

Web Tension Sensor BZA

Scope of supply

Force sensor in flange design with 5 m cable (PVC) and connection variant S:

Plug connection, right-angled, MIL

Variants

S1: Plug connection, right-angled, M12, metal

S2: Plug connection right-angled, M12, moulded

Additional Options

F: For use in explosive areas, incl. J-Box

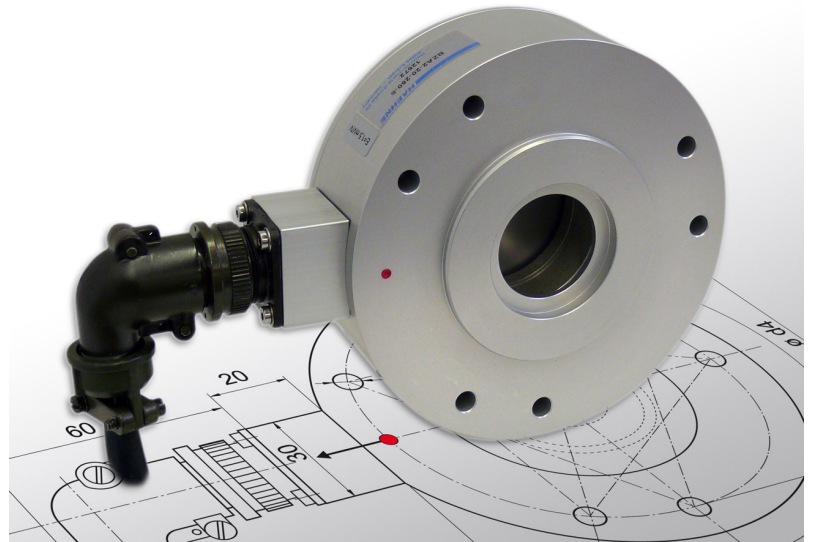
Additional Accessories

Sealing ring *not in explosive areas

Self-aligning ball bearing

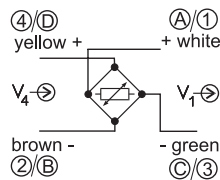
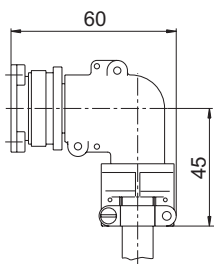
2 Snap rings

Bearing support blocks

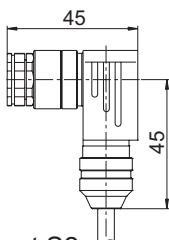


Connections

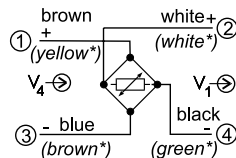
Variant S



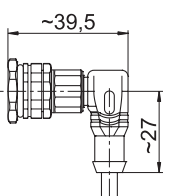
Variant S1



V_4 Supply voltage
 V_1 Signal voltage



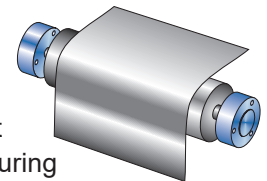
Variant S2



* Alternative color coding

Special Features

- Very cost effective solution
- Light weight design made of high-strength aluminium
- Nominal force ranges follow the geometric progression
- Up to tenfold overloading



The force sensors of the BZA series are suitable for the direct measurement of front tension forces which occur in the manufacturing and further processing of web shaped materials.

The sensors are used like any common flange house bearings for the measurement of tension forces. Depending on the flow of the web and the distribution of the load, the sensors can be used single sided or as a pair of sensors.

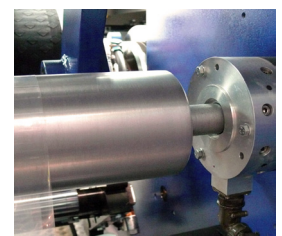
The radial force sensors of the series BZA are manufactured very cost effectively in a proprietary process. They consist primarily of three parts: a flange housing, the inner seat of bearing, and a closed cover disk. The inner seat of bearing serves also as double beam measuring element of high linearity and stiffness. The strain gauges wired as full bridges deliver a signal proportional to the force. HAEHNE offers for all its sensors a corresponding range of amplifiers to condition the measuring signal and deliver the bridge voltage supply.

Ordering example

BZA1-15-400-SF

Type	
Size	
Shaft- \varnothing	
Nom. force	
Variants/ Options	

Individual coloring on request

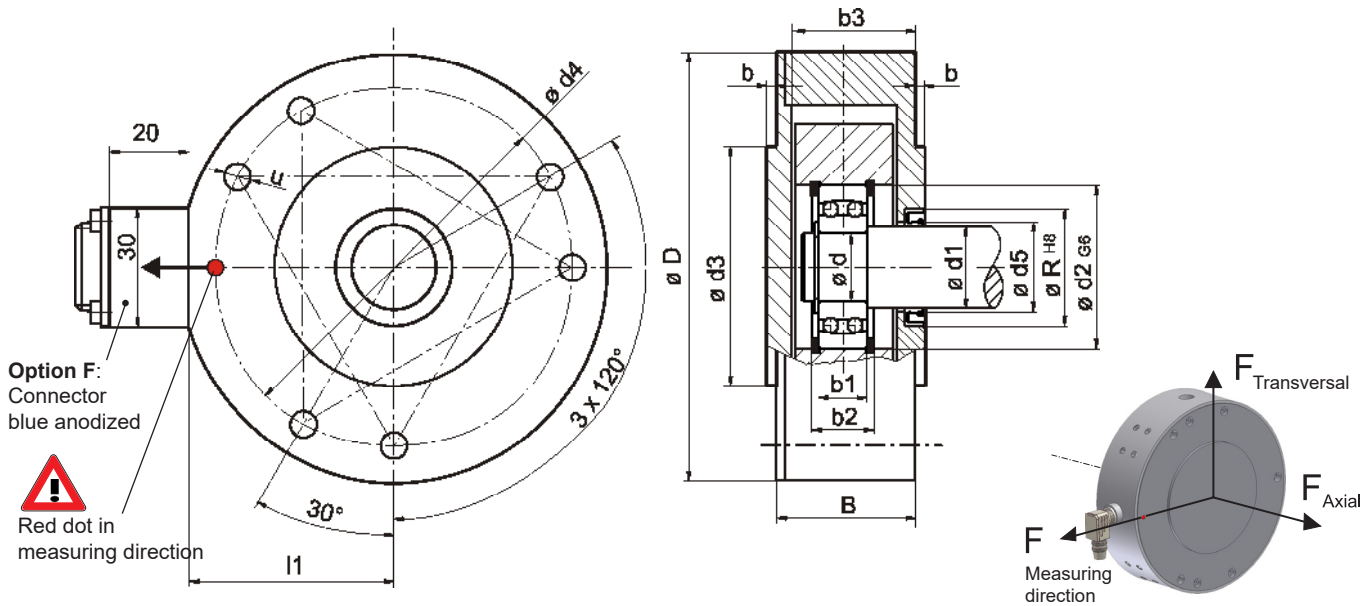


Technical Data

Values (%) based on nominal force

Max. operating force		160 %
Absolute max. force	Size 1 u. 2	1000 %
	Size 3 u. 4	700 %
Max. axial force		50 %
Max. transversal force		100 %
Nominal rating:	Size 1 u. 2	1,5 mV/V
	Size 3 u. 4	1,0 mV/V
Combined error		0,5 %

*Nominal ambient temperature	+10... +60° C (+50...+140° F)
*Operational temperature range	-10... +70° C (+14... +158° F)
*) A cable in motion reduce the value to 50° C (122 °F)	
Nominal resistance of strain gauge bridge	1000 Ω
Max. bridge supply voltage	10 VDC
Sensor cable (standard)	PVC grey, 4 x 0,34 mm ²
Protection class with sealing ring	Variant S - IP50
	Variants S1, S2 - IP67



Installation notice (floating-/fixed bearing) and lead colors of sensor cable see "Practice Guide"

Size	Nominal Force [N]	d	d1	d2	d3	d4	d5	D	B	b	b1	b2	b3	l1	u	R	Recomm. bearing										
1	100	15	20	35	60f7	90	22,5	108	35	2,5	10	14,2	30	51,9	6,6	26	1202										
	160	17	22	40			25				11	15,8				28	32	GE20									
	250																		20	24	35	28	10	15,2			
	400	30	35	47			38				17	21,7				45	GE30										
630	25				32	52		32,5	125	42			3,0	14	19,3			36	60,6	6,6	42	1205					
1000		30	35	47			38				105	42				3,0	14				19,3	36	60,6	6,6	45	GE30	
2	160				30	40		72	100g6	167			42	186	60			4	19	24,3					52	91,7	9
	1000	35	45	80			47				52	18	23,3			62	1208										
	2000																		40	50	80	52	18	23,3			
3000	40	50	80	52	186	60	4	19	24,3	52	91,7	9	52	1306													
3													500	40	50	90	130g7	221	52	242	72	4	23	31,4	63	119,1	11
	1000	45	60	100	62	25	33,4	80	1309																		
	2000									50	65	110	66						35,4				85	1310			
	3000																										
	5000									60	70	110	71						28				36,4	90			