

STAND-ALONE VALVE BASES



CHAPTER



6

CONTENTS OF THIS CHAPTER

Overview	6-2
Port Connections	6-3
Wiring.	6-4
Control Cables	6-4
Stand-Alone vs. PAL Assembly Comparison.	6-5
Typical Stand-Alone Base Configuration.	6-5
Comparable PAL Assembly Configuration.	6-5
Mounting Options.	6-6
DIN Rail Mounting.	6-6
Bracket Mounting	6-6
LED Status Lights and Diagnostics	6-7

OVERVIEW



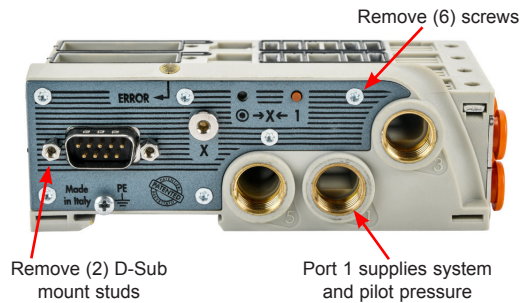
PAL System - Stand-Alone Valve Bases		
Item	Part No.	Description
	PAL-CB4414	NITRA pneumatic stand-alone valve base, fiberglass-reinforced thermoplastic, (4) solenoid(s), (4) stations, (1) 1/4in female NPT inlet(s), (8) 1/4in push-to-connect tubing outlet(s), (2) 1/4in female NPT exhaust(s), IP65. For use with PAL series.
	PAL-CB4814	NITRA pneumatic stand-alone valve base, fiberglass-reinforced thermoplastic, (8) solenoid(s), (4) stations, (1) 1/4in female NPT inlet(s), (8) 1/4in push-to-connect tubing outlet(s), (2) 1/4in female NPT exhaust(s), IP65. For use with PAL series.

PAL-CB4414 and PAL-CB4814 stand alone valve bases offer the performance of PAL solenoid valves in a smaller, less expensive package for basic applications of 4 valves or less. PAL-CB4414 has one solenoid output per station while the PAL-CB4814 has two outputs per station. Pneumatic and electrical connections are all built into the base.

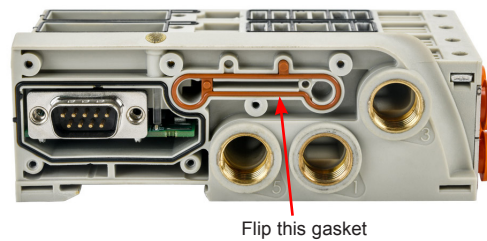
PORT CONNECTIONS

Operating pressure range for the stand alone units must be 50 to 120 psi if using a single supply connection at port “1”. A range of -14.5 to 145 psi is possible when using a separate pilot supply connected to port “X”. Pressure at port “X” must be 50 to 120 psi. See instructions below for enabling port “X”:

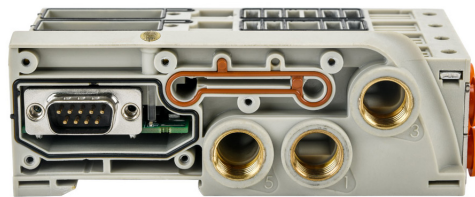
- 1) Out of Box state



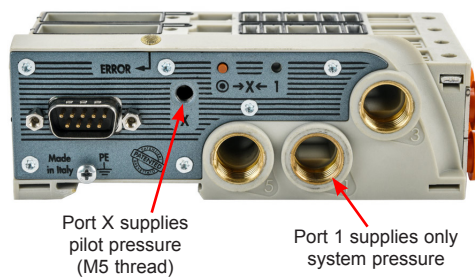
- 2) Out of Box with cover removed



- 3) Port X enabled with cover removed



- 4) Cover replaced



WIRING

Choose the appropriate Electrical Connection Module power cable for wiring. AutomationDirect part numbers PAL-ACC19, PAL-ACC21 and PAL-ACC21 are used for wiring Stand-Alone valve bases.

Input voltage range is 12VDC -10% to 24VDC +30% (minimum 10.8, maximum 31.2 VDC)



WARNING: POWER OFF THE SYSTEM BEFORE PLUGGING OR UNPLUGGING THE CONNECTOR (RISK OF FUNCTIONAL DAMAGE).

USE FULLY ASSEMBLED VALVE UNITS ONLY.

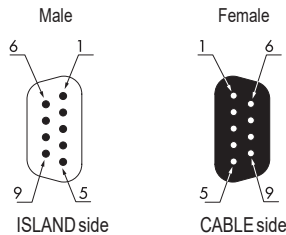
USE AN APPROPRIATE POWER SUPPLY FOR INCOMING POWER THAT COMPLIES WITH IEC 742/EN60742/VDE0551 WITH AT LEAST 4kV INSULATION RESISTANCE (PELV).



WARNING: SUPPLY VOLTAGE GREATER THAN 32VDC WILL PERMANENTLY DAMAGE THE PAL SYSTEM.



NOTE: The grounding screw below the D-Sub connector must always be connected to earth ground.

CONNECTOR D-Sub 9 PIN PRE-WIRED

Electric contact position	Color conductor cable	Function	4-position base	8-position base
1	White	1 + VDC	Solenoid pilot 14 valve 1	Solenoid pilot 14 valve 1
2	Brown	2 + VDC	Solenoid pilot 14 valve 2	Solenoid pilot 12 valve 1
3	Green	3 + VDC	Solenoid pilot 14 valve 3	Solenoid pilot 14 valve 2
4	Yellow	4 + VDC	Solenoid pilot 14 valve 4	Solenoid pilot 12 valve 2
5	Grey	5 + VDC	/	Solenoid pilot 14 valve 3
6	Pink	6 + VDC	/	Solenoid pilot 12 valve 3
7	Blue	7 + VDC	/	Solenoid pilot 14 valve 4
8	Red	8 + VDC	/	Solenoid pilot 12 valve 4
9	Black	COM 0VDC	Common	Common

CONTROL CABLES

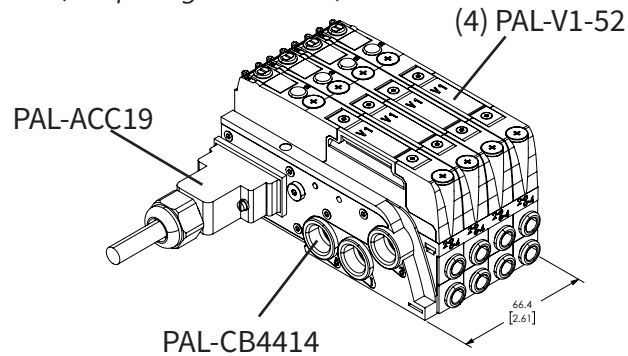
PAL System - Stand-Alone Valve Bases Control Cables		
Item	Part No.	Description
	PAL-ACC19	NITRA control cable, 9-pin D-sub axial female to pigtail, IP65, 3.2ft/1m cable length. For use with PAL series stand-alone valve base.
	PAL-ACC20	NITRA control cable, 9-pin D-sub axial female to pigtail, IP65, 8.2ft/2.5m cable length. For use with PAL series stand-alone valve base.
	PAL-ACC21	NITRA control cable, 9-pin D-sub axial female to pigtail, IP65, 16.4ft/5m cable length. For use with PAL series stand-alone valve base.

STAND-ALONE VS. PAL ASSEMBLY COMPARISON

TYPICAL STAND-ALONE BASE CONFIGURATION

List of parts:

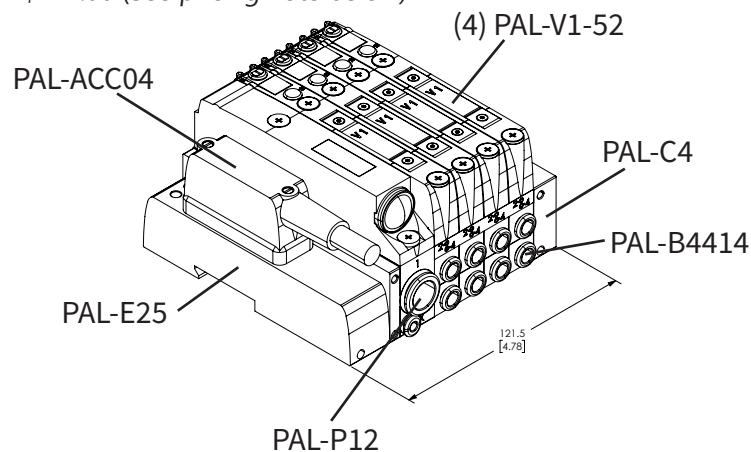
- PAL-CB4414 - Stand-Alone Base
 - (4) PAL-V1-52 - Solenoid Valves
 - PAL-ACC19 - Control Cable
- Total cost = \$259.50 (See pricing note below)



COMPARABLE PAL ASSEMBLY CONFIGURATION

List of parts:

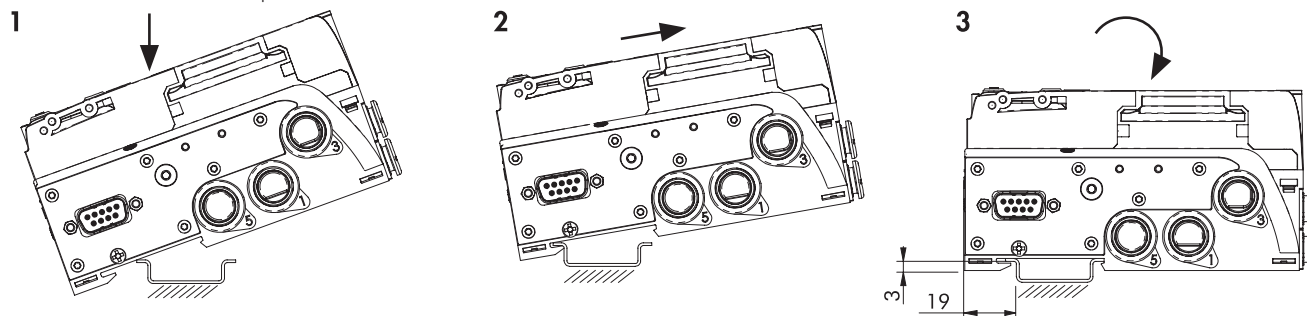
- PAL-E25 - Electrical Connection Module
 - PAL-P12 - Pneumatic Compressed Air Module
 - PAL-B4414 - Modular Valve Base
 - (4) PAL-V1-52 - Solenoid Valves
 - PAL-C4 - Closed End Plate
 - PAL-ACC04 - Control Cable
- Total cost = \$421.00 (See pricing note below)



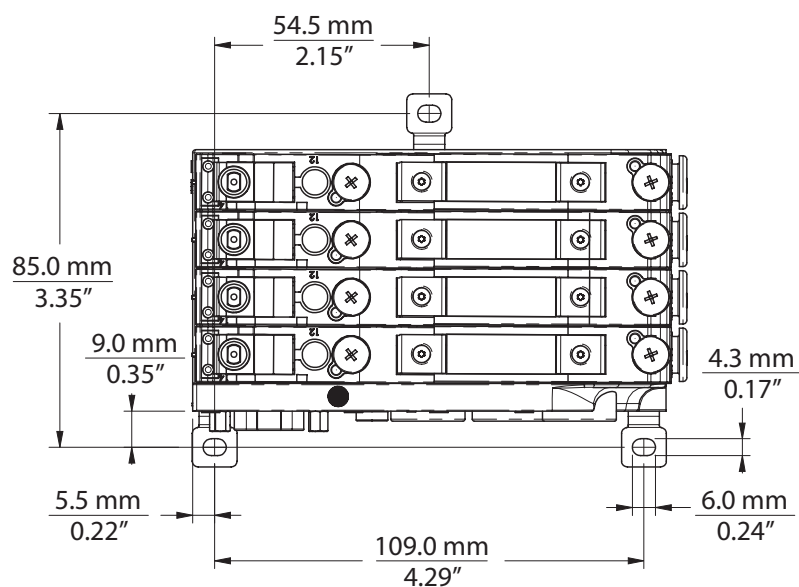
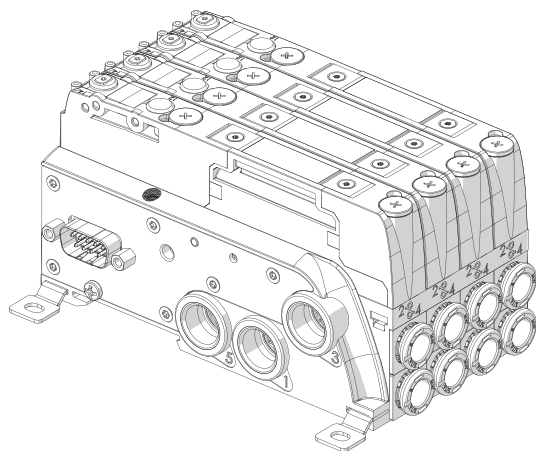
NOTE: Current prices as of date of publication. Visit www.automationdirect.com for current prices.

MOUNTING OPTIONS***DIN RAIL MOUNTING***

The base snaps on to DIN rail as shown.











***BRACKET MOUNTING***

Three brackets are included with each PAL stand-alone valve base. Push them firmly into the appropriate seats on the bases until they “click”. Use the appropriate screws to fasten securely to a stable mounting surface.



LED STATUS LIGHTS AND DIAGNOSTICS

Stand alone valve bases are protected against overload and polarity inversion. A short circuit will damage the circuit board. A flashing red ERROR LED indicates excessive voltage or failed control of a solenoid pilot. An alarm continues as long as the command is active. A steady red ERROR LED indicates that voltage out of range. The stand alone valve may continue to operate but may operate incorrectly.

Solenoid Valve LED Status				
LED Status				Description
Pilots (on valves)		ERROR (on base)		
OFF		OFF		No output control
ON (green)		OFF		The output is working properly
ON (green)		ON (flashing) ON 0.1 sec OFF 1 sec		Solenoid valve failed or missing (blanking plug installed or single pilot valve installed on a base for two pilots)
OFF		ON (flashing) ON 0.4 sec OFF 2 sec		Solenoid valve short circuit
ON (green)		ON (red)		Voltage is out of range: Less than 10.8V or greater than 31.2V. CAUTION: Voltage greater than 32V can damage the system.

BLANK
PAGE