Annunciator Keyboard

USB ANNUNCIATOR KEYBOARD (P0924TT)

USB ANNUNCIATOR/NUMERIC KEYBOARD (P0924WV)

SERIAL/GCIO ANNUNCIATOR KEYBOARD (P0903CV)

SERIAL/GCIO ANNUNCIATOR/NUMERIC KEYBOARD (P0903CW)

The USB and serial/GCIO annunciator and annunciator/numeric keyboards provide output information through the use of annunciator lights and audible alarms, plus input information through key switches. Both keyboards are suitable for use with all I/A Series workstations or servers (which support their requirements).The keyboards may be free standing or workstation/panel mounted.

The audio alarms feature multiple pitches which indicate audible differentiation of system alarms and process alarm priorities. An external audio output jack is available for an attachable, customer supplied, audio amplifier with speakers. The external speakers provide sufficient capacity to be heard if the keyboard is located in a noisy environment. The keyboards have a lamp test function (LED test) which simultaneously illuminates all the LEDs.

The overlay of the keyboards have positive tactile/audible feedback to assure proper switch closure.

Workstations and servers may connect to either USB or serial/GCIO annunciator and annunciator/numeric keyboards - they cannot connect to both types.

USB ANNUNCIATOR KEYBOARD

The USB annunciator keyboard (P0924TT) is an array of 48 LED/switch pairs. It has five rows of 12 keys (which includes a row of 12 macro keys at the top). All keys have LEDs next to them, except the 12 macro keys. As well, each keyboard has a Silence Horn key and a Lamp Test key. These two illuminated buttons are on the far left side, with the Lamp Test key over the Silence Horn key.

This keyboard is supported on stations with Windows 7 or Windows Server 2008 R2 operating systems.

Each LED, under control of the workstation processor's software, may be ON, OFF, or FLASHING as determined by the process conditions. These LEDs, when used in conjunction with the unit's audible annunciator, form an effective means of calling a user's attention to specific areas of the system. The switch associated with each LED may be used to invoke any pre-configured displays or operator responses.

Labels for each key, which may contain the LED/switch names, are inserted in a recess under the clear plastic shield inset into each key.

This keyboard includes an alarm relay - a two-pole device. One pole is used to activate an external device, such as driving an alarm horn, while the other pole is used internally to detect that the relay switch has closed. This self-check operation verifies the functionality of this relay even if this device activation functionality was disabled by the keyboard's configuration application.

The USB annunciator keyboard is connected to its host either directly to one of the host's USB ports, or through a USB hub which connects to the host via a USB cable. Extended connections from 1.8 m (6 ft) to 30.5 m (100 ft) require the kits listed in "EXTENDED CONNECTION KIT FOR USB ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD" on page 5. Unlike other USB I/A Series station peripherals, it cannot be connected through a Remote Graphics Unit (RGU).

As well, stations with USB annunciator keyboards cannot have a serial card installed in them, nor can they use a GCIO interface module.

Each annunciator switch location has LEDs that can be configured for one of the following states; red, yellow, green, or off (no color).

USB ANNUNCIATOR/NUMERIC KEYBOARD

The USB annunciator/numeric keyboard (P0924WV) has four rows of eight keys plus a row of 12 macro keys at the top. These keys have LEDs next to them, except the 12 macro keys, and also provide for the insertion of polyester labels. This keyboard also includes four arrow keys around a Select key. The keypad section is suitable for entering numeric data into the system.

As well, each keyboard has a Silence Horn key and a Lamp Test key. These two illuminated buttons are on the far left side, with the Lamp Test key over the Silence Horn key.

It is supported on stations with Windows 7 or Windows Server 2008 R2 operating systems.

This keyboard includes an alarm relay - a two-pole device. One pole is used to activate an external device, such as driving an alarm horn, while the other pole is used internally to detect that the relay switch has closed. This self-check operation verifies the functionality of this relay even if this device activation functionality was disabled by the keyboard's configuration application.

The USB annunciator/numeric keyboard is connected to its host either directly to one of the host's USB ports, or through a USB hub which connects to the host via a USB cable. Extended connections from 1.8 m (6 ft) to 30.5 m (100 ft) require the kits listed in "EXTENDED CONNECTION KIT FOR USB ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD" on page 5. Unlike other USB I/A Series station peripherals, it cannot be connected through a Remote Graphics Unit (RGU).

As well, stations with USB annunciator/numeric keyboards cannot have a serial card installed in them, nor can they use a GCIO interface module.

The keys in the four rows of eight keys have LEDs that can be configured for one of the following states; red, yellow, green, or off (no color).

SERIAL/GCIO ANNUNCIATOR KEYBOARD

The serial/GCIO annunciator keyboard (P0903CV) is an array of 48 LED/switch pairs arranged in a 12 column by four row matrix. It also contains a horn silence switch and a lamp-test switch.

Each LED, under control of the workstation processor's software, may be ON, OFF, or FLASHING as determined by the process conditions. These LEDs, when used in conjunction with the unit's audible annunciator, form an effective means of calling a user's attention to specific areas of the system. The switch associated with each LED may be used to invoke any pre-configured displays or operator responses.

The overlay of the keyboard has a raised embossed circle on each key.

The serial/GCIO annunciator keyboard communicates over a serial connection, and is connected to its host station via a Graphic Controller Input Output (GCIO) interface. (To connect the GCIO, you must ensure that your host station has an available serial port.) This keyboard is supported on I/A Series stations with Solaris™ and Windows®-based operating systems, including Windows 7, Windows Server 2008 R2, Windows XP, Windows Server 2003, or earlier.

The annunciator keyboard provides a pocket for each column of four switches. The columns accept a polyester label used to print the LED/switch names. Each annunciator switch location has two LEDs; red and yellow. The color for each switch position may be chosen by removing one of the two “knockouts” per switch location from the polyester annotation legend.

SERIAL/GCIO ANNUNCIATOR/NUMERIC KEYBOARD

The serial/GCIO annunciator/numeric keyboard (P0903CW) is a combination of 32 LED/switch pairs, a numeric keypad with 16 keys and one NUM LOCK LED. The keypad section is suitable for entering numeric data into the system.

The 32 LED/switch pairs are arranged in an eight column by four row matrix similar to the annunciator keyboard, and also provides for the insertion of eight polyester labels.

The overlay of the keyboard has a raised embossed circle on each key.

The serial/GCIO annunciator keyboard communicates over a serial connection, and is connected to its host station via a Graphic Controller Input Output (GCIO) interface. (To connect the GCIO, you must ensure that your host station has an available serial port.) This keyboard is supported on I/A Series stations with Solaris™ and Windows® based operating systems, including Windows 7, Windows Server 2008 R2, Windows XP, Windows Server 2003, or earlier.

FUNCTIONAL SPECIFICATIONS FOR USB ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD

Power Requirements
5 V dc, +/- 5% at the USB Type A connection

Power Consumption

USB ANNUNCIATOR KEYBOARD
300 mA (max)

USB ANNUNCIATOR/NUMERIC KEYBOARD
300 mA (max)

Audio Output Signal

OUTPUT IMPEDANCE
1200 Ohms Nominal

NOMINAL LEVEL, Vrms
0.437 to 0.133 (Max. volume to min.)

PEAK AMPLITUDE, Vpk
0.437 (square wave)

PEAK TO PEAK AMPLITUDE, Vpp
0.872

Host Operating System Requirements
Windows 7 Operating System
Windows Server 2008 R2 Operating System

ENVIRONMENTAL SPECIFICATIONS FOR USB ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD

The USB annunciator and annunciator/numeric keyboards are designed for a temperature range and a control room environment where the temperature is controlled and the relative humidity is indirectly controlled.

Operating Temperature
0 to 40°C (32 to 104°F)

Storage Temperature
-40 to +70°C (-40 to 158°F)

Humidity range, storage and operating
20% to 80%, non-condensing

Location
Is suitable for use in ordinary locations and is designed to meet ordinary safety standards for fire and shock hazards

Contamination
Class G1 (Mild) as defined in ISA Standard S71.04

EMC Emission
CISPR 11, Class A

Liquid Spills
The annunciator panels can withstand liquid spills and washing with mild non abrasive liquid cleaning agents. For best results use only a clean dampened cloth for cleaning.

PHYSICAL SPECIFICATIONS FOR USB ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD

Mass
1.27 kg (3.80 lb)

USB Cable (Included)
Male Micro USB to Male Standard USB
0.5 m (1.6 ft)
Connects termination block to standard USB port

Construction
Mechanical molded keyboard with keycap inserts (Keyboard)
Powder Coated Extruded Aluminum with molded plastic end caps (Base)
Santoprene (Foot Pads)

EXTENDED CONNECTION KIT FOR USB ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD

To connect a USB annunciator or annunciator/numeric keyboard to its host station from a location up to 30.5 m (100 ft) away, you will require one of the following kits:

Table 1. Kit P0923DY Contents - 120 V ac USB Extender for USB Annunciator Keyboards

Kit Part Number	Description
P0923DX	30.5 m (100 ft), fiber, USB extender for Windows processors
P0928EH	7 Port USB Hub, includes 100-120 V ac power supply
N/A	(Two per cable) Module fasteners: Scotch®, heavy duty, 1” square, mounting foam pads, Catalog # 111 or equivalent.

Table 2. Kit P0923DZ Contents - 240 V ac USB Extender for USB Annunciator Keyboards

Kit Part Number	Description
P0923DX	30.5 m (100 ft), fiber, USB extender for Windows processors
P0928EH	7 Port USB Hub
P0923FU	240 V ac/5 V dc power supply for P0928EH
P0800FJ	Schuko (i.e., European) line cord
N/A	(Two per cable) Module fasteners: Scotch®, heavy duty, 1” square, mounting foam pads, Catalog # 111 or equivalent.

NOTE

If a custom hub/extension device is used, ensure it has the ability to source the 5 V power for up to four USB annunciator and annunciator/numeric keyboards (i.e., 5 V dc @ 500 mA per USB port).

You can connect other USB peripherals and hubs to the P0928EH USB hub as well.

FUNCTIONAL SPECIFICATIONS FOR SERIAL/GCIO ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD

Power Requirements
27.5 V dc, +/- 5% at the input connector

Power Consumption

SERIAL/GCIO ANNUNCIATOR KEYBOARD
7.5 Watts (max)
3.0 Watts (min)

SERIAL/GCIO ANNUNCIATOR/NUMERIC KEYBOARD
6.0 Watts (max)
3.0 Watts (min)

Audio Output Signal
The alarm audio output signal level depends on the following load conditions listed for the external amplifier.

OPEN LOAD
Low Input
0.30 V p-p
Medium Input
0.60 V p-p
Low and Medium Input
0.90 V p-p

5K LOAD
Low Input
0.25 V p-p
Medium Input
0.50 V p-p
Low and Medium Input
0.70 V p-p

680 OHM LOAD
Low Input
0.10 V p-p
Medium Input
0.25 V p-p
Low and Medium Input
0.40 V p-p

Host Operating System Requirements
Any Solaris or Windows operating system supported by a release of any version of I/A Series software.

ENVIRONMENTAL SPECIFICATIONS FOR SERIAL/GCIO ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD

The serial/GCIO annunciator keyboard/panel and annunciator/numeric keyboards are designed for a temperature range and a control room environment where the temperature is controlled and the relative humidity is indirectly controlled.

Operating Temperature
0 to 50°C (32 to 122°F)

Storage Temperature
-40 to +70°C (-40 to 158°F)

Humidity range, storage and operating
20% to 80%, non-condensing

Location
Is suitable for use in ordinary locations and is designed to meet ordinary safety standards for fire and shock hazards

Contamination
Class G1 (Mild) as defined in ISA Standard S71.04

Drop
The annunciator panel can endure a 30 inch drop from any orientation without loss of functionality

EMC Immunity

IEC 61000-4-2
Electrostatic discharge immunity, 4 kV contact discharge, 8 kV air discharge, may be disrupted only briefly and must recover automatically

IEC 61000-4-3
Radio-frequency electromagnetic field immunity, 10 V/m, 80% AM, 80-1000 MHz, no influence allowed

IEC 61000-4-8
Power frequency magnetic field, 3 A/m, 50 and 60 Hz, no influence allowed

EMC Emission
CISPR 11, Class A

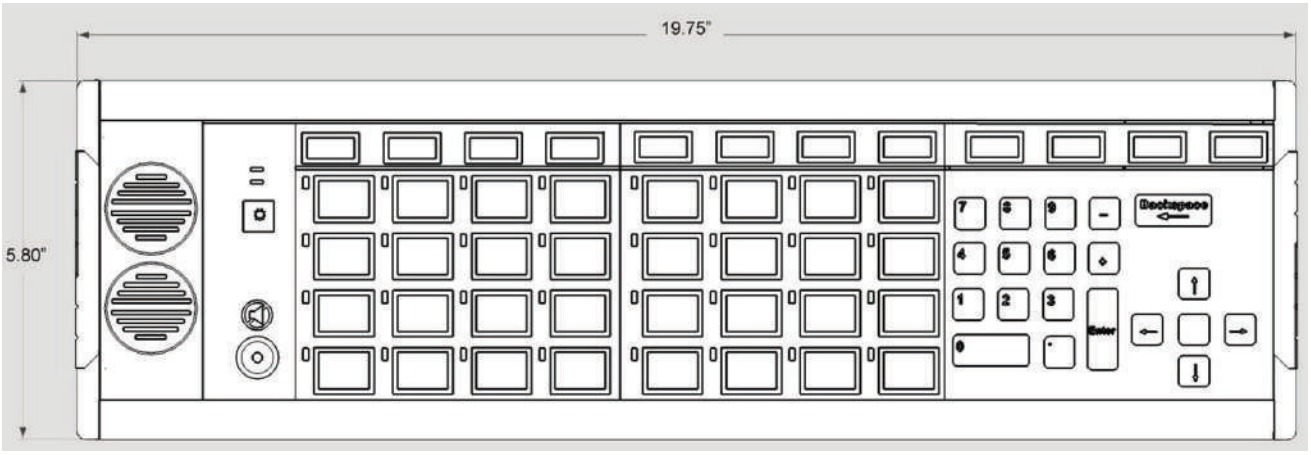
Liquid Spills
The annunciator panels can withstand liquid spills and washing with liquid cleaning agents as per NEMA 2.

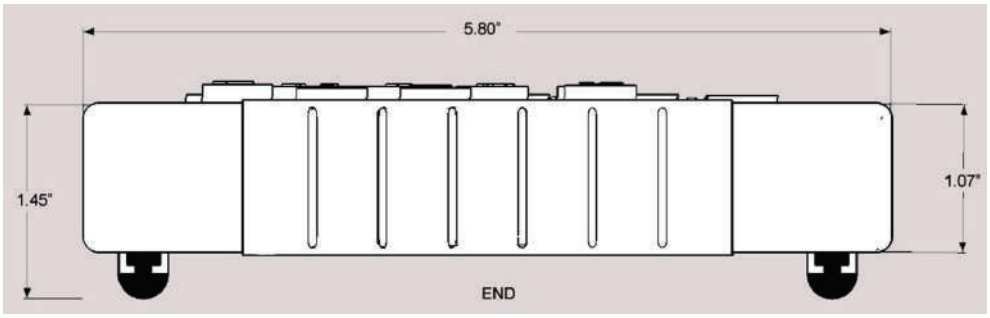
PHYSICAL SPECIFICATIONS FOR SERIAL/GCIO ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD

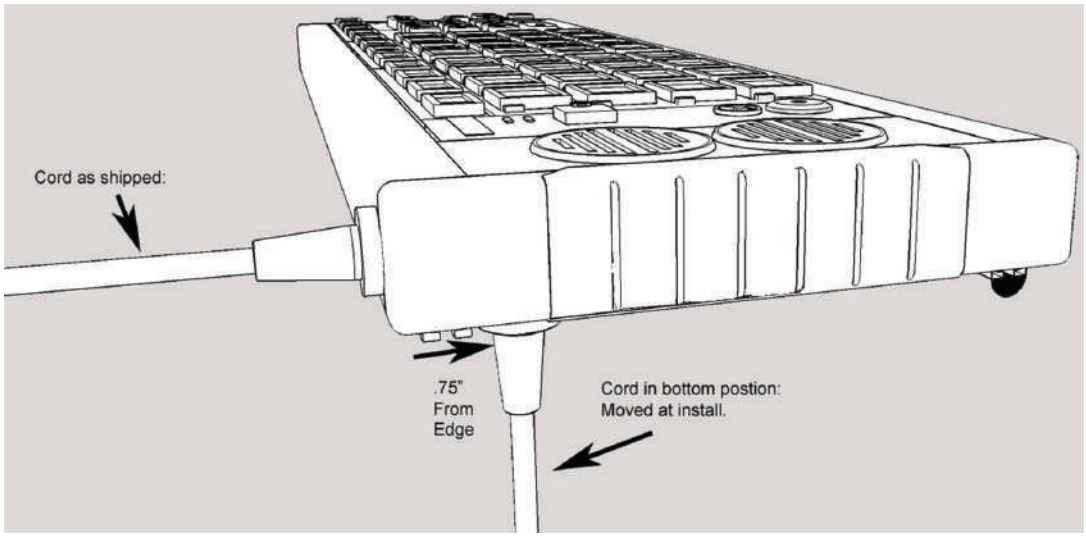
Mass
2.72 kg (6.0 lb)

Construction
Layered flat mylar (Keyboard)
Cold-rolled steel (Base)
Polyurethane (Foot Pads)

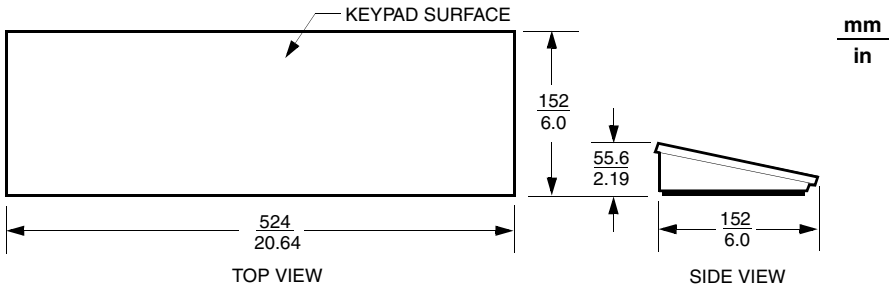
USB ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD DIMENSIONS—NOMINAL



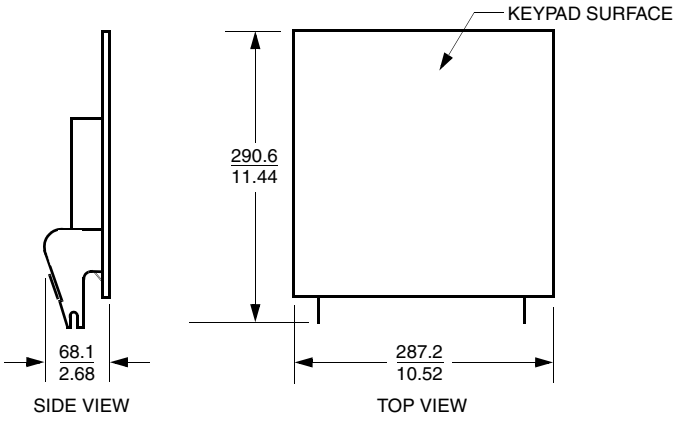




SERIAL/GCIO ANNUNCIATOR AND ANNUNCIATOR/NUMERIC KEYBOARD DIMENSIONS—NOMINAL



KEYBOARD



PANEL