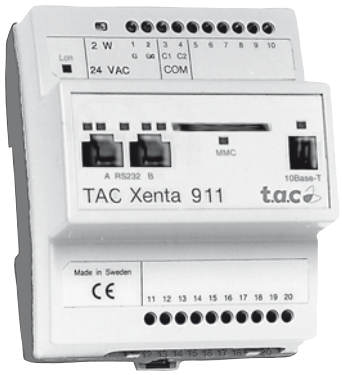
TAC Xenta® 911

Ethernet Communication Device

31 Jan 2005



The TAC Xenta 911 Communication device can be configured in either of three ways:

- As a LONTALK® adapter (LTA) between TAC Vista® and a LONWORKS® network.
- As an IP modem, working as a direct replacement for a telephone modem, with dial-up functionality across the computer network.
- As a serial gateway, allowing computer software, such as TAC Vista, to use a serial port on the TAC Xenta 911 as if it were physically connected to the computer.

As an LTA, the Xenta 911 may be configured for continuous communication or, to reduce traffic in large networks, for event-driven, low bandwidth communication.

As an IP modem, the TAC Xenta 911 is intended for use with all units that support dial-up listed in the figure below under the 'System Architecture: IP modem' header. The IP address of the unit 'dialed-up' will then replace the telephone number.

This makes it very easy to save money by eliminating phone charges. The fast dial-up time, typically less than two seconds, provides the feeling of a fixed network.

The TAC Xenta 911 can be used with ISDN, for example, via a dial-on-demand link.

As an RS232 serial gateway, Xenta 911 helps integrate systems using serial ports with modern systems with IP networks as backbones.

The TAC Xenta 911 is quick to install and easily maintained, using TAC Vista Explorer. Its default values are set for TAC Xenta connection and it is preconfigured for most TAC products (please refer to the list on the next page).

The unit contains HTML pages providing comprehensive on-line help.

TECHNICAL DATA

Supply voltage ..... 24 V AC ±20 %, 50/60 Hz
..... or 19–40 V DC

Power consumption ..... max 5 W

Ambient temperature:
- Storage ..... –20 °C to +50 °C (–4 °F to +122 °F)
- Operation ..... ±0 °C to +50 °C (+32 °F to +122 °F)

Humidity ..... max. 90% RH non-condensing

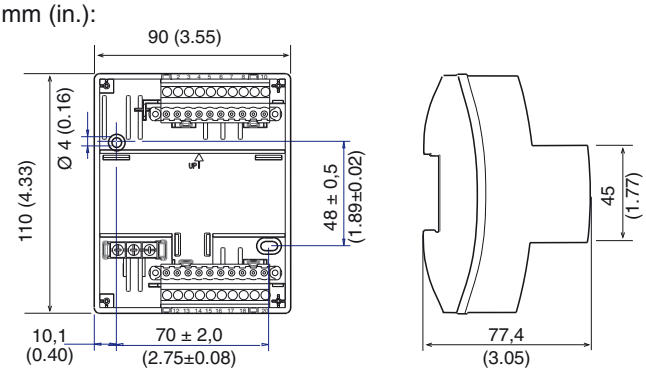
Mechanical:
- Enclosure ..... ABS/PC
- Enclosure rating ..... IP 20
- Flammability class, materials ..... UL 94 V-0
- Dimensions ..... see diagram
- Weight ..... 0.2 kg (0.44 lb.)

Real time clock:
- Accuracy at +25 °C ..... ±12 minutes per year
- Power outage protection ..... 72 h

Communication:
- A: Modem ..... 57.6 kbps–2400 bps, RS232, RJ45, 8-p
- B: PC, configuration RS232, RJ10, 4-p
- LONWORKS ..... TP/FT-10, terminal block
- Ethernet ..... TCP/IP, 10Base-T, RJ45

Agency Compliances:
- Emission ..... C-Tick; EN 61000-6-3;
..... FCC Part 15, Subpart B, Class B
- Immunity ..... EN 61000-6-1

mm (in.):



Safety:
- CE ..... EN 61010-1
- UL 916 ..... C-UL US Listed

Part numbers:

Electronics part TAC Xenta 911	0-073-0831
Terminal part TAC Xenta 400	0-073-0902
TAC Xenta: PC to Serial Kit	0-073-0917
TAC Xenta: Serial Link Kit	0-073-0918
TAC Xenta: General Serial Kit	0-073-0919
TAC Xenta: Programm. Serial Kit	0-073-0920
TAC Xenta: Modem Connect Kit	0-073-0916

SYSTEM ARCHITECTURE: LTA

The TAC Xenta 911 can be used as an LTA, LonTalk Adapter, between TAC Vista and the LonWorks network (Figure 1).

TAC Vista may communicate (although not simultaneously) with up to 800 TAC Xenta 911s, if they are set to event-driven mode.

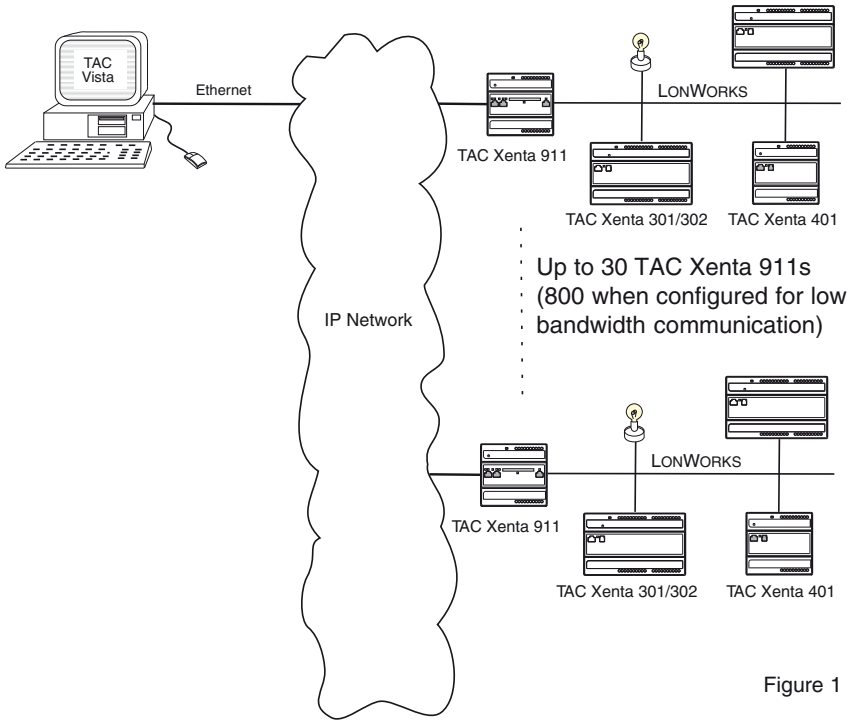


Figure 1

UNITS THAT CAN BE CONNECTED: LTA

When using the TAC Xenta 911 as a LonTalk Adapter, any LonWorks network can be connected.

Continuous Communication
When the TAC Xenta 911 is configured for continuous communication, TAC Vista can be configured for up to 30 TAC Xenta 911 connections.

Event-driven Communication
When the TAC Xenta 911 is configured for event-driven, low bandwidth communication, TAC Vista can be configured for up to 800 TAC Xenta 911 connections.

To reduce the network load, only a certain, configurable number of these are allowed to communicate simultaneously.

SECURITY

The TAC Xenta 911 utilizes SSL (Secure Socket Layer) to guarantee a high level of security.

The unit is protected against both unauthorized access and incorrect operation.

The security mechanism is based on https transfer and the use of 128 bit encryption keys. This level of security is considered to be very high and is used by many international banks and e-commerce sites.

SYSTEM ARCHITECTURE: IP MODEM

The telephone modems are replaced by a pair of TAC Xenta 911s, with some kind of TCP/IP network in between, according to the adjacent figure.

The IP modem interprets the AT (modem) commands from the RS232 connections and transmits data between the IP modems across the IP network.

Normally, the IP address is used during dial-up, but a phone number may also be used, which is translated into an IP address in the TAC Xenta 911.

The IP modem is used in the type of configurations shown in the figure.

Dial-up may be initiated by TAC Vista (slow-poll) or by the TAC Xenta 300/ 401.

Please note the following.

(*): Requires a TAC 6505 Option Modem card to be installed.

(**):TAC 2000 requires a current supply adapter for the RS232 signal.

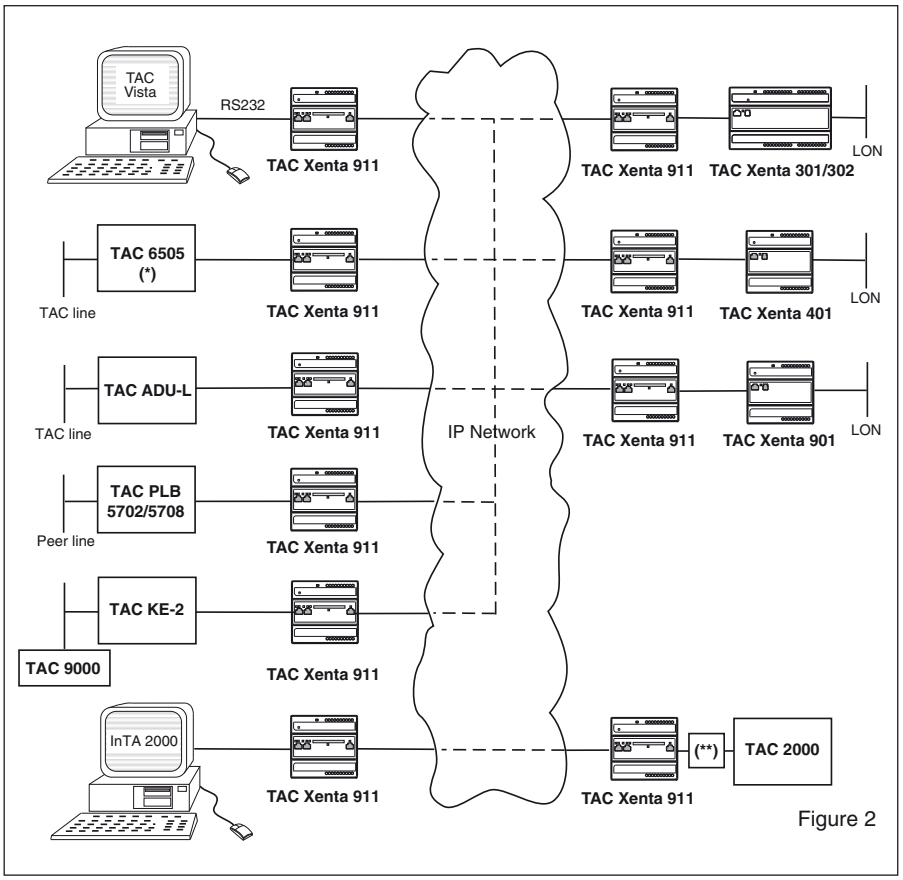


Figure 2

UNITS THAT CAN BE CONNECTED: IP MODEM

The following units may be connected to the TAC Xenta 911.

This is achieved using one or more of the Connectivity Kits, which contain suitable cables, connectors, and adapters.

Please refer to 0FL-3972 for details about the connections.

* TAC 2000 requires a current supply adapter.

** The Serial Link requires the TAC Xenta 911 unit to be installed immediately to the left of the TAC Xenta 301/302/401/901. If this is not possible, you will have to use the General Serial and Modem Connect Kits.

*** The 'Programming Serial Kit' is required for commissioning and service, using a local PC. This kit may also be used when connecting to the TAC Xenta 301/302, 401 and 901.

Connectivity Kit	Unit
PC to Serial (part no. 0-073-0917)	PC (TAC Vista, TAC Menta, DM 2000) TAC 2000 * (please refer to text)
Serial Link ** (see text) (part no. 0-073-0918)	TAC Xenta 301/302 TAC Xenta 401 TAC Xenta 901
General Serial (part no. 0-073-0919)	ADU-L PLB KE 2 5702/5708 Danfoss GW-M Danfoss Danduc
Programm. Serial (part no. 0-073-0920)	*** (please refer to text)
Modem Connect Kit (part no. 0-073-0916)	All TAC Xenta units, for modem connection

SYSTEM ARCHITECTURE: SERIAL GATEWAY

Some systems are connected to a supervisory system using a serial port (RS232). In modern systems, where IP networks act as backbones, such systems may be difficult to integrate.

The TAC Xenta 911 can operate as a serial gateway, allowing computer software to use a serial port on the device as a communication port (COM port). For instance, a 65xx RPU can be connected to a TAC Vista over a TCP/IP link by the use of a TAC Xenta 911 and a KE 11.

To make use of the remote serial port, a port driver is required on the computer. This software is called a Remote Serial Port Driver (RSPD) and is down-loadable from TARAI and available on the TAC Software CD. See also the Software Installation Instruction 0FL-3955.

LONWORKS communication can be used simultaneously, making it cost effective to extend TAC installations with modern controllers.

The serial gateway is used in the type of configurations shown in the figure.

In all cases (except for TAC 9000, see below) the Xenta 911 is configured as "Remote Com Port".

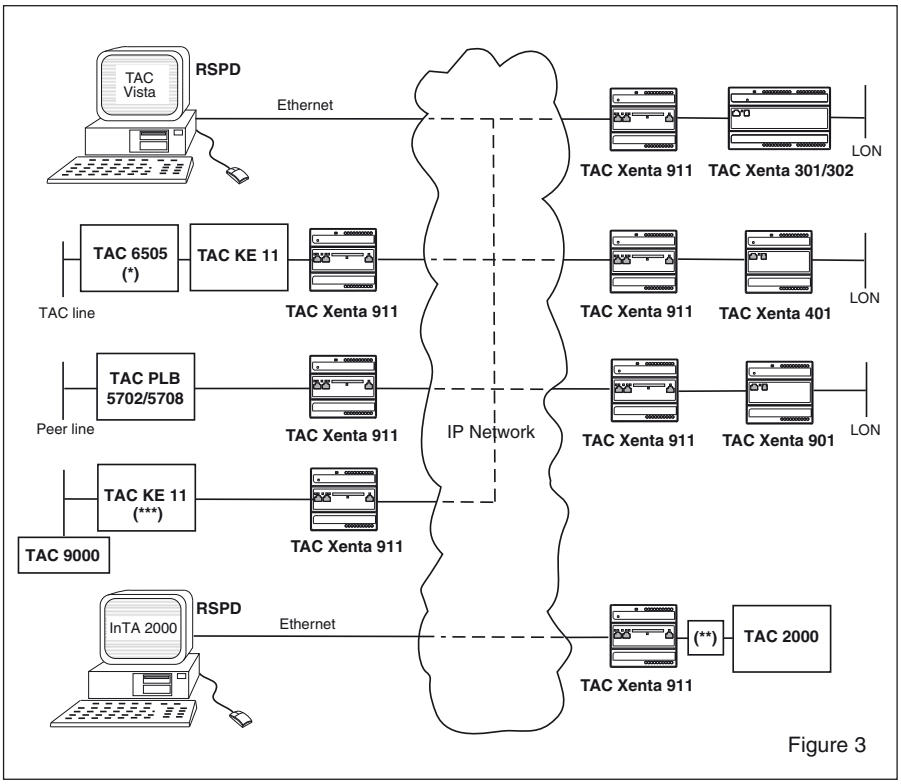


Figure 3

Please note the following.

(*): Requires a TAC 6505 Option Modem card to be installed.

(**):TAC 2000 requires a current supply adapter for the RS232 signal.

(***):For TAC 9000 the Xenta 911 is configured as "Remote Com Port - **9000"**.

UNITS THAT CAN BE CONNECTED: SERIAL GATEWAY

The following units may be connected to the TAC Xenta 911.

This is achieved using one or more of the Connectivity Kits, which contain suitable cables, connectors, and adapters.

Please refer to 0FL-3972 for details about the connections.

* TAC 2000 requires a current supply adapter.

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DESIGN

The TAC Xenta 911 is normally placed in a cabinet together with a control unit on the network.

The unit consists of a terminal part and an electronics part mounted together (Figure 3).

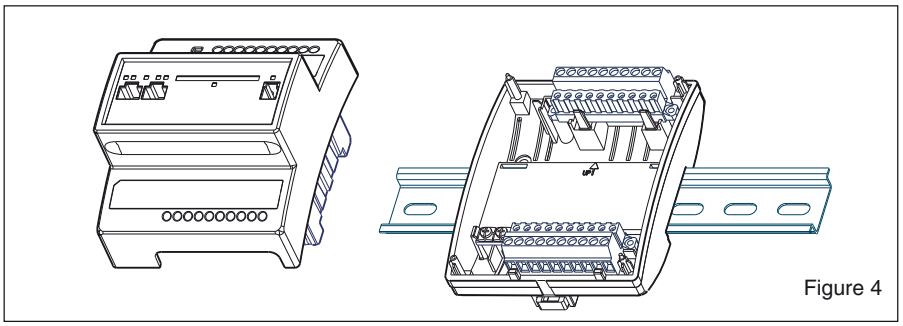


Figure 4

Power outage protection
Settings, like telephone numbers, are stored in the nonvolatile (flash) memory and will not be lost following a power outage.

Real time clock
The clock provides the internal event log with a time stamp. A built-in capacitor maintains operation of the clock for at least 72 hours in the event of a power outage.

MOUNTING

The TAC Xenta 911 is cabinet-mounted on a TS 35 mm norm rail EN 50022, whenever possible immediately to the left of the connected control unit. This allows the use of the short (15 cm) cable from the Serial Link Kit, please refer to the table on the previous page.

The unit consists of two parts; a terminal part including the screw terminals, and an electronics part holding the circuit boards.

To simplify commissioning, the terminal part can be pre-mounted in the cabinet, see Figure 2.

If the TAC Xenta 911 is to be wall-mounted, a wide range of standardized boxes are available.

CABLES

G and G0:
Min. cross-sectional area 0.75 mm² (AWG-19).

C1 and C2:
The TAC Xenta 911 communicates on a joint network, LONWORKS® TP/FT-10, 78 kbps.

INSTALLATION / CONNECTIONS

Modular jacks

RS232 A: Modem connection

Connection using hardware signals for modem communication, either as a DTE or a DCE.

RS232 B: PC ('Console') connection

Connection using basic signals, primarily intended for a PC during configuration.

10Base-T

Connection for a LAN (Ethernet) cable and commissioning.

MMC
Connection for a MultiMedia Card (extra memory card; not used in version 1).

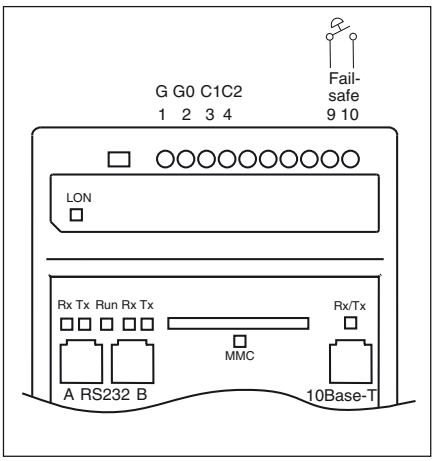
LEDs
A number of light-emitting diodes on the electronics part of the TAC Xenta 911 indicate when the application program is running and when communication is in progress.

"Reset button"
Shorting terminals 9 and 10 ("Fail-safe") during a restart will inhibit any program hangs and bring the internal program to a fail-safe state.

Terminal connections

There is a label on the front of the module listing both the numbers and the names of the terminals (1 G, 2 G0 and so on). The numbers are also shown in the plastic of the terminal part.

Term. no.	Term. name	Description
1	G	24 V AC (or DC+)
2	G0	System zero
3	C1	LONWORKS TP/FT-10
4	C2	LONWORKS TP/FT-10
.		
.		
9	Fail-safe	
10	"	



MAINTENANCE

Keep the unit dry and clean it externally using a dry cloth.

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tac.com