

# INTRINSICALLY SAFE TELEPHONES



## ABOUT

Housed in **durable** glass-reinforced polyester for **indoor** or **outdoor** applications, **GAI-TRONICS' Intrinsically-Safe Telephones** are the **safest** and most **economical communication solution** for **hazardous environments**.

## FEATURES

- North American Listed for All Hazardous Groups
- cUL/UL Listed
- Replaces Explosionproof Telephones w/o Replacing System Cable in Most Applications
- Braille Metallic Keypad\*
- "Shrill"-Type Penetrating Ringer
- Noise-Cancelling Microphone
- Volume control handset
- Low Sidetone for Noisy Environments
- Switchable Power Supply (110 V ac / 220 V ac)
- Hytrel® Coil Cord for Maximum Durability
- Hearing Aid Compatible (HAC)
- Extreme Operating Temperature Range
- Proximity Detecting Hook-switch with No Moving Parts

\*Sealed to keep out dust, dirt, moisture, and other contaminants

## APPLICATIONS

- Chemical Plants
- Refineries
- Grain Elevators
- Environments where volatile gases and dust are a major concern

## INTRINSICALLY-SAFE TELEPHONES

...utilize an isolation barrier to reduce energy levels and eliminate the possibility of a spark or explosion. The barrier is placed in an indoor or outdoor, non-hazardous location up to one mile from the telephone. In contrast to explosion-proof telephones, which are designed to contain an explosion, our Intrinsically-Safe Telephones limit input power to prevent an explosion from occurring.



Indoor  
Model 262-001



Isolation Barrier  
Model 263-000



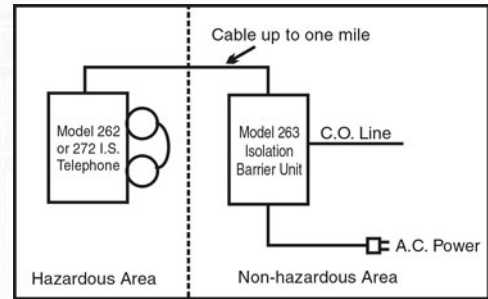
Outdoor  
Model 272-001

**NOTE:**

**Explosion-proof Telephones** require expensive, sealed conduit, and their large, bulky design makes installation and maintenance more difficult. In most applications, **Intrinsically-Safe Telephones** use standard telephone cable and do not require conduit.

**BARRIER CONFIGURATION**

Each Intrinsically Safe Telephone (Model 262-001 or 272-001) requires its own wall-mountable Isolation Barrier Unit (Model 263-000). The Isolation Barrier Unit houses both the PCBA and the Power Supply for the telephone. For convenience, a single model number has been established to order an indoor (Model 261-001) or weatherproof (Model 271-001) combination of these units.



Typical System Configuration

MODELS	DESCRIPTION	CONSISTS OF	
		Telephone	Isolation Barrier
261-001	Indoor Intrinsically-Safe Telephone	262-001	263-000
271-001	Weatherproof Intrinsically Safe Telephone	272-001	263-000

**SPECIFICATIONS**

**MECHANICAL**

Operating Temperature Range	262-001, 272-001 & 263-000: -40° C to +60° C (-40° F to +140° F)
Humidity (non-condensing)	40% to 95% R.H.
Safe Wiring Distance (maximum): per UL (between IBU and I.S. Phone)	
Standard Wire Types	.1 Mile (Maximum)**
Wiring: Type	Twisted pair shielded*
Wire Gauge (Min.)	24 AWG
Wiring Loop Resistance (maximum)	275 ohms
Wiring Capacitance (maximum)	0.316uF
Enclosure Rating (UL): Model 262-001	Type 12
Model 272-001	Type 3R (rainproof)
Model 263-000	Type 3R (rainproof)
Construction, housing: Model 262-001, 272-001 and 263-000	Engineered Plastic
Dimensions, housing: Model 262-001	8.02(203.7)W x 9.52(241.8)H x 3.86(98)D; inches (mm)
Model 272-001	9.39(238.5)W x 13.13(334.3)H x 7.46(189.5)D; inches (mm)
Model 263-000	9.27(235.5)W x 13.02(330.7)H x 3.86(98)D; inches (mm)
Shipping Weight: Model 262-001	6 lbs. (2.7 kg)
Model 272-001	11.6 lbs. (5.3 kg)
Model 263-000	10 lbs. (4.5 kg)

\* Shielded Cable is required where multiple I.S. Phone wires are routed together  
 \*\* Distance up to 1.5 miles with specific types (Consult Factory)

# ELECTRICAL/ACOUSTICAL SPECIFICATIONS

## MODEL 262-001 (Indoor) & 272-001 (Outdoor) Telephone

Electrical Specifications (nominal)	12 V, 12mA
Hazardous Areas Approved - UL / cUL	Division 1, Class I, Groups A, B, C and D; Class II, Groups E, F & G; Class III; Division 2 (Same Classes and Groups as Division 1)
FCC Registration Number	ADGUSA-65066-T-E
Load No. (Canada)	14
Frequency (adjustable at the IBU)	1-8 kHz (typical)
Ring signal loss (18 AWG)	-4 dB/mile
Microphone	Dynamic noise-canceling
Earpiece	Hearing aid compatible (HAC)
Output (0 dBm @ IBU TELCO Line)	105 dB SPL@ 1 kHz
Audio signal loss (18 AWG)	-1.3 dB/mile
Signaling	DTMF only
Transmission Path (2-cond)	Full Duplex

## MODEL 263-000 Isolation Barrier Unit (I.B.U.)

### Electrical

Telephone Network Interface (2 wire)	BELL PUB 61100 Compatible
Telephone Network Interface (4 wire)	See 4-Wire Options Below
AC Power Input (Voltage) (Selectable)	90-130V / 180-240V
Frequency	47-63 Hz.
Current	0.5 Amps (maximum)
Intrinsic Safe Interface:	
Voltage (Maximum)	18V
Resistance (Minimum)	66 ohms
Current Limited (maximum)	136mA

### Environmental

Location (Model 263-000 IBU)	Ordinary (non-classified) indoor/outdoor
FCC Registration Number	ADGUSA-65066-TE-E
Ringer Equivalence Number (REN)	0.4B
IC Certification Number (Canada)	822 4541 A
Load number (LN) (Canada)	14
Connecting Method	U.S. (RJ11); Canada (CA11A)
Relative Humidity	95% (non-condensing) maximum

### 4-Wire Option

Receive (TB2-1,2)	Dry (No dc)
Signal Level	0 dBm (nominal), ±3 dBm (maximum)
Transmit (TB2-3,4)	Wet
DC Loop	20 mA-70 mA
Signal Level	0 dBm (nominal)
Ring Voltage Input	40 V-150 Vrms

### APPROVALS

Model 262 & 272 Series / 263-000: cUL\*, CSA\*

### POLE-MOUNTS

Model 230-001 Pole-mounting Kit for 272 Series  
Model 231-001 Pole-mounting Kit for 262 Series

### Ringer Level (avg. @ 2 ft.)

Model	Door Open	Door Closed
262 Series	85 dBA SPL	N/A
272 Series	84 dBA SPL	70 dBA SPL

### Option Accessories / Order Code

LD	Locking Door	Outdoor phone only
SK	Spring Door	Outdoor phone only
H1	15' Hytrel Cord	Indoor phone only
H2	25' Hytrel Cord	Indoor phone only

\*See specific approval listings above in the electrical/acoustical specifications.



Contact your sales representative or call our toll-free sales hotline for further information at 1-800-492-1212.

Look to GAI-TRONICS, a leader in the communications industry through its innovative products, uncompromising quality and advanced technology.

Visit us @ [www.gai-tronics.com](http://www.gai-tronics.com)



Quality Management System Certified by DNV-GL - ISO 9001:2015.

The policy of GAI-TRONICS is one of continuous improvement; therefore the company reserves the right to change specifications without notice.

