

DATA SHEET

SLH700 Strain transducer

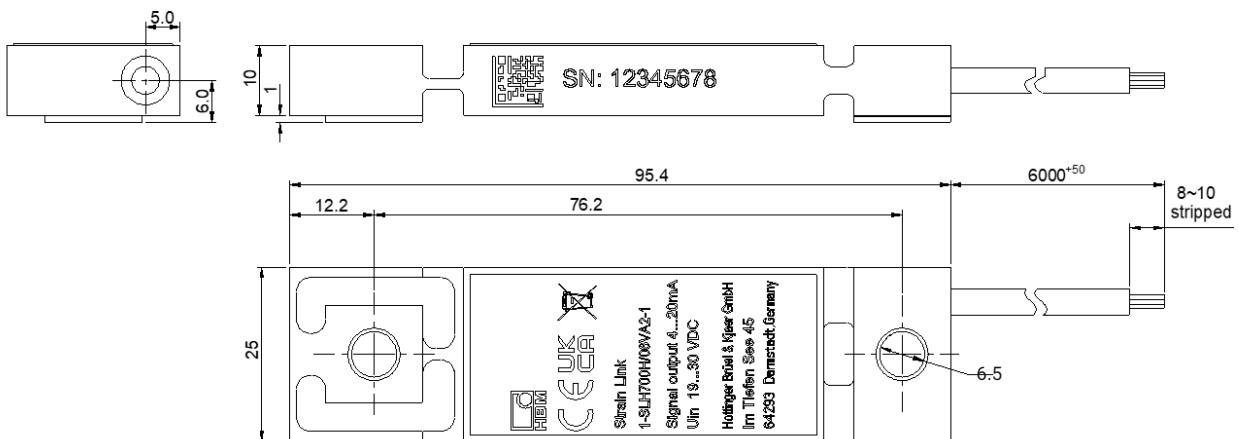
SPECIAL FEATURES

- For indirect force measurement or strain monitoring of statically or dynamically loaded components, e.g. cranes, presses, roll stands
- Degree of protection IP68, suitable for harsh environments
- Different models available: mV/V (passive), 0...10 V or 4...20 mA (active)
- Adjustment assistant for easy adjustment of amplification for voltage and current output
- Low force shunt, minimal stiffening by the transducer, also suitable for delicate structures
- Very easy mounting by two screws
- Cable suitable for drag chains, insensitive to most operating materials



DIMENSIONS

SLH700 with/without amplifier module



Dimensions in mm

SPECIFICATIONS

SLH700 with amplifier module

Type			SLH700/06VA1	SLH700/06VA2
Nominal (rated) measuring range	F_{nom}	$\mu\text{m/m}$	0...500	
Minimum operating range		$\mu\text{m/m}$	50	
Accuracy				
Non-linearity	d_{lin}	%	0.5	
Temperature coefficient of zero signal	TC_0	%/10 K	0.5	
Temperature coefficient of sensitivity signal	TC_S	%/10 K	0.5	
Characteristic electrical quantities				
Zero signal (signal at zero signal)			1 V	5.5mA
End signal (signal at end point)			9 V	18.5mA
Output signal spread			8 V	13mA
Output signal range			-0.3...11V	3...21 mA
Cut-off frequency (-1 dB)		Hz	1000	
Maximum current consumption (without loop current)		mA	20	
Nominal (rated) range of the excitation voltage	$B_{U,G}$	V	19...30	
Reference excitation voltage	U_{ref}	V	24	
Control inputs IN1/IN2 I level		V	Active (high) > 10V Inactive (low) < 4 V	
Connection			See pin assignment	
Ambient conditions				
Nominal (rated) temperature range	$B_{T,nom}$	°C	-10...50	
Operating temperature range	$B_{T,G}$	°C	-20...60	
Storage temperature range	$B_{T,S}$	°C	-30...85	
Characteristic mechanical quantities				
Maximum operating strain	ϵ_G	$\mu\text{m/m}$	750	
Breaking strain	ϵ_b	$\mu\text{m/m}$	1,500	
Restoring force ($\pm 15\%$)	F_D	N	700	
Matched to material with a thermal expansion coefficient of		1/°C	$12 * 10^{-6}$	
Mechanical shock resistance as per IEC 60068-2-27				
Number		n	1,000	
Duration		ms	3	
Acceleration		m/s^2	1,000	
Vibrational stress as per IEC 60068-2-6				
Frequency range		Hz	10...1,000	
Duration		min	30	
Acceleration		m/s^2	200	
General information				
IP degree of protection as per EN 60529			IP68	
Cable sheath			PUR	
Cable length		m	6	
Cable diameter		mm	3.5	
Weight		g	200	

Type	SLH700/06VA1	SLH700/06VA2
Tightening torque of mounting screws		
Minimum	N*m	10
Nominal (rated) value	N*m	16

SLH700 without amplifier module

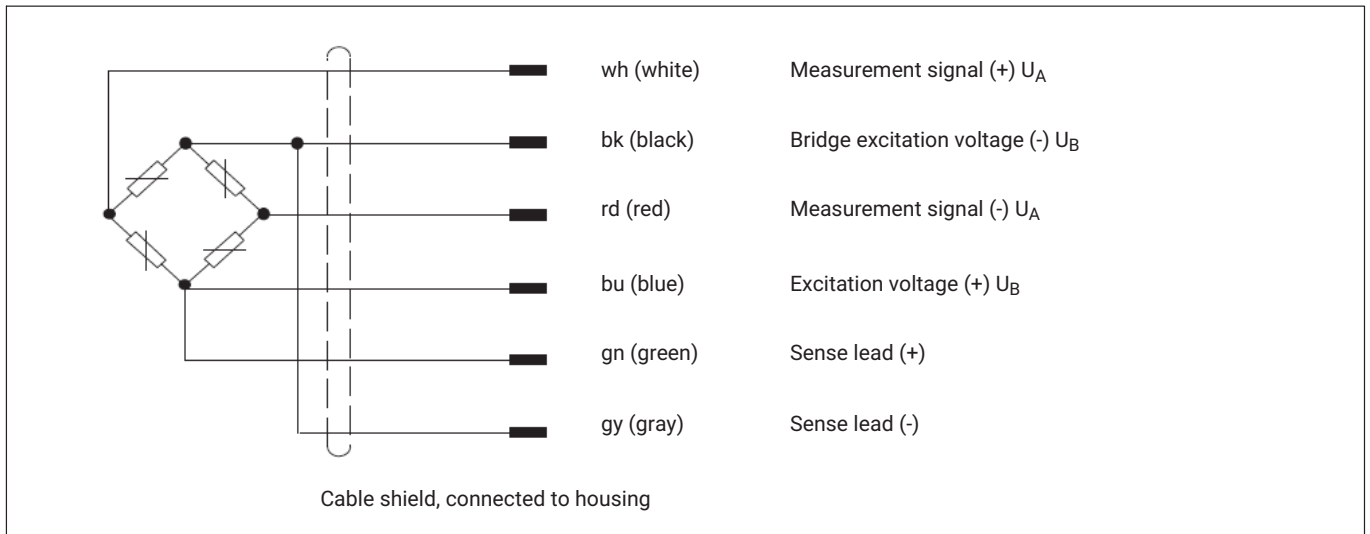
Type	SLH700/06		
Nominal (rated) measuring range	F_{nom}	$\mu\text{m/m}$	0...500
Accuracy			
Non-linearity	d_{lin}	%	0.5
Temperature coefficient of zero signal	TC_0	%/10 K	0.5
Temperature coefficient of sensitivity signal	TC_S	%/10 K	0.5
Characteristic electrical quantities			
Zero signal deviation		mV/V	0.15
Nominal (rated) output	C_{nom}	mV/V	1.5
Sensitivity tolerance	d_c	%	15
Input resistance	R_e	Ω	>1,000
Output resistance	R_a	Ω	1,000±50
Insulation resistance	R_{is}	G Ω /100V	>5
Operating range of the excitation voltage	$B_{U,G}$	V	1...15
Reference excitation voltage	U_{ref}	V	5
Connection			6-wire
Ambient conditions			
Nominal (rated) temperature range	$B_{T,nom}$	$^{\circ}\text{C}$	-10...50
Operating temperature range	$B_{T,G}$	$^{\circ}\text{C}$	-30...85
Storage temperature range	$B_{T,S}$	$^{\circ}\text{C}$	-30...85
Characteristic mechanical quantities			
Maximum operating strain	ε_G	$\mu\text{m/m}$	750
Breaking strain	ε_b	$\mu\text{m/m}$	1,500
Restoring force ($\pm 15\%$)	F_D	N	700
Matched to material with a thermal expansion coefficient of		1/ $^{\circ}\text{C}$	$12 * 10^{-6}$
Mechanical shock resistance as per IEC 60068-2-27			
Number	n		1,000
Duration	ms		3
Acceleration	m/s^2		1,000
Vibrational stress as per IEC 60068-2-6			
Frequency range	Hz		10...1,000
Duration	min		30
Acceleration	m/s^2		200
General information			
IP degree of protection as per EN 60529			IP68
Cable sheath			PUR
Cable length	m		6
Cable diameter	mm		3.5
Weight	g		180
Tightening torque of mounting screws			
Minimum	N*m		10
Nominal (rated) value	N*m		16

ELECTRICAL CONNECTION

Pin assignment with amplifier module

Connection	Color code	SLH700/06VA1	SLH700/06VA2
Supply voltage 0 V (GND)	Blue	19 ... 30 V	19 ... 30 V
Supply voltage	Black	0 V	0 V
Output signal	White	0 ... 10 V	4 ... 20 mA
Output signal 0 V	Gray	0 V	Not assigned
Control input IN1 (zero setting)	Red	-	
Control input IN2 (calibration)	Green	-	
Cable shield	connected to housing		

Pin assignment without amplifier module



VERSIONS AND ORDERING NUMBERS

Variant	Ordering number
SLH700/06 Strain transducer with 6 m cable (without amplifier)	1-SLH700/06-1
SLH700/06VA1 Strain transducer with 6 m cable with integrated amplifier (voltage output)	1-SLH700/06VA1-1
SLH700/06VA2 Strain transducer with 6 m cable with integrated amplifier (current output)	1-SLH700/06VA2-1

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