

INTERCONNECTION OF INDUSTRIAL ARCHITECTURES

IPL & SIG industrial routers are used to simply and safely interconnect remote industrial equipments.

These highly resistant products are dedicated to water, energy, industry and smart cities markets.

DOC_MPR_IPL_Data sheet_D (latest update 02/08/2024)

Router Firewall IPL & SIG

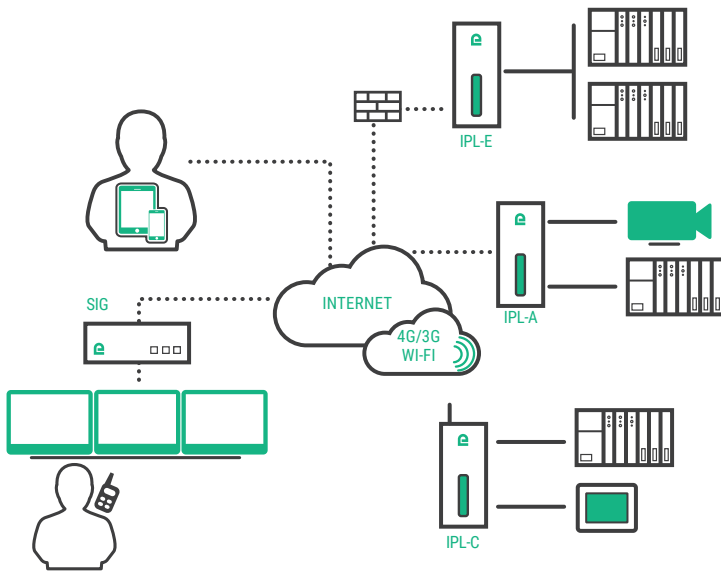
- **VPN concentrator**
(10 up to 1000 tunnels)
- **MultiWAN**
(Ethernet, ADSL, 4G/3G+, Wi-Fi)
- **Industrial Internet of Things**
(LTE-M, NB-IoT)
- **High availability router with backup**
- **Wi-Fi**
(Access Point & Client)
- **Collect & Alert (Raising an alert)**
(SMS, E-mail, Datalogger)
- **Store4Me**
(Data storage and dashboarding)
- **Tracking (GPS)**
- **5 years warranty**



CONNECTING TO A SCADA SYSTEM

Building of a complete solution with a SIG located close to the SCADA system. The IPL located onto the remote sites are interconnected to the SIG (VPN tunnels).

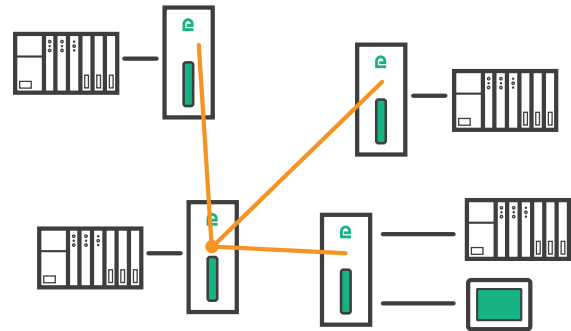
If the number of remote sites is large, two SIG can be installed in parallel to share the throughput.



You can access from your tablet or smartphone to remote devices via the SIG (VPN, HTTPS)

INTERCONNECTING REMOTE EQUIPMENT

Using VPN technology (OpenVPN, IPSEC), you can safely interconnect equipment. One of the IPL will act as a VPN concentrator.



Remote sites can be interconnected via cellular IPL using Etic Telecom proprietary DYNDNS function. You would thus only need a basic data subscription with a non fixed public IP address.

ROUTERS WITH EMERGENCY BACKUP LINK

Critical sites can also be equipped with IPL routers capable of managing a main link and a backup link.

For example, the IPL-DAC router allows you to switch data over the 4G / 3G+ network when the ADSL link fails.

IPL-WAN-CODE 1-CODE 2

WAN can be Cellular (**C** and **CW** with Wi-Fi), ADSL (**A** and **AW** with Wi-Fi), Ethernet (**E** and **EW** with Wi-Fi), ADSL with backup cellular (**DAC**), Ethernet with backup cellular (**DEC**), ADSL with backup Ethernet (**DAE**), Optical with Cellular backup (**DOC**).

CODE 1	100*	400	220	230	260	261
Ethernet 10/100 MDI MDIW	1	4	2	2	2	2
RS232 link	-	-	1	2	-	-
Non isolated RS485 link			1			
Isolated RS485 link						1
Isolated 422 link					1	
USB link		1	1	1	1	1
CODE 2 (CELLULAR WAN)			LM		LW	
			LTE-M / NB-IoT		4G World Wide UL (E525478)	

*not available for ADSL, -D, -S, -M IPLs

SELECTION GUIDE



ROUTEUR IP	IPL-C OR IPL-CW	IPL-A OR IPL-AW	IPL-E OR IPL-EW	IPL-DAC	IPL-DAE	IPL-DOC	IPL-DEC	SIG E-400	SIG A-400	SIG EC-400	SIG VM
WAN 1	4G/3G+	ADSL	Ethernet interface	ADSL	ADSL	Optical	Ethernet	Ethernet interface	ADSL	4G/3G/GPRS	Depending on HW platform
WAN 2				4G/3G/GPRS	Ethernet	4G/3G/GPRS	4G/3G/GPRS			✓	
RRRP protocol	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Backup link				✓	✓	✓	✓			✓	
Number of VPN tunnels	10	10	10	10	10	10	10	100	100	100	1000
QoS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

ACCESSORIES



	ANT305	ANT306	ANT310	ANT316	ANT320	ANT326	ANT217	ANT311	ANT219	ANT405
Type	Panel Mount	Panel Mount	Roof	Roof	Magnet	Magnet	Panel Mount	Roof	Magnet	Magnet
Network	2G - 3G - 4G	LTE-M (450MHz)	2G - 3G - 4G	LTE-M (450MHz)	2G - 3G - 4G	LTE-M (450MHz)	Wi-Fi (2,4 et 5 GHz)	Wi-Fi (2,4 et 5 GHz)	Wi-Fi (2,4 et 5 GHz)	GPS (1,57 GHz)
Connector	Male SMA	Male SMA	Male SMA	Male SMA	Male SMA	Male SMA	Male RP SMA	Male RP SMA	Male RP SMA	USB
Cable	-	-	5 m	5 m	3 m	3 m	-	2,5 m	1 m	3 m
Dimensions	H = 160 mm	H = 171 mm	H = 82 mm Ø = 48 mm	H = 82 mm Ø = 48 mm	H = 72 mm Ø = 31 mm	H = 72 mm Ø = 31 mm	H = 90 mm	H = 23 mm Ø = 80 mm	H = 220 mm Ø = 60 mm	H = 15 mm Ø = 38 mm

5m coaxial extension: CO-LL6-SF-SM-500

TECHNICAL CHARACTERISTICS

GENERAL CHARACTERISTICS		LAN NETWORK	
Dimensions	<ul style="list-style-type: none"> IPL-X-100: 120 x 37 x 88mm (h,l,d) Other IPL: 137 x 48 x 116mm (h,l,d) SIG: 45 x 220 x 220mm (h,l,d) 	Ethernet	RJ45, 1 up to 4 ports depending on model
Weight	<ul style="list-style-type: none"> IPL: between 500g and 650g depending on model (without packaging) SIG: 1 300g 	RS232/RS485	<ul style="list-style-type: none"> 9600 up to 115200bps 10 or 11 bits RAW TCP server, TCP client & UDP gateway ModBus master or slave gateway Unitelway gateway for master PLC RS232: RJ45 RS485: 2 points phoenix type connector
Power	<ul style="list-style-type: none"> IPL-X-100: Nominal 12 - 24 VDC (min 10 - max 30) Other IPL: Nominal 12 - 48 VDC (min 10 - max 60) SIG: 110 - 230 VAC Phoenix type connector 2 points 	Wi-Fi	Access point 2.4 and 5 GHz
Consumption	<ul style="list-style-type: none"> IPL-E, 2W IPL-ECW, IPL-DAC : 8W, Other IPL: 5W SIG: 10W 	ROUTING / IP@ / MANAGEMENT	
Temperature	<ul style="list-style-type: none"> IPL: -40°C - +70°C SIG: -20°C - +60°C Humidity 5 to 95 % 	Routing IP	<ul style="list-style-type: none"> Static routes RIP Address translation (DNAT and NAT 1:1)
ECM	Immunity (EN 61000-6-2) <ul style="list-style-type: none"> EN61000-4-2: Electrostatic discharge (ESD) EN61000-4-3: RF radiated EN61000-4-4: EFT/Burst EN61000-4-5: Surge EN61000-4-6: RF Conducted EN61000-4-8: Magnetic field Emission (EN 61000-6-4) <ul style="list-style-type: none"> EN 55022: Radiated and Conducted emission FCC: IPL-X-100: FCC PART 15	Assigning IP@	<ul style="list-style-type: none"> WAN interface: DHCP client or fixed IP LAN interface: DHCP server
Electrical Safety	IEC-EN 62368-1 IPL-X-100: UL (E525478)	DNS	<ul style="list-style-type: none"> WAN interface: compatible with DYNDNS, No-IP or ETIC DNS LAN interface: relay & DNS server
Hazardous substances	<ul style="list-style-type: none"> Directive 2002/95/CE (RoHS) REACH 	SNMP	MIB 2 and Traps SNMP (V2 and V3)
Casing	<ul style="list-style-type: none"> IPL-X-100: IP31 (metallic with DINRail mounting) Other IPL: IP30 (metallic with DINRail mounting) SIG: IP20 (metallic) 	Management	<ul style="list-style-type: none"> Configuration: Import/Export Reset to factory configuration
WAN NETWORK		Configuration	Web Server
Ethernet/ADSL	RJ45, ADSL2+ and RE-ADSL	SECURITY	
4G/3G+	<ul style="list-style-type: none"> 4G World Wide (-LW) Max. data rate 4G: UL @ 50 Mbps and DL @ 100Mbps Max. data rate 3G+: UL @ 5,7 Mbps and DL @ 21 Mbps Max. data rate 2G: UL @ 237 Kbps and DL @ 237 Kbps Antenna SMA female connector Certified antennas: see selection guide 	Firewall	<ul style="list-style-type: none"> Stateful packet inspection (SPI: 50 rules) Filtering IP@ and Ports
Wi-Fi	<ul style="list-style-type: none"> Client 2.4 and 5 GHz 802.11 a/b/g/n and super AG Antenna connector Female RP SMA Certified antennas: see selection guide 	Internal report	<ul style="list-style-type: none"> Events: connection, restart, alarms, audit trail SYSLOG
		Alarms	<ul style="list-style-type: none"> Digital input: email, SMS, SNMP trap Digital output: Power supply failure, user connection...
		Redondancy	VRRP protocol RFC 3768
		VPN	
		VPN tunnel	<ul style="list-style-type: none"> OpenVPN (TLS/SSL), IPSEC, L2TP / IPSEC, PPTP Shared Key or X.509 Certificate Encryption AES 128-192-256, CBC and GCM Authentication: SHA-256-384-512 Up to 10 VPN tunnels (mix OpenVPN and IPSEC allowed)
		Number of VPN tunnels	<ul style="list-style-type: none"> Up to 10 VPN tunnels (IPL) Up to 100 VPN tunnels (SIG) Up to 1000 VPN tunnels (SIG VM) (Please contact us to port the SIG VM on a platform)
		Remote access	<ul style="list-style-type: none"> Up to 200 users with login, password and certificate Individual access rights to the device https portal enabling easy access to the remote html servers



+33 (0)4 76 04 20 00
 contact@etictelecom.com
 www.etictelecom.com



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