STRAIN GAGES

Pattern,		Dimensio	ons (mm)	
Gage Resistance, Gage Factor	Model	Grid	Base	Remarks
		Length Width	Length Width	
●KFGT Series Foil Strain Gages	with Temperature Sensor			
Uniaxial 3-wire system Polyester-coated copper leadwires 1 m long each Resistance: $120\Omega$ , Gage factor: Approx. 2.1 Temperature sensor : T-type thermocouple, Accuracy : Within 1.5 °C	The KFGT gages are foil strain ga simultaneous measurement of st efficient strain measurement und or temperature gradient necessita temperature but also highly pro apparent strain. It is recommende a mating instrument.	rain and tempe er environment ates simultaneou ecise compens	rature. They er s where tempe us measuremer sation of thern	nsure not only rature change It of strain and nally-induced
		rating Tempera ∶-10~120°C ∶-10~120°C	ture Range af	ter Curing
	KFGT-5-120-C1-11 N1M3 KFGT-5-120-C1-16 N1M3 KFGT-5-120-C1-23 N1M3 KFGT-5-120-C1-27 N1M3	5 2.1	10 4.5	Standard accessories: Leadwire stopper to prevent the gage from damaging Pre-attached leadwires
	KFGT-2-120-C1-11 N1M3 KFGT-2-120-C1-16 N1M3 KFGT-2-120-C1-23 N1M3 KFGT-2-120-C1-27 N1M3	2 1.8	7 4.5	<ul> <li>1-m long</li> <li>Extension leadwires are optonally available.</li> <li>Aminimum quantity 5 piece</li> </ul>
Gage lead 1 connected Lead stop	Deer T-type thermocouple Cui () (Bro	own) Dirr		uantity
Sensing point of T-type thermocouple		een) NT-1M 1000	Width     Thickness     P       7.2     1.2	5 With gage terminal T-F25
**Figure is KFGT-5-120-C1-11 N1M3				
KFR Series Foil Strain Gages	The KFR series foil strain gages	are durable a	nd easy-to-use	e nign-grade

The KFR series foil strain gages are durable and easy-to-use high-grade strain gages. The gage element is sandwiched between heat-resistant polyimide base and cover, thereby letting them exhibit high performance in a wide temperature range.

Applicable Adhesives and Operating Temperature Range after Curing PC-600 : -196~150°C CC-33A : -196~120°C CC-35 : -30~120°C CC-36 : -30~100°C EP-34B : -55~150°C

3-wire system is available only for gage lengths

Туре	Polyester-coated 2-wire copper cable	Polyester-coated 3-wire copper cable	Vinyl-coated fla	at 2-wire cable	Vinyl-coated fl	at 3-wire cable	Middle-temperature 2-wire cable	Middle-temperature 3-wire cable
Length	C1,	,D25	C1	D25	 C1	D25	C1,	D25
2 cm	N2C2	N2C3						
3	N3C2	N3C3						
4	N4C2	N4C3						
5	N5C2	N5C3						
10	N10C2	N10C3						
15	N15C2	N15C3	L15C2R	L15C2S	L15C3R	L15C3S	R15C2	R15C3
30	N30C2	N30C3	L30C2R	L30C2S	L30C3R	L30C3S	R30C2	R30C3
50	N50C2	N50C3	L50C2R	L50C2S	L50C3R	L50C3S	R50C2	R50C3
1 m	N1M2	N1M3	L1M2R	L1M2S	L1M3R	L1M3S	R1M2	R1M3
2			L2M2R	L2M2S	L2M3R	L2M3S	R2M2	R2M3
3			L3M2R	L3M2S	L3M3R	L3M3S	R3M2	R3M3
4			L4M2R	L4M2S	L4M3R	L4M3S	R4M2	R4M3
5			L5M2R	L5M2S	L5M3R	L5M3S	R5M2	R5M3
6			L6M2R	L6M2S	L6M3R	L6M3S	R6M2	R6M3
7			L7M2R	L7M2S	L7M3R	L7M3S	R7M2	R7M3
8			L8M2R	L8M2S	L8M3R	L8M3S	R8M2	R8M3
9			L9M2R	L9M2S	L9M3R	L9M3S	R9M2	R9M3
10			L10M2R	L10M2S	L10M3R	L10M3S	R10M2	R10M3
15			L15M2R	L15M2S	L15M3R	L15M3S	R15M2	R15M3
20			L20M2R	L20M2S	L20M3R	L20M3S	R20M2	R20M3
25			L25M2R	L25M2S	L25M3R	L25M3S	R25M2	R25M3
30 m			L30M2R	L30M2S	L30M3R	L30M3S	R30M2	R30M3
Oprg. temp. range	-196 to	150°C		-10 to	5 80°C		-100 to	0 150℃
Remarks	Twisted for 50 cr	m and 1 m long	L-6, L-9 for 6	6 m or longer	L-7, L-10 for	6 m or longer	L-11	L-12

When ordering, suffix the leadwire cable code to the model number with a space in between. (Except for 02N, D9 & D19) Examples : KFR-5-120-C1-11 for the gage with a polyester-coated 3-wire copper cable 30 cm long  $\rightarrow$  KFR-5-120-C1-11 N30C3 → KFR-5-120-D25-11 L5M3S KFR-5-120-D25-11 for the gage with a vinyl-coated flat 3-wire cable 5 m long If no leadwire cable code is suffixed, the gage is delivered with gage leads only (silver-clad copper wires 25 mm long).

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Pattern,				ons (mr	n)	
Gage Resistance, Gage Factor	Model	Gr		Base		Remarks
		Length	width	Length	Width	
Jniaxial						
Resistance : 120 $\Omega$ , Gage factor: Approx. 2.1 (a	approx. 1.9 with KFR-02N)					
	Except for KFR-02N, these KFR se	eries aaaes	are also	availahl	e	
	with the gage resistance of $350\Omega$ .	shee gagee		aread	0	
	The size is slightly different from 12	20Ω gages.				
	KFR-5-120-C1-11					
	KFR-5-120-C1-16	5	2.5	10	3.7	
	KFR-5-120-C1-23	_				
	KFR-2-120-C1-11 KFR-2-120-C1-16	2	2.5	6	3.7	
	KFR-2-120-C1-23	_	-	-	-	
	KFR-1-120-C1-11					
	KFR-1-120-C1-16 KFR-1-120-C1-23	1	1.5	4	2.7	
	KFR-05-120-C1-23					
	KFR-05-120-C1-16	0.5	1.4	3.3	2.7	
	KFR-05-120-C1-23					
	KFR-02-120-C1-11 KFR-02-120-C1-16	0.2	1	2.5	2.2	
	KFR-02-120-C1-23			2.0	2.2	
						With polyester-coate
	KFR-02N-120-C1-11 N10C2					
%Figure is KFR-5-120-C1-11	KFR-02N-120-C1-16 N10C2	0.2	0.9	1.6	1.2	copper wires, 0.1 mr diameter by 10 cm
riaxial 0°/90°/45°		0.2	0.9	1.6	1.2	copper wires, 0.1 mr
Friaxial 0°/90°/45°	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2					copper wires, 0.1 m diameter by 10 cm long each
Friaxial 0°/90°/45°	KFR-02N-120-C1-16 N10C2	vailable wit	h the ga			copper wires, 0.1 m diameter by 10 cm long each
riaxial 0°/90°/45°	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a	vailable wit	h the ga			copper wires, 0.1 m diameter by 10 cm long each
riaxial 0°/90°/45°	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16	vailable wit	h the ga	ge resis		copper wires, 0.1 m diameter by 10 cm long each
riaxial 0°/90°/45°	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16 KFR-1-120-D25-23	wailable wit 20Ω gages.	h the ga	ge resis	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity
riaxial 0°/90°/45°	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16	wailable wit 20Ω gages.	h the ga	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-23 KFR-05-120-D25-11	ivailable wit 20Ω gages.	h the ga 1.5	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece
Friaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2           KFR-02N-120-C1-23 N10C2           These KFR series gages are also a           The size is slightly different from 12           KFR-120-D25-11           KFR-1-120-D25-16           KFR-1-120-D25-16           KFR-05-120-D25-11           KFR-05-120-D25-16           KFR-05-120-D25-23           KFR-05-120-D25-23	ivailable wit 20Ω gages.	h the ga 1.5	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2           KFR-02N-120-C1-23 N10C2           These KFR series gages are also a           The size is slightly different from 12           KFR-120-D25-11           KFR-1-120-D25-16           KFR-1-120-D25-16           KFR-05-120-D25-11           KFR-05-120-D25-16           KFR-05-120-D25-23           KFR-05-120-D25-23	ivailable wit 20Ω gages.	h the ga 1.5	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2           KFR-02N-120-C1-23 N10C2           These KFR series gages are also a           The size is slightly different from 12           KFR-120-D25-11           KFR-1-120-D25-16           KFR-1-120-D25-16           KFR-05-120-D25-11           KFR-05-120-D25-16           KFR-05-120-D25-23           KFR-05-120-D25-23	ivailable wit 20Ω gages.	h the ga 1.5	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2           KFR-02N-120-C1-23 N10C2           These KFR series gages are also a           The size is slightly different from 12           KFR-120-D25-11           KFR-1-120-D25-16           KFR-1-120-D25-16           KFR-05-120-D25-11           KFR-05-120-D25-16           KFR-05-120-D25-23           KFR-05-120-D25-23	ivailable wit 20Ω gages.	h the ga 1.5	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2           KFR-02N-120-C1-23 N10C2           These KFR series gages are also a           The size is slightly different from 12           KFR-120-D25-11           KFR-1-120-D25-16           KFR-1-120-D25-16           KFR-05-120-D25-11           KFR-05-120-D25-16           KFR-05-120-D25-23           KFR-05-120-D25-23	ivailable wit 20Ω gages.	h the ga 1.5	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity
**Figure is KFR-5-120-C1-11 Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1 **Figure is KFR-1-120-D25-11 Winiaxial 5-element, for concentra Resistance : 120Ω, Gage factor: Approx. 1.95	KFR-02N-120-C1-16 N10C2           KFR-02N-120-C1-23 N10C2           These KFR series gages are also a           The size is slightly different from 12           KFR-120-D25-11           KFR-1-120-D25-16           KFR-1-120-D25-16           KFR-05-120-D25-11           KFR-05-120-D25-16           KFR-05-120-D25-23           KFR-05-120-D25-23	ivailable wit 20Ω gages.	h the ga 1.5	ge resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16 KFR-05-120-D25-11 KFR-05-120-D25-16 KFR-05-120-D25-23 ated stress measurement	tvailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4	ige resist	tance of	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece
Triaxial 0°/90°/45°         Resistance : 120Ω, Gage factor: Approx. 2.1         Image: stance in the standard standar	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16 KFR-05-120-D25-16 KFR-05-120-D25-16 KFR-05-120-D25-23 ated stress measurement	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist ø	tance of 58 7.5	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω),
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16 KFR-05-120-D25-16 KFR-05-120-D25-16 KFR-05-120-D25-23 ated stress measurement	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist ø	tance of 58 7.5	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω),
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16 KFR-05-120-D25-16 KFR-05-120-D25-16 KFR-05-120-D25-23 ated stress measurement	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist ø	tance of 58 7.5	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω), /hen
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1 $45^{\circ}$ #Figure is KFR-1-120-D25-11 Uniaxial 5-element, for concentra Resistance : 120Ω, Gage factor: Approx. 1.95 Pitch 0.5 D9 D19	KFR-02N-120-C1-16 N10C2 KFR-02N-120-C1-23 N10C2 These KFR series gages are also a The size is slightly different from 12 KFR-1-120-D25-11 KFR-1-120-D25-16 KFR-1-120-D25-23 KFR-05-120-D25-16 KFR-05-120-D25-23 ated stress measurement	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist ø	tance of 58 7.5	copper wires, 0.1 mi diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω), then P (Pich) 0.5 mm A minimum quantity
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1 $45^{\circ}$ #Figure is KFR-1-120-D25-11 Uniaxial 5-element, for concentra Resistance : 120Ω, Gage factor: Approx. 1.95 Pitch 0.5 D9 D19 or further information please contact:	KFR-02N-120-C1-16 N10C2         KFR-02N-120-C1-23 N10C2         These KFR series gages are also a         The size is slightly different from 12         KFR-1-120-D25-11         KFR-1-120-D25-16         KFR-05-120-D25-11         KFR-05-120-D25-16         KFR-05-120-D25-23         ated stress measurement         Note: Since the gage resistance is         each element requires an external         connected to the measuring instru         KFR-015-120-D9-11 N10C2	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist	tance of 58 7.5 5 eleme stance w	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω), /hen P (Pich) 0.5 mm
Triaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1 $45^{\circ}$ **Figure is KFR-1-120-D25-11 Uniaxial 5-element, for concentra Resistance : 120Ω, Gage factor: Approx. 1.95 $120\Omega$ , Gage factor: Approx. 1.95 1	KFR-02N-120-C1-16 N10C2         KFR-02N-120-C1-23 N10C2         These KFR series gages are also a         The size is slightly different from 12         KFR-1-120-D25-11         KFR-1-120-D25-16         KFR-05-120-D25-11         KFR-05-120-D25-16         KFR-05-120-D25-23         ated stress measurement         Note: Since the gage resistance is         each element requires an external         connected to the measuring instru         KFR-015-120-D9-11 N10C2         KFR-015-120-D9-16 N10C2	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist	tance of 58 7.5 5 eleme stance w	copper wires, 0.1 mi diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω), then P (Pich) 0.5 mm A minimum quantity
Friaxial 0°/90°/45°         Resistance : 120Ω, Gage factor: Approx. 2.1         Image: state of the st	KFR-02N-120-C1-16 N10C2         KFR-02N-120-C1-23 N10C2         These KFR series gages are also a         The size is slightly different from 12         KFR-120-D25-11         KFR-120-D25-16         KFR-120-D25-17         KFR-05-120-D25-16         KFR-05-120-D25-16         KFR-05-120-D25-23         ated stress measurement         Note: Since the gage resistance is         each element requires an external         connected to the measuring instru         KFR-015-120-D9-11 N10C2         KFR-015-120-D9-23 N10C2	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist	tance of 58 7.5 5 eleme stance w	copper wires, 0.1 m diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω), /hen P (Pich) 0.5 mm A minimum quantity 5 piece
Friaxial 0°/90°/45° Resistance : 120Ω, Gage factor: Approx. 2.1 $ \frac{45^{\circ}}{45^{\circ}} $ **Figure is KFR-1-120-D25-11 <b>Jniaxial 5-element, for concentra</b> Resistance : 120Ω, Gage factor: Approx. 1.95 $ \frac{\text{Pitch 0.5}}{\text{D9}} \qquad $	KFR-02N-120-C1-16 N10C2         KFR-02N-120-C1-23 N10C2         These KFR series gages are also a         The size is slightly different from 12         KFR-1-120-D25-11         KFR-1-120-D25-16         KFR-05-120-D25-11         KFR-05-120-D25-16         KFR-05-120-D25-23         ated stress measurement         Note: Since the gage resistance is         each element requires an external         connected to the measuring instru         KFR-015-120-D9-11 N10C2         KFR-015-120-D9-16 N10C2	Ivailable wit 20Ω gages. 1 0.5	h the ga 1.5 1.4 deviatio	ige resist	tance of 58 7.5 5 eleme stance w	copper wires, 0.1 mi diameter by 10 cm long each 350Ω. A minimum quantity 5 piece A minimum quantity 5 piece ents is 5Ω), then P (Pich) 0.5 mm A minimum quantity

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