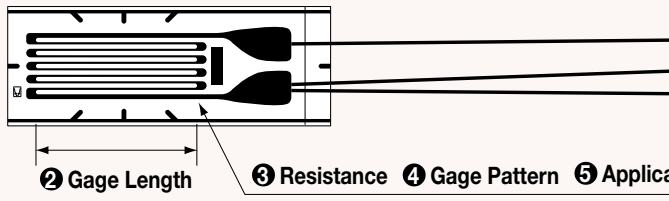
Strain Gage Model Number Coding System



KFG - 2 - 120 - C1

❶ Series Designation

KFG: General-purpose foil strain gage
KFGT: Foil strain gage with temp. sensor
KFR: Foil strain gage
KFW: Waterproof foil strain gage
KFWS: Small waterproof foil strain gage
KCW: Weldable waterproof foil strain gage
KC: Wire strain gage
KM: Embedded foil strain gage for concrete
KMC: Embedded wire strain gage for concrete
KFRP: Foil strain gage for composite materials
KFRS Foil strain gage for printed boards
KFP: Foil strain gage for plastics
KFML: Foil strain gage for low-elasticity materials
KSP: Semiconductor strain gage
KSN: Self-temperature-compensation semiconductor strain gage
KSPH: High-output semiconductor strain gage
KSPL: Ultralinear semiconductor strain gage
KHCX: Encapsulated strain gage
KHCD: Encapsulated strain gage
KHCS: Encapsulated strain gage
KHCM: Encapsulated strain gage
KHC: Encapsulated strain gage
KFU: High-temperature foil strain gage
KH: Weldable high-temp. foil strain gage
KFH: High-temperature foil strain gage
KFL: Low-temperature foil strain gage
KLM: Ultrahigh-elongation wire strain gage
KFEL: High-elongation foil strain gage
KFN: Noninductive foil strain gage
KFS: Shielded foil strain gage
KFF: Foil bending strain gage
KCH: Foil strain gage with protector
KMP: Embedded foil strain gage for plastics
KTB: Temperature gage
KV: Crack gage

❷ Gage Length

015: 0.15mm
02N: 0.2mm
02: 0.2mm
03: 0.3mm
05: 0.5mm
1N: 1mm
1: 1mm
1.5: 1.5mm
2N: 2mm
2: 2mm
3: 3mm
4N: 4mm
4: 4mm
5: 5mm
6: 6mm
7: 7mm
9: 9mm
10: 10mm
20: 20mm
30: 30mm
60: 60mm
70: 70mm
80: 80mm
120: 120mm

❸ Resistance

50: 50Ω
60: 60Ω
120: 120Ω
200: 200Ω
350: 350Ω
500: 500Ω
1K: 1000Ω
2K: 2000Ω
10K: 10000Ω

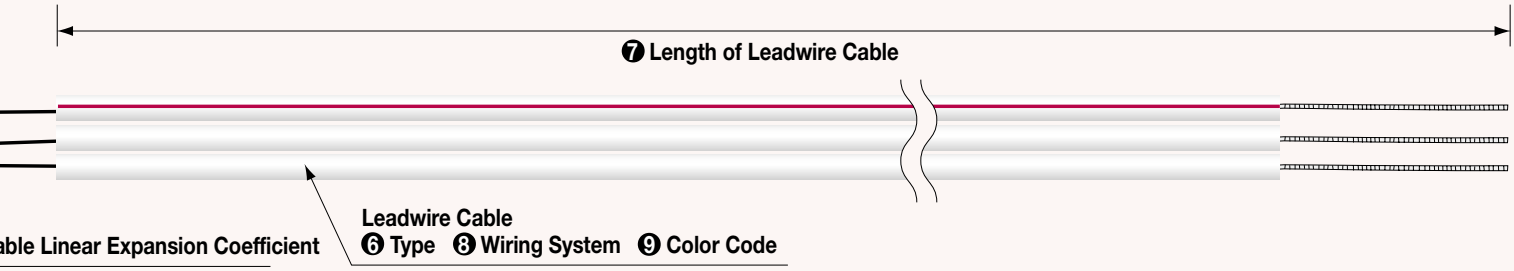
❹ Gage Pattern

A1: Uniaxial, leads at one end (KC, KTB gages)
A9: Uniaxial, leads at one end (KLM gage)
C1: Uniaxial, leads at one end (foil gage)
C2: Uniaxial 90°, lead at both ends
C3: Uniaxial 0°, lead at both ends
C9: Uniaxial, leads at one end (KFN gage)
C11: Uniaxial, 2-element, 1mm thick (KFF gage)
C12: Uniaxial, 2-element, 2mm thick (KFF gage)
C15: Uniaxial right 45°, for shearing strain, leads at one end
C16: Uniaxial left 45°, for shearing strain, leads at one end
C20: Uniaxial, leads at a side (for bolt axial tension)
D1: Biaxial 0°/90°, lead at both ends
D2: Biaxial 0°/90°, lead at both ends (for torque)
D3: Triaxial 0°/90°/45°, lead at both ends, plane arrangement
D4: Triaxial 0°/120°/240°, plane arrangement
D6: Quadraxial 0°/30°/90°/150°
D9: Uniaxial 5-element 90°
D16: Biaxial 0°/90° stacked rosette, round base
D17: Triaxial 0°/90°/45° stacked rosette, round base
D19: Uniaxial 5-element 0°
D20: Biaxial 0°/90° (KFN gage)
D22: Triaxial 0°/90°/45°, plane arrangement
D25: Triaxial 0°/90°/45°, plane arrangement
D28: Triaxial 0°/135°/90°, plane arrangement (for boring)
D29: Biaxial 0°/90°, leads at one end, plane arrangement
D30: Triaxial 0°/90°/45°, leads at one end, plane arrangement
D31: Biaxial 0°/90°, leads at one end (for torque)
D39: Biaxial 5-element 0°/90°
E3: Uniaxial, lead at both ends (semiconductor gage)
E4: Uniaxial, leads at one end (semiconductor gage)
E5: Uniaxial, lead at both ends with no base (semiconductor gage)
F2: Uniaxial 2-element (semiconductor gage)
F3: Biaxial 0°/90° (semiconductor gage)
G4: Uniaxial, leads at one end (KH-G4)
G8: Uniaxial active/dummy 2-element, Inconel (for KHC)
G9: Uniaxial active/dummy 2-element, SUS (for KHC)
G10: Uniaxial (for KCW)
G11: Uniaxial (for KHCD)
G12: Uniaxial active/dummy 2-element (for KHCS)
G13: Uniaxial active/dummy 2-element (for KHCX)
G14: Full-bridge (for KCW)
G15: Uniaxial active/dummy 2-element (for KHCM)
H1: Uniaxial (for KM-30)
H2: Uniaxial (for KM-120)
H3: Uniaxial (for KMC)
H4: Uniaxial with T thermocouple (for KMC)
J1: Uniaxial (for KFS)

Note: Combination of codes is limited and menu options cannot freely be selected.

To select the most suitable strain gage and related products, refer to Pages 18 to 31.

KYOWA can customize strain gages according to measuring purposes.



- 11 L 1 M 3 R

❺ Applicable Linear Expansion Coefficient

(x10^{-6}/°C)

1: CFRP, etc. for composite materials
Amber (1.1)
Diamond (1.2)

3: GFRP, etc. for composite materials
Silicon (2.3)
Sulfur (2.7)

5: GFRP, etc. for composite materials
Tungsten (4.5)
Lumber (5.0)
Molybdenum (5.2)
Zirconium (5.4)
Kobar (5.9)

6: GFRP, etc. for composite materials
28 Tantalum (6.6)

9: CFRP, GFRP, etc. for composite materials
Titanium alloy (8.5)
Platinum (8.9)
Soda-lime glass (9.2)

11: Common steel (11.7)
SUS631 (10.3)
SUS630 (10.6)
Cast iron (10.8)
Nickel-molybdenum steel (11.3)
Beryllium (11.5)
Inconel X (12.1)

13: NCF, etc. for corrosion and heat-resistant alloys
Nickel (13.3)
Printed board (13.0)

16: Stainless steel SUS304 (16.2)
Beryllium steel (16.7)
Copper (16.7)

23: 2014-T4 aluminum (23.4)
Brass (21.0)
Tin (23.0)
2024-T4 aluminum (23.2)

27: Magnesium alloy (27.0)
Composite material GFRP (35.0)

65: Acrylic resin (65.0)
Polycarbonate (66.6)

Leadwire Cable

❻ Type

B: Glass-coated cable of 3 Ni-clad copper wires
C: MI cable (for KHC, KHCD, KHCM, KHCS and KHCX gages)
D: Glass-coated cable of 3 FeNi-clad copper wires
F: Fluoplastic-coated high/low temp. 3-wire cable (equiv. to L-3 leadwire cable)
G: Polyethylene-coated cross-link 3-wire cable
H: High/low temp. 3-wire cable (equiv. to L-17 leadwire cable)
J: Vinyl-coated normal temp. low-noise 3-wire cable (equiv. to L-13 leadwire cable)
L: Vinyl-coated flat 2 or 3-wire cable (L-6, L-7, L-9 or L-10)
N: Polyester-coated copper wire cable
R: Mid-temp. 2 or 3-wire cable (L-11 or L-12)
W: Vinyl-coated flat 3-wire cable (for KM-120)
Y: Vinyl-coated flat 2-wire cable (for KM-30)

❼ Length

C: Centimeter
e.g. 30C = 30cm
M: Meter
e.g. 3M = 3m

❽ Wiring System

2: 2-wire system
3: 3-wire system
In the case of encapsulated gage
Number: Length of soft cable
V: With bridge adapter
F: With compression fitting
FV: With both bridge adapter and compression fitting

❾ Color Code

Color codes are available for only vinyl-coated flat leadwire cables.

2-wire system
R: Red
W: White*
B: Black*
G: Green*
Y: Yellow*
*Custom-made
S: Multi-axial gages (Standard)
• Biaxial (D16)
0° (1st axis): Red
90° (2nd axis): White
• Triaxial (D17)
0° (1st axis): Red
45° (3rd axis): Green
90° (2nd axis): White

3-wire system
The insulator color is white and the stripe color code is as follows.
R: Red
L: Blue*
B: Black*
G: Green*
Y: Yellow*
*Custom-made
S: Multi-axial gages (Standard)
• Biaxial (D16)
0° (1st axis): Red
90° (2nd axis): Black
• Triaxial (D17)
0° (1st axis): Red
45° (3rd axis): Blue
90° (2nd axis): Black

To select a strain gage equipped with leadwire cable, refer to Page 24.

To select a strain gage and leadwire cable separately, refer to Page 26.