

# Series Y

## Strain gages (SG)

### Special features

- Flexible and robust
- More than 2,000 variants
- Preferred types available for immediate delivery
- Standard in experimental stress analysis



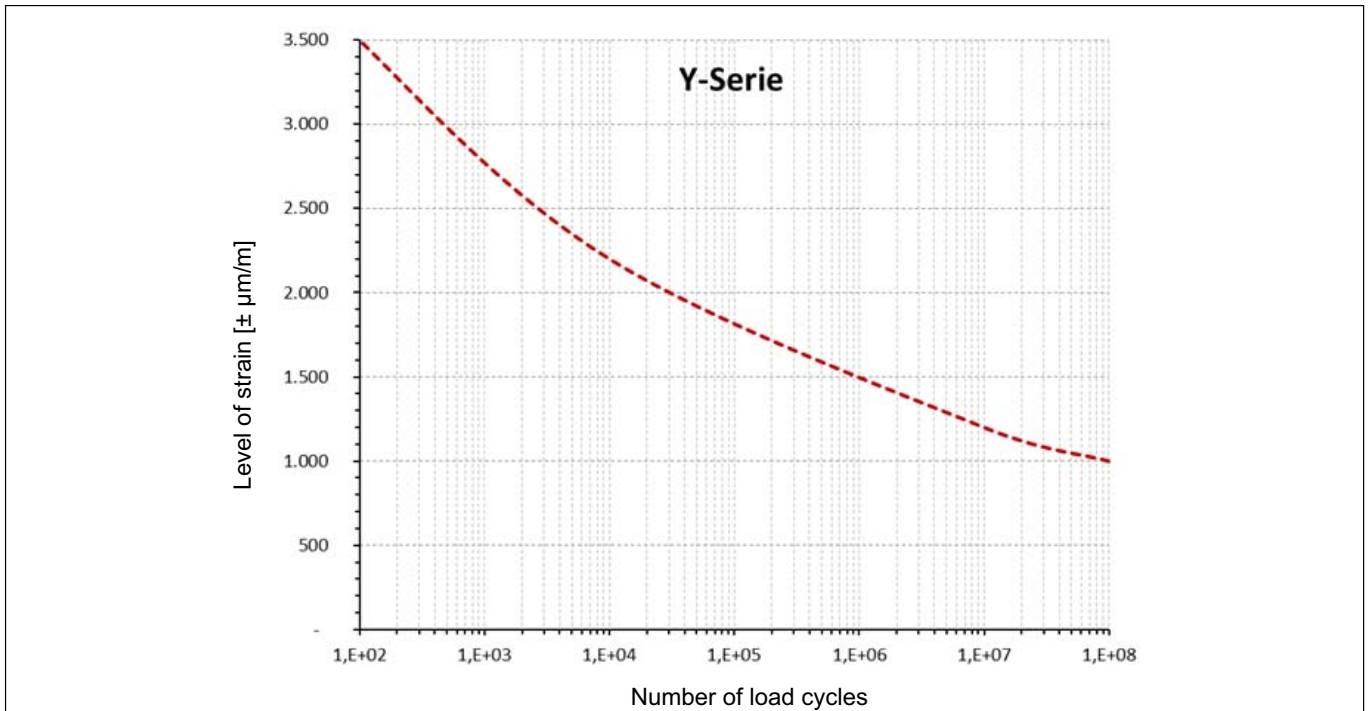
## Specifications

<b>Strain gage design</b>		Foil SG with embedded measuring grid
<b>Carrier</b>		
Material		Polyimide
Thickness	µm	50 ±15
<b>Measuring grid</b>		
Material		Constantan
Thickness	µm	approx. 3.8 or 5 (depending on SG type)
<b>Covering</b>		
Material		Polyimide
Thickness	µm	25 ±12
<b>Connections</b>		
Leads		Nickel-plated copper leads, 30 mm long
Integrated solder tabs		Size approx. 1.5 mm x 1.6 mm (depending on type)
Solder tabs with strain relief		Nickel-plated copper solder tabs
<b>Nominal (rated) resistance</b>	Ω	120, 350, 700 or 1000 (depending on SG type)
<b>Resistance tolerance<sup>1)</sup></b>	%	±0.3 without, ±0.35 with leads
<b>Gage factor</b>		approx. 2 (specified on each package)
<b>Gage factor tolerance</b>	%	±1.5 (with measuring grid length ≤1.5 mm) ±1.0 (with measuring grid length ≥3mm)
<b>Temperature coefficient of the gage factor</b>		Specified on each package
<b>Transverse sensitivity</b>	%	Specified on each package
<b>Application temperature range</b>	°C (°F)	-70 ... +200 (-94 ... +392) for static measurements -200 ... +200 (-328... +392) for dynamic measurements
<b>Temperature response</b>	Code:	
α for ferritic steel	(1)	10.8 (6.0)
α for aluminum	(3)	23 (12.8)
α for austenitic steel	(5)	16 (8.9)
α for silica/composite	(6)	0.5 (0.3)
α for titanium	(7)	9 (5.0)
A for plastic	(8)	65 (36.1)
α for molybdenum	(9)	5.4 (3.0)
	ppm/K (ppm/°F)	
<b>Fatigue life<sup>2)</sup></b>		
Up to a maximum zero drift of ±100µm/m		10 <sup>8</sup> load cycles at ±1,000 µm/m 10 <sup>7</sup> load cycles at ±1,200 µm/m 10 <sup>4</sup> load cycles at ±2,200 µm/m 10 <sup>2</sup> load cycles at ±3,500 µm/m
Up to a maximum zero drift of +/- 30µm/m		10 <sup>7</sup> load cycles at ±1,000 µm/m
<b>Maximum elongation</b>		
Positive direction	µm/m	50,000 (5%)
Negative direction	µm/m	50,000 (5%)
<b>Minimum radius of curvature</b>		0.3 mm for SG with leads 0.3 mm for SG with integrated solder tabs in measuring grid area 2.0 mm in solder tab area
<b>Applicable adhesives</b>		Z70, X60, X280, EP150 and EP310S

<sup>1)</sup> With measuring grid lengths of 0.3 and 0.6 mm, the nominal resistance may deviate by ± 1%. For the types LY51/LY5x the deviation is ±0.75%. For XY9x, RY9x and the KY types (per chain) it is ±0.5%.

<sup>2)</sup> The data depend on the various parameters of the specific application and are therefore stated for representative examples only.

## Fatigue life (testing up to a zero drift of $\pm 100\mu\text{m}/\text{m}$ )



## Types and dimensions

The following temperature matching codes (1 ... 9) apply to all types

- 1 = Ferritic steel (10.8 ppm/K; 6.0 ppm/ $^{\circ}\text{F}$ )
- 3 = Aluminum (23 ppm/K; 12.8 ppm/ $^{\circ}\text{F}$ )
- 5 = Austenitic steel (16 ppm/K, 8.9 ppm/ $^{\circ}\text{F}$ )
- 6 = Silica/composite (0,5 ppm/K; 0.3 ppm/ $^{\circ}\text{F}$ )
- 7 = Titanium and gray cast iron (9 ppm/K; 5.0 ppm/ $^{\circ}\text{F}$ )
- 8 = Plastic (65 ppm/K; 36.1 ppm/ $^{\circ}\text{F}$ )
- 9 = Molybdenum (5.4 ppm/K; 3.0 ppm/ $^{\circ}\text{F}$ )

## Series Y: LY1

### Linear strain gage with leads below the measuring grid

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-LY1□-0.3/120 <sup>2)</sup>	10	120	0.3	0.9	2	1.2	0.6	LS7	1
	1-LY1□-0.6/120 <sup>2)</sup>	10	120	0.6	1	5	3.2	1.5	LS7	1, 3
	1-LY1□-1.5/120	10	120	1.5	1.2	6.5	4.7	2.5	LS7	1, 3
	1-LY1□-3/120	10	120	3	1.6	8.5	4.5	4	LS7	1, 3
	1-LY1□-3/120A <sup>5)</sup>	10	120	3	1.6	8.5	4.5	4	LS7	1
	1-LY1□-6/120	10	120	6	2.7	13	6	8	LS5	1, 3
	1-LY1□-6/120A <sup>5)</sup>	10	120	6	2.7	13	6	8	LS5	1
	1-LY1□-10/120	10	120	10	4.6	18.5	9.5	13	LS5	1, 3
	1-LY1□-10/120A <sup>5)</sup>	10	120	10	4.6	18.5	9.5	13	LS5	1
	1-LY1□-1.5/350 <sup>2)</sup>	10	350	1.5	1.2	5.7	4.7	4.5	LS7	1, 3
	1-LY1□-3/350	10	350	3	1.6	8.5	4.5	7	LS7	1, 3
	1-LY1□-3/350A <sup>5)</sup>	10	350	3	1.6	8.5	4.5	7	LS7	-
	1-LY1□-6/350	10	350	6	2.8	13	6	13	LS5	1, 3
	1-LY1□-6/350A <sup>5)</sup>	10	350	6	2.8	13	6	13	LS5	-
	1-LY1□-10/350	10	350	10	5.0	18.5	9.5	23	LS5	1
1-LY1□-10/350A <sup>5)</sup>	10	350	10	5.0	18.5	9.5	23	LS5	-	

## Series Y: LY2

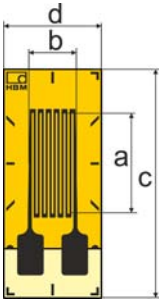
### Linear strain gage with leads on both sides of the measuring grid

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-LY2□-0.6/120 <sup>2)</sup>	10	120	0.6	0.6	3.5	6.4	1	LS7	1
	1-LY2□-1.5/120	10	120	1.5	1.5	4.7	8.3	2	LS5	-
	1-LY2□-3/120	10	120	3	2.8	7.5	10	6	LS5	1
	1-LY2□-6/120	10	120	6	6	11	16	12	LS4	-

- 1) Strain gages are available in various temperature matches (see codes, page 3).  
Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need
- 2) Only available in matches for aluminum, ferritic and austenitic steel
- 3) Maximum permissible effective supply voltage (specified for steel)
- 4) Preferred types (available from stock) with the temperature matches specified in the column
- 5) With application aid (cut-to-size polyimide adhesive strip for easy positioning)

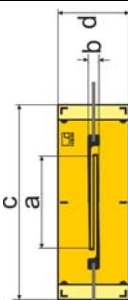
## Series Y: LY4

Linear strain gage with integrated solder tabs below the measuring grid

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-LY4□-0.6/120 <sup>2)</sup>	10	120	0.6	1.1	6	4	1.5	1
	1-LY4□-1.5/120	10	120	1.5	1.2	7	5	2.5	1
	1-LY4□-3/120	10	120	3	1.2	8	5	3.5	1, 3
	1-LY4□-3/120A <sup>5)</sup>	10	120	3	1.2	8	5	3.5	-
	1-LY4□-6/120	10	120	6	2.7	13.9	5.9	8	1, 3
	1-LY4□-6/120A <sup>5)</sup>	10	120	6	2.7	13.9	5.9	8	1
	1-LY4□-10/120	10	120	10	4.9	18	8	14	1
	1-LY4□-10/120A <sup>5)</sup>	10	120	10	4.9	18	8	14	-
	1-LY4□-20/120	10	120	20	0.5	31.8	8.2	6.5	1
	1-LY4□-50/120	10	120	50	0.8	63.6	8.2	12	1
	1-LY4□-100/120	10	120	100	1	114.8	8.2	19	1
	1-LY4□-150/120	10	120	150	1.2	165.6	8.2	25	1
	1-LY4□-1.5/350 <sup>2)</sup>	10	350	1.5	2.3	9.2	5.9	6.5	1
	1-LY4□-3/350	10	350	3	2.5	10.9	5.9	9	1, 3
	1-LY4□-3/350A <sup>5)</sup>	10	350	3	2.5	10.9	5.9	9	1
	1-LY4□-6/350	10	350	6	2.8	13.9	5.9	15	1, 3, 6
	1-LY4□-6/350A <sup>5)</sup>	10	350	6	2.8	13.9	5.9	15	-
	1-LY4□-10/350	10	350	10	5	18	8	24	1
	1-LY4□-10/350A <sup>5)</sup>	10	350	10	5	18	8	24	-
	1-LY4□-3/700	10	700	3	2.7	10.9	5.9	13	1, 3
	1-LY4□-6/700	10	700	6	4.1	13.9	5.9	23	1
	1-LY4□-10/700	10	700	10	5	18	8	33	-
	1-LY4□-3/1000 <sup>2)</sup>	10	1.000	3	2.7	10.9	5.9	16	-
	1-LY4□-6/1000	10	1.000	6	4.2	13.9	5.9	27	1
	1-LY4□-10/1000	10	1.000	10	5	18	8	40	-

## Series Y: LY5

Linear strain gage with very narrow measuring grid and leads above and below the measuring grid

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-LY5□-3/120	10	120	3	0.4	9	4.7	2	LS7	-
	1-LY5□-6/120	10	120	6	0.4	13	4.7	3	LS7	-

1) Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

2) Only available in matches for aluminum, ferritic and austenitic steel

3) Maximum permissible effective supply voltage (specified for steel)

4) Preferred types (available from stock) can be supplied with the temperature matches specified in the column

5) With application aid (cut-to-size polyimide adhesive strip for easy positioning)

## Series Y: LY6

Linear strain gage featuring solder tabs with strain relief below the measuring grid end.  
Ideal for alternating loads on a higher level of strain

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-LY6□-1.5/120	10	120	1.5	1.0	7.8	4.7	2.5	1
	1-LY6□-3/120	10	120	3	1.5	9.8	4.7	4	1
	1-LY6□-6/120	10	120	6	2.7	16	6.3	8	1, 3
	1-LY6□-10/120	10	120	10	4.6	23.5	9.3	13	1
	1-LY6□-3/350A <sup>5)</sup>	10	350	3	1.6	9.8	4.7	7	-
	1-LY6□-3/350	10	350	3	1.6	9.8	4.7	7	1
	1-LY6□-6/350A <sup>5)</sup>	10	350	6	2.8	16	6.3	13	1
	1-LY6□-6/350	10	350	6	2.8	16	6.3	13	1, 3, 6
	1-LY6□-10/350	10	350	10	5	23.5	9.3	21	1

## Series Y: LY7

Linear strain gage with integrated solder tabs on both sides of the measuring grid

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-LY7□-0.6/120 <sup>2)</sup>	10	120	0.6	1	2.3	5.6	1	1
	1-LY7□-1.5/120	10	120	1.5	1.5	3.4	7.5	2.5	1
	1-LY7□-3/120	10	120	3	2.8	5.5	10.5	5	1
	1-LY7□-6/120	10	120	6	6	9	15.5	10	-
	1-LY7□-1.5/350 <sup>2)</sup>	10	350	1.5	1.6	3.4	7.5	5	1, 3
	1-LY7□-3/350	10	350	3	2.7	5.5	10.5	8.5	1
	1-LY7□-6/350	10	350	6	5.6	9	15.5	18	-

## Series Y: LY8

Linear strain gage with integrated solder tabs above and below the measuring grid

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-LY8□-0.6/120 <sup>2)</sup>	10	120	0.6	1	5.6	2.3	1	-
	1-LY8□-1.5/120	10	120	1.5	1.5	7.5	3.4	2.5	1
	1-LY8□-3/120	10	120	3	3	10.5	5.5	5	1
	1-LY8□-6/120	10	120	6	6	15.5	9	10	-
	1-LY8□-1.5/350 <sup>2)</sup>	10	350	1.5	1.5	7.5	3.4	5	1
	1-LY8□-3/350	10	350	3	3	10.5	5.5	8.5	-
	1-LY8□-6/350	10	350	6	5.6	15.5	9	18	1

1) Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

2) Only available in matches for aluminum, ferritic and austenitic steel

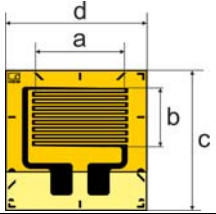
3) Maximum permissible effective supply voltage (specified for steel)

4) Preferred types (available from stock) with the temperature matches specified in the column

5) With application aid (cut-to-size polyimide adhesive strip for easy positioning)

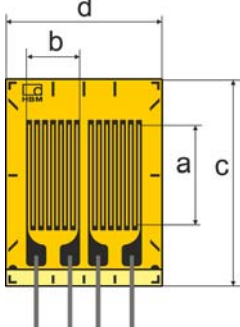
## Series Y: LY9

Linear strain gage with integrated solder tabs on the side of the measuring grid

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-LY9□-1.5/350_E <sup>2)</sup>	10	350	1.5	2	4.7	6.6	5	1
	1-LY9□-3/350_E	10	350	3	2	6.3	7	7.5	1
	1-LY9□-6/350_E	10	350	6	3.8	9.5	9.5	15	1

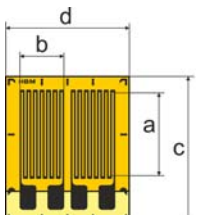
## Series Y: DY1

Double linear strain gage with two parallel measuring grids and leads below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-DY1□-3/350	5	350	3	2.7	9	8	9	LS7	1, 3
	1-DY1□-6/350	5	350	6	3.2	12.5	9.4	14	LS7	1, 3

## Series Y: DY4

Double linear strain gage with two parallel measuring grids and integrated solder tabs below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-DY4□-1.5/350 <sup>2)</sup>	5	350	1.5	1.8	5.5	6	5	1
	1-DY4□-3/350	5	350	3	2.7	8.2	8	8.5	1, 3
	1-DY4□-6/350	5	350	6	3.2	10.7	9	13	1

<sup>1)</sup> Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

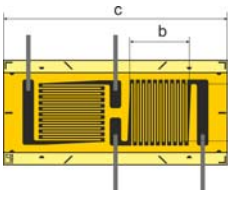
<sup>2)</sup> Only available in matches for aluminum, ferritic and austenitic steel

<sup>3)</sup> Maximum permissible effective supply voltage (specified for steel)

<sup>4)</sup> Preferred types (available from stock) with the temperature matches specified in the column

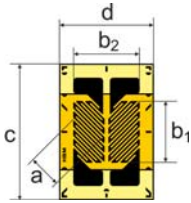
## Series Y: XY1

T rosette with two separate measuring grids and leads on both sides of the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-XY1□-0.6/120 <sup>2)</sup>	5	120	0.6	1.1	6	4	1.5	LS7	1
	1-XY1□-1.5/120	5	120	1.5	1.5	9	5	3	LS5	1, 3
	1-XY1□-3/120	5	120	3	3.2	14.5	7.5	6	LS4	1, 3
	1-XY1□-6/120	5	120	6	6.5	23.5	11	12	LS5	1
	1-XY1□-1.5/350 <sup>2)</sup>	5	350	1.5	1.5	9	5	5	LS5	1
	1-XY1□-3/350	5	350	3	3.1	14.4	7.3	10	LS4	1, 3
	1-XY1□-6/350	5	350	6	6.3	23.3	10.5	20	LS4	1

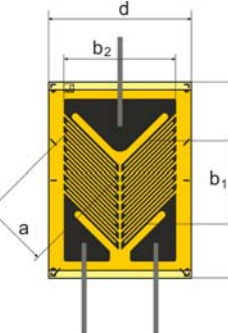
## Series Y: XY1\_E

Double shear strain gage with integrated solder tabs above and below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid			Carrier			
				a	b1	b2	c	d		
	1-XY1□-1.5/350_E <sup>2)</sup>	5	350	1.5	2.2	2.9	7.8	4.9	4.5	1
	1-XY1□-3/350_E	5	350	3	4.4	4.9	10	6.9	9	1
	1-XY1□-6/350_E	5	350	6	6.2	10.2	12.3	11.7	14.5	-

## Series Y: XY2

Shear/torsion strain gage with two measuring grids connected to form a half bridge and leads above and below the measuring grid

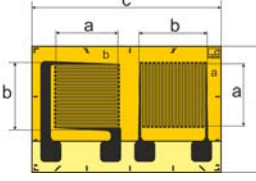
	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid			Carrier				
				a	b <sub>1</sub>	b <sub>2</sub>	c	d			
	1-XY2□-0.6/120 <sup>2)</sup>	5	120	0.6	2.2	1.1	7.5	4	2.5	LS7	-
	1-XY2□-1.5/120	5	120	1.5	1.7	2.5	6.8	4.5	4.5	LS7	1
	1-XY2□-3/120	5	120	3	3.7	5.3	11.2	9.5	6	LS4	1
	1-XY2□-6/120	5	120	6	8	10	17.5	12.7	11	LS4	1
	1-XY2□-1.5/350 <sup>2)</sup>	5	350	1.5	2.2	2.5	7.4	4.5	5	LS7	1
	1-XY2□-3/350	5	350	3	4.2	5.3	11.2	9.5	10	LS4	1
	1-XY2□-6/350	5	350	6	8	10	17.5	12.7	19	LS4	1
	1-XY2□-3/700 <sup>2)</sup>	5	700	3	4.0	4.7	11.2	9.5	14	LS5	-
	1-XY2□-6/700	5	700	6	7.8	9.2	17.5	12.7	27	LS4	-

- 1) Strain gages are available in various temperature matches (see codes, page 3).  
Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need
- 2) Only available in matches for aluminum, ferritic and austenitic steel
- 3) Maximum permissible effective supply voltage (specified for steel)
- 4) Preferred types (available from stock) with the temperature matches specified in the column



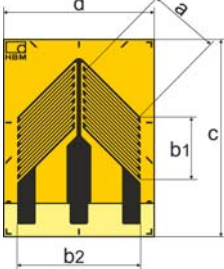
## Series Y: XY3

T rosette with two separate measuring grids and integrated solder tabs below the measuring grids.

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-XY3□-0.6/120 <sup>2)</sup>	5	120	0.6	1	7	6	1.5	1
	1-XY3□-1.5/120	5	120	1.5	1.6	8	6.3	3	1, 3
	1-XY3□-3/120	5	120	3	3.2	10.5	8	5.5	1
	1-XY3□-6/120	5	120	6	6.3	17.5	12	11	1
	1-XY3□-1.5/350 <sup>2)</sup>	5	350	1.5	1.7	7.7	6.3	5	1
	1-XY3□-3/350	5	350	3	3.3	10.9	7.6	10	1, 3
	1-XY3□-6/350	5	350	6	6.5	18	12	20	1, 3, 6

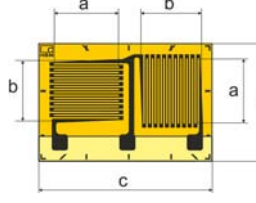
## Series Y: XY4

Shear/torsion strain gage with two measuring grids connected to form a half bridge and integrated solder tabs below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid			Carrier			
				a	b <sub>1</sub>	b <sub>2</sub>	c	d		
	1-XY4□-0.6/120 <sup>2)</sup>	5	120	0.6	2.2	1.6	6.5	4.6	1.5	1
	1-XY4□-1.5/120	5	120	1.5	1.8	3.1	7.5	4.6	2.5	1
	1-XY4□-3/120	5	120	3	3	5.4	11	8	5	1
	1-XY4□-6/120	5	120	6	6	10.2	16	12.2	9.5	1
	1-XY4□-1.5/350 <sup>2)</sup>	5	350	1.5	2.1	3.1	7.5	4.5	4	1
	1-XY4□-3/350	5	350	3	4.2	5.6	11	8	9.5	1, 3
	1-XY4□-6/350	5	350	6	6	10	16	12.2	16	1
	1-XY4□-3/700	5	700	3	4.2	5.6	11	8	13.5	1
	1-XY4□-6/700	5	700	6	6.1	9.9	16	12.2	23	-

## Series Y: XY7

T rosette with two measuring grids connected to form a half bridge and integrated solder tabs below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-XY7□-0.6/120 <sup>2)</sup>	5	120	0.6	0.8	5.7	4.3	1	-
	1-XY7□-1.5/120	5	120	1.5	1.4	6.5	5.3	2.5	-
	1-XY7□-3/120	5	120	3	3	9.9	7.3	5.5	-
	1-XY7□-6/120	5	120	6	5.7	16.2	11	11	1
	1-XY7□-1.5/350 <sup>2)</sup>	5	350	1.5	1.4	6.5	5.3	4.5	1, 3
	1-XY7□-3/350	5	350	3	3	9.9	7.3	9.5	1, 3
	1-XY7□-6/350	5	350	6	5.7	16.2	11	18.5	-

1) Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

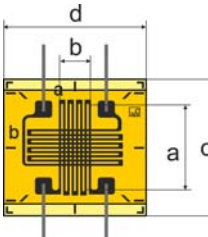
2) Only available in matches for aluminum, ferritic and austenitic steel

3) Maximum permissible effective supply voltage (specified for steel)

4) Preferred types (available from stock) with the temperature matches specified in the column

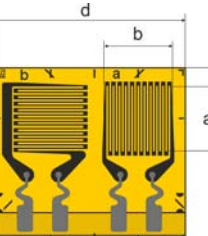
## Series Y: XY9

T rosette with two separate stacked measuring grids and leads on the sides of the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}^{3)}$	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid			Carrier				
				a	b <sub>1</sub>	b <sub>2</sub>	c	d			
	1-XY9□-1.5/120	5	120	1.5	1.2	1.2	4.7	6.7	1	LS5	1, 3
	1-XY9□-3/120	5	120	3	1.4	1.4	6.2	7.9	2	LS5	1, 3
	1-XY9□-6/120	5	120	6	1.9	2.2	10	9.6	3.5	LS4	1, 3
	1-XY9□-10/120	5	120	10	3.2	3.8	15.2	14.0	6.5	LS212	1
	1-XY9□-1.5/350 <sup>2)</sup>	5	350	1.5	1.5	1.5	4.7	6.7	2.5	LS5	1
	1-XY9□-3/350	5	350	3	1.5	1.5	6.2	7.9	3.5	LS5	1, 3
	1-XY9□-6/350	5	350	6	2	2.2	10	9.6	6	LS4	1, 3
	1-XY9□-10/350	5	350	10	3.3	3.7	15.2	14	11.5	LS212	-

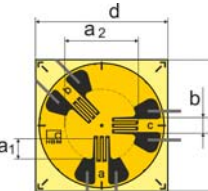
## Series Y: XY10

T rosette with two separate measuring grids and solder tabs with strain relief below the measuring grids. Ideal for alternating loads on a higher level of strain

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}^{3)}$	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-XY10□-1.5/120	5	120	1.5	1.6	8	8.3	1.5	-
	1-XY10□-3/120	5	120	3	3.2	10.6	9.8	3	1
	1-XY10□-6/120	5	120	6	6.5	18	16.5	5.5	-
	1-XY10□-3/350	5	350	3	3.3	10.6	9.8	11	1, 3
	1-XY10□-6/350	5	350	6	6	18	16.5	10	-

## Series Y: RY1

Round rosette with three measuring grids in 0°/45°/90° arrangement and leads

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}^{3)}$	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid			Carrier				
				a <sub>1</sub>	a <sub>2</sub>	b	c	d			
	1-RY1□-3/120 <sup>2)</sup>	5	120	0.8	3	0.8	7	7	1.5	LS7	1
	1-RY1□-6/120	5	120	2	6	1.4	11	11	3	LS5	1, 3
	1-RY1□-10/120	5	120	2.9	10	2.7	15.4	15.4	5	LS4	1

<sup>1)</sup> Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

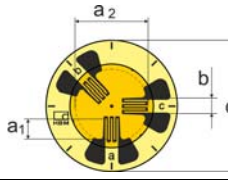
<sup>2)</sup> Only available in matches for aluminum, ferritic and austenitic steel

<sup>3)</sup> Maximum permissible effective supply voltage (specified for steel)

<sup>4)</sup> Preferred types (available from stock) with the temperature matches specified in the column

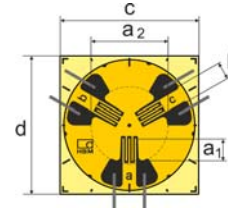
## Series Y: RY3

Round rosette with three measuring grids in 0°/45°/90° arrangement and integrated solder tabs

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				$a_1$	$a_2$	b	d		
	1-RY3□-3/120 <sup>2)</sup>	5	120	0.8	3	0.8	6.9	1.5	1
	1-RY3□-6/120	5	120	2	6	1.4	11	3	1, 3
	1-RY3□-10/120	5	120	2.9	10	2.7	15.4	5	1

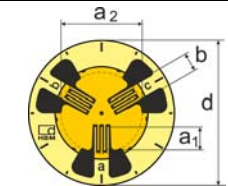
## Series Y: RY4

Round rosette with three measuring grids in 0°/60°/120° arrangement and leads

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid			Carrier				
				$a_1$	$a_2$	b	c	d			
	1-RY4□-3/120 <sup>2)</sup>	5	120	0.8	3	0.8	7	7	1.5	LS7	-
	1-RY4□-6/120	5	120	2	6	1.4	11	11	3	LS5	1
	1-RY4□-10/120	5	120	2.9	10	2.7	15.4	15.4	5	LS4	1

## Series Y: RY7

Round rosette with three measuring grids in 0°/60°/120° arrangement and integrated solder tabs

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				$a_1$	$a_2$	b	d		
	1-RY7□-3/120 <sup>2)</sup>	5	120	0.8	3	0.8	6.9	1.5	-
	1-RY7□-6/120	5	120	2	6	1.4	11	3	-
	1-RY7□-10/120	5	120	2.9	10	2.7	15.4	5	-

1) Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

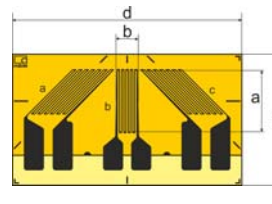
2) Only available in matches for aluminum, ferritic and austenitic steel

3) Maximum permissible effective supply voltage (specified for steel)

4) Preferred types (available from stock) with the temperature matches specified in the column

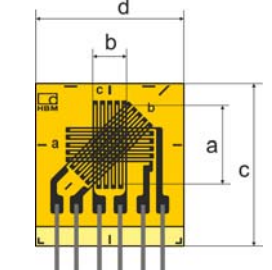
## Series Y: RY8

Rectangular rosette with three measuring grids in 0°/45°/90° arrangement and integrated solder tabs below the measuring grids.

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-RY8□-0.6/120 <sup>2)</sup>	5	120	0.6	1.1	4.8	8.7	1.6	-
	1-RY8□-1.5/120	5	120	1.5	1.2	8.2	14.6	2.5	1
	1-RY8□-3/120	5	120	3	1.1	9.7	14.6	3	1, 3
	1-RY8□-6/120	5	120	6	3	13	22.9	7.5	1
	1-RY8□-1.5/350 <sup>2)</sup>	5	350	1.5	1.6	8.2	14.6	5	-
	1-RY8□-3/350	5	350	3	1.2	9.7	14.6	5.5	-
	1-RY8□-6/350	5	350	6	2.8	13.1	22.9	13	1

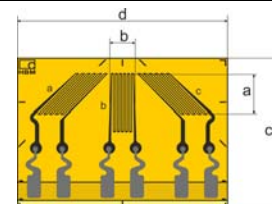
## Series Y: RY9

Rectangular rosette with three stacked measuring grids in 0°/45°/90° arrangement and leads below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-RY9□-1.5/120	5	120	1.5	1.3	9	8	1.5	LS7	1
	1-RY9□-3/120	5	120	3	1.3	9	9	2	LS7	1, 3
	1-RY9□-6/120	5	120	6	2.6	12.5	11.4	4.5	LS7	1, 3
	1-RY9□-10/120	5	120	10	4	17.5	16	7	LS7	1, 3
	1-RY9□-1.5/350 <sup>2)</sup>	5	350	1.5	1.5	8	9	2.5	LS7	1
	1-RY9□-3/350	5	350	3	1.5	9	9	3.5	LS7	1, 3
	1-RY9□-6/350	5	350	6	2.6	12.5	11.4	6	LS7	1
	1-RY9□-10/350	5	350	10	4	17.6	16	11.5	LS7	-

## Series Y: RY10

Rectangular rosette with three measuring grids in 0°/45°/90° arrangement and solder tabs with strain relief below the measuring grids. Ideal for alternating loads on a higher level of strain

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-RY10□-1.5/120	5	120	1.5	1.4	8.2	13.5	2.5	-
	1-RY10□-3/120	5	120	3	1.1	9.7	13.5	3	1, 3
	1-RY10□-6/120	5	120	6	3	16.4	22.9	7.5	-
	1-RY10□-1.5/350 <sup>2)</sup>	5	350	1.5	1.4	8.2	13.5	5	1, 3
	1-RY10□-3/350	5	350	3	1.2	9.7	13.5	5.5	1, 3
	1-RY10□-6/350	5	350	6	2.8	16.4	22.9	12	1, 3, 6

1) Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

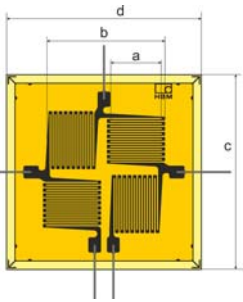
2) Only available in matches for aluminum, ferritic and austenitic steel

3) Maximum permissible effective supply voltage (specified for steel)

4) Preferred types (available from stock) with the temperature matches specified in the column

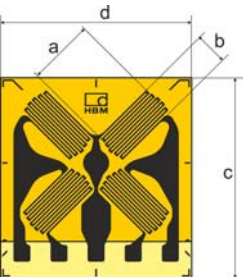
## Series Y: VY1

Strain gage with four measuring grids connected to form a full bridge and leads

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-VY1□-3/120	5	120	3	7	13.5	13.5	6	LS5/7	1
	1-VY1□-6/120	5	120	6	14	23	23	12	LS5/7	1

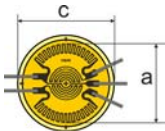
## Series Y: VY4

Shear/torsion strain gage with four measuring grids connected to form a full bridge and integrated solder tabs below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier			
				a	b	c	d		
	1-VY41□-3/120	5	120	3	1.3	9.8	10	3.5	1
	1-VY41□-6/120	5	120	6	2.7	18	17	7.5	-
	1-VY41□-3/350	5	350	3	1.2	9.8	10	6	1, 3
	1-VY41□-6/350	5	350	6	2.7	18	17	13	-

## Series Y: MY2

Diaphragm rosette with four measuring grids connected to form a full bridge and leads

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]				$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier				
				a	b	c	d			
	1-MY2□-6/120	5	120	6	-	7.3	-	3.5	LS7	-
	1-MY2□-15/350	5	350	15	-	17	-	13	LS5	1

1) Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

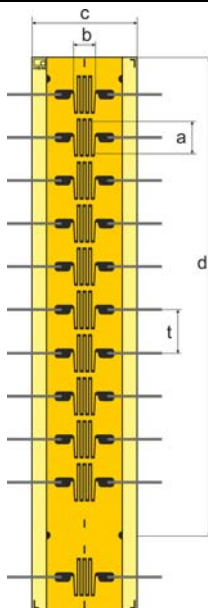
2) Only available in matches for aluminum, ferritic and austenitic steel

3) Maximum permissible effective supply voltage (specified for steel)

4) Preferred types (available from stock) with the temperature matches specified in the column

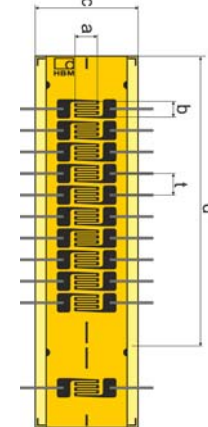
## Series Y: SG chains KY1

Strain gage chain with 10 measuring grids parallel to the chain axis and leads on both sides

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t			
				a	b	c	d				
	1-KY1□-1/120 <sup>2)</sup>	1	120	0.6	1	7.2	14.5	1	2	LS7	1
	1-KY1□-2/120	1	120	1.5	1.3	6.7	24.5	2	2.5	LS7	1
	1-KY1□-4/120	1	120	3	2.1	9.7	44.5	4	5	LS7	1

## Series Y: SG chains KY2

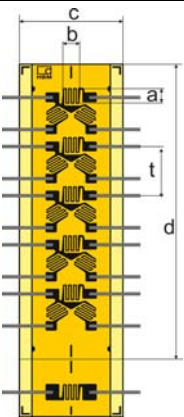
Strain gage chain with 10 measuring grids perpendicular to the chain axis and leads on both sides

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t			
				a	b	c	d				
	1-KY2□-1/120 <sup>2)</sup>	1	120	0.8	0.8	6.9	15	1	1.5	LS7	1
	1-KY2□-2/120	1	120	1.7	1.7	9.5	27	2	3.5	LS7	1

- 1) Strain gages are available in various temperature matches (see codes, page 3).  
Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need
- 2) Only available in matches for aluminum, ferritic and austenitic steel
- 3) Maximum permissible effective supply voltage (specified for steel)
- 4) Preferred types (available from stock) with the temperature matches specified in the column

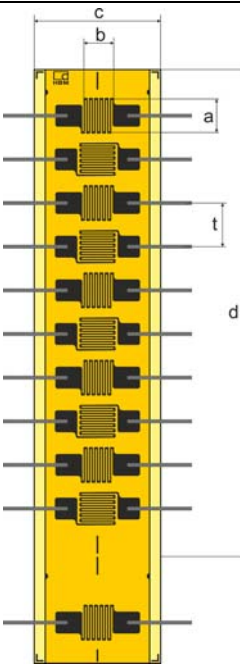
## Series Y: SG chains KY3

Rosette chain (5 rosettes each with 3 0°/60°/120° measuring grids) with leads on both sides

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}^{3)}$	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t			
				a	b	c	d				
	1-KY3□-4/120	1	120	1.2	1.3	8.3	24	4	2.5	LS7	-

## Series Y: SG chains KY4

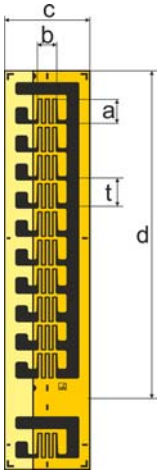
Strain gage chain with 10 measuring grids (alternating, 5 parallel, 5 perpendicular) and leads on both sides

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}^{3)}$	Solder terminals	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t			
				a	b	c	d				
	1-KY4□-2/120	1	120	1.2	1.3	9.2	24.5	2	2.5	LS7	-
	1-KY4□-4/120	1	120	3	3	11.5	44.5	4	6	LS5	1

- 1) Strain gages are available in various temperature matches (see codes, page 3).  
Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need
- 2) Only available in matches for aluminum, ferritic and austenitic steel
- 3) Maximum permissible effective supply voltage (specified for steel)
- 4) Preferred types (available from stock) with the temperature matches specified in the column

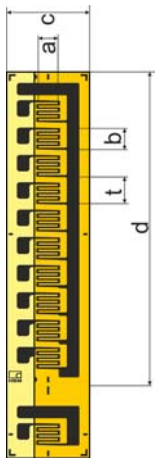
## Series Y: SG chains KY5

Strain gage chain with 10 measuring grids with a shared connection parallel to the chain axis and integrated solder tabs below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t		
				a	b	c	d			
	1-KY5□-1/120 <sup>2)</sup>	5	120	0.6	1.2	5.6	12.8	1	1.5	-
	1-KY5□-2/120	5	120	1.5	1.4	6	22.8	2	2.5	-

## Series Y: SG chains KY6

Strain gage chain with 10 measuring grids with a shared connection perpendicular to the chain axis and integrated solder tabs below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}$ <sup>3)</sup>	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t		
				a	b	c	d			
	1-KY6□-1/120 <sup>2)</sup>	5	120	0.8	0.7	5.6	12.8	1	1.2	-
	1-KY6□-2/120	5	120	1.3	1.6	6	22.8	2	2.5	-

1) Strain gages are available in various temperature matches (see codes, page 3).

Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need

2) Only available in matches for aluminum, ferritic and austenitic steel

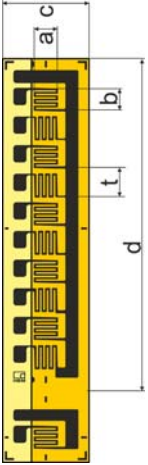
3) Maximum permissible effective supply voltage (specified for steel)

4) Preferred types (available from stock) with the temperature matches specified in the column



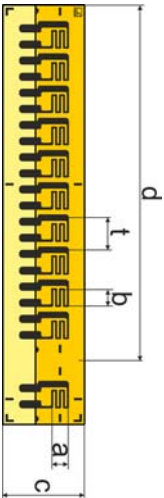
## Series Y: SG chains KY7

Strain gage chain with 10 measuring grids with a shared connection (alternating, 5 parallel, 5 perpendicular) and integrated solder tabs below the measuring grids

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}^{3)}$	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t		
				a	b	c	d			
	1-KY7□-2/120	5	120	1.3	1.5	6	22.8	2	2.5	-

## Series Y: SG chains KY8

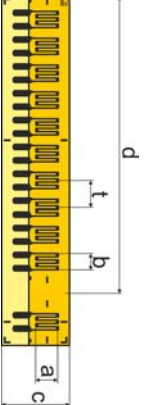
Strain gage chain with 10 measuring grids parallel to the chain axis and integrated solder tabs

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}^{3)}$	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t		
				a	b	c	d			
	1-KY8□-2/120	5	120	1	1	5	21.7	2	2	1

- 1) Strain gages are available in various temperature matches (see codes, page 3).  
Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need
- 2) Only available in matches for aluminum, ferritic and austenitic steel
- 3) Maximum permissible effective supply voltage (specified for steel)
- 4) Preferred types (available from stock) with the temperature matches specified in the column

## Series Y: SG chains KY9

Strain gage chain with 10 measuring grids perpendicular to the chain axis and integrated solder tabs

	Ordering number <sup>1)</sup>	Pcs. per pack	Nominal (rated) resistance $\Omega$	Dimensions [mm]					$V_{max}^{3)}$	Preferred types <sup>4)</sup>
				Measuring grid		Carrier		Pitch t		
				a	b	c	d			
	1-KY9□-2/120	5	120	1.2	1.2	5	21.7	2	2	1

- 1) Strain gages are available in various temperature matches (see codes, page 3).  
Insert the code in place of the placeholder "□" to get the ordering number of the strain gage you need
- 2) Only available in matches for aluminum, ferritic and austenitic steel
- 3) Maximum permissible effective supply voltage (specified for steel)
- 4) Preferred types (available from stock) with the temperature matches specified in the column

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

**Hottinger Baldwin Messtechnik GmbH**  
Im Tiefen See 45 · 64293 Darmstadt · Germany  
Tel. +49 6151 803-0 · Fax +49 6151 803-9100  
E-mail: info@hbm.com · www.hbm.com

measure and predict with confidence

