

### **Panduct® PanelMax™ Shielded Wiring Duct and Noise Shield**

PanelMax™ Shielded Wiring Duct and Noise Shield route, separate, and shield sensitive wiring from noise emission. This allows pathways to be placed in closer proximity saving valuable space within industrial control panels. The shielding provides up to 20dB reduction in noise (EMI/RFI), or 90% noise voltage reduction (NVR), which is equivalent to 6 inches of air spacing.

Several wire routing and segregation configurations are possible with the innovative Shielded Wiring Duct and Noise Shield, delivering greater design flexibility to satisfy a wide range of applications.

These products are part of the Industrial Automation Solution from Panduit that meets the most demanding requirements and applications. A broad range of product systems aid in reducing design and assembly time, create valuable panel space savings, and provide easier installation and maintenance, while improving reliability.



### **PanelMax™ Shielded Wiring Duct Features and Benefits**

#### **Key Features**

#### **Benefits**

<b>Continuous foil shield*</b>	Durable metallic foil wraps outer duct surfaces for EMI/RFI noise reduction between noise emitting (motor drive cabling) and sensitive wiring (sensitive communications/signal cables)* provides up to 20dB reduction in noise, or 90% NVR. (equivalent to 6 inches of air spacing)
<b>Slotted sidewalls with horizontal bridge connectors</b>	Provide wire management capability and noise reduction in the full height of the duct; slot size compatible with various wire types and sizes, including UTP Ethernet cabling
<b>High-quality Panduit PVC wiring duct base**</b>	Fully contains and protects wiring; easy to cut and install; ensures reliable performance and improved aesthetics; used with standard Panduit wiring duct cover; installs with standard fasteners, including Panduit NR1 rivets
<b>Upper and lower score lines</b>	Facilitate duct finger and sidewall section removal to ease installation and wire routing

\*The shielded wiring duct and enclosure must be electrically bonded to ground for the shield to be effective (see Panduit installation instructions EP001).

\*\*UL recognized continuous use temperature: 122°F (50°C).

# PanelMax™ Noise Shield Features and Benefits

## Key Features

## Benefits

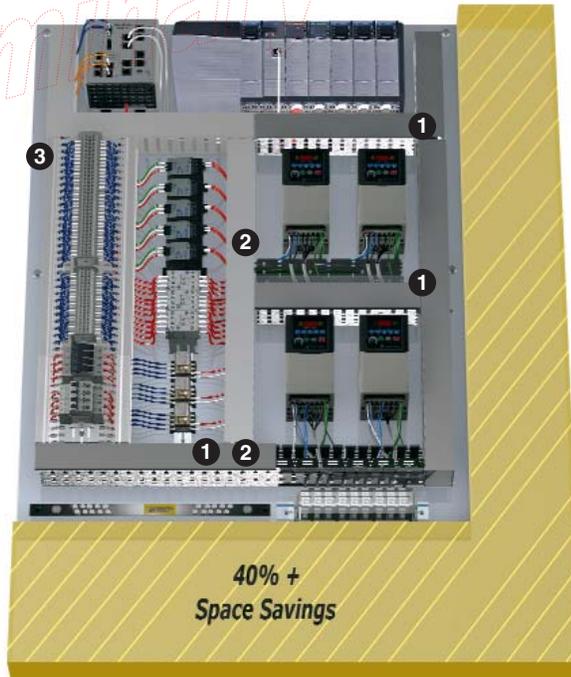
<b>Metal noise barrier*</b>	Reduces EMI/RFI noise between noise-emitting (motor drive cabling) and sensitive wiring (sensitive communications/signal cables)* provides up to 20dB reduction in noise, or 90% NVR (equivalent to 6 inches of air spacing); innovative design installs easily within Panduit wiring duct or when mounted separately, delivering greater design flexibility to satisfy a wide range of applications
<b>Bonding clip*</b>	When installing the shield inside a wiring duct, the bonding clip maintains electrical continuity between the panel and shield for optimal noise mitigation and aesthetics
<b>Perforated sections</b>	Speed installation by allowing section(s) of the shield to be snapped off at intervals to easily size shield to length, with minimal deburring
<b>Vertical wall slots</b>	Allow wires to cross the barrier at 90° when necessary, providing greater design flexibility
<b>Horizontal cable tie slots</b>	Allow wire bundles to be held in place using cable ties to optimize cable management and aesthetics
<b>Zinc-plated steel and durable black powder coated surfaces</b>	Coated vertical surfaces for smooth edges; uncoated zinc-plated surface in contact area with sub-panel and bonding clip ensures continuity and is corrosion resistant

### Conventional Panel Layout



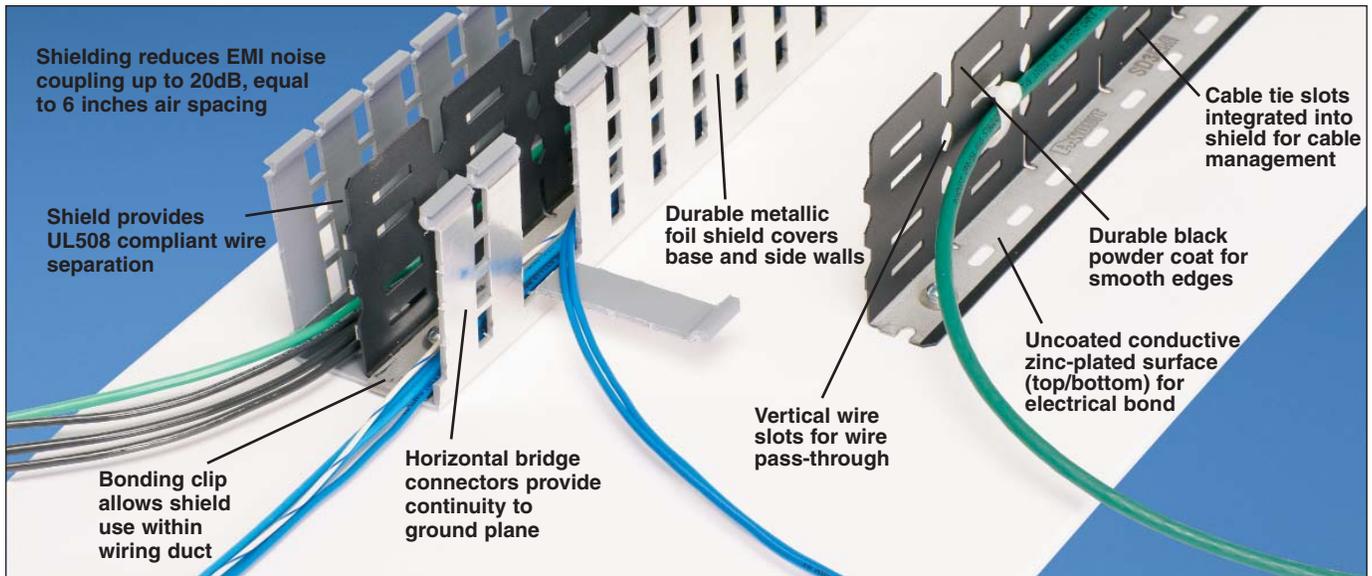
Conventional panel layout relies primarily on air spacing between pathways and components to mitigate noise. Duct color is used to indicate noisy (gray) and clean (white) pathways.

### Layout using PanelMax™ Shielded Wiring Duct, Noise Shield, DIN Rail Wiring Duct

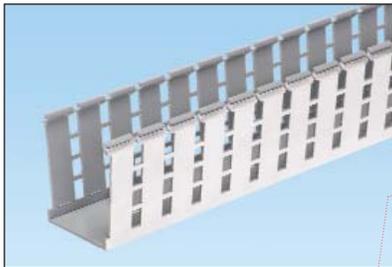


An optimized layout offering 40% or more space savings and noise shielding can be realized using PanelMax™ Wiring Duct: (1) Shielded Wiring Duct, (2) Noise Shield, and (3) DIN Rail Wiring Duct.

\*The noise shield, bonding clip (if used) and enclosure must be electrically bonded to ground for shield to be effective (see Panduit installation instructions RW260).



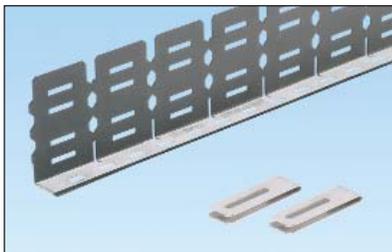
## Ordering Information



**PanelMax™ Shielded Wiring Duct**

Part Number	Part Description	Std. Pkg. Qty.
G2X2LG6EMI	2" x 2" PanelMax™ Shielded Wiring Duct in two 6-foot lengths. Foil metal finish. Cover sold separately.	12
G2X3LG6EMI	2" x 3" PanelMax™ Shielded Wiring Duct in two 6-foot lengths. Foil metal finish. Cover sold separately.	12
G2X4LG6EMI	2" x 4" PanelMax™ Shielded Wiring Duct in two 6-foot lengths. Foil metal finish. Cover sold separately.	12

Use C2LG6 or C2WH6 cover with shielded wiring duct. Standard package quantity in feet.

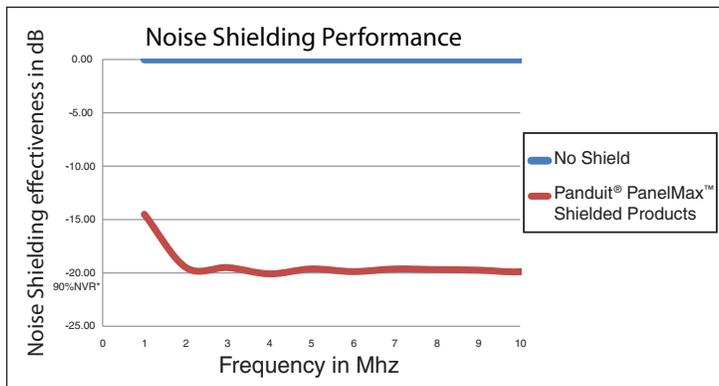


**PanelMax™ Noise Shield**

Part Number	Part Description	Std. Pkg. Qty.
SD2EMI	EMI noise shield kit for 2" height Panduit wiring duct; two 3-foot sections, bonding clips, and anti-oxidizing paste.	1
SD3EMI	EMI noise shield kit for 3" height Panduit wiring duct; two 3-foot sections, bonding clips, and anti-oxidizing paste.	1
SD4EMI	EMI noise shield kit for 4" height Panduit wiring duct; two 3-foot sections, bonding clips, and anti-oxidizing paste.	1

Standard package quantity in kits.

## Performance Characteristics

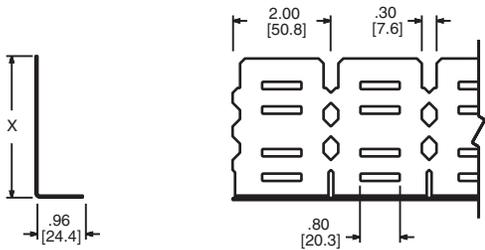


Relative noise reduction in decibels over frequency range of Panduit® PanelMax™ Shielded Wiring Duct and Noise Shield

PanelMax™ Shielded Wiring Duct and Noise Shield deliver approximately 20dB of noise reduction across common industrial noise frequencies at 30mm wire separation.  
\*NVR (Noise Voltage Reduction percentage).

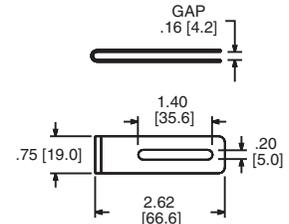
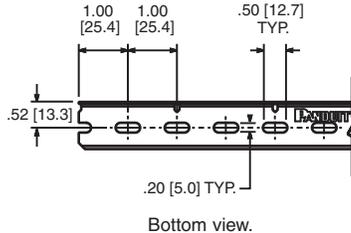
# Technical Information

## PanelMax™ Noise Shield



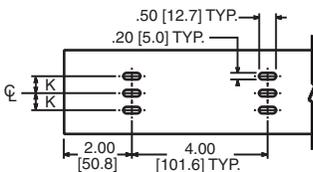
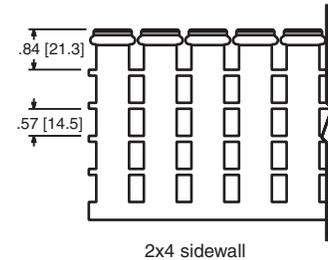
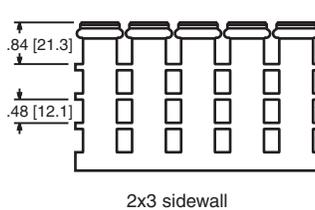
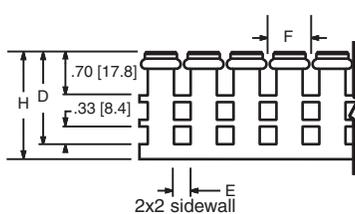
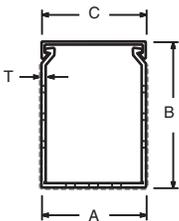
Part No.	X
SD2EMI	1.82 (46.1)
SD3EMI	2.88 (73.2)
SD4EMI	3.86 (98.2)

Sidewall: SD3EMI shown. SD2EMI sidewall features one pair of cable tie slots per section.



Bonding clip (for use with wiring duct).

## PanelMax™ Shielded Wiring Duct



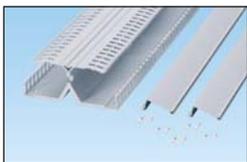
Part Number	Dimensions — Inches (mm)								
	A	B	C	D	E	F	H	K	T
G2X2LG6EMI	2.25 (57.2)	2.12 (53.8)	2.25 (57.2)	1.61 (41.0)	0.31 (7.9)	0.80 (20.3)	2.00 (50.8)	0.50 (12.7)	0.08 (2.0)
G2X3LG6EMI	2.25 (57.2)	3.12 (79.2)	2.25 (57.2)	2.64 (67.0)	0.31 (7.9)	1.00 (25.4)	3.00 (76.2)	0.50 (12.7)	0.10 (2.4)
G2X4LG6EMI	2.25 (57.2)	4.10 (104.1)	2.25 (57.2)	3.62 (91.9)	0.31 (7.9)	1.00 (25.4)	4.00 (101.6)	0.50 (12.7)	0.11 (2.7)

## PanelMax™ Shielded Wiring Duct Wire Fill

Part Number	Nominal Area in <sup>2</sup>	Electrical												Communication						
		8 AWG		10 AWG		12 AWG		14 AWG		16 AWG		18 AWG		22 AWG	23 AWG	23/24 AWG	24 AWG	Fiber Cable		
		.216 THHN	.164 THHN	.130 THHN	.141 MTW	.152 MTW	.111 THHN	.124 MTW	.133 MTW	.096 TFFN	.111 MTW	.118 MTW	.084 TFFN	.106 MTW	.085 MTW	.330 Cat 6A	.250 Cat 6	.190 Cat 5e	.118 3.0 mm	
G2X2LG6EMI	4.000	48	84	135	114	98	185	148	129	248	185	164	323	228	203	316	20	36	63	163
G2X3LG6EMI	6.000	73	127	202	172	148	278	222	193	372	278	246	485	342	305	474	31	54	94	245
G2X4LG6EMI	8.000	97	169	270	229	197	371	297	258	496	371	328	647	457	406	632	41	73	126	327

Table shows maximum wire fill based on 50% of duct internal cross sectional area. Formula = Nominal Area / 1.75xD<sup>2</sup>. All dimensions represent typical outer cable diameter in inches.

## Related products



PanelMax™ DIN Rail Wiring Duct



PanelMax™ Corner Wiring Duct



NR1 Nylon Rivet  
For use with TNR tool



TNR Nylon Rivet Installation Tool  
Hand-held tool for easy rivet installation



DNT-100 Notching Tool  
Notches duct sidewalls to bottom scoreline for tees and corners

### WORLDWIDE SUBSIDIARIES AND SALES OFFICES

PANDUIT CANADA  
Markham, Ontario  
cs-cdn@panduit.com  
Phone: 800.777.3300

PANDUIT EUROPE LTD.  
London, UK  
cs-emea@panduit.com  
Phone: 44.20.8601.7200

PANDUIT SINGAPORE PTE. LTD.  
Republic of Singapore  
cs-ap@panduit.com  
Phone: 65.6305.7575

PANDUIT JAPAN  
Tokyo, Japan  
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PANDUIT LATIN AMERICA  
Guadalajara, Mexico  
cs-la@panduit.com  
Phone: 52.33.3777.6000

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