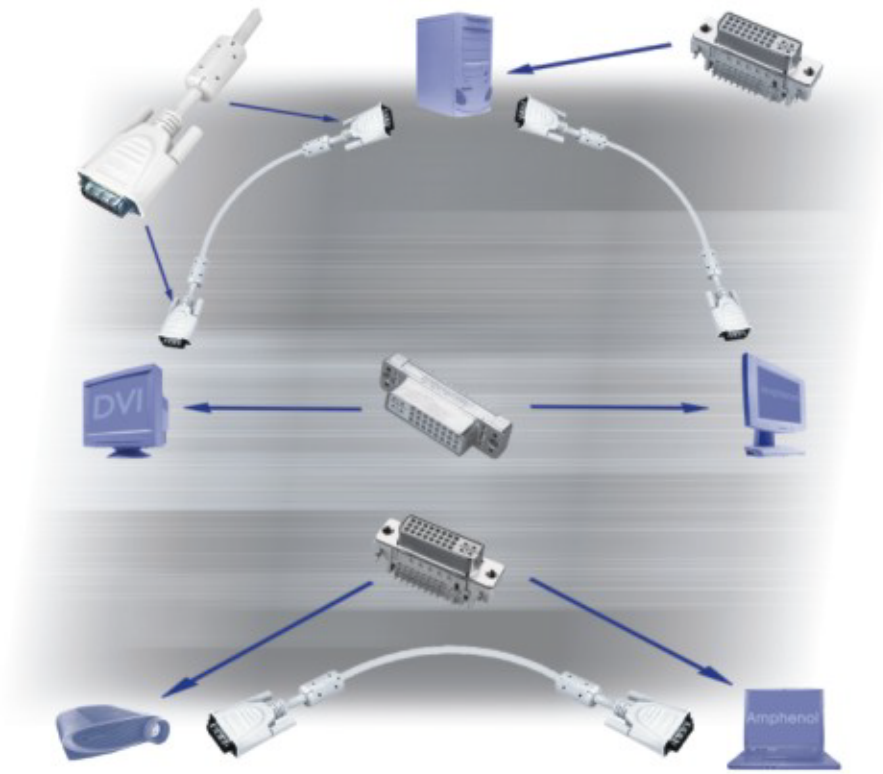
The future of video is DVI

applications



features & benefits

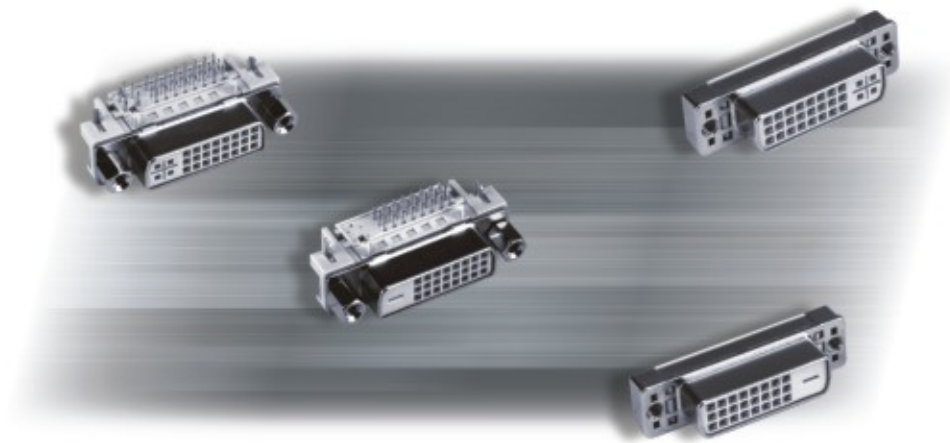
- fully compliant with DDWG DVI rev. 1.0
- supports single and dual link digital signaling, which allows high speed digital transmissions of 4.95 Gbps or 9.9 Gbps
- analog coaxial lines allow high speed analog transmission (2.5 GHz)
- protruding shield enables first-make-last break for ESD protection
- fully shielded front shell structure for excellent EMI/RFI protection
- rugged and reliable contact design provides two points of contact for optimal signal integrity and reduces insertion force to ensure high reliability
- plug-and-play compliant

dvi digital visual interface

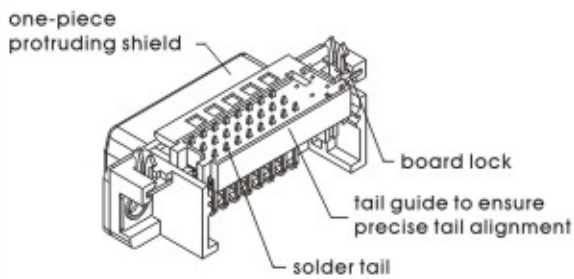
DVI is developed by the Digital Display Working Group (www.ddwg.org), an open industry forum group formed by Intel, Compaq, Fujitsu, Hewlett Packard, IBM, NEC and Silicon Image. The goal is to formalize a standard for digital video connectivity in hope that a better compatibility and peak performance can be experienced by all users who demand high quality video output.

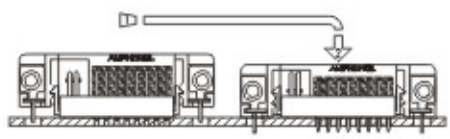
Note: Amphenol constantly strives to improve and provide our customers with the most advanced and quality products. Therefore, some products may change without prior notice. Please contact a representative or visit us online for the most up-to-date information.

DVI connectors



features (receptacle)





easy pre-location with tail guide plate

easy placement with one finger

electrical

contact resistance: 20mΩ maximum initial per mated pair, 10mΩ maximum change from original per mated pair

dielectric withstanding voltage: 500/50 Vdc

insulation resistance: 1GΩ minimum between adjacent contacts and between contacts and shell

contact current rating: 1.5 amperes per contact

physical & mechanical

receptacle front shell and bracket: zinc alloy, min. 100μ" nickel or tin/lead plated

insulator: P.B.T., 30% glass-filled, UL94V-0 rated

contact: phosphor bronze

contact finish*:
- mating area: gold (see ordering information for available thicknesses)
- termination area: minimum 100μ" tin/lead

grounding blade: brass, gold flash plated

mating force: 4.5 kg max. per connector

unmating force: 1kg min., 4kg max per connector

durability: 100 cycles per ANSI/EIA-364-09

grounding post: brass, min. 100μ" tin/lead plated

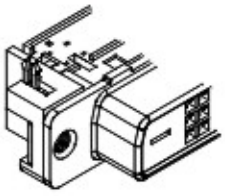
arrowhead board lock: phosphor bronze, minimum 100μ" tin/lead plated

screw lock: brass, minimum 100μ" nickel plated

* All metal parts are with a minimum 50μ" nickel under-plate.

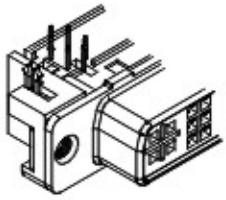
receptacle options

signal interface options

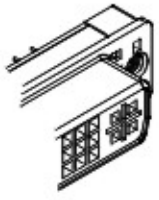


digital
right-angle PCB mount

digital
vertical PCB mount

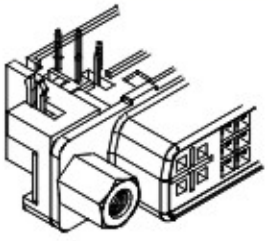


integrated
right-angle PCB mount

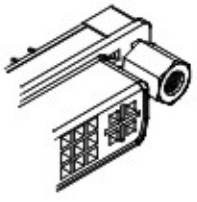


integrated
vertical PCB mount

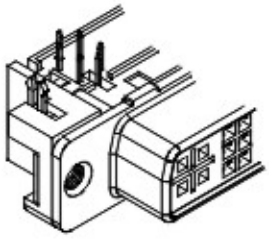
flange mount option



right-angle mount
with hex screw lock



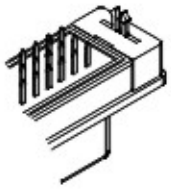
vertical mount
with hex screw lock



right-angle
without hex screw lock

vertical mount
without hex screw lock

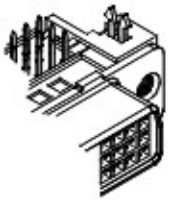
board mount options



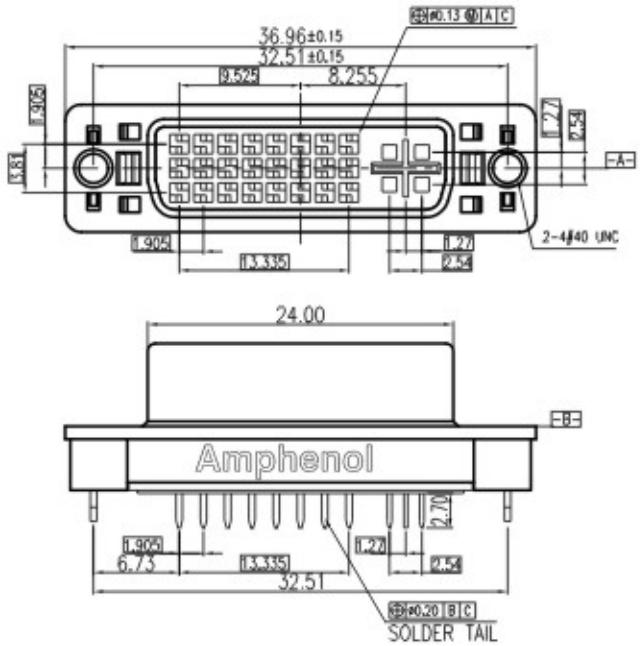
arrowhead board lock
vertical PCB mount

grounding post with locator
right-angle PCB mount

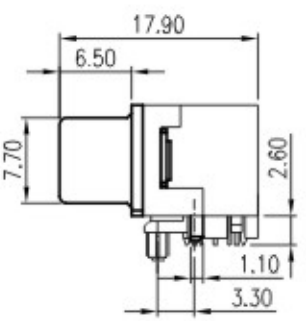
arrowhead board lock (ϕ 1.93mm)
with locator
right-angle PCB mount

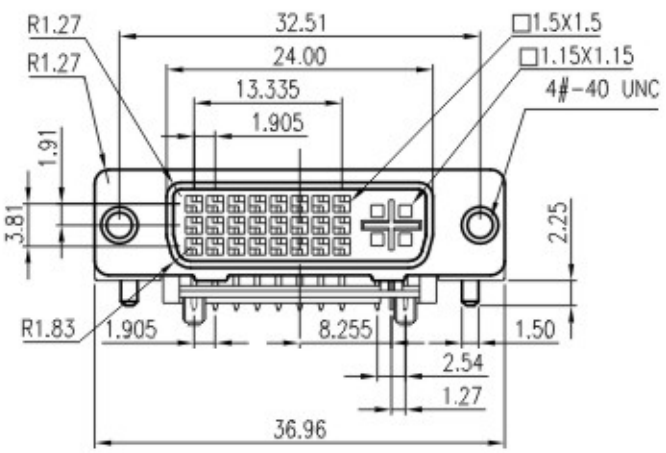


arrowhead board lock (ϕ 3.17mm)
without locator
right-angle PCB mount

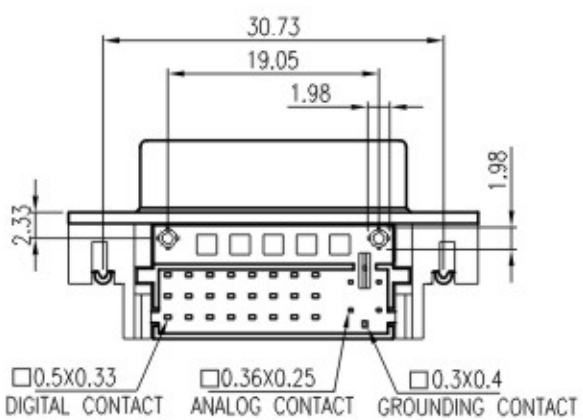


integrated DVI
straight receptacle

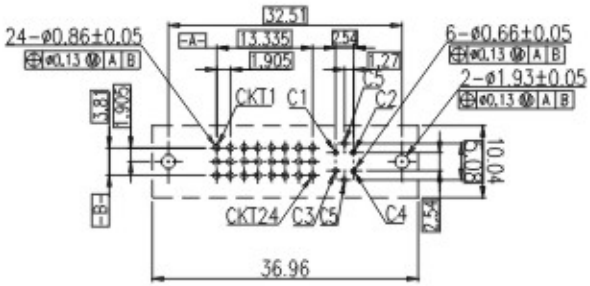




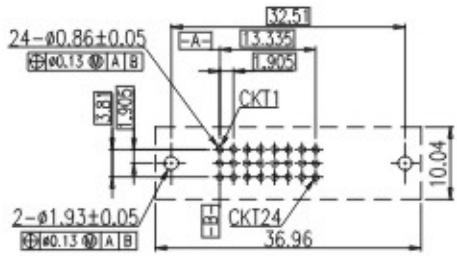
DVI integrated recepticle
right angle mount with grounding posts and locators



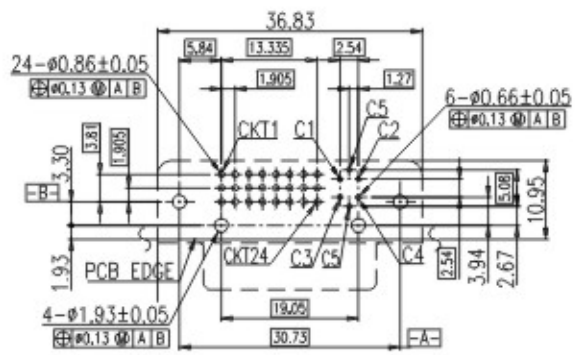
recommended PCB layouts



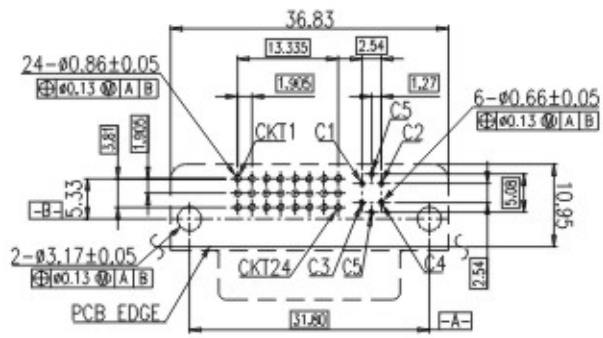
integrated (29 pos.)
vertical mount



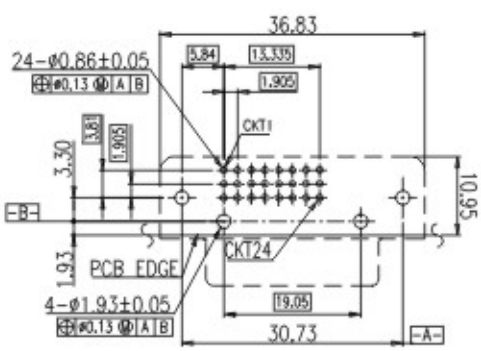
digital (24 pos.)
vertical mount



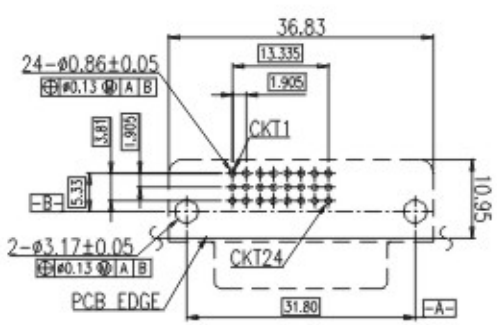
integrated (29 pos.)
right-angle mount with locators



integrated (29 pos.)
right-angle mount without locators



digital (24 pos.)
right-angle mount with locators

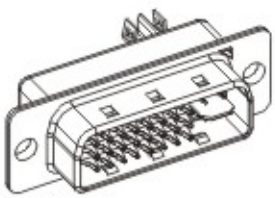


digital (24 pos.)
right-angle mount without locators

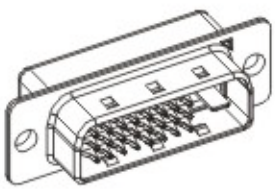
DVI connectors - plugs

plug options

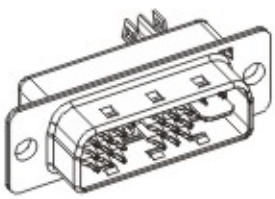
pin arrangement options



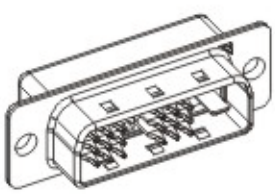
29 pins (24+4+1)
integrated



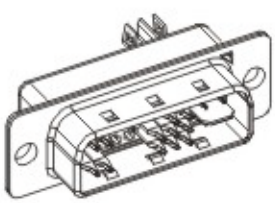
25 pins (24+ key)
digital



23 pins (18+4+1)
integrated

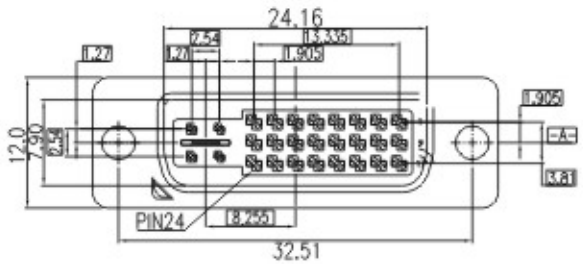


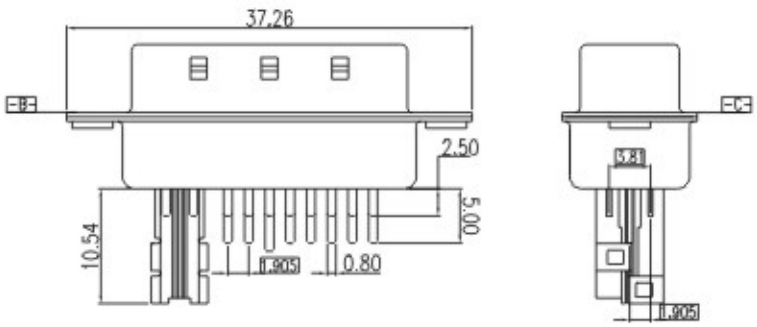
19 pins (18+ key)
digital

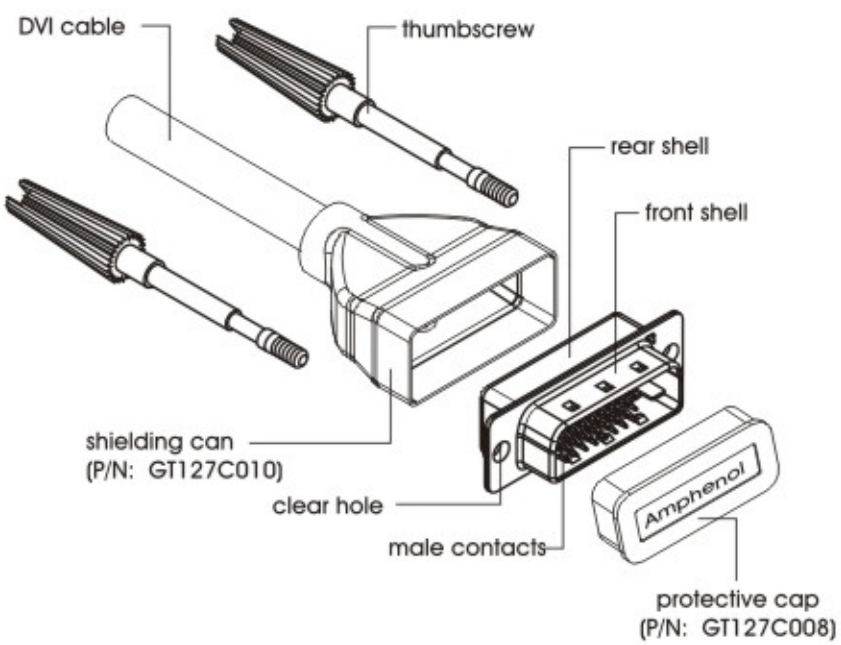


17 pins (12+4+1)
analog

DVI integrated plug







ordering information

G12 X X X X X X

DVI Connectors
Digital Visual Interface
PCB Mount Receptacle

Connector Style
A: Right Angle PCB Mount
B: Straight PCB Mount

Signal Interface Option
1: Analog & Digital
2: Digital only
3: Analog only

Contact Finish
0: GOLD FLASH
1: 10u" GOLD
2: 30u" GOLD

Variation Code
KA: With mounted clinch nut
(R/A PCB mount only)

Flange Mount Option
0: Without Hex Screwlock
1: With #4-40UNC Hex Screwlock
Bulk-packed
2: With #4-40UNC Hex Screwlock installed

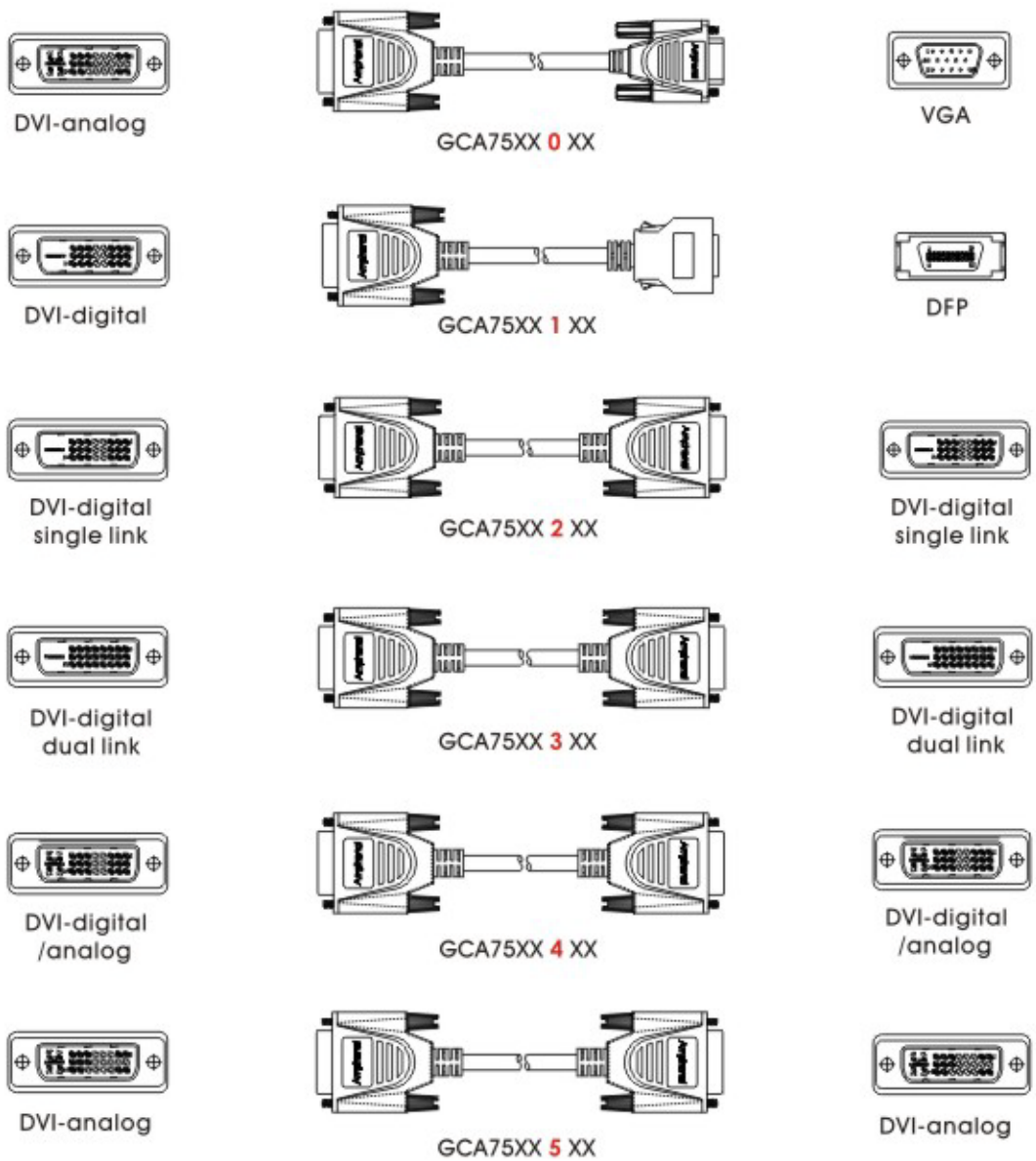
Board Mount Option
1: Arrowhead Boardlock only (For Straight PCB mount version)
2: Grounding Posts and Locators
3: Arrowhead Boardlock (⌀ 1.93mm) and Locators
4: Arrowhead Boardlock (⌀ 3.17mm) and without Locators
5: Arrowhead Boardlock (⌀ 1.93mm,L=3.06mm) and without Locators

- Option 2,3 & 4 are for R/A PCB mount version only
- Option 5 are for straight PCB mount version only

Notes:
- ALL CONTACTS ARE IN 50μ" NICKEL UNDERPLATE
- ALL SPECIFIED NUMBERS ARE MINIMUM THICKNESS OF PLATING.
- THE VARIATION CODE MAY SUPERSEDE SOME MAJOR SPECIFICATIONS DEFINED BY THIS STANDARD PART NUMBER SYSTEM. FOR PART NUMBER WITH A VARIATION CODE. PLEASE REFER TO THE SPECIFIC SET OF DATASHEETS RELEASED FOR THAT VARIATION CODE.

DVI cable assembly

options diagram



ordering information

GCA75 XX X XX

- GCA75: cable assemblies over mold type
- XX: factory assigned code
- X: optional for cable type as indicated by red code on the above drawing
- XX: serial number

DVI cable assemblies

material & finish

over-molded boot: molded PVC, UL94V-0 rated,

color - ivory

thumbscrew: steel, minimum 80μ" nickel plated

thumbscrew cap: ABS, color - ivory

harness type: digital single link, digital dual link, digital/analog integrated and analog

mechanical

pull test: cable assemblies withstand a pull force of 89—111 N for 30 seconds with no visible termination damage

flex test: no electrical discontinuity or visible termination damage occurs during and after flexing the cable assembly for 100 cycles at each of the

electrical

DVI plugs
refer to G12C specification given in previous pages

cable

dielectric withstanding voltage: 500 Vdc for 1 minute

insulation resistance: 100 mΩ minimum

differential lines characteristic impedance: 100 ± 5 Ω

differential lines mutual capacitance: 14.0 pf/ft nominal

T.M.D.S. & RGB electrical specification

T.M.D.S. signal time domain impedance: 100 Ω ±15%

T.M.D.S. signal time domain crosstalk (fext): 5% maximum

T.M.D.S. signal rise time degradation: 160 ps maximum

RGB coaxial signal time domain impedance: 75 Ω ±15%

RGB coaxial signal time domain crosstalk (fext): 3% maximum

environmental

thermal shock: per ANSI/EIA-364-32 condition 1

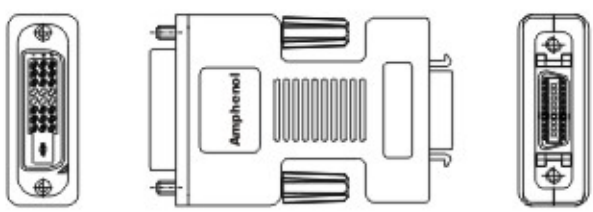
cyclic humidity: 10 cycles, per ANSI/EIA-364-31 condition a and b

temperature life: per ANSI/EIA 364-17 condition 4, 105 °C for 250 hrs

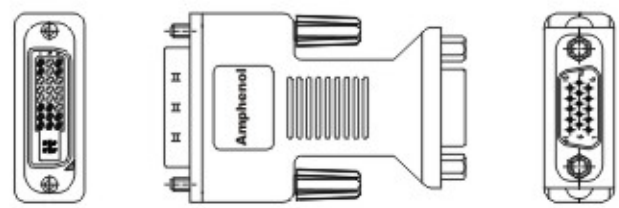
operating temperature: -20 °C to 85 °C

storage temperature: -20 °C to 85 °C

DVI adaptors

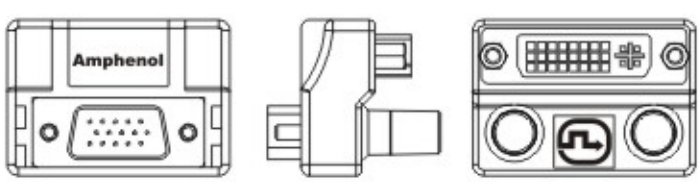


refer to Amphenol datasheet **PS-7096** for detailed specifications



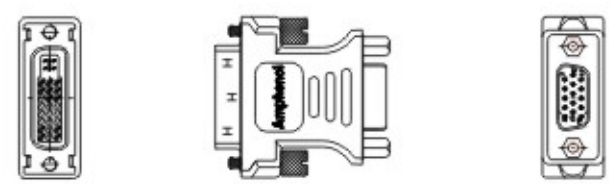
DVI-analog plug P/N: G12P002 VGA receptacle

refer to Amphenol datasheet **PS-7097** for detailed specifications



VGA (D-sub) plug P/N: G12P003 DVI-digital / analog

refer to Amphenol datasheet **PS-7104** for detailed specifications



DVI-analog plug P/N: G12P004 VGA receptacle

refer to Amphenol datasheet **PS-7171** for detailed specifications