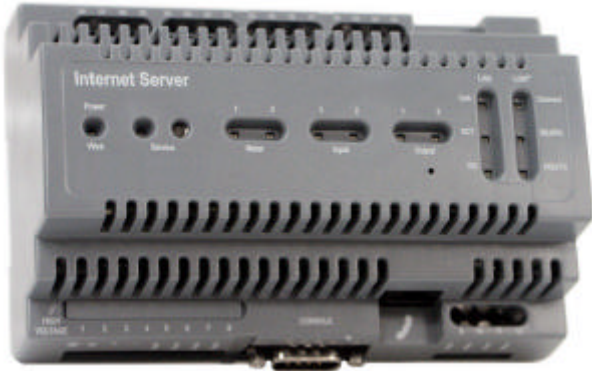


i.Lon100 - WebServer / Router

"THE Intelligence" for LONTalk and Ethernet (OEM Version)



Preface

Hold on please. The equipment is a pre-configured, Ethernet – based, processing unit for “central functions” in buildings and industries. At the correct place assigned, it can fully replace PC based control systems. This equipment with its integrated software functions and no licensed number of data points furnish very large customer use with small costs. Please ask your specialist or contact the address www.paravis.ch (German, English, French) We inform , in an advisory manner and organize trainings.

Description

The i.LON 100 Internet Server is a low-cost, high-performance network interface, controller, router, and Web server that connects LONWORKS, M-Bus, and Modbus devices to corporate IP networks or the Internet. The unit features a built-in Web server that allows Web access to all the data managed by the i.LON 100 server, as well as built-in applications for alarming, scheduling, and data logging. Additionally, it includes a Web binder for bridging multiple LONWORKS domains, and it provides a SOAP / XML Web services interface for use by custom Web pages. An IP-852 routing option is available. (ilon 100 as Router ilon600) The unit operates on 100–240 VAC and can be ordered with an built-in 56K V.90 analog modem. Models are available for TP/FT-10 channels and PL-20 channels. The unit also includes built-in I/O for reading pulse meters and digital inputs, and for switching local loads. All data points and built-in I/O is accessible through either the LONWORKS or Web interfaces. The unit can be used as a Remote Network Interface (RNI), allowing remote access to the entire LONWORKS network using LonMaker® Integration Tool or any LNS or OpenLDV based tool. It can also be used with LonScanner™ Protocol Analyzer to capture + analyze network data - packets.

Operating Input Voltage: 100-240VAC,50/60 Hz <15 Watt
1x Ethernet Port: 10/100BaseT, Connector Type RJ-45, 8
1x LON TP/FT-10 Free topology twisted pair Network OR:
1x PL-20N or PL-20C power line, L-N coupling
1x Console Port : EIA-232 on DB-9
2x Applic. Serial Ports : 1x RS232 and 1x RS485
2x Digital Inputs: 2x optically-isolated,12V -30V AC/DC
2x Digital Outputs: 2 Relays 240VAC@10A/ 24VDC@ 10A
2x Impulse Meter Inputs: 2x DIN 43 864 (±12VDC Max;)
1x Modem: Optional V.90 internal analog; RJ-11, 6
Operating Temperature: 0 to +50°C / (noP: -40 to +85°C)
Humidity: (non-condensing) 10 to 90% RH @ 50°C
Dimensions : (8TE DIN, H: 8.9 cm, W: 13.8cm, D: 6.6cm)

Summary of the specifications

- DIN Rail Unit with 230V Supply
- 10/100 BaseT Ethernet Interface Plug
- LON FT10 or LON Powerline Interface Plug
- RS232 Connector for Applications
- RS 485 Connector for Applications
- RS232 Connector for Console/Terminal function
- Integrated Realtime Clock
- Built in Digital Input/Output 2Di / 2DiS0 /2DoRelais
- Dial-in/Dial-out Support with optional built in Modem.
- Is an “Easy to install” Lonworks unit for all Standard - Networkmanagement Softwarren like Lonmaker.
- Compatible to all - thousands of worldwide available LONTalk Units. (eq: Honeywell Excel, Siemens Desigo, Tac, Sauter, Cerberus, Aquametro, Sauter, Saia, Johnson Controls, Luxmate, Kieback u.Peter, ABB, Philips,)
- Different LOG IN levels for Administrator + Users groups
- Webserver included.
- Ready to use Standard Web Visualisation included
- Web based customer specific Tool (Macromedia/Adobe)
- i.LON as a Ethernet Networkinterface.
- Router IP-852 ANSI/CEA-709. Ethernet / LON
- Web Binder (Easy „Unit bindings“ over Ethernet)
- Mbus driver interface. (unit connect like AquaMetro ...)
- Modbus driver interface. (unit connect like Wago ...)
- Astronomical Position Sensor. (Eliminates Photosensor)
- Dynamic DNS support. (Firewall compatible)
- LonProtocol Analyzer (looks on LON network)
- Alarmtrigger
- Email client (sends Alarms and Emails with logfiles ...)
- Data Logger for any data point and generates csv Files
- Scheduler (Year, Week, Days, Exceptions Sufficient number of channels.)
- Type Translator.(...SNVT State in SNVTSwitch etc...)
- Analog Function Processor (Limit Controls etc...)
- MD5-secured communication for Internet
- Compatible with NAT-Router for using with Firewalls
- Includes SOAP / XML Web services interface. (Works like an interface between “worldwide” and “Lonworld”. Possible Read and Write - Access FROM outside - - THROUGH ilon unit- TO binded or nonbinded units on LON Channel)
- Easy Connect to external Databases

Ordering details:

10/100 Ethernet - To - LON TP/FT10:

- LON72101 TP/FT-10, no modem,
- LON72101-008 TP/FT-10, no modem, with IP 852
- LON72102 TP/FT-10, with modem,
- LON72102-008 TP/FT-10, with modem, with IP 852

- LON72601 IP852 only (Ethernet/TP/FT10) Power:240VAC
- LON72603 IP852 only (Ethernet/TP/FT10) Pwr: 24VACDC

10/100 Ethernet – TO – Powerline PL-20:

- LON 72103 PL-20, no modem,
- LON 72103-008 PL-20, no modem, with IP 852
- LON 72104 PL-20, with modem,
- LON 72104-008 PL-20, with modem, with IP 852

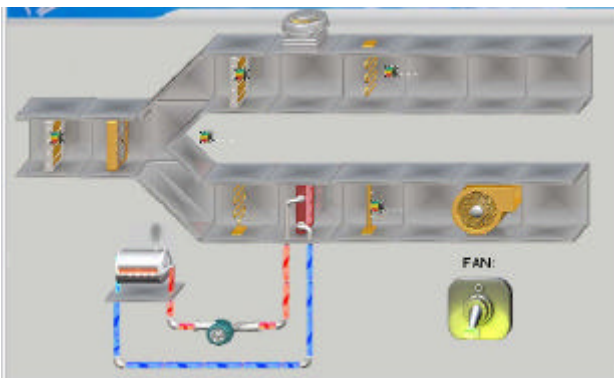
Supplier +Trainings: Leitsystem IT GmbH Switzerland
@ <http://paravis.ch> or www.leitsystem.ch
Contact: host@leitsystem.ch

Logged in as "normal User"

• The i.LON Web based Visualisation software, works with Macromedia Tools (eg Contribute 3.1) and allow easy and efficient creation of custom Web pages for monitoring and control solutions. You can create custom Web pages to read or write data points or view log files .. and much more. (Clickbuttons, Valuefields, Grafics etc.)



Pic above: The i.LON Web based Visualisation software



Overview Administrator Standards:



Pic above: Available **Standard - menu** in first page if You logged in as System - Administrator)

SETUP	CONFIGURE	
TCP / IP	Alarm Generator	
Time	Alarm Notifier	
Modem	Data Logger	
Security	Digital Input	VIEW
System Info	Digital Output	Alarm Summary
Verify	Event Scheduler	Alarm History
Reboot	Pulse Counter	Data Logs
Clean up	Data Points	Data Points
	Web Binder	Event Scheduler

Pic above: Submenus of Standard menu

Details of Administrator Standards:

- Different LOG IN levels for Administrator + Users Standard is "one Administrator" and one "normal user" All customer specific configurations are realizable.
- A IP-852 ANSI/CEA-709.1-to-IP routing option that allow you to use the unit as a router on an IP-852 channel. The IP-852 Channel User's Guide document included with the i.LON 100 software provides background information you will need when designing the IP-852 network and using the unit as an IP-852 router.
- Web Binder file attachment. You can send a file with a Web connection update. This make it easy to get data logs from an unit behind a firewall to a monitoring system outside the firewall.

- Mbus driver interface. (unit connect like AquaMetro ...)



Picture above: Menudetail "Metereing M - Bus"

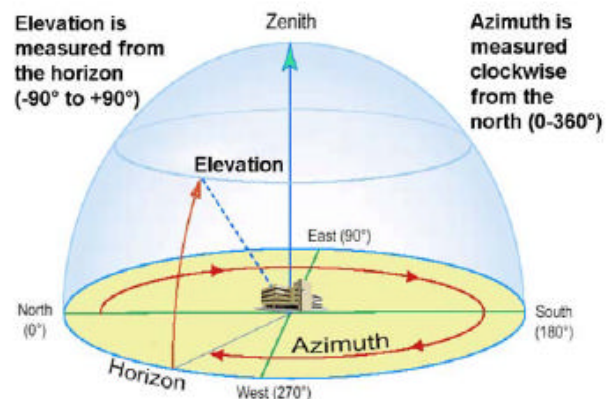
- Improved alarming and scheduling interfaces. The scheduling and alarming application Web pages have been updated to allow an easy, quick creation of Alarm Generators, Alarm Notifiers, and Event Schedulers.
- Data Logger file compression. You can store the CSV-formatted historical log files generated by the Data Logger application in compressed format, saving flash memory space on the unit and reducing connection time when transferring data logs through a dial-up connection.

- Modbus driver interface. You can monitor and control Modbus devices attached to an i.LON 100 server. The steps required to configure Modbus server and create Modbus data points to use with the unit are described in Manuals. Please ask your distributor or special Integrator.



Picture above: "Modbus" Example Wago Analog In.

- Astronomical Position Sensor. You can calculate the position of the sun based on your location and time-of-day. This is useful for calculating whether it is light or dark outside without using one or multiple external light-level sensor. This is used in applications such as street lighting, where lights need to come on at dusk and go off at sunrise.



Pic above: Astronomical Position Sensor Zürich,Switzerland,47°N 23,008°E 32; Zeitzone: -01.00

- **Dynamic DNS support.** You can install an unit with a dynamic IP address.

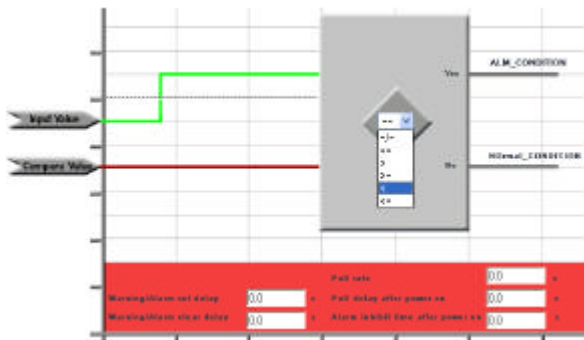
ICPAP Property	Value
Ethernet MAC address:	00-00-71-00-44-13
<input type="radio"/> Automatically obtain IP address *	
<input checked="" type="radio"/> Manually configure IP settings *	
LAN IP address *	192 . 168 . 1 . 222
Subnet mask *	255 . 255 . 255 . 0
Default gateway *	192 . 168 . 1 . 222
<input type="checkbox"/> Obtain DNS server *	
Default DNS server	0 . 0 . 0 . 0
Backup DNS server	0 . 0 . 0 . 0

* Reboot required if changed

Pic above: Dynamic DNS support

- **Supports LonProtocol Analyzer access.** You can use the Protocol Analyzersoftware to monitor the traffic on the channel connected to the unit and diagnose network problems. For more information , ask your distributor or special Integrator.

- **Alarming**—The unit can trigger alarms based on inputs from the devices it is attached to. In response to an alarm condition, the unit can be configured to update any data point including a data point for a network variable in a LONWORKS device, Modbus device, or M-Bus device, or a data point in a Web page; log the conditions to one or more data logs; or send out emails or SOAP messages notifying recipients of the alarms and the conditions that triggered them. Alarms can be configured to shut off automatically when certain conditions are met or they can be configured to require manual clearance via a Web page.



Pic above: Different Alarming options available ...

- **Data Logging**—The unit can log any data point including a data point for a network variable in a LONWORKS device, Modbus device, or M-Bus device. These logs can be downloaded using the Internet File Transfer Protocol (FTP), retrieved using a SOAP/XML Web service, or displayed with the i.LON 100 Web pages.

D	E	F	G	H	I	J	K	L	M	N
Datenlogging der analogen Datenpunkte:										
BEFEHL: History der analogen Datenpunkte: aktualisieren										
Date:	Tag:	Monat:	Jahr:	Zeit:	Datenpunktname:	Messwert:	Einheit:			
2004-02-03	03	02	2004	07:12	NVL_LgAE1_185A1_AH	0.000	ppm			
2004-02-03	03	02	2004	07:12	NVL_LgAE1_185A1_AH	0.036	ppm			
2004-02-03	03	02	2004	07:11	NVL_LgAE1_185A1_AH	0.061	ppm			
2004-02-03	03	02	2004	07:10	NVL_LgAE1_185A1_AH	0.051	ppm			
2004-02-03	03	02	2004	07:10	NVL_LgAE1_185A1_AH	0.036	ppm			
2004-02-02	02	02	2004	11:00	NVL_LgAE1_185A1_AH	0.000	ppm			
2004-02-02	02	02	2004	10:59	NVL_LgAE1_185A1_AH	0.036	ppm			
2004-01-31	31	01	2004	06:58	NVL_LgAE1_185A1_AH	0.000	ppm			
2004-01-31	31	01	2004	06:58	NVL_LgAE1_185A1_AH	0.036	ppm			
2004-01-31	31	01	2004	06:58	NVL_LgAE1_185A1_AH	0.051	ppm			
2004-01-31	31	01	2004	06:58	NVL_LgAE1_185A1_AH	0.061	ppm			
2004-01-31	31	01	2004	06:57	NVL_LgAE1_185A1_AH	0.072	ppm			
2004-01-31	31	01	2004	06:57	NVL_LgAE1_185A1_AH	0.051	ppm			

Pic above: Data Logging Exemple with Excel - .csv Files

- **Scheduling**—The unit can be used to update any data points based on the time-of-day, day-of-week, and date.

These schedules can drive the inputs to any data point including a data point for a network variable in a LONWORKS device, Modbus device, or M-Bus device.

Pic above: Scheduling (many channels)

- **Digital Input/Output**—The unit contains 2 built-in digital inputs, two pulse metering inputs and 2 digital relay outputs. These can be used to monitor and control simple sensors and actuators.
- **Type Translation**—The unit can translate data from one data type to another. This is useful for integrating disparate devices, including devices on different networks and busses. For example, this can be used to connect an output on an LONWORKS device to an input on a Modbus device— even the data types of the two data points are different.
- **Pulse Metering**—The unit contains two built-in pulse metering inputs. You can configure the unit to count pulses or to measure the pulse frequency from pulse output devices.
- **Analog Function Processing**—The unit contains an Analog Function Block application that you can use to perform operations on multiple analog inputs.
- **Remote Network Interface**—The unit can operate as a Remote Network Interface (RNI), allowing you to use it to connect an LNS or OpenLDV application on an IP network to a LONWORKS network.
- **Dial-in/Dial-out Support**—The unit can optionally contain a built-in modem. On these models you can configure the unit to dial-out and receive calls using the Internet Point-to-Point (PPP) communications protocol.

IP (Internet Protocols)

i.LON 100 is compatible with the most popular IP local and wide area networking protocols (LANs and WANs) including TCP, PPP, CHAP, PAP, ICMP, NAT, SMTP, DHCP, SNTP, FTP, DNS, MD5, HTTP, HTML, XML SOAP an DIME application protocols are also supported. The unit fully supports the ANSI CEA709.1-B protocol as well as CEA709.2 or 709.3 physical layers. When the IP-852 routing option is enabled, the ilon100 also supports the ANSI/CEA-852 control network IP tunnelling protocol. Application modules are exposed using standard functional blocks that can be configured with built in Web Pages or with an LNS based integration. Regardless of whether one is connecting to a LAN, WAN, or ANSI CEA-709.1 protocol based system, the i.LON server offers interoperable networking based on open standards.

- **Using the ilon 100 as a Ethernet Networkinterface (RNI = Remote network Interface)** You can use the normal Ethernet Port on your PC to have access to LON network.

• Limitations of RNI

When used the i.LON as an Ethernet network interface:

- Up to 32768 address table entries.
- Up to 15 simultaneous outgoing transactions.
- Up to 1024 aliases.
- Up to 256 groups, with up to 15 used for incoming messages.
- Up to 4096 dynamic network variables.
- Output messages can be sent to up to 256 different destination addresses within each 24 second interval. Multiple messages can be sent to each of those destination addresses within the interval.

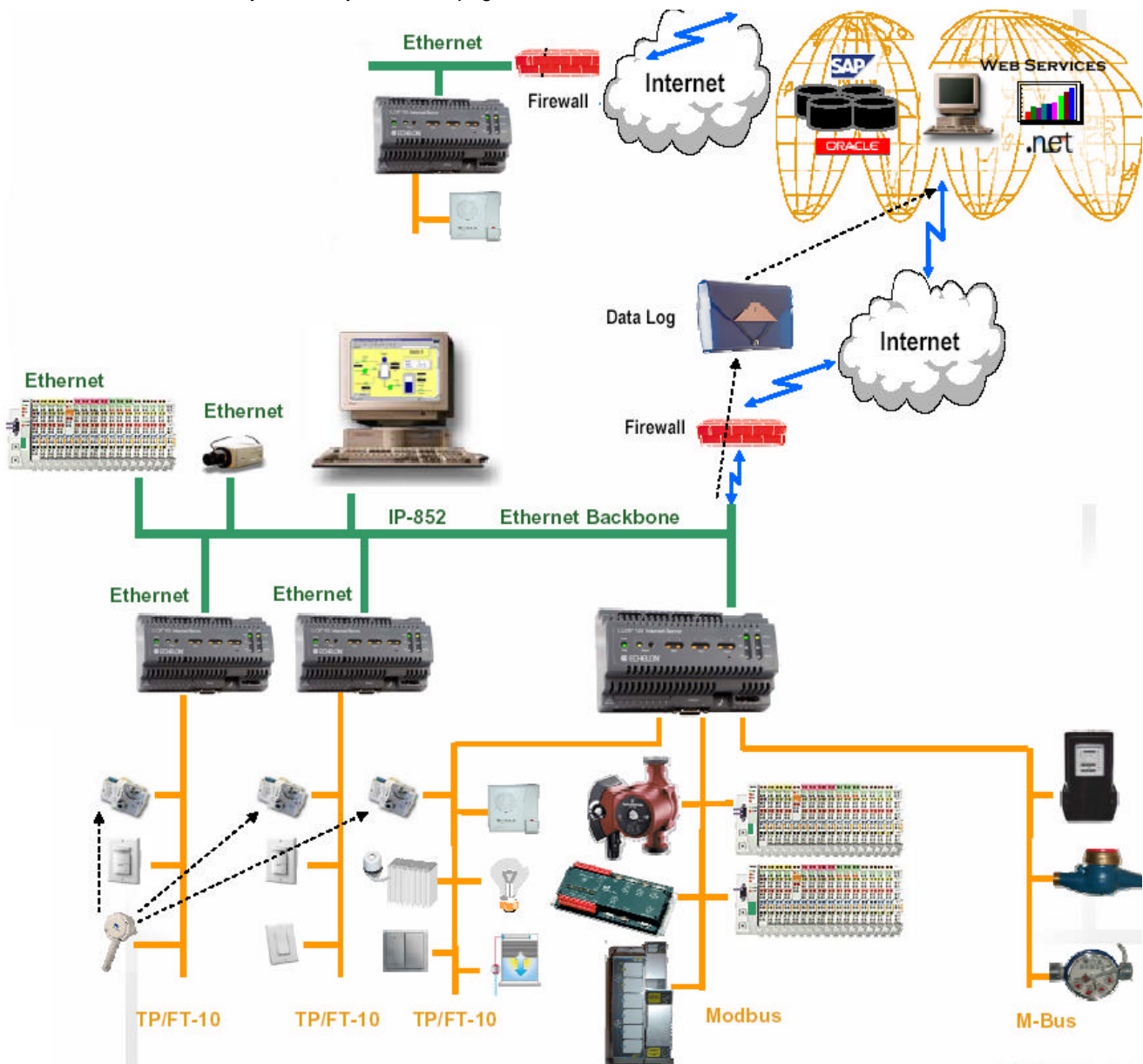
• Limitations of the built in Applications

When used the i.LON 100 also as an Application unit:

- Up to 4096 address table entries.
- Up to 32 simultaneous outgoing transactions.
- Up to 1024 aliases.
- The i.LON 100 application can support up to 3000 dynamic network variables, but the unit will run out of memory before this limit is reached; the practical limit depends on the sizes of the defined dynamic network variables. Check the available memory on the System Web page.

- Concept of bindings, additional tools, ...etc...

More informations available at: <http://www.paravis.ch>



Application Exemple Intranet (inhouse) Extranet (external private) and Internet (accecc from Access from somewhere.)