

PROTECTION INTERFACE PLATFORM (PIP)

Electrical Protection

Application

The Ampcontrol Protection Interface Platform (PIP) is an intelligent controller that is used to interface with 1 to 16 outlets utilising the next generation of Ampcontrol Integrated Protection Relays. The system standardises the interface between the latest protection relays offered by Ampcontrol and any external interfaces (PLC or Networks) where required.

The PIP consists of the following equipment

- Protection Interface Platform (PIP), the main control device
- Protection Interface IO Block (PI2), this is the system IO block
- PIP Screen (PIPS), an optional screen to be used with the PIP
- Distributed outlet IO blocks:
 - o 2FB – 2x Fixed Outlet IO Block
 - o 4FB – 4x Fixed Outlet IO Block
 - o 2WB – 2x Withdrawable Outlet IO Block (For use with Ampcontrol OCS only)
 - o 4WB – 4x Withdrawable Outlet IO Block (For use with Ampcontrol OCS only)
- Desired Protection Relay(s), the following are compatible:
 - o IPE – Integrated Protection Relay Type IPE
 - o OCS, Outlet Cassette System Protection Element
 - o OCS-RV, Outlet Cassette System Protection Electronics - Residual Voltage



Protection Interface Platform GUI (max of 16 outlets shown)

Features

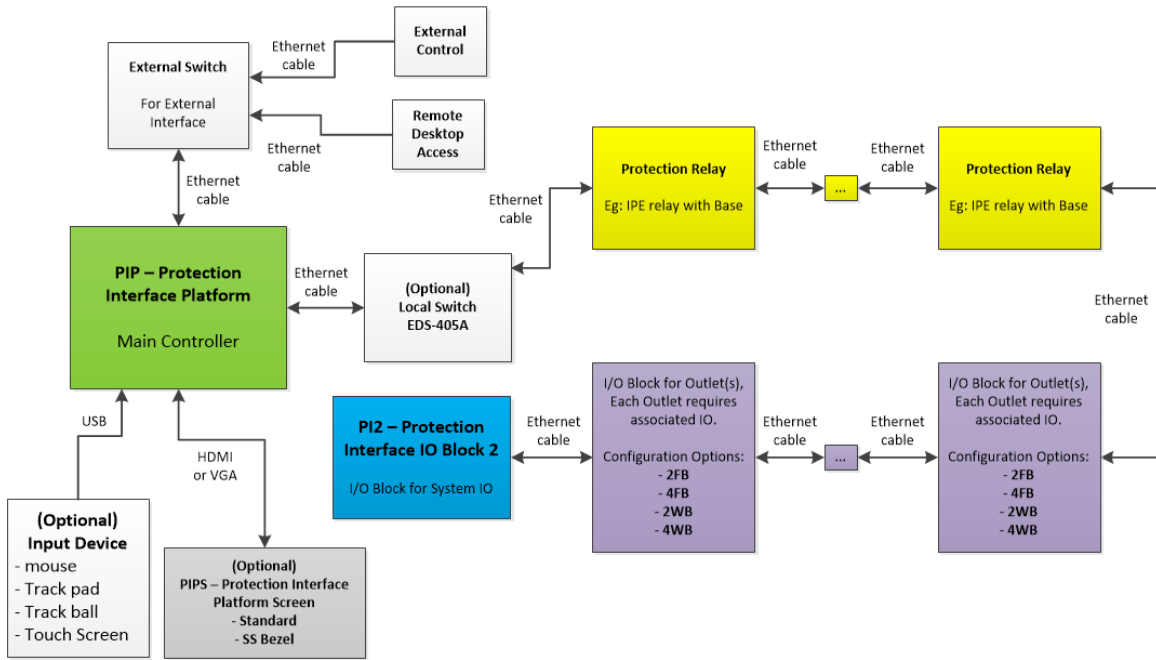
- Standardised outlet control interface
- Standard outlet equipment design and layout
- Module design for ease of installation and replacement
- Built in diagnostics for fault finding
- Reduced system wiring
- Standardises interface hardware making future functionality upgrades easier

Description

The PIP system incorporates a main control block, system IO block, outlet IO blocks, a local network switch and optional screen (PIPS) and input devices.

The PIP performs all of the gathering of outlet relay data and interfaces with the outlet protection relays. Users are required to access the outlets data or control through the PIP, thus keeping the outlet communications network isolated to all other networks. This eliminates dependency on external network functionality as well as removing complexity to configure the system, resulting in a plug and play platform.

The system topology is completely configurable to suit the desired system layout and application. A local network switch connects the PIP with all of the system blocks.



The PIP's Graphical User Interface (GUI) can be accessed through two ways:

- 1- PIP Screen (PIPS) or Alternative Screen
- 2- Ethernet connection.

When accessing the GUI through the Ethernet connection, the operation and functionality of the GUI will be the same as if interacted through the dedicated PIPS.

The PIP provides an intuitive interface to navigate the PIP configuration, system logs and outlet management. The outlet screens provide a common control interface and menu layout. All outlet control and protection settings are made through this interface to help create a standardised structure.

Specifications	
General	
<i>Control Voltage</i>	12-15VDC Recommended (9-24VDC Maximum)
<i>Power consumption</i>	48W (~4A @12VDC)
<i>PIP Weight</i>	1.6kg
Mechanical & Environmental	
<i>Dimensions (H x W x D)</i>	Footprint: 200 x 110 x 40 (mm) Mounting: 182 x 85 (mm)
<i>PIP Operating Temperature</i>	-20°C to +60°C with 0.5m/s air flow
<i>PIP Storage Temperature</i>	-30°C to +60°C
<i>IP Rating required</i>	IP55 or greater
<i>Humidity</i>	Between 10% relative humidity and the dew point, non-condensing
<i>UV Stability</i>	None
Compatible Protection Relays	
<i>IPE / OCS</i>	Integrated Protection relay Type E / Outlet Cassette system Protection Element
<i>OCS-RV</i>	Outlet Cassette system Protection Element – Residual Voltage
Network Parameters – See User Manual	
System Block details – See User Manual	

PIP - System Components	
Part Number	Description
300104	KIT Protection Interface Platform (PIP) C/W Dongle
198608	Protection Interface IO Block 2 (PI2)
198601	2FB - 2 Outlet Fixed IO Block*
198602	4FB - 4 Outlet Fixed IO Block *
198600	2WB - 2 outlet Withdrawable IO Block*
198598	4WB - 4 outlet Withdrawable IO Block*
198599	PIPS - PIP Screen 10.1" (Optional)
300716	PIPS SS - PIP Screen 10.1" Stainless Steel Bezel (Optional)
199332	HDMI to DVI Cable 1.5m (to connect PIP to PIPS) (Optional)
176082	Temp Sensor (Optional)
198558	MOXA 5x Ethernet Port Switch (Un managed) (Optional)
TBC	Power Supply 12V 5A (For PIP)
157711	Power supply 24V 10A
165165	Track Pad – Hazardous Area (Optional)
172912	Trackpad Interface – Hazardous Area (Optional)

* For individual IO component part numbers see user manual

PIP - Accessories		
Part Number	Description	Manufacturer Part Number
198609	Protection Interface Platform (PIP) V01	
199330	PIP System Dongle	
-	Mouse (wired) – Most USB type will work	Not available through Ampcontrol
-	Mouse (wireless) – Most USB type will work	Not available through Ampcontrol
TBC	MOXA 2x Ethernet Port + 3x Fibre Port Switch	EDS-405-TBC
178843	MOXA 8x Ethernet Port Switch	EDS-408A

(198557) IPE Protection Relay Kit (Require 1 per outlet)	
Part Number	Description
197358	IPE Relay
180902	IPX Base 5m Tails
195677	OCS / IPE Plug Set
Earth Leakage Toroid (Require 1 per outlet)	
Part Number	Description
101649	EL Toroid EL500 60mm
101654	EL Toroid EL500 112mm
101658	EL Toroid EL500S 60mm
101656	EL Toroid EL500S 112mm
Phase CT (Require 3 of same items per outlet)	
Part Number	Description
101272	45mm CT 1000:1
101703	88mm CT 1000:1

Outlet Dongle Part Numbers (Require one per PIP outlet)

Part Number	Description
199230	IPE Dongle Outlet 1 - PIP
199231	IPE Dongle Outlet 2 - PIP
199232	IPE Dongle Outlet 3 - PIP
199233	IPE Dongle Outlet 4 - PIP
199234	IPE Dongle Outlet 5 - PIP
199235	IPE Dongle Outlet 6 - PIP
199236	IPE Dongle Outlet 7 - PIP
199237	IPE Dongle Outlet 8 - PIP
199238	IPE Dongle Outlet 9 - PIP
199239	IPE Dongle Outlet 10 - PIP
199240	IPE Dongle Outlet 11 - PIP
199241	IPE Dongle Outlet 12 - PIP
199242	IPE Dongle Outlet 13 - PIP
199243	IPE Dongle Outlet 14 - PIP
199244	IPE Dongle Outlet 15 - PIP
199245	IPE Dongle Outlet 16 - PIP

Accessories

Part Number	Description
196912	Kit RTX complete with dongle
195677	Kit OCS / IPE Plug Set
164268	Plug Bypass Circuit Breaker Relay OCS/IPE
115119	Module PTB Diode Pilot Termination
169732	RES 100R 5W 1%
117023	Diode 1N5404 3A

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