TAC Xenta® 471

Analog Input Module

4 Sep 2002

TAC Xenta 471 is an Analog Input module in the TAC Xenta family. It is used as an expansion module for the TAC Xenta controllers, connected by the common network.

The module has eight universal analog inputs. The analog inputs can be used independently for current input or for voltage input. The current input is either supplied internally from the I/O module or from an external source.

TAC Xenta 471 is associated with a specific controller with the assistance of the graphical tool TAC Menta.

If there are several controllers and I/O modules in the same network, a special Device Configuration Tool PC program is used during installation.

The input/output status can be checked from the TAC Xenta OP operator panel connected to any TAC Xenta controller in the same network.

TAC Xenta OP has a display and a minimum number of push buttons.

TECHNICAL DATA

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

Power consumption .... max. 10 W

Transformer sizing .... 10 VA

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

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

Mechanical:
   Enclosure .... ABS/PC
   Enclosure rating .... IP 20
   Dimensions .... see diagram
   Weight .... 0.4 kg (0.88 lbs)

Universal Inputs (U1–U8):
   Quantity 8

– as Current Input with *external* Voltage power;
   Input signal (terminals U–M) .... 0/4–20 mA
   Input resistance .... 20 ohm
      accuracy within 0.02 mA

– as Current Input with *internal* Voltage power;
   Input signal (terminals 24 V DC–U) .... 4–20 mA
   Input resistance .... 20 ohm
      accuracy within 0.02 mA
   Voltage .... 24 V DC ± 2 V
   Current limit, total value .... 200 mA

– as Voltage input;
   Input signal (terminals U–M) .... 0–1, 0/2–10 V DC
   Input resistance .... 100 kohm
      accuracy within 0.01 V

mm (in.):
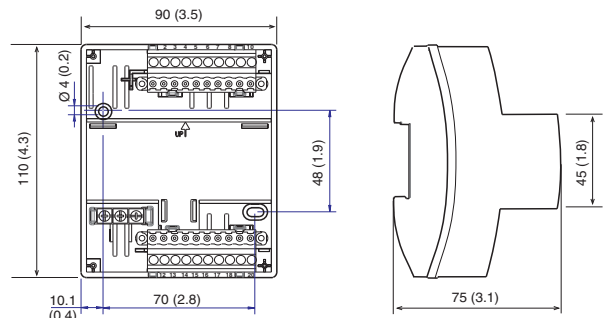
Communication:
   Network ....Echelon LONWORKS® TP/FT-10, 78 kbps

Agency Compliances:
   Emission .... C-Tick, EN 50081-1, FCC Part 15
   Immunity .... EN 50082-1
   Safety:
      CE .... EN 61010-1
      UL 916 .... Energy Management Equipment
      ETL listing .... UL 3111-1, first edition
      .... CAN/CSA C22.2 No. 1010.1-92
      Flammability class, materials .... UL 94 V-0

Part numbers:
   Electronics part TAC Xenta 471 0-073-0291
   Terminal part TAC Xenta 400 0-073-0902

DESIGN

TAC Xenta 471 consists of a terminal and a circuit board mounted together (figure 1). All terminations of field wires are made to the terminal part only. Thus the electronics may be removed for service without affecting the terminal connections.

Universal Inputs

The Universal Inputs can be individually configured for Current Input or Voltage Input. A high and a low limit can be set for each Universal Input.
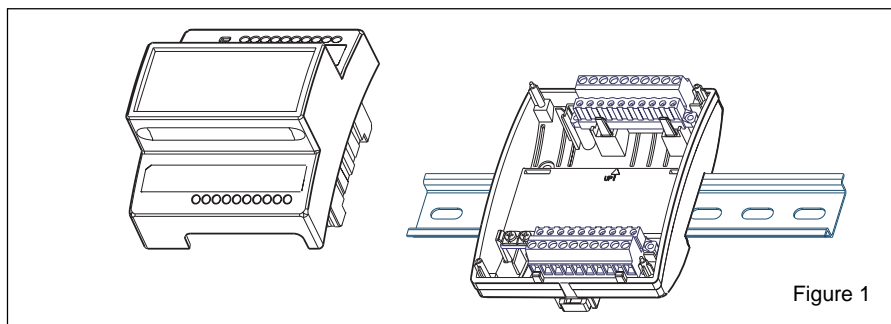
The Universal Input types are selected via the application program.

Figure 1

LED indicators

There are two general LED indicators on the front of the module. One is red and lights up if there is a hardware fault. The other is green and blinks to indicate that the application program is running.

MOUNTING

TAC Xenta 471 is cabinet mounted on a TS 35 mm norm rail EN 50022. The module consists of two parts: a terminal with screw terminals, and electronics with circuit boards. To simplify commissioning the terminal part can be pre-mounted in the cabinet, see figure 1.

If the module is to be wall mounted a wide range of standardized boxes are available.

CABLES

G and G0:
Min. wire size area 0.7 mm^2 (18 AWG)

C1 and C2:
The TP/FT–10, 78 system allows the user to wire the control devices with virtually no topology restrictions. The max. wire distance in one segment depends on the type of wire and the topology. For normal applications, using the Belden 85102 cable, the distance may be up to 1640 ft. (500 m). For other applications, please refer to the TAC Xenta Network guide.

The wires are polarity insensitive, but must be a twisted-pair.

Terminals U1–U8:
Min. wire size 0.25 to 0.75 mm^2 (23 to 18 AWG).
Max. cable length 20 to 200 m (65 to 650 ft.).
(please refer to the TAC Xenta 400 I/O modules manual for details).

INSTALLATION

There is a label on the front of the module with both the numbers and the names of the terminals (1 C1, 2 C2 and so on). The numbers are also shown in the plastic of the terminal part.

Service pin

To simplify network commissioning, there is a service pin on the electronic unit which, when pressed, identifies the unit on the network.

If the pin is pressed continuously for more than seven seconds, within 60 seconds after a restart, all values of the unit will be reset to the default values.

The unique Neuron ID is printed on a label on the rear of the unit.

Terminal connections

Term. no.	Term. name	Description
1	G	24 V AC/DC
2	G0	
3	C1	LONWORKS
4	C2	TP/FT-10, 78 kbps
5	U1	Universal input
6	24 V DC	Supply
7	M	Measurem. neutral
8	U2	Universal input
9	U3	Universal input
10	24 V DC	Supply

Term. no.	Term. name	Description
11	M	Measurem. neutral
12	U4	Universal input
13	U5	Universal input
14	24 V DC	Supply
15	M	Measurem. neutral
16	U6	Universal input
17	U7	Universal input
18	24 V DC	Supply
19	M	Measurem. neutral
20	U8	Universal input

COMMUNICATION

LONWORKS connection

TAC Xenta 300/400 controllers and I/O-modules communicate with each other using a common bus, Echelon LONWORKS® TP/FT-10, Free Topology, 78 kbps. A number of controllers can form a network and exchange data.

The additional I/O units also connect to the network and may be added as required. An I/O unit can only be associated with one controller.

The LONTALK® protocol makes it possible to use Network Variables (NVs; for example I/O values) defined in foreign equipment.

MAINTENANCE

Keep the module dry and clean it externally with a dry cloth when needed.

tac-global.com