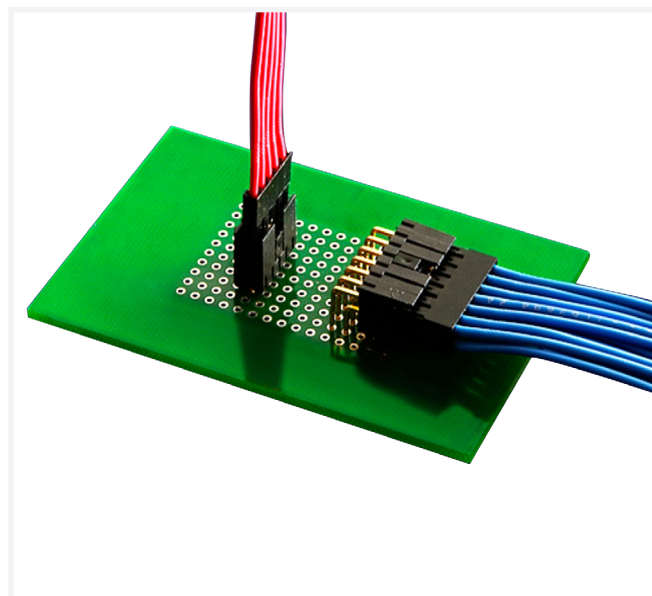


# PV<sup>®</sup> Wire-to-Board Connector System

## VERSATILE DESIGN FOR DEMANDING APPLICATIONS

Amphenol ICC's PV<sup>®</sup> solution is a versatile and modular system able to meet all the board-to-board, board-to-wire, wire-to-wire applications where high density, outstanding electrical and mechanical performances are required.

- Unique dual-metal PV<sup>®</sup> receptacle contact ensures durability up to 1000 cycles
- Beryllium copper spring ensures high normal force at the mating interface
- Polarized mating geometry to prevent mismatching
- Keyed MINI-LATCH housings provides polarization to prevent mismating



### TARGET MARKETS



### FEATURES

- Unique dual-metal PV<sup>®</sup> receptacle contact
- Beryllium copper spring
- Keyed MINI-LATCH housings
- Brass contact body
- Choice of three different spring pressures
- Shrouded header side walls engage with the sides of the MINI-LATCH housing
- Two wall header design
- RoHS compliant and lead-free

### BENEFITS

- Ensures durability up to 1000 cycles
- High normal force during mating interface
- Provide polarization to prevent mismating
- Reliable, gas-tight crimp termination
- Allows the user to customize insertion and withdrawal forces to specific application requirements
- Provides additional retention
- Provides mechanical benefits
- Meets environmental, health and safety requirements

## TECHNICAL INFORMATION

### MATERIAL

- Contact Material:
  - PV® Wire Terminals: Brass body and beryllium copper spring
  - PCB Headers: Phosphor bronze
- Contact Plating:
  - PV® Wire Terminals: Gold or lead-free pure tin over nickel
  - PCB Headers: Gold or GXT™ (palladium-nickel with gold flash) or lead-free pure tin over nickel
- Housing Material:
  - MINI-LATCH Housings: Modified polyphenylene oxide UL94V-0
- Shrouded PCB Headers: Glass filled nylon UL94V-0
- RoHS Information: All parts with “LF” suffix are RoHS compliant

### APPROVALS AND CERTIFICATION

- UR E66906
- CSA LR46923

### SPECIFICATION

- Product Specification:
  - BUS-12-067 (PV® and MINI-LATCH wire connectors)
  - BUS-12-075 (Shrouded PCB headers)
- Application Drawings: TA-75, TA-146, TA-531

### ELECTRICAL PERFORMANCE

- Current Rating Single Circuit: 3.0A with 32 AWG wire; larger wires allow more; all applications require de-rating
- Withstanding Voltage: 1000V RMS
- Insulation Resistance, Wire Connector: >10000MΩ
- Insulation Resistance, PCB Header: >5000MΩ
- Contact Resistance (LLCR), Wire Connector: <2mΩ
- Mating Force (individual contact max.)
  - High Force Spring: 450g
  - Ultra-high Force Spring: 1100g
- Un-mating force (individual contact min.)
  - High Force Spring: 75g
  - Ultra-high Force Spring: 175g
- PV® Contact Retention in MINI-LATCH Housing: 4lbs per contact
- Durability: 1000 mating cycles
- Temperature: -40°C to +105°C

### TARGET MARKETS/APPLICATIONS



Automotive



Industrial



Consumer



Data



Industrial & Instrumentation



Medical

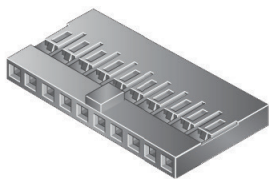
## **PV® Wire-to-Board Connector System**

### **MINI-LATCH RECEPTACLE HOUSINGS**

0.100in. / 2.54mm pitch

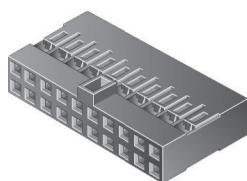
#### **SINGLE ROW, POLARIZED, 78211 SERIES**

Range: 03 to 15 positions



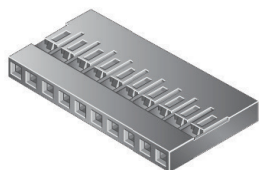
#### **DOUBLE ROW, POLARIZED, 65846 SERIES**

Range: 04 to 72 positions



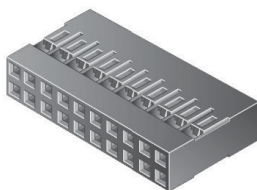
#### **SINGLE ROW, 65039 SERIES**

Range: 01 to 36 positions



#### **DOUBLE ROW, 65043 SERIES**

Range: 04 to 72 positions



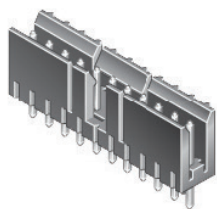
Maximum wire diameter for use in these housings is 1.52mm

### **SHROUDED PCB HEADERS**

0.100in. / 2.54mm pitch

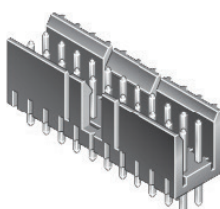
#### **SINGLE ROW, VERTICAL, 69167 SERIES**

Range: 03 to 15 positions



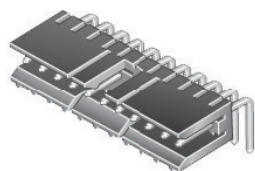
#### **DOUBLE ROW, VERTICAL, 69168 SERIES**

Range: 06 to 30 positions



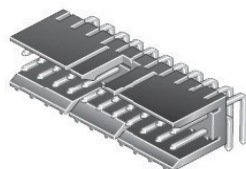
#### **SINGLE ROW, 78208 SERIES**

Range: 03 to 15 positions



#### **DOUBLE ROW, 78207 SERIES**

Range: 06 to 30 positions



## PART NUMBER CONSTRUCTION

PPPPP	—	Z	—	NN	—	H	—	LF
-------	---	---	---	----	---	---	---	----

PCB Header Style	PPPPP
Single row, vertical	69167
Single row, right angle	78208
Double row, vertical	69168
Double row, right angle	78207

Plating Finish	Z
30µin. (0.76µm) Gold/GTX	1
15µin. (0.38µm) Gold/GTX	2
Pure tin	4

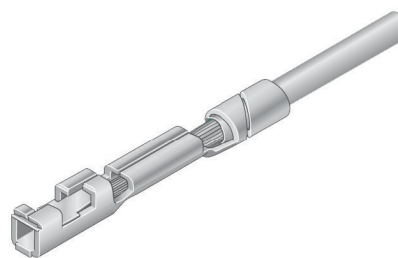
Number of Positions	NN
Available for single row	03 to 15
Available for double row	06 to 30

## PV® DUAL METAL CRIMP RECEPTACLE TERMINALS

For mating to 0.025in. / 0.635mm square posts

Step 1	Step 2	Step 3	Step 4
Select application	Select spring force	Select wire size (AWG)	Select plating

Step 1	Step 2
Application Housing	Spring Force
40 – 72 contacts per housing	Standard
10 – 50 contacts per housing	High
02 – 20 contacts per housing	Ultra high
Discrete contact posts	Ultra high

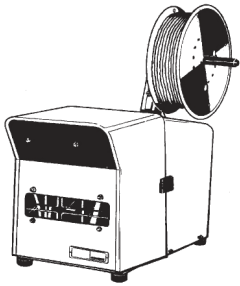


Step 3		Step 4						
Wire Size (AWG)	Spring Force	Plating/ Packaging						
		Reel				Box (Loose piece)		
		Tin	15µ Gold (0.38µm)	30µ Gold (0.76µm)	40µ Gold (0.91µm) (Europe)	Tin	15µ Gold (0.38µm)	30µ Gold (0.76µm)
PV® Part Numbers								
18, 20 or two 22 or two 24	Standard		48241-000LF	48231-000LF	48276-002LF		48250-000LF	48266-000LF
	High		48244-000LF	48047-002LF			48253-000LF	48232-000LF
	Ultra-high	47648-000LF	48247-000LF	48252-000LF	47566-002LF	47749-000LF	48256-000LF	48233-000LF
22, 24, 26 or two 26 or two 28	Standard	47445-000LF	48242-000LF	48049-000LF	47457-002LF		48251-000LF	48235-000LF
	High	47217-000LF	48245-000LF	48046-000LF	47439-002LF	47715-000LF	48254-000LF	48234-000LF
	Ultra-high	47649-000LF	48248-000LF	48051-000LF	47565-002LF	47750-000LF	48257-000LF	48236-000LF
28, 30, 32 or two 30 or two 32	Standard	47446-000LF	48243-000LF	48048-002LF		47748-000LF		48238-000LF
	High	47213-000LF	48246-000LF	48045-000LF	47437-002LF	47714-000LF	48255-000LF	48237-000LF
	Ultra-high	47650-000LF	48249-000LF	48050-000LF	47564-002LF	47751-000LF	48258-000LF	48239-000LF
32, 34, 36	Standard			75543-015LF				
	High	75543-007LF		75543-013LF		75543-008LF		75543-014LF
	Ultra-high	75543-011LF		75543-017LF		75543-012LF		75543-018LF

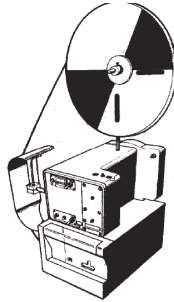
— European Part Numbers

## APPLICATION TOOLING

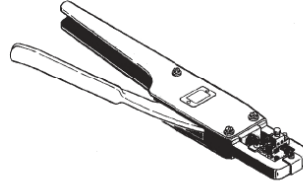
- PV-250A Semi-Automatic Crimping Machine
  - Easy to use
  - Pneumatically operated
  - Low cost
  - Estimated 1000 crimps per hour
- Machine Part Number
  - 107416-101 (18-20 AWG)
  - 107416-102 (22-26 AWG)
  - 107416-103 (28-32 AWG)



- OL-740 Semi-Automatic Two-Ton Bench Press
  - Uses quick-changing, adjustable crimping applicators for different terminals and wire sizes
  - Most rugged construction
  - Easy to use
  - Electrically operated
  - Estimated 2400 crimps per hour
- Machine Part Number
  - 133911-102 (does not include applicator)
- Applicator Tooling Part Numbers
  - 133867-104 (18-20 AWG)
  - 133867-105 (22-26 AWG)
  - 133867-106 (28-32 AWG)



- Ratcheting Hand Crimping Tool
  - Part Number
    - HT-0073 (for 18-20 AWG Wire)
    - HT-0095 (for 22-32 AWG Wire)
    - HT-0112 (for 32-36 AWG Wire)



- PV® Contact Removal Tool
  - Part Number
    - HT-0080