PAL System - End Plates

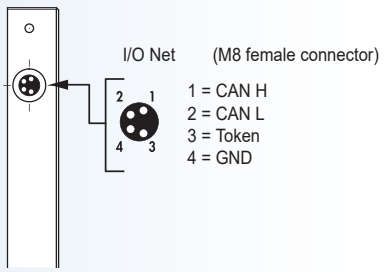
End Plates

The closed end plate is the last element on the right hand end of each PAL system. PAL-C4 is used for direct wired systems. For fieldbus systems, PAL-C2 can be used for a single PAL system or PAL-C3 is used to allow daisy-chaining separate PAL subsystems that share a common IP address. The end plate houses the system for mechanically mounting the base to external supports i.e. DIN rail.

PAL System - End Plates

Item	Part No.	Price	Description	Weight (lbs)	Drawing Link
	***PAL-C2***	$64.00	NITRA closed end plate, IP65. For use with PAL series single fieldbus assemblies.	0.4	PDF
	***PAL-C3***	$90.00	NITRA closed end plate, IP65. For use with PAL series fieldbus assemblies and expansion. Requires PAL series expansion cable or PAL-ACC18 M8 terminator. Used for local expansion.	0.4	PDF
	***PAL-C4***	$33.50	NITRA closed end plate, IP65. For use with PAL series wired assemblies.	0.25	PDF
	***PAL-ACC10***	$23.00	NITRA expansion cable, 4-pin M8 axial male to 4-pin M8 axial male, IP65, 3.2ft/1m cable length. For use with PAL series bus expansion coupler.	0.10	PDF
	***PAL-ACC11***	$34.50	NITRA expansion cable, 4-pin M8 axial male to 4-pin M8 axial male, IP65, 16.4ft/5m cable length. For use with PAL series bus expansion coupler.	0.45	PDF
	***PAL-ACC12***	$50.00	NITRA expansion cable, 4-pin M8 axial male to 4-pin M8 axial male, IP65, 32.8ft/10m cable length. For use with PAL series bus expansion coupler.	0.90	PDF
	***PAL-ACC18***	$18.00	NITRA M8 terminator, for use with PAL-C3 end plate.	0.05	PDF

PAL-C3 Wiring



Click the icon or scan the QR code to be taken to https://www.automationdirect.com/selectors/pal for our online PAL system Configuration Tool for further selection assistance.

PAL System - Accessories and Mounting Options

PAL System - Accessories					
Item	*Part No.*	*Price*	*Description*	*Weight (lbs)*	*Drawing Link*
	***PAL-ACC01***	$11.50	NITRA base mount, panel. Package of 2. For use with PAL series. Mounting screws included.	0.1	PDF
	***PAL-ACC02***	$2.00	NITRA M8 protective cap, for use with PAL series.	0.05	N/A
	***PAL-ACC03***	$1.00	NITRA M12 protective cap, for use with PAL series.	0.05	N/A

Mounting Options

Using the PAL-ACC01

1. Mounting to DIN rail: tighten the set screws into modules E (electrical connection) and C (closed end plate).
2. Mounting on a flat surface: use the pair of brackets part number PAL-ACC01 and the M5x20 screws supplied.

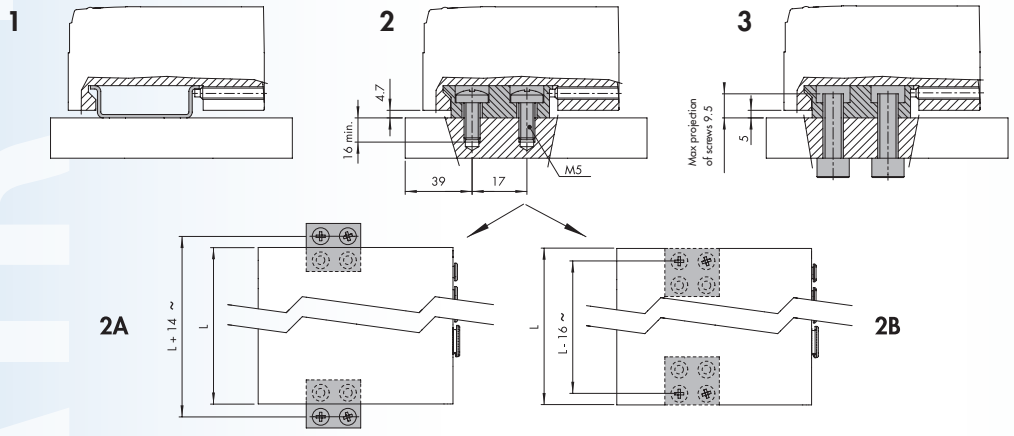
You can choose where to position the brackets in relation to the base:

2a. Protruding brackets: Can be used to install the base + brackets unit from above. First secure the brackets to the modules E and C using the set screws, then secure everything with M5x20 screws.

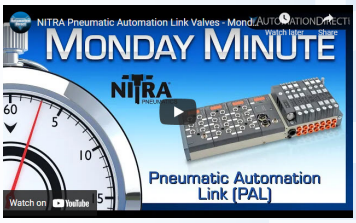
2b. Concealed brackets: the overall dimensions of the base are reduced. First secure the brackets to the flat top with M5x20 screws, then place the base onto the brackets and lock the two set screws provided in the modules E and C.

3. Mounting through a wall: use the brackets part number PAL-ACC01. The brackets come with M6 threaded holes and can be fixed with M6 screws (not included in the supply) passing through the wall. The brackets can fixed either protruded or concealed.

Note: Planar surfaces are required to ensure correct mounting. Avoid twisting or bending the valve units.



Pneumatic Automation Link (PAL)



Click on the thumbnail or go to https://www.automationdirect.com/VID-PN-0055 for a short video on the Nitra PAL system.

The Pneumatic Automation Link (PAL) system is defined as an electro-pneumatic system as it can contain both electrical I/O as well as a solenoid valve bank. In effect, a single assembly can combine solenoid valves of various types, digital or analog I/O and common power sources for all of the above.

Using a limited variety of basic components many different configurations can be built. Valves supported are compact yet have high flow ratings (Cv) and high performance. The system can be controlled by direct wiring if only pneumatic valves are used or via Ethernet/IP if a combination of electrical I/O and valves are part of your application. To simplify wiring and system design, DC power is connected through a central module using M8 connections. All PAL components come with an efficient diagnostic system.

Click or scan the QR code to be taken to https://cdn.automationdirect.com/static/manuals/nitrapal/nitrapal.html for online PAL system Documentaiton including Manual and Module Options Insert.

PAL System - General Specifications				
Nominal Supply Voltage	12 or 24 VDC			
Minimum Operating Voltage	10.8 V *			
Maximum Operating Voltage	31.2 V			
Maximum Admissible Voltage	32V **			
Power for Each Controlled Pilot	3W for 15ms, then holding 0.3 W			
Drive (for multi-pole)	PNP or NPN			
Solenoid Rating	100% ED			
Protection	Overload and short-circuit protected solenoid pilot Output			
Maximum Number of Solenoid Pilots	21 or 38 multi-pole connection; field bus 128			
Ambient Temperature	-10°C to + 50°C (at 8 bar) 14°F to 122°F (at 8 bar)			
Operating Pressure			5/2 and 5/3	3/2
	Common supply	Port 1	3 to 8 bar (43 to 116 psi)	3.5 to 8 bar (51 to 116 psi)
	Separate pilot supply	Assisted valves	Vacuum to 10bar (Vacuum to 145psi)	
		Pilot pressure	3 to 8 bar (43 to 116 psi)	
Actuation Response Time (TRA) / Reset Response Time (TRR) at 6 bar	TRA/TRR valve 2/2 and 3/2		14 / 28 ms	
	TRA/TRR valves 5/2 monostable and shut-off valve		12 / 45 ms	
	TRA/TRR valve 5/2 bistable		12 / 14 ms	
	TRA/TRR valve 5/3		15 / 45 ms	
	TRA/TRR valve 3/2 high flow		13 / 36 ms	
Fluid	Unlubricated air			
Air Quality Required	ISO 8573-1 class 4-7-3			
Degree of Protection	IP65 (with connectors connected or plugged if not used)			
Agency Approvals	CE, cURus			

** Minimum voltage 10.8V required at solenoid pilots.*
*** IMPORTANT! Voltage greater than 32VDC can permanently damage the system.*