DATA SHEET

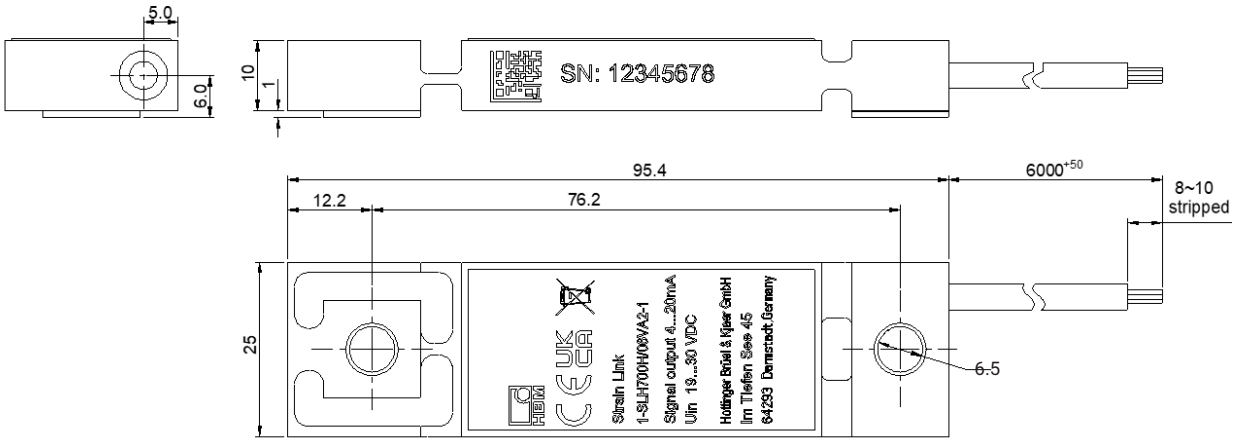
SLH700
Strain transducer

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}	µm/m	0…500	
Minimum operating range		µm/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 l 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	µm/m	750	
Breaking strain	ε_b	µm/m	1,500	
Restoring force (±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

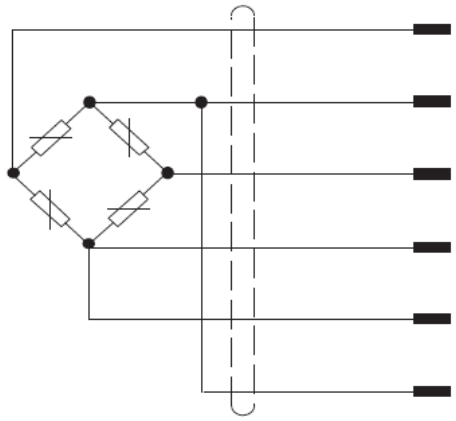
Type			SLH700/06
Nominal (rated) measuring range	F_{nom}	µm/m	0...500
Accuracy			
Non-linearity	d_{lin}	%	0.5
Temperature coefficient of zero signal	TC_0	%/10 K	0.5
Temperature coefficient of sensitivity signal	TC_S	%/10 K	0.5
Characteristic electrical quantities			
Zero signal deviation		mV/V	0.15
Nominal (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}	GΩ/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	$B_{T, nom}$	°C	-10...50
Operating temperature range	$B_{T, G}$	°C	-30...85
Storage temperature range	$B_{T, S}$	°C	-30...85
Characteristic mechanical quantities			
Maximum operating strain	ε_G	µm/m	750
Breaking strain	ε_b	µm/m	1,500
Restoring force (±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	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



wh (white)	Measurement signal (+) U_A
bk (black)	Bridge excitation voltage (-) U_B
rd (red)	Measurement signal (-) U_A
bu (blue)	Excitation voltage (+) U_B
gn (green)	Sense lead (+)
gy (gray)	Sense lead (-)

Cable shield, connected to housing

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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Hottinger Brüel & Kjaer GmbH
Im Tiefen See 45 · 64293 Darmstadt · Germany
Tel. +49 6151 803-0 · Fax +49 6151 803-9100
www.hbkworld.com · info@hbkworld.com