

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

## VERSATILE DESIGN FOR DEMANDING APPLICATIONS

Amphenol's PV<sup>®</sup> solution is a versatile and modular system able to meet all the board-to-board, board-to-wire, and 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 provide polarization to prevent mismatching



### 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 mismatching
- 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 32AWG 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 and Wire to wire 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



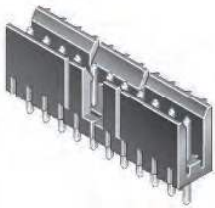
Maximum wire diameter for use in these housings is 1.52mm

### SHROUDED PCB HEADERS

0.100in. / 2.54mm pitch

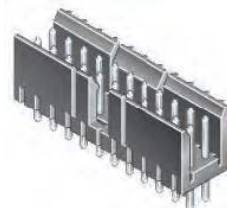
#### SINGLE ROW, VERTICAL, 69167 SERIES

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
-------	---	---	---	----	---	---	---	----

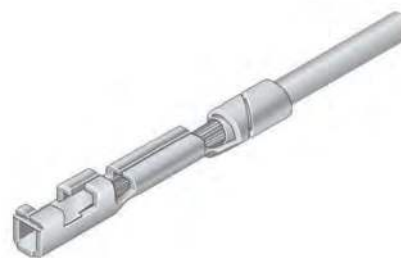
PCB Header Style	PPPPP	Plating Finish	Z	Number of Positions	NN
Single row, vertical	69167	30µin. (0.76µm) Gold/GXT®	1	Available for single row	03 to 15
Single row, right angle	78208	15µin. (0.38µm) Gold/GXT®	2	Available for double row	06 to 30
Double row, vertical	69168	Pure tin	4		
Double row, right angle	78207				

## 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

## ▶ PV® Wire-to-Board and Wire-to-Wire Connector System

### PV® CRIMP-TO-WIRE MALE PIN TERMINALS

## PART NUMBER CONSTRUCTION

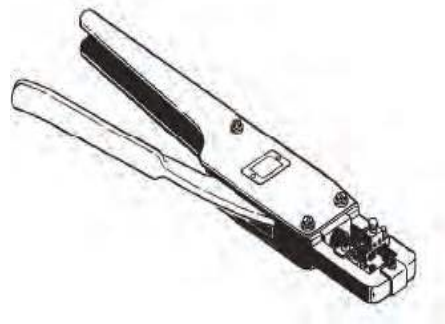
75967	—	X	—	X	—	X	—	LF
		Final Reeling				AWG		
1		Right to left				1		28 - 32
3		Left to right				2		22 - 26
						3		18 - 20
						Plating		
1		30µin. (0.76µm) Gold/GXT®						
2		15µin. (0.38µm) Gold/GXT®						
3		50µin. (1.27µm) Gold/GXT®						

## APPLICATION TOOLING

- PV® Hand tool P/N:
  - 10162308-001 - AWG 18-20
  - 10162309-001 - AWG 22-26
  - 10162310-001 - AWG 28-32



- PV® Hand tool for male pin terminals P/N
  - HT-0102 - AWG 22-32
- PV® Contact Removal Tool
  - Part Number
    - HT-0080



BWPVWWTB0323EA4