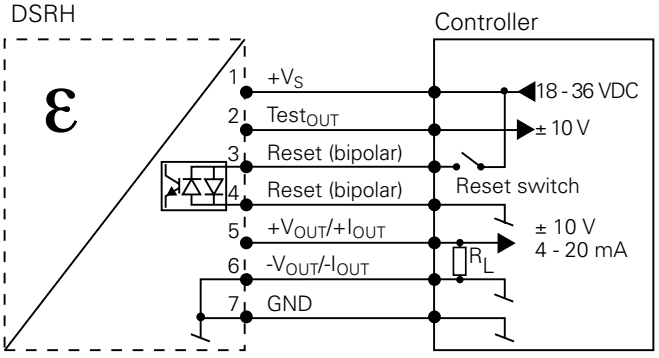
I Current output 4 - 20 mA
+1000 µε = 20 mA

Control

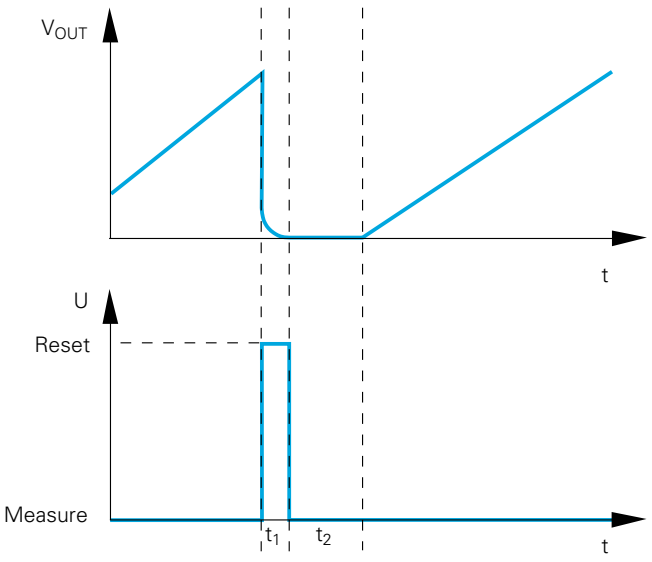
Reset galvanically isolated



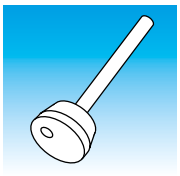
Reset not galvanically isolated



Reset Function

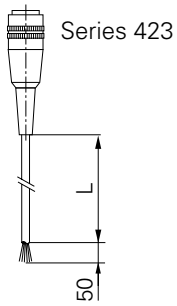


V/I_{OUT}	Output signal
Reset	Reset input (active high)
t_1	Reset pulse (> 1 ms)
t_2	Reset settle time after reset pulse (≈ 60 ms)

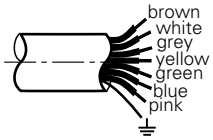


Accessories and Control Elements

Connecting Cable with Flying Leads

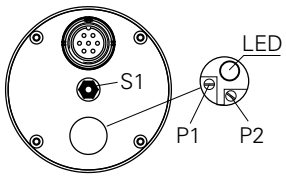


Length	Order Code
5 m	**DZCS 05/404155**
10 m	**DZCS 10/404155**



Color	Signal
white	+Vs (18 - 35 VDC)
brown	Testout
green	Reset (bipolar)
yellow	Reset (bipolar)
grey	+Iout / +Vout
blue	-Iout / -Vout
pink	GND

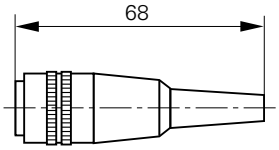
Control Elements



P1	Adjustment Testout
P2	Adjustment Gain (factory set)
LED	Control-LED for Testout
S1	Mounting screw with 6 mm hex

Straight Connector

Series 423



Part No. 10146423

Torque Wrench

Order code: DZMT TW-A1-6
adjustable from 1 - 6 Nm
Part No. 11034496

Order code: DZMT TW-F3
preset fix to 3 Nm
Part No. 11034494