Thermal-Ribbon™ Sensors

Install these compact sensors anywhere for accurate point sens-ing and fast response. All Thermal-Ribbon models conform to EN60751 Class B tolerance when ordered with a PD platinum element.

- Fast response surface sensing in aerospace, medical and industrial devices
- Rugged lamination construction
- Polyimide, silicone rubber or Mylar™ insulation
- All models are RoHS compliant

Thermal-Ribbon Specifications

0.20 x 1.50 x 0.030" (5.1 x 38.1 x 0.8 mm) 	FA	Polyimide	-200 to 200°C -328 to 392°F	AWG 34, PTFE insulated	0.15 sec.	Wire-wound nickel-iron for high resistance in small package	S38
0.30 x 0.30 x 0.025" (7.6 x 7.6 x 0.7 mm) 	PD, PE	Polyimide with foil backing	-200 to 200°C -328 to 392°F	AWG 28, PTFE insulated	0.15 sec.	Wire-wound element	S651
0.75 x 0.75 x 0.04" (19 x 19 x 1.0 mm 	FA	Mylar	-200 to 150°C -328 to 302°F	AWG 30, PTFE insulated	0.3 sec.	Wire-wound nickel-iron flat element for high resistance	S25

*Notes: T_{max} is measured over the lead bulge.*Time constant is in water at 1 m/sec.*

Specifications, continued

Leadwire insulation codes	
S25, S38, S651	Leave blank

Sensing elements

Sensing element specifications**		Code
Platinum (0.00385 TCR) (EN60751, Class B)	100 Ω ±0.12% at 0°C	PD
Platinum (0.00385 TCR)	100 Ω ±0.22% at 0°C	PE
Platinum (0.00385 TCR)	1000 Ω ±0.12% at 0°C	PF
Platinum (0.00375 TCR)	1000 Ω ±0.12% at 0°C	PW
Platinum (0.00385 TCR)	10,000 Ω ±0.12% at 0°C	PS
Nickel-iron (0.00518 TCR)	604 Ω ±0.26% at 0°C	FA
Nickel (0.00618 TCR) (DIN43760 NI100, Class B)	100 Ω ±0.22% at 0°C	NB
Nickel (0.00672 TCR)	120 Ω ±0.50% at 0°C	NA
Nickel (0.00618 TCR) (DIN43760 NI1000, Class B)	1,000 Ω ±0.22% at 0°C	NJ

*** See table on previous page for element options on each model.*

Specifications and order options

S651	Model number from table
PD	Sensing element from table
Z	Number of leads: Y = 2 leads Z = 3 leads (N/A on S25, S38) X = 4 leads (N/A on S25, S38 or S665/S667)
T	Leadwire insulation code from table at left
24	Lead length in inches: S665/S667: 60" max.
A	Adhesive backing: A = No adhesive B = Pressure-sensitive adhesive (PSA)
Stop here for all models except S665 or S667. For models S665 and S667, add:	
C	Compliancy: C = RoHS Compliance
S651PDY40AC = Sample part number	

Notes: PSA reduces temperature range to -20 to 177°C (-4 to 350°F) and adds 0.005" (0.1 mm) to thickness.

Custom Thermal-Ribbon designs

Mod-tronic can custom-wind Thermal-Ribbon elements in virtual-ly any shape and size. We can profile sensing elements to provide increased sensitivity in selected zones, and provide packaging to perfectly fit your applications.

Contact Mod-tronic Sales and Customer Service today to discuss your application.

Strip Sensing Thermal-Ribbons™

Overview

These models average temperatures along their length to eliminate point measurement errors. Wrap them around cylinders or adhere them to flat surfaces.

Specifications

Dimensions W x L x T_{max}	Element options	Insulation	Temperature range	Lead-wires	Time constant*	Features	Model
0.50 x 1.25 x 0.050" (12.7 x 31.8 x 1.3 mm) 	PA, PE, CA, NA	Polyimide	-73 to 200°C -100 to 392°F	AWG 26, PTFE insu-lated	0.17 sec.	Easy motor installations	S3238
0.375 x 4.00 x 0.075" (9.5 x 101.6 x 1.9 mm) 	PB22	Silicone rubber w/ poly-imide backing	-62 to 220°C -80 to 428°F		0.6 sec.	Platinum PD accuracy	S34
	PD12 PE22						S386
0.375 x 4.00 x 0.065" (9.5 x 101.6 x 1.7 mm) 	FA	Polyimide	-200 to 200°C -328 to 392°F		0.2 sec.	Wire-wound nickel-iron for high resistance, thin element	S35
	FA	Mylar	-100 to 150°C -148 to 302°F		0.3 sec.	Wire-wound nickel-iron,low cost	S2

Notes: T_{max} is measured over the lead bulge.
**Time constant is in water at 1 m/sec.*
Refer to Sensing Elements Table on Page 10-4

Specification and order options

S34	Model number from table (except S3238)
PB22	Sensing element from table
Y	Number of leads: Y = 2 leads Z = 3 leads (required on CA) X = 4 leads (PD only)
36	Lead length in inches: 36" stocked (42" on S2)
A	Adhesive backing: A = No adhesive B = Pressure-sensitive adhesive (PSA)
S34PB22Y36A = Sample part number	

Notes: PSA reduces temperature range to -20 to 177°C (-4 to 350°F) and adds 0.005" (0.1 mm) to thickness.

Model S3238

Model S3238 is specially designed to sense ***stator*** temperatures in motors and generators. An alternative to the "stick" sensors, the S3238 mounts on the end turns of stator windings and provides an easy way to add overtemperature protection when the stator is not being rewound.

S3238 specification and order options

S3238	Model number S3238
PA	Sensing element from table
Y	Number of leads: Y = 2 leads (not available on CA) Z = 3 leads X = 4 leads
T	Lead insulation: T = PTFE K = polyimide TS = SS braid over PTFE
36	Lead length in inches: 36" stocked
U	Lead configuration: T = Twisted U = Untwisted
A	Adhesive backing: A = No adhesive B = Pressure-sensitive adhesive (PSA)
S3238PAYT36UA = Sample part number	

STOCKED PARTS AVAILABLE

Note: Available up to 10 pieces or contact Minco Customer Service

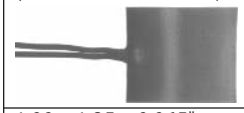
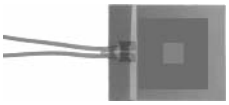
Specifications subject to change

Discoil™ Thermal-Ribbons

Overview

Install these compact sensors anywhere for accurate point sensing. Discoil™ RTD elements are wound on a single plane for faster time response.

Specifications

Dimensions W x L x T_{max}	Element options	Insulation	Temperature range	Leadwires	Time constant*	Features	Model
0.79 x 1.87 x 0.055" (20 x 47.5 x 1.4 mm) solder pad version shown 	PD, PE	Polyimide (clear polyester available)	-73 to 200°C -100 to 392°F	(Optional) AWG 24, PTFE insulated	0.10 sec.	Only 0.010" thick over element, fast time response, platinum PD accuracy available	S17422
1.00 x 1.25 x 0.090" (25.4 x 31.8 x 2.3 mm) 	PB11, PB22	Silicone rubber with polyimide backing	-62 to 220°C -80 to 428°F	AWG 24, silicone rubber insulated	0.2 sec.	High temperature rating, platinum PD accuracy available	S32
	PD12, PE22						S385
1.00 x 1.25 x 0.065" (25.4 x 31.8 x 1.7 mm) 	FA	Polyimide	-200 to 200°C -328 to 392°F	AWG 26, PTFE insulated	0.15 sec.	High resistance nickel-iron element	S39

Notes: T_{max} is measured over the lead bulge.

**Time constant is in water at 1 m/sec.*

Sensing elements

Sensing element specifications**		Code
Platinum (0.00391 TCR)	100 Ω ±0.5% at 0°C	PA
Platinum (0.00391 TCR)	100 Ω ±0.11% at 0°C	PB11
Platinum (0.00391 TCR)	100 Ω ±0.22% at 0°C	PB22
Platinum (0.00385 TCR) (EN60751, Class B)	100 Ω ±0.12% at 0°C	PD, PD12
Platinum (0.00385 TCR)	100 Ω ±0.36% at 0°C	PE (Discoil)
Platinum (0.00385 TCR)	100 Ω ±0.5% at 0°C	PE (Strip sensing)
Platinum (0.00385 TCR)	100 Ω ±0.22% at 0°C	PE22
Nickel-iron (0.00518 TCR)	604 Ω ±0.26% at 0°C	FA
Copper 427	10 Ω ±0.20% at 25°C	CA
Nickel 672	120 Ω ±0.3% at 0°C	NA

*** See table above for element options on each model.*

Specification and order options

S32	Model number from table
PB22	Sensing element from table
Z	Number of leads: Y = 2 leads Z = 3 leads X = 4 leads W = Solder pads (S17422 only)
36	Lead length in inches (Specify 0 for solder pads, option on S17422 only)
A	Adhesive backing: A = No adhesive B = Pressure-sensitive adhesive (PSA)
S32PB22Z36A = Sample part number	

Notes: PSA reduces temperature range to -20 to 177°C (-4 to 350°F) and adds 0.005" (0.1 mm) to thickness.

Specifications subject to change