New Lights - New Heights
Omni-16c Launch.
All new design

Omni-16c & Omni-8c -
Serial Displays for the
modern control room

Omni-16 Modbus Interface
connecting to your PLC,
DCS or SCADA

Omni-8u - the new micro
annunciator

Elenex Australia - feedback
from the Sydney show in
October 1999

Conet OPC Server - multi-
user SCADA access for all
Conet products

Modbus NIM Upgrade -
now with optional
timestamping

New Omni-16c Advert

SER 260 TAKES OFF
...big boost for Europe

Maxiflex HART NIM
...Network Interface Module
for HART smart transmitters

OmniWatch Advert

By listening to our customers, we've put our world beating
annunciator back into the spotlight, this time in the form of an
all-new design with a lot of exciting features that have been
added as a direct result of market feedback.

The first thing to note is that the Omni-16c has individual windows,
which not only look better but also offer the choice of either backlit
LEDs or incandescent lamps in the same housing, or side-lit LEDs
(using a separate front fascia). The incandescent lamp option has
been re-introduced for cost-sensitive applications while LED
displays are great for very long life. Legends for the backlit windows
are printed out on a laser printer, cut up and placed into the individual
windows.

We've also added an integral control pushbutton station which plugs
into window no 16 if required, thus saving the need for an external
pushbutton station. You can still cascade these pushbuttons
between an array of Omni-16c annunciators.

What should really get your attention is the new Modbus Serial Port
feature which enables the Omni-16c to plug into any PLC, RTU or
DCS using standard RS232/485. In particular the savings for PLC
applications which require such a Serial Display are great:
1) no more I/O module in the PLC and 2) no more logic
programming in the PLC as all the logic is built into the
Omni-16c Serial Display.

Because the Omni-16c is more intelligent than ever, you
can now can set it up from your Notebook PC using our
standard setup utility to configure timer settings,
sequences, group alarm allocations etc for each point
individually.

It has all the standard sequences as its
predecessor and offers the
same specifications for
inputs, repeats etc., conforming to all relevant IEC and EN
specifications for environmental, safety, EMC and
radiation specifications. However a new feature is the
built-in repeat relay contacts, not just solid-state outputs
and three group alarm relay outputs (one shared with the
watchdog relay). There is also an integral horn relay
capable of switching 220Vac at 1amp.

The Omni-16c now has its own built-in power supply
options which accept either 24Vdc,
48Vdc or 85-264Vac, thus
eliminating the need for an external
supply.

So you see....it pays to
send us feedback. We do
listen!
New Omni-16/8c Series...

The Alarm Window Display still plays a vital part of the modern control room and the Omni-16 family now has a complete range of displays for all applications, including use with PLCs.

![Omni-16c - New World Beater?](image)

![Omni-8c - perfect OEM annunciator](image)

The new Omni-8c is half the size of the Omni-16c, with the same functionality and Serial Display option. It also has optional control pushbuttons which are inserted in place of window No. 8. This product is ideal for OEM applications such as Motor Control Centres, RTU in remote telemetry and other smaller machine monitoring functions.

The Omni-8c can be positioned next to the Omni-16c in a single cutout. For both Omni-16c and Omni-8c, the display inserts measure a large 70mm x 25mm in size for high visibility in the control room and are available in red, green, yellow, blue or white.

Products for Global Applications

Omni-8µ - our smallest annunciator yet

Full annunciator value in the space of a panel meter

The new Omni-8µ ("micro") annunciator is mounted in a standard DIN sized panel mounted housing and comes complete with integral pushbuttons, requiring no additional hardware to provide full functionality for smaller applications.

Typical uses include motor control panels, pump monitoring and many RTU applications where 8 points are sufficient for the application. It is ideal for use in restricted areas where panel space is at a premium, requiring only 48 x 96 mm on the front of panel and 190mm in depth not including wiring. RTUs generally need to monitor critical parameters such as battery health, mains health, radio health etc and the Omni-8µ is ideal here.

The display continues the Omni-16 trend and uses a single laser printed legend on transparent film which is easy to create, modify and duplicate where multiple Omni-8µ's are required.

The built-in Test, Silence, Acknowledge and Reset pushbuttons function as other standard Omni-16 annunciators and a group alarm or horn output is provided as a change-over contact for external devices. This G.A. output can be set to one of 4 functions: follow input, follow alarm, follow horn or ringback horn.

The Omni-8µ accepts 8 separate potential-free inputs which are individually DIP switch configurable for either N/O or N/C operation and the user has a choice of 7 standard alarm sequences which are also DIP switch configurable. Input no 8 can also be used as an external inhibit input to prevent any alarm activity during maintenance.

Alarm display windows are still a vital part of the modern control room and demand for alarm displays is as strong as ever, many of which are for use directly with PLCs. The traditional problem with using PLCs is that expense is added to the PLC in the form of an I/O module for the annunciator and the annunciator logic programming which is also required. However, a bigger problem than he cost of programming is that the annunciator logic in the PLC itself burdens the CPU with an unnecessary task overhead.

The solution is the new Omni-16c Serial Display which connects to the PLC via RS232/485 using the Modbus protocol. The PLC simply sends all input statuses (on or off) to the Serial Display which uses its built-in sequence logic to flash the lamps, activate timers (if used), drive the horn output, activate Group Alarms and handle the control pushbuttons. By contrast, using a dumb display (i.e. non Omni-16c) PLC programmers have to write all this code themselves, often falling short of a properly functional system, and having one which is difficult to maintain and expand.

Setup is of the Omni-16c can be done from its own DIP switches or from a PC via the serial port and in this way the same setup can be downloaded to multiple Serial Displays. In addition to the savings on cost, programming time and PLC/DCS CPU overhead, the Serial Display option also means greater system reliability.

Field inputs to the PLC are used to flash the Omni-16c Serial Display via a cost saving Modbuslink. Thus no additional PLC I/O hardware is required and the Omni-16c is already programmed to handle the annunciator sequences.

Omni-8µ - ideal for MCCs and RTU applications.

Omni-8µ can be powered by dc (12, 24 or 48Vdc) or ac (85-264Vac) with 1500Vrms isolation provided between the power terminals and the inputs. At only 300g unpacked, the Omni-8µ annunciator is ideal for smaller applications that require annunciation but otherwise can not afford the space or mass.

It conforms to IEC environmental specifications for vibration, shock, temperature, humidity and also for human safety on electrical parameters. It is protected against EMI and has controlled EMC emissions.
FEEDBACK
12 500 visitors attend show

Once again we exhibited our range of industrial electronics products at the 1999 Elenex and Automate Show held in Sydney. While the Omni-16 is the product that most people recognised, a lot of new interest was shown in both annunciator and other product ranges including Maxiflex, OmniWatch and Omnitar, with excellent orders being secured from major industries.

SOME OF THE PRODUCTS ON SHOW....

According to managing director, David Celine: "The outlook for business here is excellent and feedback from the two Elenex shows clearly validates our trends to niche markets within the instrumentation sector. Many of our ranges are now well known in industry here, having been marketed since the early 1970's."

Elenex Australia, Sydney October 1999

OPC Server for Conet Standardized data access for old and new Conet products

Our newly released OPC (OLE for Process Control) Server for Conet, functions with most major SCADA packages on the market, providing you with a standardized access to factory floor data at the Conet level. The good news is that this eliminates the need to write special drivers which can often take months and sometimes don't even perform properly.

While OLE (Object Linking and Embedding) has been available on the PC for a while, nothing has really existed for the process control environment. Therefore OPC, an open-architecture interface was defined by the OPC Task Force comprising more than 170 members from over 30 countries and includes representation from the largest process control equipment vendors. The result of this effort is a global standard that can be trusted and one that will save time and money. The Conet OPC Server is installed on the host NT 4 PC and provides access to any Conet product, both old and new, so no upgrades to existing products are required. Multiple clients (e.g. SCADA packages) are able to access data through a single Conet Server or through multiple Conet Servers, providing all layers in the plant with access to information in the format and frequency of choice. For example, SCADA, MES, MIS and individual office workstations can all access data simultaneously from Conet devices (e.g. Maxiflex, Teleterm) for different applications.

In its simplest form, the server would typically populate a database (e.g. SQL Server) which, for example, could serve data to the production manager using Excel to count widgets or monitor downtime hours directly in a spreadsheet.

The OPC Server acts as a central 'gateway' for client applications by translating the requests into the Conet specific protocol and presenting the data in the format required. Being based on OLE and COM/DCOM processes within Windows, OPC functions across networks transparently to the user.

Modbus NIM Special Upgrade Network Interface Module now has optional timestamping

The Maxiflex Modbus Network Interface Module (NIM) connects to any Modbus Slave device in the plant (e.g. analysers, special equipment) for data acquisition and control. Many such instruments are installed in very remote locations and Modbus has a limited communications distance. However, once the data is in the Modbus NIM, it can be sent over long distance Conet links to SCADA, DCS or PLC.

The good news is that the Maxiflex Modbus NIM now optionally time-stamps incoming events on the Modbus link to a resolution of 20ms, thus providing a sequence of events record for the SCADA/DCS. This feature alone enhances new life into these older plant instruments and it may be for the first time ever that operators are able to obtain some meaningful data on screen.

Each Maxiflex CPU can accommodate up to 15 Modbus NIMs, each polling its own independent device in the plant, with no loading on the CPU as each NIM has its own CPU and Data Interchange Tables for storing information. The main Maxiflex CPU then copies the stored data and transmits it via Conet up to the SCADA/DCS, preserving the time-stamped data in the process. The Modbus NIM can also address up to 32 identical slave devices on a single RS485 link.

From an overall topology point of view, the Modbus NIM operates in the same way as the HART NIM shown elsewhere in this newsletter. Both HART and Modbus NIMs can be used in the same Maxiflex rack.
SER 260 GLOBAL MARKET

While the SER 260 has been deployed in the power generation industry for years, monitoring critical events in both power stations and substations, it has also found a ready market in the petrochemical industry. The SER 260 is a 4000 point sequential events recorder that timestamps digital events at source to within 1 millisecond and transmits these in order to a SCADA/DCS or special alarm package such as Omniflex’s Omni-4000.

The SER 260 has found a ready market in Europe, particularly in the UK petrochemical industry where there is a widespread need for critical events monitoring in many of the processes. With the inputs distributed on up to 32 sub-racks for close proximity to the inputs, the SER 260 has no real equal in this field. Furthermore, with the built-in display, printer and interrogation features, the product is a powerhouse of information and value in the hands of a ‘power’ user.

The simplicity of it all makes it so attractive to the end user especially for getting time-stamped data up to the SCADA. Each SER front end 32 channel card provides 1500 Vrms isolation, time-stamps its own events and then passes them to a master queue. From here they move over the Conet LAN to the SCADA, with all events perfectly in sequence. The SER is experiencing a growing market!

MAXIFLEX HART NIM

For the vast number of HART enabled smart devices now installed in plants around the world, we have developed the Maxiflex HART NIM (Network Interface Module) which connects to these devices for data acquisition, control and calibration.

HART is a de-facto global standard for enhanced digital transmitter communications and petrochemical and other plants typically have thousands of HART devices measuring flow, pressure, temperatures, mass, mass flow and other process variables which are required by the DCS or SCADA for monitoring and control. It uses Frequency Shift Keying to superimpose digital communications at a low level on top of the 4-20mA signal, enabling 2-way communications to take place, making it possible for additional information beyond just the normal process variable to be communicated.

As HART is a Master/Slave protocol, each Hart NIM acts as a Primary Master which provides a permanent host interface for 2 HART networks simultaneously. These could be two single analog (4-20mA) loops or two groups of 15 digital loops operating in Multidrop mode. The NIM provides full 1500V rms isolation to the field to maintain integrity of signals in the presence of ground loops and electrical noise on the plant.

Because of the spread-out nature of many plants, it becomes very expensive to connect HART transmitters to the DCS and therefore many of these remain as stand-alone devices requiring manual readings, settings and regular calibration. Because Maxiflex and Conet offer a low-cost, long distance data acquisition solution, the HART NIM becomes an attractive, cost-effective option to integrate a wide range of instruments into the main process control system.

Each Maxiflex CPU can accommodate up to 15 Hart NIMs, and up to 126 such CPUs (one per rack) can be connected to a single Conet LAN. The solution can therefore be deployed on any size plant.

For ease of use, the NIM is also self-configuring and on power up, searches the Hart networks and builds an automatic inventory of connected devices found. Thereafter various data elements are continuously and automatically read from the devices and stored in the NIM’s Data Interchange Table (DIT) for use by the rest of the Maxiflex System and also by the SCADA or DCS.

Visit <www.hartcomm.org> for more excellent information on HART.