# Oxtopus

the little big revolution.

Multi-protocol: LonWorks® router and Modbus router

- Permanent impedance measuring over each line
- Embedded multiprotocol: LonWorks® and Modbus router
- Modularity: 1 to 4 x TP/FT ports or EIA-485 ports + 2 Ethernet ports + Wi-Fi
- Embedded diagnosis functions available on web pages and Modbus server
- LNS compatible
- LCD display on front panel
- DIN rail mounting
- Simplified installation and setting up with a Wizard assistant
- Self-adjustment of Ethernet speed
- Self-crossing of Ethernet cables

Oxtopus
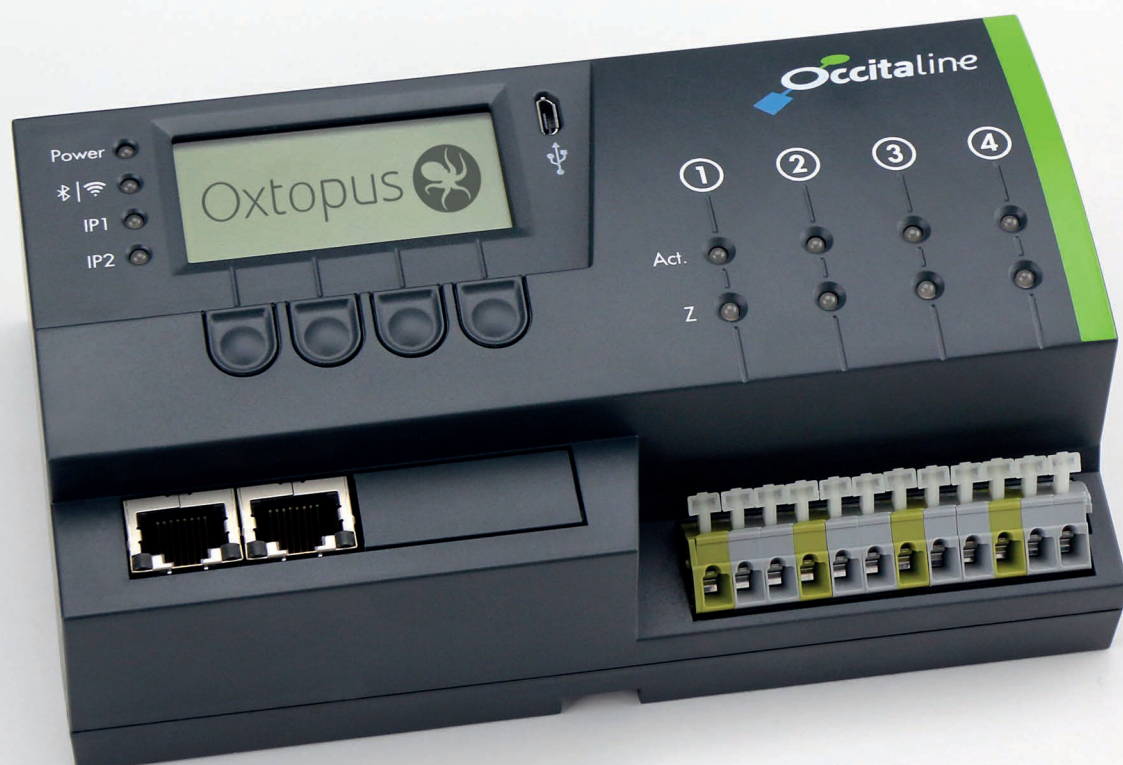
Its genesis is based on Daniel Zotti - a LonWorks trainer and expert, designer of BAS products for 20 years - and his teamwork that revolutionized building infrastructure equipment to match users' latent needs: easier-to-use, cheaper, communicant in a network and offering unique diagnosis functions.

Oxtopus's tentacular functions

Oxtopus offers in a sole housing 2 independent routers: LonWorks (EIA-709 and EIA-852) and Modbus (EIA-485). Oxtopus offers real new possibilities: with 4 wired ports, 2 Ethernet ports and 1 Wi-Fi port, the user can chose the exact corresponding router either in LonWorks® or Modbus protocol among 17 references. As a multiprotocol, IP-converging router, Oxtopus is the most advanced BAS solution on the market.

Impedance measurement: simply revolutionary

Oxtopus is the only router which is able to measure line impedance permanently to detect any wiring fault (avoiding plugging faults, automatic checking of line ends, detection of plugs, validation of electric wiring) and diagnose any technical failure on the lines.
4 LEDs on the front panel of the unit immediately inform the user about correct electric connection of ports.

Genuine diagnosis tool

Advanced statistics for both protocols are embedded into the router and can be read in a web server (tablet and smartphone-responsive) and displayed into charts: bandwidth use for each port, CRC errors, Neuron ID list for each port, detailed statistics by address, by module, etc. to follow real time activity of the router and study records up to the last hour with 1 second accuracy (optional following up of the last 24 hours with 1 minute accuracy).

Very easy start up

Another Oxtopus revolution: 5 keys and an LCD screen on the front panel directly display the router's IP address as well as a Wizard assistant on the web, guides the user step by step to install all the functions. LEDs displaying the impedance measurement enable to detect and target very quickly the cause of any installation fault.

2 x 100 Mo Ethernet ports with embedded Ethernet switch

2 Ethernet connectors offer either a double IP or a switch architecture: on the one hand to simplify the physical wiring (daisy chain with the routers without any other equipment) and on the other hand to isolate IP networks.
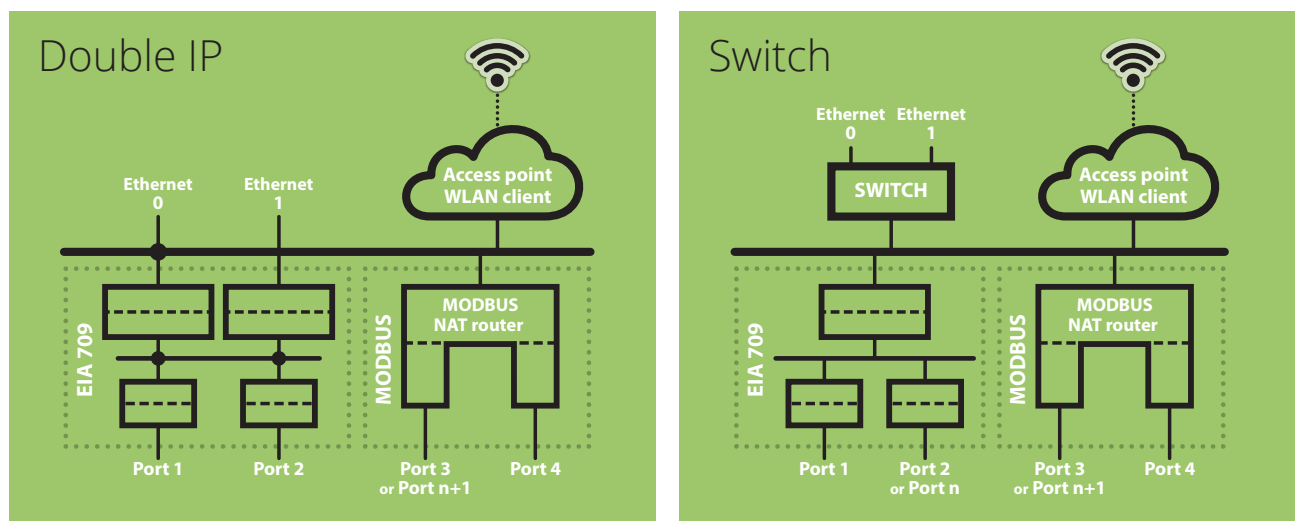
Wi-Fi option

Wi-Fi can be used as an access point to connect a PC on the BAS Ethernet network with another PC, tablet or a smartphone to get into the internal data base (configuration and start up) without any physical wiring, which is very appreciable on a construction site.
It is also possible to activate and deactivate Wi-Fi in order to able and disable distant actions (limited user connections to secure the network).

Oxtopus, 17 available customizations

Oxtopus references	TP/FT- Port	RS-485	Wi-Fi
Ox-1Lo	1	-	
Ox-1Lo-Wi	1	-	✓
Ox-1Lo-1Mo	1	1	
Ox-1Lo-1Mo-Wi	1	1	✓
Ox-2Lo	2	-	
Ox-2Lo-Wi	2	-	✓
Ox-2Lo-1Mo	2	1	
Ox-2Lo-2Mo	2	2	
Ox-2Lo-2Mo-Wi	2	2	✓
Ox-2Mo	-	2	
Ox-2Mo-Wi	-	2	✓
Ox-3Lo-1Mo	3	1	
Ox-3Lo-1Mo-Wi	3	1	✓
Ox-4Lo	4	-	
Ox-4Lo-Wi	4	-	✓
Ox-4Mo	-	4	
Ox-4Mo-Wi	-	4	✓

Specifications

Processor	ARM double-hearted Linux + real time core, treatment <10µs
Supply	8-35V DC and 6-24V AC, protected against overvoltage
Connectivity	
Front panel	4 x TP/FT-10 ports or RS-485 ports with ground
	2 x 100Mo Ethernet ports with embedded switch function
	Micro USB-b plug
	Network connectors, wires up to 2,5mm²
Internal	SD removable card to read on a PC in case of supply failure
	Secured FTP server reserved for users (for instance to save LNS data base)
(option)	Wi-Fi
(option 2016)	Bluetooth
Local display	LCD screen on the front panel
	4 navigation keys under the screen
LEDs indications	Supply
	Bluetooth / Wi-Fi activation
	IP1 activation
	IP2 activation
	Impedance + activity port 1
	Impedance + activity port 2
	Impedance + activity port 3
	Impedance + activity port 4
Diagnosis	Permanent measurement of impedance on each port (front panel)
	Bandwidth use on each port
	CRC error ratio on each port
	CPU statistics
Web	Access from any Internet connection for configuration and exploitation
	Responsive : adapted to tablet and smartphone
	HTML5
	Real time traffic display
	Raw data displayed into charts
Size and format	161 x 88.5 x 56 mm, 43880 DIN rail mounting
Operating conditions	0+60°C in operation / 10-80% RH / -20+80°C in storage
Protection	IP20
Certification	CE standards, all components are ROHS compliant
CEM	EN-55022 A/B emission; EN-61000- 6-2 immunity
Flammability	UL94-VO self-extinguishing