

Bondable Resistors for Transducers – Selection Chart

N2B Balco resistors are available in our LT02 and LT06 sizes.

N2T Nickel resistors are available in our LT02, LT06, LT09 and LT10 sizes. The standard resistance values for each are as shown. Custom resistance values are available for a small set-up charge and 500-piece minimum order.

Resistance tolerance is $\pm 1\%$ at $+75^\circ\text{F}$ ($+24^\circ\text{C}$).

Recommended Uses:

- span-shift-versus-temperature compensation
- temperature sensing

Construction

Fixed pattern resistors are normally manufactured and stocked with E5 encapsulation as standard. Solder tabs are left exposed for leadwire connections.

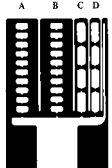



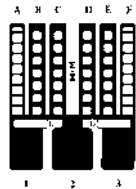

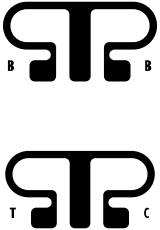

Examples:

N2B-TR-LT06-00200/E5, N2T-TR-LT02-00250/E5.

Resistance tolerance on Option E5 versions is $\pm 1\%$ at $+75^\circ\text{F}$ ($+24^\circ\text{C}$).

GAGE PATTERN AND DESIGNATION Matrix is shown at actual size. Insert Desired Resistors Size in Spaces Marked XX.	STANDARD RESISTANCE RANGE IN OHMS	DIMENSIONS																																				
		PATTERN		MATRIX																																		
		Length	Width	Length	Width																																	
<p>LT02</p> <p>LT06</p>	<p>Nickel options: N2T-TR-LTXX-00150 N2T-TR-LTXX-00175 N2T-TR-LTXX-00200 N2T-TR-LTXX-00250 N2T-TR-LTXX-00300 N2T-TR-LTXX-00400 N2T-TR-LTXX-00600 N2T-TR-LTXX-00650 N2T-TR-LTXX-00700</p> <p>Balco options: N2B-TR-LTXX-00150 N2B-TR-LTXX-00175 N2B-TR-LTXX-00200 N2B-TR-LTXX-00250 N2B-TR-LTXX-00300 N2B-TR-LTXX-00400 N2B-TR-LTXX-00600 N2B-TR-LTXX-00650 N2B-TR-LTXX-00700</p>	15	<table border="1"> <thead> <tr> <th colspan="2">inch</th> <th colspan="2">millimeter</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">LT02</td> </tr> <tr> <td>0.24</td> <td>0.13</td> <td>0.30</td> <td>0.19</td> </tr> <tr> <td>6.1</td> <td>3.2</td> <td>7.5</td> <td>4.7</td> </tr> <tr> <td colspan="4" style="text-align: center;">LT06</td> </tr> <tr> <td>0.19</td> <td>0.13</td> <td>0.24</td> <td>0.18</td> </tr> <tr> <td>4.8</td> <td>3.3</td> <td>6.1</td> <td>4.6</td> </tr> <tr> <td colspan="4" style="text-align: center;">RoHS compliant.</td> </tr> </tbody> </table>				inch		millimeter		LT02				0.24	0.13	0.30	0.19	6.1	3.2	7.5	4.7	LT06				0.19	0.13	0.24	0.18	4.8	3.3	6.1	4.6	RoHS compliant.			
		inch					millimeter																															
		LT02																																				
		0.24					0.13	0.30	0.19																													
		6.1					3.2	7.5	4.7																													
		LT06																																				
		0.19					0.13	0.24	0.18																													
		4.8					3.3	6.1	4.6																													
		RoHS compliant.																																				
		17.5																																				
20																																						
25																																						
30																																						
40																																						
60																																						
65																																						
70																																						
<p>LT09</p> <p>LT10</p>	<p>Nickel options: N2T-TR-LTXX-00100 N2T-TR-LTXX-00125 N2T-TR-LTXX-00150 N2T-TR-LTXX-00200 N2T-TR-LTXX-00225 N2T-TR-LTXX-00300 N2T-TR-LTXX-00400 N2T-TR-LTXX-00450 N2T-TR-LTXX-00500 N2T-TR-LTXX-00600 N2T-TR-LTXX-00720 N2T-TR-LTXX-00800 N2T-TR-LTXX-00900</p>	10	<table border="1"> <thead> <tr> <th colspan="2">inch</th> <th colspan="2">millimeter</th> </tr> </thead> <tbody> <tr> <td colspan="4" style="text-align: center;">LT09</td> </tr> <tr> <td>0.12</td> <td>0.11</td> <td>0.13</td> <td>0.12</td> </tr> <tr> <td>3.0</td> <td>2.7</td> <td>3.3</td> <td>3.0</td> </tr> <tr> <td colspan="4" style="text-align: center;">LT10</td> </tr> <tr> <td>0.08</td> <td>0.07</td> <td>0.09</td> <td>0.07</td> </tr> <tr> <td>2.1</td> <td>1.8</td> <td>2.5</td> <td>1.9</td> </tr> <tr> <td colspan="4" style="text-align: center;">RoHS compliant.</td> </tr> </tbody> </table>				inch		millimeter		LT09				0.12	0.11	0.13	0.12	3.0	2.7	3.3	3.0	LT10				0.08	0.07	0.09	0.07	2.1	1.8	2.5	1.9	RoHS compliant.			
		inch					millimeter																															
		LT09																																				
		0.12					0.11	0.13	0.12																													
		3.0					2.7	3.3	3.0																													
		LT10																																				
		0.08					0.07	0.09	0.07																													
		2.1					1.8	2.5	1.9																													
		RoHS compliant.																																				
		12.5																																				
15																																						
20																																						
22.5																																						
30																																						
40																																						
45																																						
50																																						
60																																						
72																																						
80																																						
90																																						

Bondable Resistors for Transducers – Selection Chart

GAGE PATTERN AND DESIGNATION Actual size shown on right Insert Desired S-T-C No. in Spaces Marked XX. See Note 1	RESISTANCE IN OHMS		DIMENSIONS			
			PATTERN		MATRIX	
			Length	Width	Length	Width
  N2B-TR-C11A-00050 N2B-TR-C12A-00100 N2B-TR-C12A-00200 N2B-TR-C13A-00400 N2B-TR-C13A-00800	Before Cut 5 10 20 40 80	After Cut 12 24 48 96 192	0.30	0.20	0.34	0.23
			7.6	5.1	8.6	5.9
  N2F-TR-D01A-00005 N2B-TR-D01A-00060 N2A-XX-D01A-00180 EA-XX-D01A-00360 N2K-XX-D01A-00500/DP N2K-XX-D01A-00750/DP	0.5 6 18 36 50 75		0.35	0.14	0.41	0.20
			8.9	3.6	10.4	5.1
  N2F-TR-E01A-00005 N2A-XX-E01A-00060 N2A-XX-E01A-00180 EA-XX-E01A-00360 N2K-XX-E01A-00500/DP N2K-XX-E01A-00750/DP	0.5 6 18 36 50 75		0.35	0.30	0.41	0.36
			8.9	7.6	10.4	9.1
  N2A-XX-H21A-00025 N2A-XX-H21A-00060 N2B-TR-H22A-00010	2.5 6.0 1.0		0.15	0.29	0.21	3.5
			3.8	7.4	5.3	8.9

RESISTANCE WIRE

While wire does not track the temperature of the strain gages as closely as bondable resistors, there are instances where bondable resistors cannot be used due to limited mounting space. Micro-Measurements stocks two types of resistance wire alloys.

CATALOG NO./ WIRE ALLOY	QTY PER SPOOL	RESISTANCE PER FT (M) NOMINAL	TCR [-10° TO +50°C]	INSULATION	TEMPERATURE RANGE
137-HWN/Manganin	200 ft [61m]	14Ω (46Ω)	± 0.0011%/°F [± 0.002%/°C]	Enamel	+15° to +120°F [-10° to +50°C] (up to +175°F [+80°C] if proper aging is done)
142-JWN/Balco	500 ft [152m]	19Ω (62Ω)	+0.25%/°F [+0.45%/°C]	Enamel	-15° to +300°F [-10° to +150°C]

NOTE 1: All products are RoHS compliant.



Disclaimer

ALL PRODUCTS, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE.

Vishay Precision Group, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "VPG"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

The product specifications do not expand or otherwise modify VPG's terms and conditions of purchase, including but not limited to, the warranty expressed therein.

VPG makes no warranty, representation or guarantee other than as set forth in the terms and conditions of purchase. **To the maximum extent permitted by applicable law, VPG disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.**

Information provided in datasheets and/or specifications may vary from actual results in different applications and performance may vary over time. Statements regarding the suitability of products for certain types of applications are based on VPG's knowledge of typical requirements that are often placed on VPG products. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. You should ensure you have the current version of the relevant information by contacting VPG prior to performing installation or use of the product, such as on our website at vpgsensors.com.

No license, express, implied, or otherwise, to any intellectual property rights is granted by this document, or by any conduct of VPG.

The products shown herein are not designed for use in life-saving or life-sustaining applications unless otherwise expressly indicated. Customers using or selling VPG products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify VPG for any damages arising or resulting from such use or sale. Please contact authorized VPG personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Copyright Vishay Precision Group, Inc., 2014. All rights reserved.