

## ET 870A



## 2-wire DSP Intercom module ET 870A, ET 871A

The digital 2-wire Intercom module ET 870A / ET 871A has been developed for installation in existing housings or for construction of special Intercoms. The modern DSP-technology is securely fitted in a rugged housing with mounting tabs for easy installation. Applications for the Intercom module ET 870A / ET 871A are all kinds of call-/emergency call stations, where the station is built-in and only the external call button is used. This means special solutions for e.g. emergency call pillars,

elevator cabins, ticketing machines or barriers at entrances and exits can be created, that optimally satisfy function and optical appearance of the customer specifications. The Intercom stations ET 870A / ET 871A are manufactured in the new DSP-technology, which enables functions such as audio monitoring or loudspeaker/microphone surveillance. The stations are prepared for future download of new functions (updates to new versions) and can utilize the OpenDuplex<sup>®</sup> capability of the Intercom Servers.

### ET 870A

Digital 2-wire Intercom module in rugged build-in housing with new DSP-technology, incl. electret condenser microphone MIC 480. Possibility of connecting 2 buttons. One input for floating contacts. Output contact for direct connection of a door opener. Connection for a loudspeaker.

### ET 871A (not pictured)

Digital 2-wire Intercom module like ET 870A, but with integrated loudspeaker (8 Ω).

# Technical Data – Benefits

## TECHNICAL DATA

Keyboard:	possibility of connecting 2 buttons
Microphone input:	for electret condenser microphone or dynamic microphone mic Input: nominal level 2.8 mV on 3.3 kΩ (mic-feeding voltage 2.5 V)
Loudspeaker:	ET 870A: fitting loudspeaker: 2.5 W at 4 Ω / 1.5 W at 8 Ω LS-Output: max. 3.5 V <sub>eff</sub> (LS-Pot max) ET 871A: special membrane type for optimal sound quality, sound pressure: 85 dB/1 W/1 m (3.28 ft), 8 Ω
Amplifier:	integrated amplifier with 1.5 W output power: 1.5 W with 8 Ω loudspeaker, 0.5 W with 50 Ω loudspeaker
Input:	1 input for floating contacts, max. 1 kΩ
Output <sup>1)</sup> :	relay output (switch-over contact) max. 60 W (DC)/37.5 VA (AC), max. 2 A, max. 60 VDC/30 VAC, expected life: min. 5 x 10 <sup>4</sup> (2 A), 10 <sup>5</sup> (1 A)
Call indication:	multifunction LED (colours: red, green, blue)
Frequency range:	200 – 16.000 Hz (depending on connected loudspeaker)
Operating temperature range:	-20 °C to +70 °C (-4 °F to 158 °F)
Storage temperature range:	-20° C to +70° C (-4° F to 158° F)
Relative humidity:	up to 95 %
Plug:	pluggable screw terminals expansion plug for e.g. EB2E2AHE
Cabling:	star feed, 2-wire, twisted
Power supply:	from Intercom Server option <sup>1)</sup> : external, floating power supply for greater line length or loudspeaker < 8 Ω 12 – 24 VAC or 15 – 35 VDC, 15 W
Signalling:	2B + D (2 x 64 kBit/s speech, 16 kBit/s data)
Dimensions (W x H x D):	87,5 x 109 x 40 mm (3.45 x 4.29 x 1.58 in)
Weight incl. package:	ET 870A: 205 g (0.45 lbs) ET 871A: 220 g (0.48 lbs)

<sup>1)</sup> All connected circuits must meet the following safety requirements:  
 1. Safety extra-low voltage (SELV) according to IEC/EN 60950-1 or  
 2. Circuits according to IEC/EN/UL 62368-1  
 2.1 ES1 for all connections.  
 2.2 PS1 for the power supply.  
 2.3 PS2 for the relay output.  
 A SELV/ES1 circuit must be safely separated from a dangerous electrical circuit (e.g. 230 V or 110 V mains power), e.g. by double insulation. The SELV circuit must not exceed 60 VDC or 42.4 VAC<sub>peak</sub> (30 VAC<sub>eff</sub>)!  
 The wiring of the PS2 circuits must meet the requirements of IEC 62368-1 chapter 6.5.

## BENEFITS

- Crystal clear 16 kHz speech quality for optimum intelligibility
- Cabling with 2 wires, star feed, fully digital transmission of speech and data
- DSP-technology, prepared for software download of future functions
- Audio monitoring, adjustable integration time/noise level
- Loudspeaker-/Microphone-Surveillance
- MIC 480 microphone included in extent of supply
- Integrated amplifier with 1.5 W output
- Output contact for direct connection of e.g. doors or gates
- Connection of 2 buttons
- ET 870A: connection of an external loudspeaker  
ET 871A: integrated loudspeaker (8 Ω)

## SYSTEM REQUIREMENTS

- GE 800 (min. PRO 800 1.2) with G8-GED (G3-8-SUB min. 3.2) or
- GE 300 (min. PRO 800 1.2) with G3-GED (G3-8-SUB min. 3.2) or
- VirtuoSIS/S3/S6 with ET 901-D (min. firmware version 3.0)

## EXTENT OF SUPPLY

- 1 Intercom module including:
- Electret condenser microphone MIC 480
  - Light pipe and plexiglass LED cover, optionally as light guide for the conversation-LED
  - Short reference

## LINE LENGTH

Cable type	Power Supply Intercom Server		
	24 V AC	30 V DC	26 V DC
Ethernet cable e.g. Cat. 5 Loop resistance: 190 Ω/km Capacity: 48 nF/km	1500 m 4921 ft	1700 m 5577 ft	1400 m 4593 ft
Telecommunication cable e.g. F-YAY; ø 0,6/0,8 mm Loop resistance: >135 / >73 Ω/km Capacity: 100 nF/km	1500 m 4921 ft	2100 m 6889 ft	1500 m 4921 ft
External power supply	max. 2800 m / 9186 ft		

All values for connected loudspeaker ≥8 Ω and volume level 9.



# Installation

## SAFETY INSTRUCTIONS

- This device shall be installed or replaced by trained and qualified personnel only.
- Only use recommended tools when installing the device.
- Observe the country-specific standards for installation, mounting and configuration.
- Only accessories that comply with the device's technical specifications shall be used.
- Do not make any unauthorised modifications to the device.

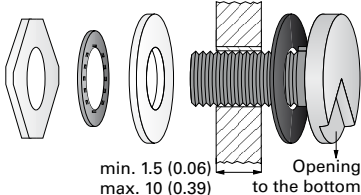
## INSTALLATION INSTRUCTIONS

- Do not expose the station to extreme temperature (below  $-20\text{ }^{\circ}\text{C}$  or above  $+70\text{ }^{\circ}\text{C}$  /  $-4\text{ }^{\circ}\text{F}$  to  $158\text{ }^{\circ}\text{F}$ ).
- Make sure that the front panel of the ET 870A/ET 871A is attached to the mounting plate without margin. Otherwise an "acoustic short circuit" occurs, which can considerably influence the sound quality of the ET 870A/ET 871A.

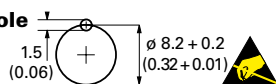
## BUILD-IN MICROPHONE MIC 480

### Mounting

Measuring units in mm (inch), not scale!



### Bore-hole



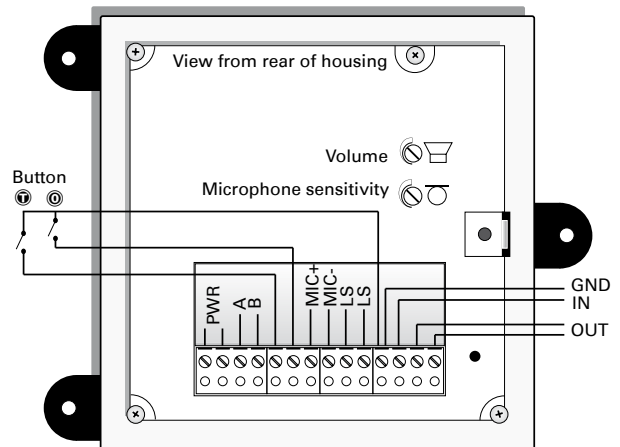
The microphone is suitable for mounting in up to 10 mm (0.39 in) thick panels.

## CONNECTION

### Loudspeaker

$\geq 50\ \Omega$  with supply from Intercom Server  
 $\geq 8\ \Omega$  external power supply required

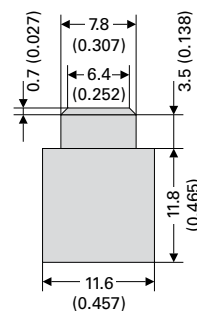
**Terminals PWR:** external, floating power supply (12 – 24 VAC or 15 – 35 VDC, 15 W) for ET 871A (optional for ET 870A, e.g. for greater line length or loudspeaker  $< 50\ \Omega$ )



### Note

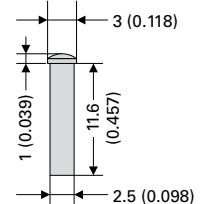
OUT factory adjusted as normally open contact. With the jumper JP1 (inside of housing) it can be converted into a normally closed contact.

## LIGHT GUIDE FOR CONVERSATION-LED



**Plexiglass LED Cover**

Bore hole:  
 2.55 to 2.6 mm  
 (0.100 to 0.102")



**Light Pipe**

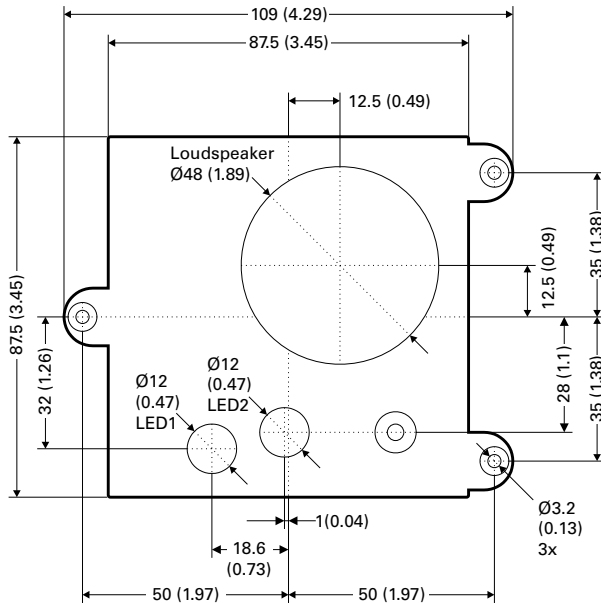
The plexiglass LED cover only fits LED 2 (see "Dimensions"). For call indication either LED 1 or LED 2 can be used. LED 1 is in the same position as the LED of the 4-wire Intercom module ET 570.



# Installation

## DIMENSIONS

Measuring units in mm (in), not scale!



### QUALITY TESTED. RELIABLE. SMART.

COMMEND products are developed and manufactured by Commend International in Salzburg, Austria.

The development and manufacturing processes are certified in accordance with **EN ISO 9001:2015**.

The technical data contained herein has been provided solely for informational purposes and is not legally binding. Subject to change, technical or otherwise. IoT<sup>®</sup>, OpenDuplex<sup>®</sup> and Commend<sup>®</sup> are trademarks registered by Commend International GmbH. All other brands or product names are trademarks or registered trademarks of the respective owner and have not been specifically earmarked.

### A STRONG WORLDWIDE NETWORK

COMMEND is represented the world over by local Commend Partners and helps to improve security and communication with tailored solutions.

[www.commend.com](http://www.commend.com)

