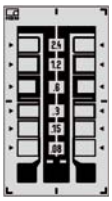
Balancing element for the zero point
2.4 ohms, 1.2 ohms, 0.6 ohms, 0.3 ohms



Original size

Dimensions in mm and inch		
Measuring grid width	Total length	Total width
6.0 mm	14.5 mm	8.0 mm
0.236 inch	0.571 inch	0.315 inch

Type	
1-ANA1-6/4.73_W	Adjustable foil resistor for zero point balancing on polyimide carrier with a raw resistance of twice approx. 9 Ω. Each bridge branch can be connected with maximum 4.73 Ω, in steps as follows: 2.4 Ω– 1.2 Ω– 0.6 Ω – 0.3 Ω – 0.15 Ω – 0.08 Ω ± 20 % [1])

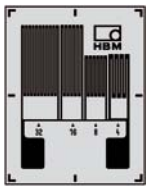
Compensating elements for TCO balancing
0.6 ohms, 0.3 ohms, 0.15 ohms

Original size

Dimensions in mm and inch		
Measuring grid width	Total length	Total width
6.0 mm	11.0 mm	8.0 mm
0.236 inch	0.433 inch	0.315 inch

Type	
1-ATN1-3/1.05_W	Adjustable foil resistor for temperature compensation of the zero point (TCO). Nickel foil on polyimide carrier with a raw resistance of twice approx. 0.7 Ω Each bridge branch can be connected with maximum 1.05 Ω, in steps as follows: 0.6 Ω – 0.3 Ω – 0.15 Ω ± 20 % [1]) Temperature coefficient of the resistor: (+ 20 °C...+ 70 °C) *(68 °F...158 °F)*: 4,9 · 10^{-3}/K *(2.7 · 10-3/°F)*

Compensating elements for TCS balancing
32 ohms, 16 ohms, 8 ohms, 4 ohms



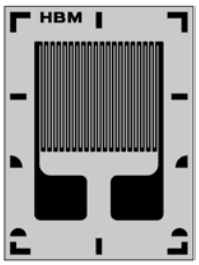
Original size

Dimensions in mm and inch			
Measuring grid length	Measuring grid width	Total length	Total width
4.2 mm	7.0 mm	11.5 mm	9.0 mm
0.165 inch	0.276 inch	0.453 inch	0.354 inch

Type	
1-ATC1-4/60_W	Adjustable foil resistor for temperature compensation of the sensitivity (TCS). Nickel foil on polyimide carrier with a raw resistance of approx. 1 Ω Maximum 60 Ω can be connected, in steps as follows: 32 Ω – 16 Ω – 8 Ω – 4 Ω ± 20 % [1]) Temperature coefficient of the resistor: (+ 20 °C...+ 70 °C) *(68°F...158 °F)*: 4.9 · 10^{-3}/K *(2.7 · 10^{-3}/°F)*

[1]Reference temperature for resistance data: T= 23 °C *(73.4 °F)*

Nickel resistors for TCS balancing (temperature coefficient of sensitivity)



Original size

Carrier material: Polyimide

Dimensions in mm and inch			
Measuring grid length	Measuring grid width	Total length	Total width
2.0 ... 2.5 mm	3.2 mm	6.3 mm	4.7 mm
0.079 ... 0.098 inch	0.126 inch	0.248 inch	0.185 inch

Preferred types	Nominal resistance	Variants	Option 8)
1-ATC1-10_E	10 Ω ± 0.3 Ω	1-ATC1-10xx[8)]	Option
1-ATC1-12.5_E	12.5 Ω ± 0.3 Ω	1-ATC1-12.5xx[8)]	
1-ATC1-15_E	15 Ω ± 0.3 Ω	1-ATC1-15xx[8)]	_E, BE, LE, _W
1-ATC1-17.5_E	17.5 Ω ± 0.3 Ω	1-ATC1-17.5xx[8)]	
1-ATC1-20_E	20 Ω ± 0.3 Ω	1-ATC1-20xx[8)]	
1-ATC1-22.5_E	22.5 Ω ± 0.3 Ω	1-ATC1-22.5xx[8)]	
1-ATC1-25_E	25 Ω ± 0.3 Ω	1-ATC1-25xx[8)]	
1-ATC1-30_E	30 Ω ± 0.3 Ω	1-ATC1-30xx[8)]	
1-ATC1-35_E	35 Ω ± 0.4 Ω	1-ATC1-35xx[8)]	
1-ATC1-40_E	40 Ω 0.4 Ω	1-ATC1-40xx[8)]	
1-ATC1-50_E	50 Ω ± 0.5 Ω	1-ATC1-50xx[8)]	
1-ATC1-60_E	60 Ω ± 0.6 Ω	1-ATC1-60xx[8)]	
1-ATC1-70_E	70 Ω ± 0.7 Ω	1-ATC1-70xx[8)]	

Balancing and compensating elements for the zero point and TCO balancing

Original size

Carrier material: Polyimide

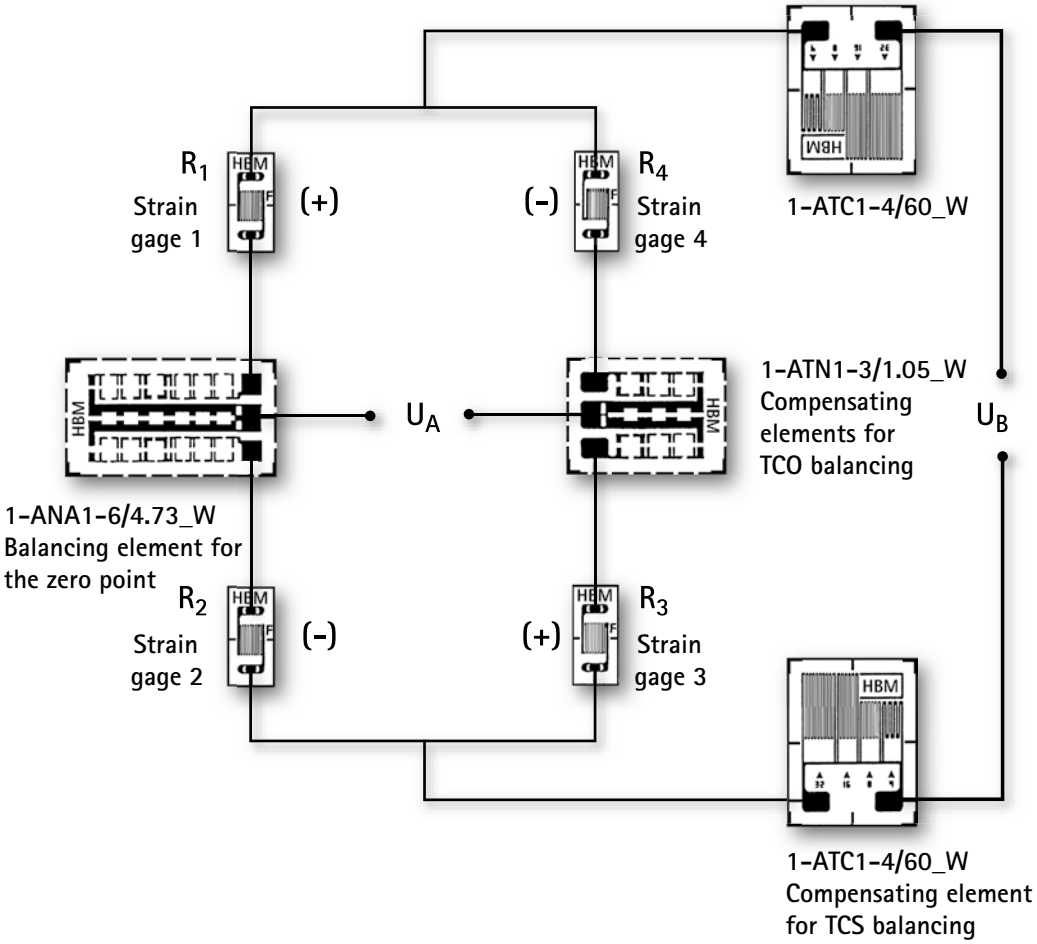
[1)] Balancing element for the zero point
[2)] Compensating element for TCO balancing (Temperature coefficient of zero point)

Dimensions in mm and inch	
Total length	Total width
5.6 mm	8.9 mm
0.220 inch	0.350 inch

Preferred types	Resistance	Maximum balancing range[3)]
1-ANA-1/0.4_W [1)]	2.5 Ω ± 20 % + max 0.4 Ω	0.4 Ω
1-ANA-1/1.0_W [1)]	6 Ω ± 20 % + max 1.0 Ω	1.0 Ω
1-ATN-1/0.2_W [2)]	1 Ω ± 20 % + max 0.2 Ω	0.2 Ω

[3)] Per bridge branch

Typical circuits for balancing and compensating elements in an strain gage full bridge



Note: Further details
can be found in the book
"The Route to Measurement Transducers".

This book can also be
downloaded in PDF format
under: www.hbm.com/sensors