Gages for Composite Materials/Plastics

Pattern, Gage Resistance, Gage Factor	Model	Dimensions (mm) Grid Base Length Width Length Width	Remarks
●KFRP Series Foil Strain Gage	s for Composite Materials		
When ordering, suffix the leadwire cable code (see table at the right) to the model number with a space in between. Example : KFRP-5-120-C1-1 N15C2 for the gage with polyester-coated 2-wire copper cable 15 cm long KFRP-5-120-D22-3 L5M3S for the gage with a vinyl-coated flat 3-wire cable 5 m long pre-attached If no leadwire cable code is suffixed, the gage is delivered with gage leads only (silver-clad copper wires 25 mm long)	 The KFRP series foil strain gages (SELCOM[®] gages) suitable for s such as CFRP and GFRP. The s self-heating due to gage currelow-elasticity materials. To ensure accurate measuremer current, consider the following: Select a lower bridge excitation voltage selection. Active-dummy method 350Ω strain gages Applicable Adhesives and Oper CC-33A : -196 to 120°C CC-35 CC-36 : -30 to 100°C EP-34E 	strain measurement of compo- special gage pattern minimize rent and the effect of reinf at by avoiding the self-heating tion voltage if the amplifier a rating Temperature Range at : -30 to 120°C	osite materials s the effect of orcement of effect of gage allows bridge
■Types, lengths and codes of leadw	ire cables pre-attached to KFRP g	gages	

Туре	2polyester-coated copper wires	3polyester-coated copper wires	Vinyl-coated fl	at 2-wire cable	Vinyl-coated fl	at 3-wire cable	Middle-temperature 2-wire cable	Middle-temperature 3-wire cable	Fluoroplastic coated high/low-temp. 3-wire cable
Length	C1	,D22	C1	D22	C1	D22		C1,D22	
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	F15C3
30	N30C2	N30C3	L30C2R	L30C2S	L30C3R	L30C3S	R30C2	R30C3	F30C3
50	N50C2	N50C3	L50C2R	L50C2S	L50C3R	L50C3S	R50C2	R50C3	F50C3
1 m	N1M2	N1M3	L1M2R	L1M2S	L1M3R	L1M3S	R1M2	R1M3	F1M3
2			L2M2R	L2M2S	L2M3R	L2M3S	R2M2	R2M3	F2M3
3			L3M2R	L3M2S	L3M3R	L3M3S	R3M2	R3M3	F3M3
4			L4M2R	L4M2S	L4M3R	L4M3S	R4M2	R4M3	F4M3
5			L5M2R	L5M2S	L5M3R	L5M3S	R5M2	R5M3	F5M3
6			L6M2R	L6M2S	L6M3R	L6M3S	R6M2	R6M3	F6M3
7			L7M2R	L7M2S	L7M3R	L7M3S	R7M2	R7M3	F7M3
8			L8M2R	L8M2S	L8M3R	L8M3S	R8M2	R8M3	F8M3
9			L9M2R	L9M2S	L9M3R	L9M3S	R9M2	R9M3	F9M3
10			L10M2R	L10M2S	L10M3R	L10M3S	R10M2	R10M3	F10M3
15			L15M2R	L15M2S	L15M3R	L15M3S	R15M2	R15M3	F15M3
20			L20M2R	L20M2S	L20M3R	L20M3S	R20M2	R20M3	F20M3
25			L25M2R	L25M2S	L25M3R	L25M3S	R25M2	R25M3	F25M3
30 m			L30M2R	L30M2S	L30M3R	L30M3S	R30M2	R30M3	F30M3
Oprg. temp. range	-196~	150°C		-10 tc	80°C		-100 to	150°C	-196 to 200°C
Remarks	Twisted for 50 c	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	L-3

KFRP-2-350-C1-3

KFRP-2-350-C1-6 KFRP-2-350-C1-9

Uniaxial

Resistance : 120Ω, Gage factor : Approx. 2.1

2.1	KFRP-5-120-C1-1					
	KFRP-5-120-C1-3	5	- 4	15	5	
	KFRP-5-120-C1-6	5	1.4	15	Э	
_	KFRP-5-120-C1-9					
_	KFRP-2-120-C1-1					
	KFRP-2-120-C1-3	2	1.0	10	5	
	KFRP-2-120-C1-6	2	1.2	10	Э	
	KFRP-2-120-C1-9					
2.1						
	KFRP-5-350-C1-1					
	KFRP-5-350-C1-3	5	1.5	15	5	
-	KFRP-5-350-C1-6	5	1.5	15	Э	
-	KFRP-5-350-C1-9					
	KFRP-2-350-C1-1					

2

2.2

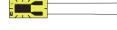
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Resistance : 350 Ω , Gage factor : Approx. 2.



-33

STRAIN GAGES

	Pattern,						imensic			
Gage F	Resistance, G	age Factor		Model	_	Gr	-	Ba: Length		Remark
					L	engin	wiath	Length	wiath	
Triaxial, 0										
Resistance : 1	20Ω, Gage facto	or : Approx. 2.1	Each of 3 a	xis may be giver	n a different lii	near exp	pansion c	oefficient	if reques	sted.
				120-D22-1						
				120-D22-3		5	1.4	19	19	
	3 /45°			120-D22-6 120-D22-9						
1 🖻	45			120-D22-1						
1			KFRP-2-	120-D22-3		2	1.2	15	15	
-	45°			120-D22-6		2	1.2	10	10	
			KFRP-2-	120-D22-9						
Triaxial, 0		ar . Annray 01	Each of 2 o		a a difforant li	DOOR OV	onoion o	oofficient	if roquo	atad
	350Ω, Gage facto	ог : Approx. 2.1		xis may be giver	n a unierent II	near exp	Jai ISION C	Jenicient	ii reques	5เฮน.
	N			350-D22-1 350-D22-3						
	3			350-D22-3 350-D22-6		5	1.5	19	19	
	45°			350-D22-9						
				350-D22-1						
				350-D22-3		2	2.2	15	15	
	45°			350-D22-6 350-D22-9						
	Series Foil	Chucin On								
3-wire co	ge with a poly opper cable		Linear expSelf-temp	ong by 1.1 mm v bansion coefficie erature-compen s of printed boa	nt of 13 x 10-	⁰/°C, suit	table for c	componer	nt-mount	ed board
3-wire co pre-attache KFRP-5-12 for the gag	opper cable	ester-coated 10-cm long M3S /l-coated flat	 Linear exp Self-tempor cyclic test 	ansion coefficie	nt of 13 x 10- isation range i rds	⁰/°C, suit is made t ting T o	table for c as wide a empera	componer as –30 to ture Ra	nt-mount 120°C to	ed board o satisfy therma
3-wire co pre-attache KFRP-5-12 for the gag 3-wire cable	opper cable d 20-D35-13 L5 ge with a viny e 5 m long pre- engths and co	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated	 Linear exp Self-temp cyclic test Applicable CC-33A : - vire cables pr 	e Adhesives -196 to 120°C	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 :	[€] /°C, suii is made ting To -30 to ges	table for c as wide a empera 100°C	ture Ra PC-60	nt-mount 120°C to nge aff 00 : -19	ter Curing 6 to 150°C Middle-temperature
3-wire co pre-attache KFRP-5-12 for the gag 3-wire cable	opper cable d 20-D35-13 L5 ge with a viny e 5 m long pre- engths and co	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated	 Linear exp Self-temp cyclic test Applicable CC-33A : - vire cables pr 	ension coefficie erature-compen s of printed boa e Adhesives -196 to 120°C re-attached to	nt of 13 x 10 ⁻⁴ isation range i rds and Opera CC-36 : o KFRS gag	[€] /°C, suii is made ting To -30 to ges	table for c as wide a empera 100°C	ture Ra PC-60	nt-mount 120°C to nge aft 00 : -19	ter Curing 6 to 150°C
3-wire co pre-attache KFRP-5-12 for the gao 3-wire cable	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated	 Linear exp Self-temp cyclic test Applicable CC-33A : - vire cables pr 	ension coefficie erature-compen s of printed boa e Adhesives -196 to 120°C re-attached to	nt of 13 x 10 ⁻⁴ isation range i rds and Opera CC-36 : o KFRS gag	⁸ /C, suiti is made t ting T o -30 to ges d flat 3-v	table for c as wide a empera 100°C	ture Ra PC-60	nt-mount 120°C to nge aff 00 : -19	ted board b satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable Types, le Type Length 10 cm	20-D35-13 L5 ge with a viny e 5 m long pre- engths and cc Polyester-coated 2-wire copper cable C1,D3 N10C2	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 34,D35 N10C3	 Linear exp Self-tempory cyclic test Applicable CC-33A : - trie cables pr Vinyl-coated fl 	e Adhesives -196 to 120°C re-attached to at 2-wire cable	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate	⁸ /C, suiti is made t ting T o -30 to ges d flat 3-v	table for c as wide a empera 100°C	ture Ra PC-60	nt-mount 120°C to nge aff 00 : -19	ted board b satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable
3-wire co pre-attache KFRP-5-12 for the gag 3-wire cable Types, le Length	20-D35-13 L5 ge with a viny e 5 m long pre- engths and cc Polyester-coated 2-wire copper cable	ester-coated 10-cm long M3S /l-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable	 Linear exp Self-tempory cyclic test Applicable CC-33A : - trie cables pr Vinyl-coated fl 	e Adhesives -196 to 120°C re-attached to at 2-wire cable	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate	۴/C, suii is made -30 to ges d flat 3-v	table for c as wide a empera 100°C	componer as -30 to ture Ra PC-6(Middle-te 2-wire	nt-mount 120°C to nge aff 00 : -19	ted board b satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable
3-wire co pre-attache KFRP-5-13 for the gag 3-wire cable ■ Types, le Type Length 10 cm 30 1 m 3	20-D35-13 L5 ge with a viny e 5 m long pre- engths and cc Polyester-coated 2-wire copper cable C1,D3 N10C2	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 34,D35 N10C3	 Linear exp Self-tempic cyclic test Applicable CC-33A : - vire cables pr Vinyl-coated fl C1 L1M2R L3M2R 	e Adhesives e Adhesives e Adhesives e attached to re-attached to b34,D35 L1M2S L3M2S	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 C1 L1M3R L3M3R	6/C, sui is made .ting To .30 to ges d flat 3-v	table for c as wide a empera 100°C vire cable D34,D35	xomponer as -30 to ture Ra PC-6(Middle-te 2-wire 2	mperature c1,D3 M2 M2 M2	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35
3-wire co pre-attache KFRP-5-1: for the gag 3-wire cable ■ Types, le Type Length 10 cm 30 1 m 3 5	20-D35-13 L5 ge with a viny e 5 m long pre- engths and cc Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 34,D35 N10C3	 Linear exp Self-tempic cyclic test Applicable CC-33A : - vire cables pr Vinyl-coated fl C1 L1M2R 	e Adhesives s of printed boar e Adhesives -196 to 120°C re-attached to at 2-wire cable D34,D35 L1M2S L3M2S L5M2S	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 C1	6/C, sui is made .ting To .30 to ges d flat 3-v	table for c as wide a empera 100°C vire cable D34,D35	xomponer as -30 to ture Ra PC-6(Middle-te 2-wire 2	mperature cc1,D3 M2	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3
3-wire co pre-attache KFRP-5-13 for the gag 3-wire cable ■ Types, le Type Length 10 cm 30 1 m 3	20-D35-13 L5 ge with a viny e 5 m long pre- engths and cc Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2	ester-coated 10-cm long M3S /l-coated flat -attached odes of leadw Polyester-coated 34,D35 N10C3 N30C3	 Linear exp Self-temporycyclic test Applicable CC-33A : - /ire cables pr Vinyl-coated fl C1 L1M2R L3M2R L5M2R 	e Adhesives s of printed boar e Adhesives -196 to 120°C re-attached to at 2-wire cable D34,D35 L1M2S L3M2S L5M2S	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : 0 KFRS gag Vinyl-coate C1 C1 C1 L1M3R L3M3R	6/C, sui is made .ting To .30 to ges d flat 3-v	table for c as wide a empera 100°C vire cable D34,D35	xomponer as -30 to ture Ra PC-60 Middle-te 2-wire 2	mperature c1,D3	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable Types, le Type Length 10 cm 30 1 m 3 5 Oprg.temp.range Remarks	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 	 Linear exp Self-tempore cyclic test Applicable CC-33A : - trice cables pr Vinyl-coated fl C1 C1 L1M2R L3M2R L6M2R L6M2R 	e Adhesives -196 to 120°C re-attached to at 2-wire cable D34,D35 L1M2S L3M2S L5M2S -10 to -6	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : 0 KFRS gag Vinyl-coate C1 C1 C1 L1M3R L3M3R	e/C, suiting Te sting Te -30 to ges d flat 3-v	table for c as wide a empera 100°C vire cable D34,D35	xomponer as -30 to ture Ra PC-60 Middle-te 2-wire 2	mperature cable C1,D3 M2 M2 M2 -100 to	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 R1M3 R3M3 R3M3 R5M3 150°C
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable ■Types, le Type Length 10 cm 30 1 m 3 5 Oprg. temp. range	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2	ester-coated 10-cm long M3S /l-coated flat -attached odes of leadw Polyester-coated 34,D35 N10C3 N30C3	 Linear exp Self-temporyclic test Applicable CC-33A : - //ire cables pr	e Adhesives -196 to 120°C re-attached to at 2-wire cable D34,D35 L1M2S L3M2S L3M2S -10 to -0 to -10 to -0 to -10 to -0 to -0 to -10 to -0 to -10 to -0 to -10 to -0 to -10 t	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 C1 L1M3R L3M3R L5M3R	e/C, suitis made is made -30 to ges d flat 3-v	table for c as wide a empera 100°C vire cable D34,D35 L1M3S L3M3S	xomponer as -30 to ture Ra PC-60 Middle-te 2-wire 2	mount 120°C to nge afi 000 : -19 mperature cable C1,D3 M2 M2 -100 to 11	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3 150°C L-12
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable Types, le Type Length 10 cm 30 1 m 3 5 Oprg.temp.range Remarks	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2 -196 to Resi	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 34,D35 N10C3 N30C3 0 150°C stance : 120Ω,	 Linear exp Self-temporyclic test Applicable CC-33A : - trie cables pr Vinyl-coated fl C1 C1 L1M2R L3M2R L5M2R L5M2R L Gage factor : Ap The following 	e Adhesives -196 to 120°C re-attached to at 2-wire cable D34,D35 L1M2S L3M2S L5M2S -10 to -6	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 L1M3R L3M3R L5M3R o 80°C	e/C, suitis made is made -30 to ges d flat 3-v	table for c as wide a empera 100°C vire cable D34,D35 L1M3S L3M3S	xomponer as -30 to ture Ra PC-60 Middle-te 2-wire 2	mount 120°C to nge afi 000 : -19 mperature cable C1,D3 M2 M2 -100 to 11	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3 150°C L-12
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable Types, le Type Length 10 cm 30 1 m 3 5 Oprg.temp.range Remarks	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2 -196 to Resi	ester-coated 10-cm long /l-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 	 Linear exp Self-temporyclic test Applicable CC-33A : - /ire cables pr Vinyl-coated fl C1 C1 C1 C1 C302R L5M2R L5M2R L2 Gage factor : Ap The following flat 3-wire ca KFRS-1- 	e Adhesives e Adhesives e Adhesives e Adhesives e Adhesives e attached to at 2-wire cable D34,D35 L1M2S L3M2S L3M2S -10 tr -6 oprox. 2.0 g models with th able 1 m long pr 120-C1-13 L1M	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 C1 L1M3R L3M3R L3M3R D 80°C	e/C, suiting Te is made -30 to ges d flat 3-v L-7 ble code 1	table for c as wide a empera 100°C vire cable D34,D35 L1M3S L3M3S L3M3S e L1M3R 0.65	xomponer as -30 to ture Ra PC-60 Middle-te 2-wire 2	mperature cable C1,D3 M2 -100 to 11 rred with 1.4	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3 150°C L-12
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable Types, le Type Length 10 cm 30 1 m 3 5 Oprg.temp.range Remarks	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2 -196 to Resi	ester-coated 10-cm long /l-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 	 Linear exp Self-temporyclic test Applicable CC-33A : - /ire cables pr Vinyl-coated fl C1 C1 C1 C1 C302R L5M2R L5M2R L2 Gage factor : Ap The following flat 3-wire ca KFRS-1- 	e Adhesives • 196 to 120°C • e-attached to at 2-wire cable D34,D35 L1M2S L3M2S L3M2S -10 to -6 pprox. 2.0 g models with thable 1 m long pro-	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 C1 L1M3R L3M3R L3M3R D 80°C	e/C, suitis made is made -30 to ges d flat 3-v	table for c as wide a empera 100°C vire cable D34,D35 L1M3S L3M3S L3M3S EM3S	xomponer as -30 to ture Ra PC-6(Middle-te 2-wire 2	mperature cable C1,D3 M2 -100 to 11 red with	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3 150°C L-12
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable Types, le Type Length 10 cm 30 1 m 3 5 Oprg.temp.range Remarks	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2 -196 to Resi	ester-coated 10-cm long /l-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 	 Linear exp Self-temporyclic test Applicable CC-33A : - trice cables pr Vinyl-coated fl C1 C1 L1M2R L3M2R L5M2R L5M2R L5M2R L5M2R L5M2R L5M2R L5M2R KFRS-02 	e Adhesives e Adhesives 196 to 120°C re-attached to at 2-wire cable D34,D35 L1M2S L3M2S L5M2S -10 to -6 oprox. 2.0 g models with th able 1 m long pr 120-C1-13 L1M	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 C1 L1M3R L3M3R L3M3R D 80°C	e/C, suiting Te is made -30 to ges d flat 3-v L-7 ble code 1	table for c as wide a empera 100°C vire cable D34,D35 L1M3S L3M3S L3M3S e L1M3R 0.65	xomponer as -30 to ture Ra PC-60 Middle-te 2-wire 2	mperature cable C1,D3 M2 -100 to 11 rred with 1.4	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3 150°C L-12
3-wire copre-attache KFRP-5-12 for the gao 3-wire cable Types, left Type Length 10 cm 30 1 m 3 0prg.temp.range Remarks Uniaxial	20-D35-13 L5 ge with a viny e 5 m long pre- engths and co Polyester-coated 2-wire copper cable C1,D3 N10C2 N30C2 -196 to Resi	ester-coated 10-cm long M3S /I-coated flat -attached odes of leadw Polyester-coated 3-wire copper cable 	 Linear exp Self-tempicyclic test Applicable CC-33A : - trie cables pr Vinyl-coated fl C1 C1 C1 C1 C1 C3 C1 <	e Adhesives e Adhesives 196 to 120°C re-attached to at 2-wire cable D34,D35 L1M2S L3M2S L5M2S -10 to -6 oprox. 2.0 g models with th able 1 m long pr 120-C1-13 L1M	nt of 13 x 10 ⁻⁴ isation range rds and Opera CC-36 : o KFRS gag Vinyl-coate C1 C1 L1M3R L3M3R L3M3R D 80°C	e/C, suiting Te is made -30 to ges d flat 3-v L-7 ble code 1	table for c as wide a empera 100°C vire cable D34,D35 L1M3S L3M3S L3M3S e L1M3R 0.65	xomponer as -30 to ture Ra PC-60 Middle-te 2-wire 2	mperature cable C1,D3 M2 -100 to 11 rred with 1.4	ed board o satisfy therma ter Curing 06 to 150°C Middle-temperature 3-wire cable 4,D35 4,D35 R1M3 R3M3 R5M3 150°C L-12
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