



U2A...

Load cells

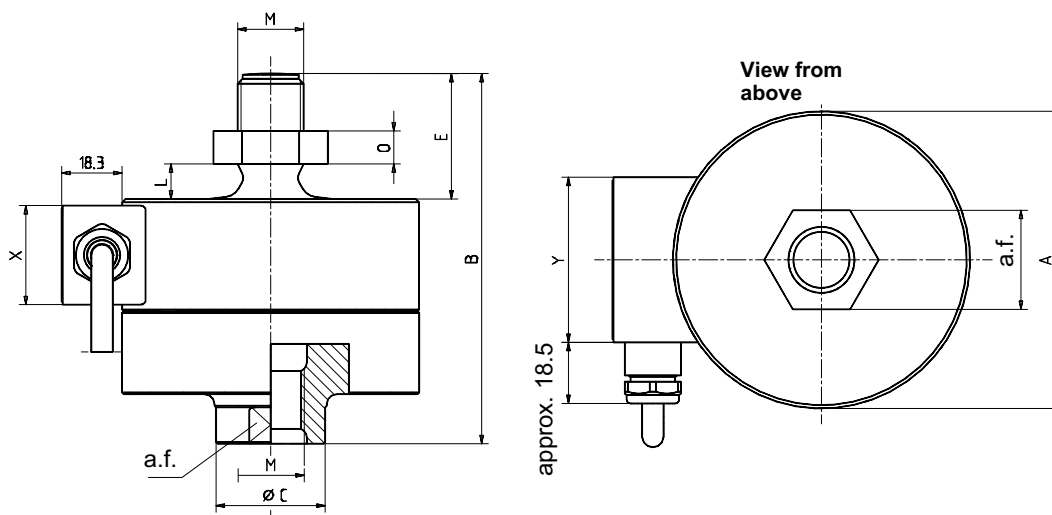
Special features

- Load cells made of stainless steel
- Max. capacities: 50 kg ... 20 t
- Suitable for scales according to OIML R60 up to 1000 d
- Six wire circuit
- Low profile
- For tensile loads
- Meets EMC requirements according to EN 45 501
- Explosion proof version (optional)

Data sheet



Dimensions (in mm; 1 mm= 0.03937 inches)



Max. cap. [t]	A _{0,2}	B	C	E	L _{min}	M	O	a.f.	X	Y
0.05 ... 1	50	72	21	24	5 ^{*)}	M12	6	19	20	35
2	90	112	33	38	10.6	M20x1.5	10	30	30	50
5	100	141	40	47	13.2	M24x2	12	36	30	50
10	135	197	68	67	19	M39x2	19	60	30	50
20	155	232	82	85	24.2	M48x2	22	70	30	50

^{*)} with U2A/1 t: 7.4 mm

Specifications

Type			U2A		
Accuracy class			0.2	0.1	D1
Max. numbers of load cell verification interval	n_{LC}		-	-	1000
Max. capacity	E_{max}	kg	50	100, 200, 500	500
		t	-	10, 20	1, 2, 5
Minimum load cell verification interval	v_{min}		-	-	0.0286
Sensitivity	C_n	mV/V	2		
Tolerance on sensitivity with tensile loads		%	<±0.20		<±0.20
			with compressive loads	<±1.50	<±0.50
Temperature effect on sensitivity ¹⁾ in nominal temperature range	TK_C	%/10 K	<±0.05		<±0.05
		in service temperature range	%/10 K	<±0.10	
Temperature effect on zero balance in nominal temperature range	TK_0	%/10 K	<±0.05		<±0.04
		in operating temperature range	%/10 K	<±0.10	
Hysteresis error ¹⁾	d_{hy}	%	<±0.15		<±0.07
Non-linearity ¹⁾	d_{lin}		<±0.20	<±0.10	<±0.05
Creep over 30 min.	d_{cr}		<±0.06		<±0.05
Input resistance	R_{LC}	Ω	340 ... 450		
Output resistance	R_0		356±0.2		
Insulation resistance	R_{iso}	G Ω	>5		
Reference excitation voltage	U_{ref}	V	5		
Nominal range of excitation voltage	B_u		0.5 ... 10	0.5 ... 12	
Max. permissible excitation voltage			12	18	
Nominal temperature range	B_T	°C [°F]	-10 ... +40 [14 ... 104]		
Operating temperature range ²⁾	B_{tu}		-30 ... +85 (-30 ... +120) [-22 ... 185] [-22 ... 248]		
Storage temperature range	B_{st}		-50 ... +85 [-58 ... 185]		
Safe load limit	E_L	% from max. capac.	130	150	
Breaking load	E_d		300		
Rel. stat. lateral load limit	E_{lq}		25		
Permissible dynamic load (peak to peak according to DIN 50100)	F_{srel}		100	160	
Degree of protection (IP) to EN 60529 (IEC 529)			IP 67		
Material:	Measuring body Cable gland Cable sheath		Stainless steel ³⁾ Nickel plated brass, Silicone Thermoplast. elastomere		

1) The data for Non-linearity, hysteresis error and temperature effect on sensitivity are typical values. The sum of these data meets the requirements according to OIML R60.

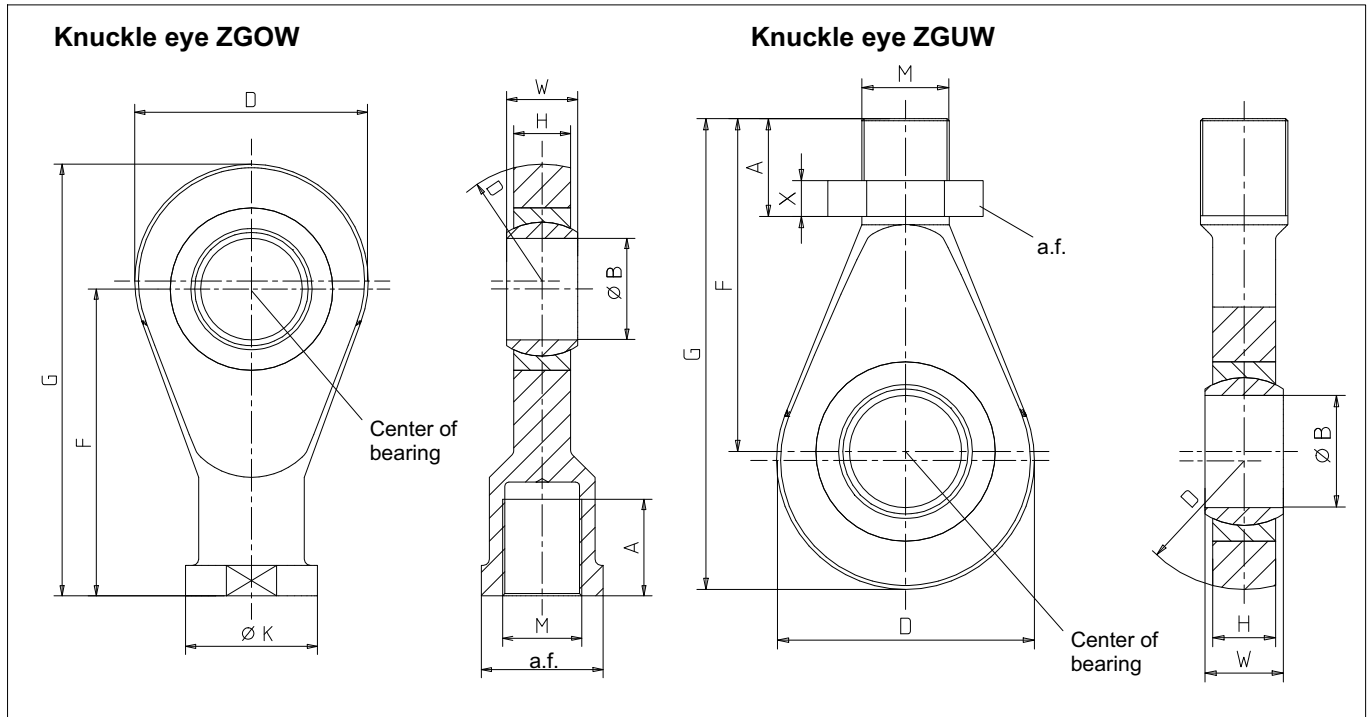
2) Optionally available with extended operating temperature range.

3) According to EN 10088-1

Mechanical values

Max. capacity [t]	Deflection at max. capacity (s_{nom}), approx. [mm]	Weight (G), approx. [kg]	Cable length [m]
0.05	< 0.1	0.8	3
0.1	< 0.1	0.8	3
0.2	< 0.1	0.8	3
0.5	< 0.1	0.8	3
1	< 0.1	0.8	3
2	< 0.07	2.9	6
5	< 0.07	4.3	6
10	< 0.09	10.7	12
20	< 0.09	15.9	12

Mounting accessories (in mm; 1 mm = 0.03937 inches)



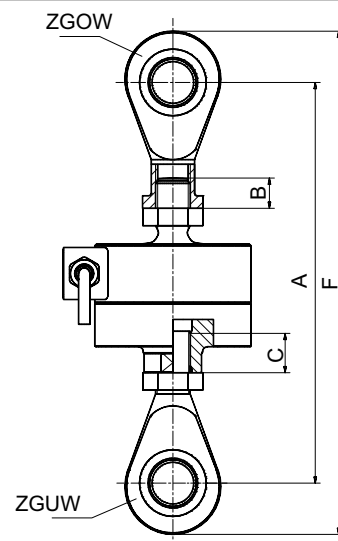
Max. cap. [t]	Knuckle eye ZGOW	Weight [kg]	A	ØB	D	F	G	H	ØK	M	a.f.	W
0.05 ... 1	U2A/1T/ZGOW	0.2	22	12 ^{H7}	32	50	66	12	22	M12	19	16
2	U2A/2T/ZGOW	0.5	33	20 ^{H7}	50	77	102	18	34	M20x1.5	32	25
5	U2A/5T/ZGOW	0.8	42	25 ^{H7}	60	94	124	22	42	M24x2	36	31
10	U2A/10T/ZGOW	3.2	50	50 ^{+0.002 -0.014}	115	151	212,5	28	65	M39x2	60	35
20	U2A/20T/ZGOW	4.8	60	60 ^{+0.003 -0.018}	126	167	235	36	82	M48x2	70	44

Max. cap. [t]	Knuckle eye ZGUW	Weight [kg]	A	ØB	D	F	G	H	M	a.f.	W	X
0.05 ... 1	U2A/1T/ZGUW	0.1	33	12 ^{H7}	32	54	70	12	M12	19	16	7
2	U2A/2T/ZGUW	0.2	47	20 ^{H7}	50	78	103	18	M20x1,5	32	25	9
5	U2A/5T/ZGUW	0.4	57	25 ^{H7}	60	94	124	22	M24x2	36	31	10
10	U2A/10T/ZGUW	1.1	65.5	50 ^{+0.002 -0.014}	115	148.5	210	28	M39x2	60	35	16
20	U2A/20T/ZGUW	3.2	80	60 ^{+0.003 -0.018}	126	168	236	36	M48x2	70	44	18

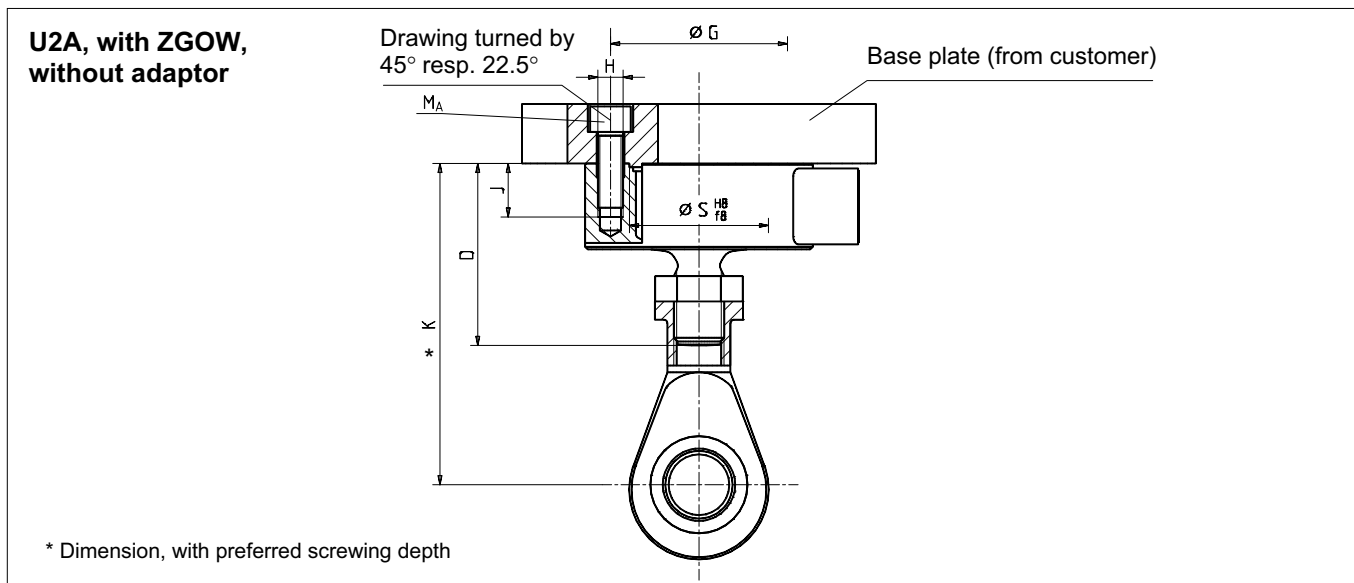
Load cell U2A with monted knuckle eyes ZGOW, ZGUW

Max. capacity [t]	A _{min}	A _{max}	F _{min}	F _{max}	Min. depth for screwing		Tightening torque M _A [N·m]
					B	C	
0.05...0.5	139	156	171	188	9.6	9.6	60 *)
1	141	156	173	188	9.6	9.6	60
2	212	234	262	284	16	16	300
5	260	288	320	348	19.2	19.2	500
10	418	436	541	559	27	31.2	2500
20	466	489	602	625	36.6	38.4	4500

*) Do not exceed this value and handle the load cell with care during fastening to avoid damage to the thin measuring diaphragm. Hold the lock nut in place.



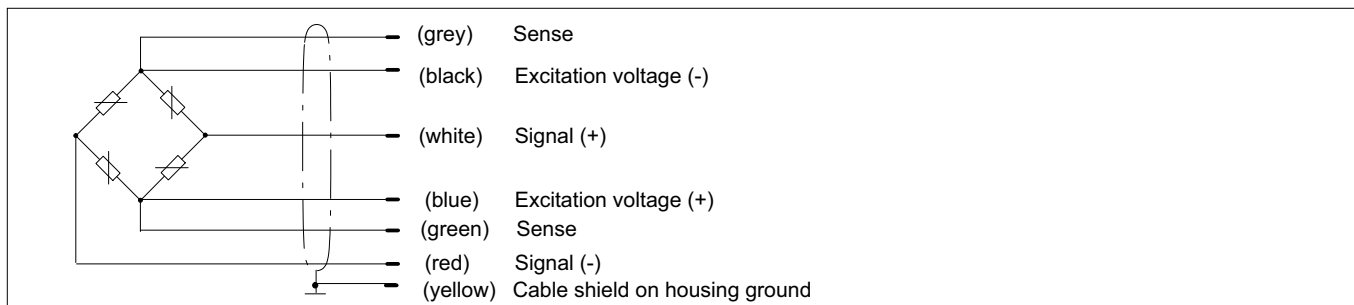
Mounting accessories, continued (in mm; 1 mm = 0.03937 inches)



Max. capacity [t]	D	ØG	H	J	K	ØS	M _A ¹⁾ [N·m]
0,05 ... 0,5	47	42	4xM5	13	84 ... 86,4	34	5
1	47	42	4xM5	13	86,4	34	5
2	72	70	4xM10	20,5	131,6	55	35
5	86	78	4xM12	19	158,2	61	60
10	122	105	8xM12	16	244	79	60
20	142	125	8xM16	26	270,2	97	150

1) Recommended values for a dry thread, using a torque wrench

Wiring code



Options

Explosion-proof versions

AI1/21 IECEx+ATEX zone 1/21 + FM intrinsically safe, II2G Ex ia IIC T6/T4 Gb / II2D Ex ia IIIC T125°C Db [only with Option 6=N]

AI2/21 IECEx+ATEX zone 2/21 non-intrinsically safe, II3G Ex nA IIC T6/T4 Gc / II2D Ex tb IIIC T125°C Db [only with Option 6=N]

AIM1 IECEx+ATEX M1, intrinsically safe I M 1 Ex ia I Ma [only with Option 6 = N]

Accessories, to be ordered separately

- U2A knuckle eyes, above, U2A/.../ZGOW
- U2A, knuckle eyes, below U2A/.../ZGUW
- EEK Grounding cable

Subject to modifications.

All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability.

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