

**TO: MT SALES LETTER DISTRIBUTION**

**SUBJECT: WIRING REQUIREMENTS FOR LONWORKS NETWORKS - UPDATE**

**DETAILS ON CABLE REQUIREMENTS FOR PROPER LONWORKS NETWORKS**

A review of recent field installations of Echelon LonWorks networks for use with Micro Thermo controls has discovered a number of improperly specified cables. This is due to the fact that while a specific cable is identified as a reference, installers are also allowed to use "or equivalent" cabling. The identification of equivalent wiring has been the root cause of these issues.

Micro Thermo field experience has shown that in addition to the Echelon specified Belden 8471 16AWG cable, Belden 8461 18AWG also works well. Equivalents cable can be used, but careful attention must be paid to the electrical characteristics of the cable. Below is a table specifying key characteristics of Belden 8461 and 8471 cable:

Key attributes for Belden cables:

	<b>8461</b>	<b>8471</b>
Stranding	7 x 26	19 x 29
Conductor Matl	Tinned Copper	Tinned Copper
Lay Length	2"	2"
Twists/ft	6	6
Inductance (uH/ft)	not specified	0.19
Capacitance (pF/ft)	22	33
DC Resistance ( $\Omega$ /1000ft)	5.86	4.49

Any equivalent cable must have these same characteristics. To reduce rework and application errors in the field, Micro Thermo Technologies only specifies and approves the acceptable cables shown below (in addition to the Belden 8471 reference):

<b>Manufacturer</b>	<b>PN (61 / 71)</b>	<b>URL</b>
General Cable/Carol Cable	C2830A / C2405A	<a href="http://www.generalcable.com">www.generalcable.com</a>
Windy City Wire	n.a. / 104500	<a href="http://www.smartwire.com">www.smartwire.com</a>
West Penn Wire	224 / 225	<a href="http://www.westpenn-wpw.com">www.westpenn-wpw.com</a>
Daburn	3029 / 3030	<a href="http://www.daburn.com">www.daburn.com</a>

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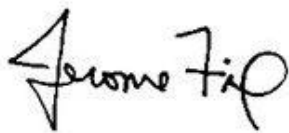
**DETAILS ON CABLE REQUIREMENTS FOR PROPER LONWORKS NETWORKS**

For additional details on LonWorks cabling requirements and for the latest updates to the approved wiring list, see the attached Engineering Bulletin from Echelon and the Echelon website under the "Support" section at:

[www.echelon.com](http://www.echelon.com)

**NOTE:** OTHER CABLE WITH SIMILAR PROPERTIES IS NOT AUTOMATICALLY APPROVED. CONSULT WITH MICRO THERMO APPLICATIONS ENGINEERING BEFORE INSTALLING ANY OTHER CABLE.

Thanks,

A handwritten signature in black ink that reads "Jerry Fix". The signature is stylized with a large, looped "J" and a cursive "Fix".

Jerry Fix, P.E.  
Product Management and Marketing  
Refrigeration and AC Electronics  
Parker Instrumentation Group