

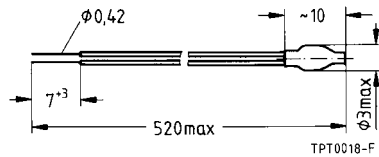
Sensors	B59100
Motor Protection, Single Sensors	M 1100

Applications

- Thermal protection of winding in electric motors
- Limit temperature monitoring

Features

- Thermistor pellet with insulating encapsulation
- Low-resistance type
- Silver-plated and Teflon-insulated AWG 26 litz wires
- Extremely fast response due to small dimensions
- Characteristics for nominal threshold temperatures of 90 up to 160 °C conform with DIN 44081
- Color coding of litz wires to DIN 44081



Dimensions in mm

Delivery mode

- Bulk

General technical data

Max. operating voltage	$(T_A = 0 \dots 40 \text{ } ^\circ\text{C})$	$V_{\max}$	30	VDC
Max. measuring voltage	$(T_A - 25 \text{ K} \dots T_{\text{NTT}} + 23 \text{ K})$	$V_{\text{meas,max}}$	7,5	VDC
Rated resistance	$(V_{\text{PTC}} \leq 2,5 \text{ V})$	R_N	≤ 100	Ω
Insulation test voltage		V_{ins}	2,5	kV AC
Thermal threshold time		t_a	< 3	s
Operating temperature range	$(V \leq V_{\text{meas,max}})$ $(V = V_{\max})$	T_{op} T_{op}	$-25/ T_{\text{NTT}} + 23$ 0/+ 40	$^\circ\text{C}$ $^\circ\text{C}$

Electrical specifications and ordering codes

$T_{\text{NTT}} \pm \Delta T$ $^\circ\text{C}$	$R(T_{\text{NTT}} - \Delta T)$ $(V_{\text{PTC}} \leq 2,5 \text{ V})$ Ω	$R(T_{\text{NTT}} + \Delta T)$ $(V_{\text{PTC}} \leq 2,5 \text{ V})$ Ω	$R(T_{\text{NTT}} + 15 \text{ K})$ $(V_{\text{PTC}} \leq 7,5 \text{ V})$ Ω	$R(T_{\text{NTT}} + 23 \text{ K})$ $(V_{\text{PTC}} \leq 2,5 \text{ V})$ Ω	Ordering code
60 ± 5	≤ 570	≥ 570	—	$\geq 10 \text{ k}$	B59100M1060A070
70 ± 5	≤ 570	≥ 570	—	$\geq 10 \text{ k}$	B59100M1070A070
80 ± 5	≤ 570	≥ 570	—	$\geq 10 \text{ k}$	B59100M1080A070
90 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1090A070
100 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1100A070
110 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1110A070
120 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1120A070
130 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1130A070
140 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1140A070
145 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1145A070
150 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1150A070
155 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1155A070
160 ± 5	≤ 550	≥ 1330	$\geq 4 \text{ k}$	—	B59100M1160A070

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Electrical specifications and ordering codes

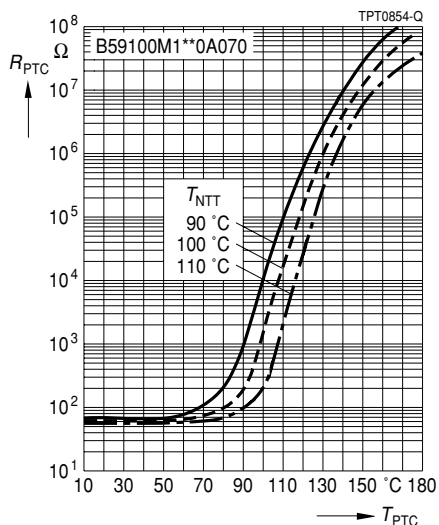
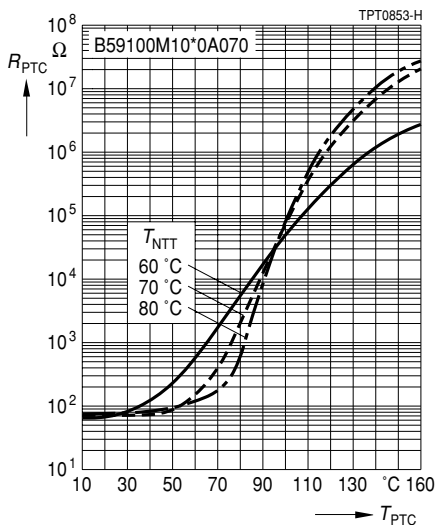
$T_{NTT} \pm \Delta T$ °C	$R(T_{NTT} - \Delta T)$ ($V_{PTC} \leq 2,5 \text{ V}$) Ω	$R(T_{NTT} + \Delta T)$ ($V_{PTC} \leq 2,5 \text{ V}$) Ω	$R(T_{NTT} + 15 \text{ K})$ ($V_{PTC} \leq 7,5 \text{ V}$) Ω	$R(T_{NTT} + 23 \text{ K})$ ($V_{PTC} \leq 2,5 \text{ V}$) Ω	Ordering code
170 ± 7	≤ 570	≥ 570	—	$\geq 10 \text{ k}$	B59100M1170A070
180 ± 7	≤ 570	≥ 570	—	$\geq 10 \text{ k}$	B59100M1180A070
190 ± 7	≤ 570	≥ 570	—	$\geq 10 \text{ k}$	B59100M1190A070

Color coding of litz wires (to DIN 44081)

T_{NTT}	°C	Color	T_{NTT}	°C	Color	T_{NTT}	°C	Color
	60	white/grey		120	grey/grey		160	blue/red
	70	white/brown		130	blue/blue		170	white/green
	80	white/white		140	white/blue		180	white/red
	90	green/green		145	white/black		190	black/grey
	100	red/red		150	black/black			
	110	brown/brown		155	blue/black			

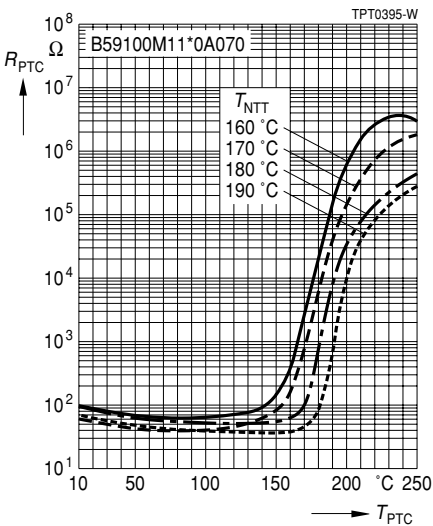
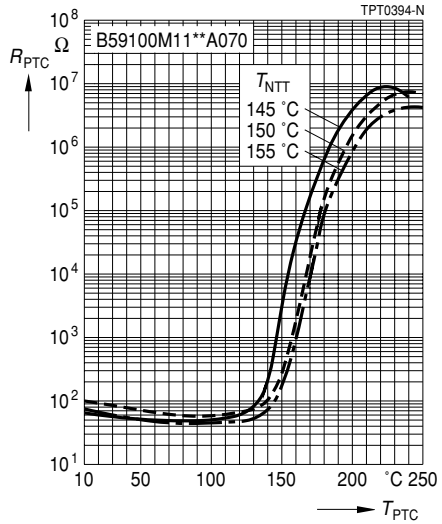
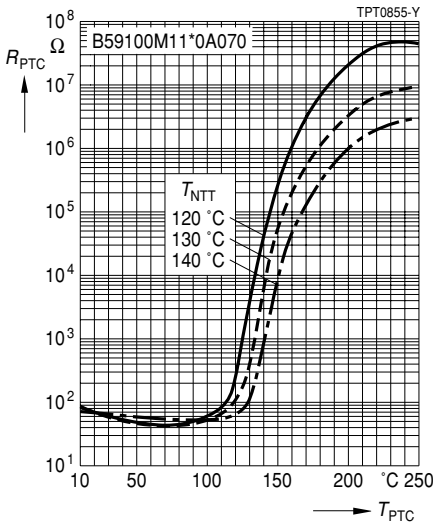
Characteristics (typical)

PTC resistance R_{PTC} versus PTC temperature T_{PTC}
(measured at low signal voltage)



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PTC resistance R_{PTC} versus PTC temperature T_{PTC}
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