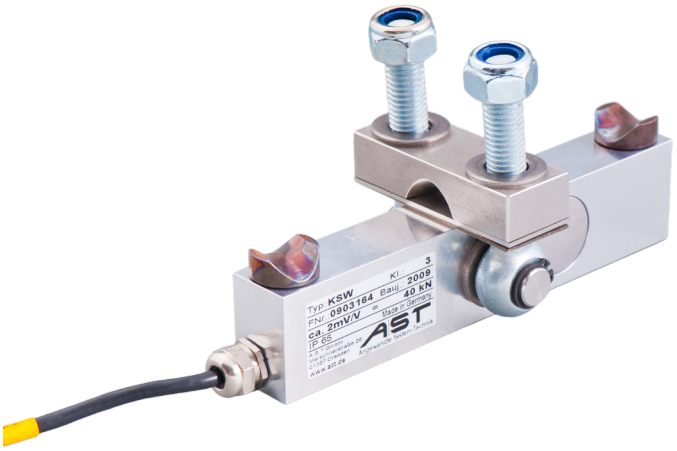
AST Gruppe
Angewandte System Technik

KSW
Wire Rope Overload Guard



Applications

- Measuring loads in fixed wire ropes

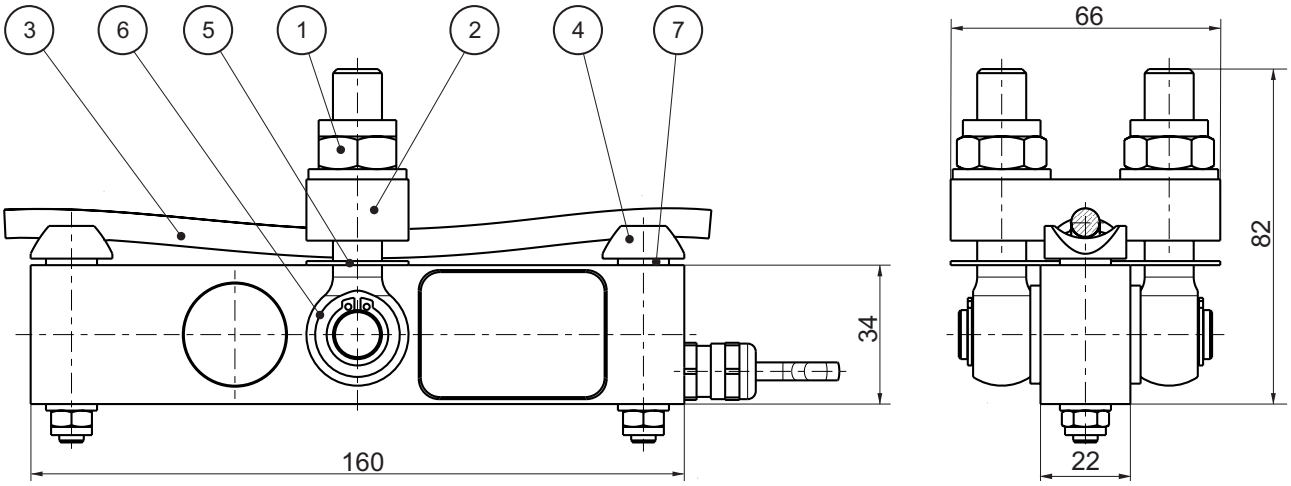
Features

- Rope diameter 6-22 mm
- Suitable for rope loads from 10 kN to 70 kN
- Hardened rope support
- Environmental protection IP 65

Options

- Integrated amplifier
- CANopen interface
- Redundant system

Dimensions (mm)



1 self-locking nut, width accross flat 17
2 clamping yoke
3 rope
4 rope support
5 shim (optional)
6 eye bolt
7 washer (optional)

Maximum Rope Load

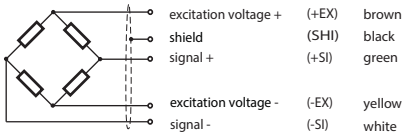
not binding guiding values (measured with test rope Ø 12mm):

Rope Load / kN	10	20	30	40*	50	60	70
Thickness of shim (mm)	-	-	-	-	1	1.5	2
Washer (number per support)	3	2	1	-	-	-	-
Signal mV/V	0.89	1.40	1.68	1.81	1.75	2.00	1.79
Signal 4 ... 20 mA	11.87	16.38	18.85	20.00	19.47	21.68	19.82
Signal 0 ... 10 V	4.92	7.73	9.28	10.00	9.67	11.05	9.89

* Default setting

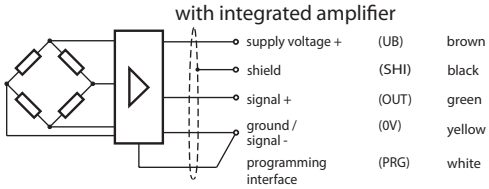
Wiring Code

Cable length 3m



Shield to ground (housing)

with integrated amplifier



(0V and PRG to be connected by the customer)

Specifications

Accuracy class	% F_{nom}	3	with Integrated Amplifier
Rope diameter	mm	6 - 22	6 - 22
Rated load (wire rope)	kN	10 - 70*	10 - 70*
Weight	kg	approx. 0.8	approx. 0.8
Rated characteristic value (C_{nom})	mV/V	approx. 2	
Zero signal tolerance	%	≤ 3	
Reference excitation voltage (Uref)	VDC	5	
Operating range of excitation voltage (BUG)	VDC	0.5 ... 12	
Input resistance (R_e)	Ω	380 ± 30	
Output resistance (R_a)	Ω	352 ± 1.5	
Insulation resistance (R_{is}	Ω	> 5 x 10^9	
Temperature effect on zero signal (TK_0)	%/10K	≤ 0.3	≤ 0.3
Temperature effect on characteristic value (TK_c)	%/10K	≤ 0.5	≤ 0.5
Reference temperature (T_{ref})	°C	+23	+23
Rated temperature range ($B_{T, nom}$)	°C	-20 ... +70	-20 ... +70
Operating temperature range ($B_{T, G}$)	°C	-30 ... +70	-30 ... +70
Storage temperature range ($B_{T, S}$)	°C	-40 ... +70	-40 ... +70
Environmental protection (EN 60529)		IP 65	IP 65
Supply voltage	VDC		19 ... 28
Input current	mA		35 (at 24V)
Output signal for compressive force (0...F_N)			
Alternatively:			
- Voltage output signal (max. Load: 5mA)	V		0 ... 10
- Current output signal	mA		4 ... 20
- Maximum resistance	Ω		300

All data according to VDI/VDE/DKD 2638

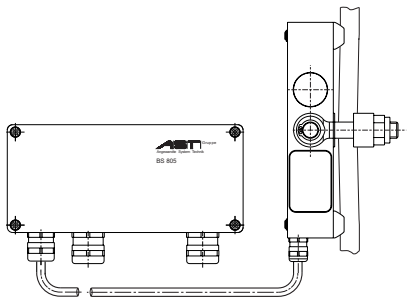
* Reference rated load 40 kN

Order Example

Type Code	Description
KSW/40kN/3	Wire rope overload
KSW-E/40kN/3/0..10V	Wire rope overload with standard signal output, 0...10 V
KSW-E/40kN/3/4...20mA	Wire rope overload with standard signal output, 4 ... 20 mA
KSW-DI/40kN/3/CANopen	Wire rope overload with CANopen (Please note data sheet „Force Transducer with CANopen Interface“!)

Accessoires (incl. in scope of delivery)

	Description
1 piece	Clamping yoke
1 set	2x Shim 0.5 mm thick and 1x shim 1.5 mm thick, 4x washer DIN125-6,4-A2

Recommended Electronics

Type Code	Description
BS805	Strain gauge switching amplifier