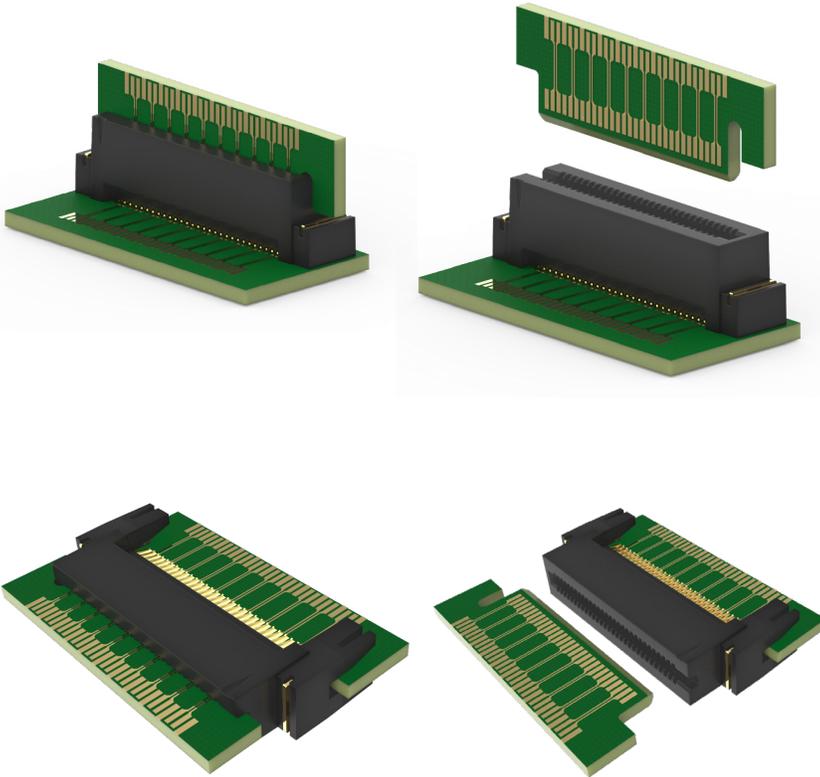


# Card Edge Connectors Contact System

## HIGH-SPEED CARD EDGE AND BOARD-TO-BOARD CONNECTIVITY



CarlisleIT's Card Edge Connectors Contact System is designed for high-speed, high-density applications. Card Edge Connectors have a smooth mating surface area which reduces the wear and tear of contacts and increases the durability and lifecycle of the contact system. They also lower insertion and withdrawal forces while supporting data rates up to 32 Gbps with excellent signal integrity. These connectors are suitable for multiple applications (like cable-to-board and board-to-board) with various PCB thickness profiles.

In addition to increased durability and extended lifecycle, Card Edge Connectors Contact Systems offer superior electrical performance (e.g., lower insertion loss, low return loss, and perfect impedance matching), compared to similar contact systems. The contact pins parallel each other and, when housed in the plastic insulator, offer low crosstalk and coupling, improving the overall interconnect performance. The contact pin design and grounding are optimized for 100  $\Omega$  signaling systems.

Card Edge Connectors Contact System

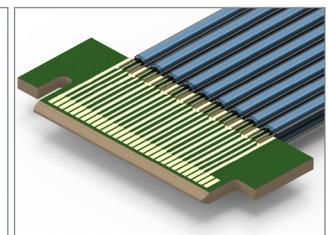
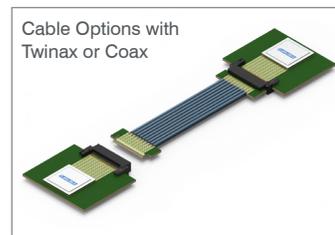
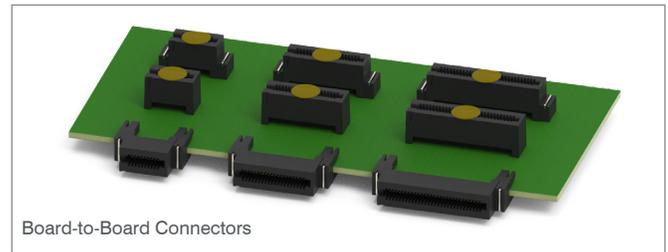
### FEATURES & BENEFITS

Feature	Benefit
High-Speed Differential Data Rate	Offers excellent signal integrity and performance up to 32 Gbps
Multiple PCB Thicknesses (0.062 in and 0.093 in)	Allows for complex PCB designs
Surface Mount and Edge Mount Options	Enable high-speed, pick-and-place assembly
0.8 mm Pitch	Access signals in dense environments and save PCB space
8.5 mm Max Height	Up to 30 pins for low-profile system designs
500 Mate/Demate Cycles	High reliability and low cost of ownership
Wide Operating Temperature	-55 °C to 125 °C

# Card Edge Connectors Contact System

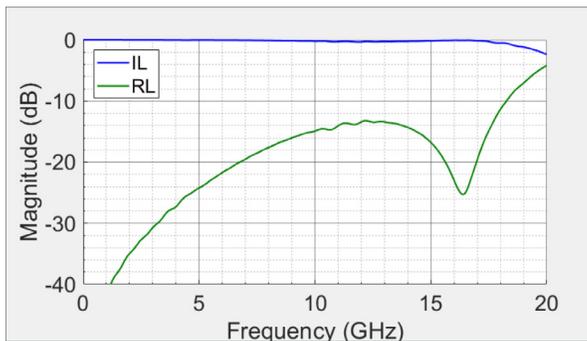
## SPECIFICATIONS & PERFORMANCE

Parameter	Edge Mount Specification	Vertical Mount Specification
Frequency range	Up to 20 GHz	
Differential Impedance	100 Ω + -10%	
Return Loss	-10 dB up to 18 GHz	-10 dB up to 12 GHz
Insertion Loss	-0.5 dB up to 18 GHz	-0.5 dB up to 12 GHz
Contact Pitch	0.8 mm	
PCB Thicknesses Supported	0.062 in, 0.093 in	
Max Height	8.5 mm	
Mate/Demate Cycles	500	
Temperature Range	-55 °C to 125 °C	

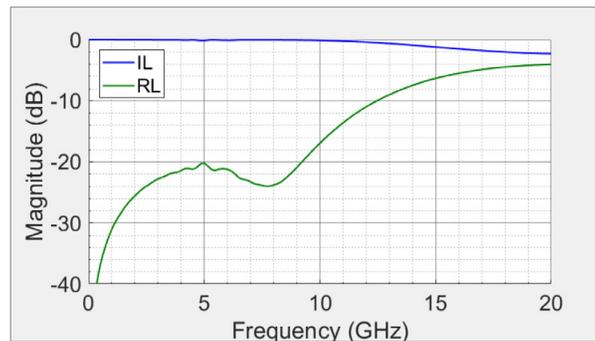


Unlike some standard card edge connectors, CIT's Edge Mount Card Edge Contact System offers optimized performance for current and upcoming high-speed applications like PCIe Gen 5 and beyond. The design of the Connector System is optimized to keep the return loss below -20 dB in the range of 8 GHz to 16 GHz as shown in the graph below.

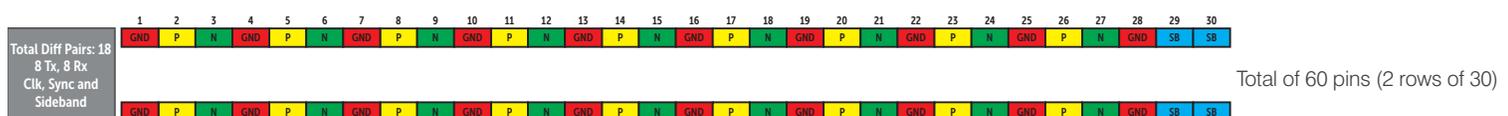
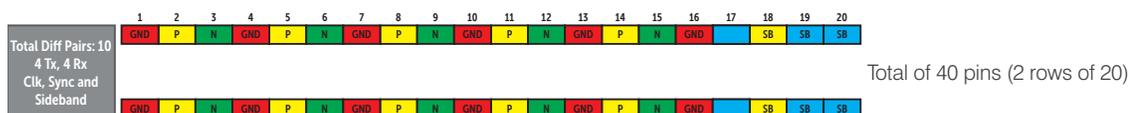
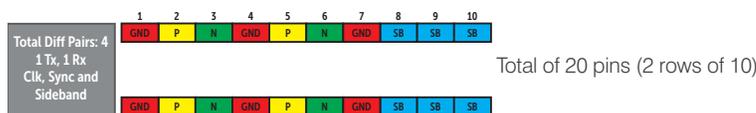
### Edge Mount



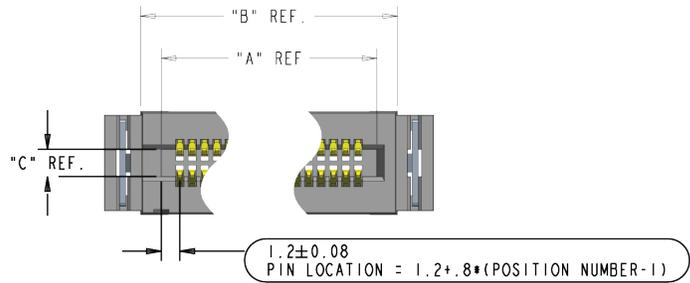
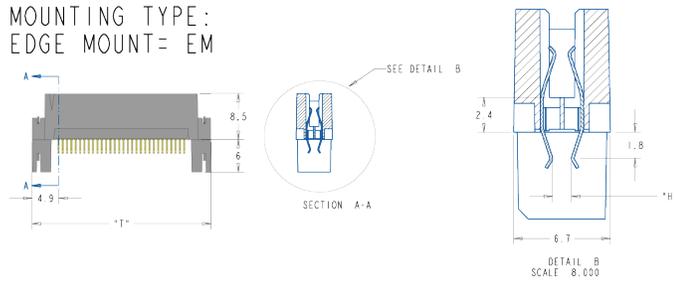
### Vertical Mount



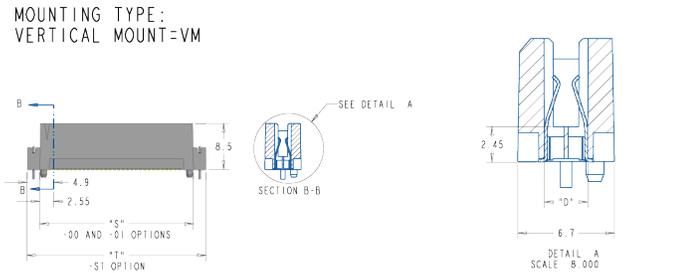
## PINOUTS



MOUNTING TYPE:  
EDGE MOUNT= EM



MOUNTING TYPE:  
VERTICAL MOUNT= VM



PCB Thickness	# Positions	"A"	"B"	"C"	"D"	"H"	"S"	"T"
62	10	9.6	12.3	1.75	3.0	1.49	12.3	17
62	20	17.6	20.3	1.75	3.0	1.49	20.3	25
62	30	25.6	28.3	1.75	3.0	1.49	28.3	33
93	10	9.6	12.3	2.63	3.78	2.24	12.3	17
93	20	17.6	20.3	2.63	3.78	2.24	20.3	25
93	30	25.6	28.3	2.63	3.78	2.24	28.3	33

Table 1 Dimensions of Vertical and Edge Mount Connectors and PCB Thickness

CIT offers 20, 40, and 60 pin connectors in Vertical Mount (VM) and Edge Mount (EM) configurations for 0.062" and 0.093" thick PCBs. The part numbers and complete descriptions of available part types are shown in Table 2 below:

Part Number	Description	Gold Plating	Solder Tab	Alignment Pins
MBB-VM-10-62-30-00	10 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓		✓
MBB-VM-10-62-30-01	10 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓		
MBB-VM-10-62-30-ST	10 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-EM-10-62-30-ST	10 pins/row EM board connector for 0.062" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-VM-10-93-30-00	10 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓		✓
MBB-VM-10-93-30-01	10 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓		
MBB-VM-10-93-30-ST	10 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-EM-10-93-30-ST	10 pins/row EM board connector for 0.093" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-VM-20-62-30-00	20 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓		✓
MBB-VM-20-62-30-01	20 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓		
MBB-VM-20-62-30-ST	20 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-EM-20-62-30-ST	20 pins/row EM board connector for 0.062" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-VM-20-93-30-00	20 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓		✓
MBB-VM-20-93-30-01	20 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓		
MBB-VM-20-93-30-ST	20 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-EM-20-93-30-ST	20 pins/row EM board connector for 0.093" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-VM-30-62-30-00	30 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓		✓
MBB-VM-30-62-30-01	30 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓		
MBB-VM-30-62-30-ST	30 pins/row VM board connector for 0.062" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-EM-30-62-30-ST	30 pins/row EM board connector for 0.062" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-VM-30-93-30-00	30 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓		✓
MBB-VM-30-93-30-01	30 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓		
MBB-VM-30-93-30-ST	30 pins/row VM board connector for 0.093" thick PCB & 30 μin contact plating	✓	✓	✓
MBB-EM-30-93-30-ST	30 pins/row EM board connector for 0.093" thick PCB & 30 μin contact plating	✓		

Table 2



See CarlisleIT's line of Test & Measurement products at:  
[CarlisleIT.com/prod-info/card-edge-connectors](http://CarlisleIT.com/prod-info/card-edge-connectors)

+1 (800) 458.9960  
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