

EE 6000



1



2



3



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4-Wire Industrial Station Series EE 6000

The industrial stations are made of high-strength polyester reinforced with glass fibre. They are issued in high-visibility bright orange (RAL 2004) and have an IP 65 rating. The housing has additional shock absorber trim on the sides. It can be equipped with different modules to create stations with varying features from standard components.

1. **EE 6146, EE 6147**

Industrial master station with 6 programmable direct-call buttons, integrated loudspeaker, one button with lamp as communication indicator, one cancel button and a built-in 8 W amplifier. Available as EE 6146 with electret microphone and as EE 6147 with noise-cancelling microphone.

2. **EE 6236, EE 6237**

Industrial master station with a programmable full keypad, one button with lamp as communication indicator, one high-low volume button and a built-in 8 W amplifier. Available as EE 6236 with electret microphone and as EE 6237 with noise-cancelling microphone.

All buttons of the stations are fully programmable. The station has an integral 8 W amplifier that monitors the ambient noise level and automatically adjusts the loudspeaker volume depending on the ambient noise level. The stations also feature a relay that can be programmed for functions such as switching of beacons, horns, external loudspeakers

3. **EE 6106, EE 6107**

Industrial sub station with two programmable buttons, one of them with lamp as communication indicator, integrated loudspeaker and a built-in 8 W amplifier. Available as EE 6106 with electret microphone and as EE 6107 with noise-cancelling microphone.

4. **EE 61AB**

Sub station for use as emergency call station for public areas, with a large SOS call button, integrated loudspeaker, integrated electret microphone and a white communication light.



Technical Data – Benefits

TECHNICAL DATA

IP rating:	IP 65, resistant against: all acids, light lyes, ultra violet radiation
Fire proof:	V0 according to UL
Keyboard:	Industrial pushbuttons with micro switch
Housing:	Polyester reinforced with fibre glass
Microphone:	EE 6106/6146/6236/61AB; omnidirectional electret microphone for max. 7 m (23 ft) speaking distance EE 6107/6147/6237: dynamic noise cancelling mic. with hypercardioid characteristic for 3–50 cm (1.2–19.7 inch) speaking distance
Loudspeaker:	Special membrane type for optimal sound quality, sound pressure: 96 dB/1 W/1 m (3.3 ft)/1 kHz
Amplifier:	Output power: 8 W, maximum load: 8 Ohm
Output:	1 floating relay contact, max. switching capacity: 60 W / 125 VA, max. switching current: 2 A, max. switching voltage: 60 VDC / 40 VAC
Frequency range:	200 – 8,000 Hz
Operating temperature range:	–40° C to +90° C (–40° F to 194° F)
Storage temperature range:	–40° C to +90° C (–40° F to 194° F)
Relative humidity:	up to 95 %
Plug:	screw terminals
Cabling:	star feed, 4 wires, twisted pair + power supply
Power supply:	24 V/20 VA from transformer PA 101/PA 501 or 24 – 28 VDC, 20 W
Measurements:	<i>see page 7</i>
Weight incl. package:	EE 6106: 3,360 g (7.4 lbs) EE 6107: 3,370 g (7.4 lbs) EE 6146: 3,480 g (7.7 lbs) EE 6147: 3,490 g (7.7 lbs) EE 6236: 3,130 g (6.9 lbs) EE 6237: 3,140 g (6.9 lbs) EE 61AB: 3,360 g (7.4 lbs)
Colour:	Orange (RAL 2004)

SYSTEM REQUIREMENTS

GE 100 with G1-GET-4 / GE 200 with G2-GET-4 / GE 700 with G7-GET-4

The stations are also compatible with older Intercom Servers
GE 208, GE 408, GE 416 and GE 501/GE 601.

EXTENT OF SUPPLY

- 1 industrial station including:
- PG13.5-thread cable glands and gaskets
 - Short reference
 - EE 6146/EE 6147 incl. legendable button labels

BENEFITS

- For harsh and tough industrial environments
- Module range for individually tailored combinations: button modules for dialling, direct-call button modules (legendable), loudspeaker module, microphone modules (electret or noise cancelling microphone)
- Up to 18 direct-call buttons per station without additional cabling with only 4 wires to the Intercom Server and 2 wires to the power supply
- Each button is programmable for direct calling or other special functions
- Built-in 8 W amplifier with automatic volume adjustment (high/low)
- Shock absorber trim
- Built-in relay for multipurpose use
- IP rating: IP 65

LINE LENGTH

Diameter/ cross section	AWG	A, B, C, D Z=350 Ω	Power supply 24 V AC Z=13 Ω	Power supply 60 V DC Z=60 Ω
0.4 mm	26	1,300 m 4,265 ft	45 m 148 ft	210 m 689 ft
0.5 mm	24	2,000 m 6,562 ft	70 m 230 ft	330 m 1,083 ft
0.6 mm	22	2,700 m 8,859 ft	100 m 328 ft	475 m 1,559 ft
0.8 mm	20	4,900 m 16,077 ft	180 m 591 ft	840 m 2,756 ft
1.0 mm	18	7,700 m 25,264 ft	280 m 919 ft	1,320 m 4,331 ft
1.0 mm ²	18	*	360 m 1,181 ft	1,680 m 5,512 ft
1.5 mm ²	16	*	540 m 1,772 ft	2,520 m 8,268 ft
2.5 mm ²	14	*	900 m 2,953 ft	4,200 m 13,780 ft

*...no data, because this diameter is not available for this cable type.

Z = loop resistant



Individual Module Combination

THE MODULAR CONCEPT

The modular concept of this system allows a flexible, customer specific configuration of analogue industrial stations. There are modules for dialling, modules with inscribable direct dialling buttons, microphone modules and a loudspeaker module.










MODULCODE

For each of the three free module places of the basic housing (place 1 on the top, place 2 in the middle, place 3 at the bottom), the respective module is defined by means of the code digits. The fifth place of the type number stands for the power supply of the industrial station: a point or blank character at the fifth place means 24 V AC, a "D" at the fifth place means 60 V DC.

In short, the type designation is set up as follows:



EE 6 [code place 1][code place 2][code place 3][power supply] – e.g. EE 6146

THE MODULES

Type	Description	Code
 EM 600	Dummy module to fill empty module slots or for fitting of customer specific buttons etc.	0
 EM 6A0	Dummy module with "SOS" print to fill empty module slots.	A
 EM 650	Loudspeaker module for industrial stations. The loudspeaker features high sound pressure and excellent speech intelligibility. Output power: 15 W; Sound pressure: 96 dB/1 W/1 m (3.3 ft); Speaker impedance: 8 Ohm	1
 EM 602	Button module with buttons 1 to 6 as part of a full keypad. The buttons can be programmed with various functions. Industrial push buttons with micro-switch.	2
 EM 603	Button module with buttons 7 to X as part of a full keypad. The buttons can be programmed with various functions. Industrial push buttons with micro-switch.	3
 EM 606	Button module with 6 direct dialling buttons. The buttons can be programmed with various functions. For labelling of the buttons exchangeable tags are included. Industrial push buttons with micro-switch.	4
 EM 660	Microphone module with electret microphone for normal or medium ambient noise level. The two buttons (right button and lamp button) can be programmed with various functions. Speaking distance: up to 7 m (23 ft); Microphone: Electret microphone; Maximum ambient noise level: 75 dBA	6
 EM 670	Microphone module with noise cancelling microphone for very high ambient noise level. The two buttons (right button and lamp button) can be programmed with various functions. Speaking distance: adjustable 3–50 cm (1–20 in); Microphone: Noise cancelling microphone; Maximum ambient noise level: up to 95 dBA	7
 EM 6B0	Microphone module with electret microphone, white conversation lamp and a big red mushroom button with "SOS" print. The button can be programmed with various functions. Speaking distance: up to 7 m (23 ft) Microphone: Electret microphone; Maximum ambient noise level: 75 dBA	B

Individual Module Combination

HOUSING AND ACCESSORY

Type	Description
 EE 6999	<p>The Basic housing is designed for 3 modules, each module is connected via a ribbon cable to the basic board (only the loudspeaker module EM 650 is connected to the basic housing via 2 wires instead of the ribbon cable). To make mounting of the modules easier, the upper part of the housing is fastened with a hinge.</p> <p>Furthermore, the housing includes expansion openings and appropriate covers.</p> <p>Note: Expansion openings can be broken out.</p>
 DC 600	<p>Power supply module 60 V direct current for the industrial station units. The DC 600 is plugged into the basic housing.</p> <p>Minimum input voltage: 44 V DC Maximum input voltage: 60 V DC</p>
KAB-CCT	<p>Connection cable for the serial port of a PC for configuration of the industrial stations. <i>(not pictured)</i></p>
EDI 600	<p>Basic housing without electronics. The empty housing can be used for installation of cable distributors, additional electronics, etc. <i>(not pictured)</i></p>

Installation

PRECAUTIONS

- With 60 V DC power supply (with the 60 V-module DC 600) the precautions for handling 60 V direct current must be observed!
- When opening the stations ESD precautions must be observed.
- The stations may only be opened by authorised service engineers.

POWER SUPPLY

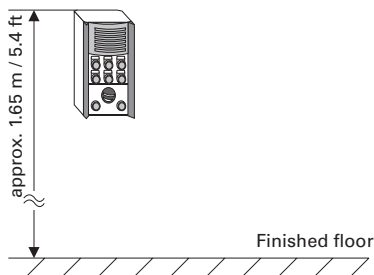
- 24 V AC (connection to the terminals "24VAC").
 - 24 V DC (connection to the terminals "+24V" and "-").
 - 60 V DC, only in combination with the 60 V-module DC 600 (see connection diagram); connection to the terminals "+60V" and "-".
- Attention:** The precautions for handling 60 V direct current have to be observed!
- Power consumption max. 20 VA (20 W)

MOUNTING INSTRUCTIONS

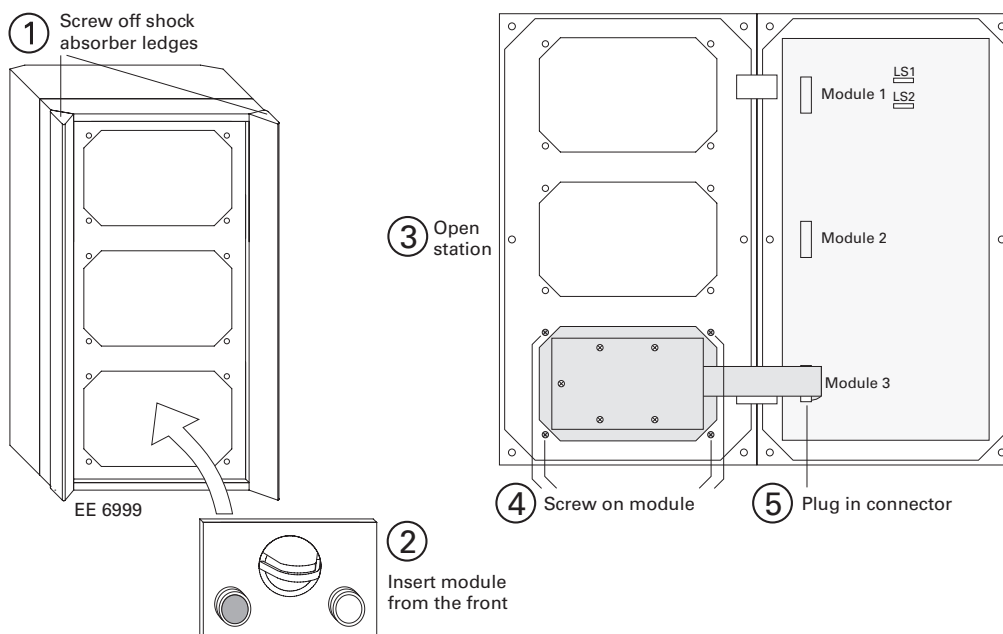
- Do not expose the station to extreme temperature (below -40° C or above +90° C / -40° F to 194° F).

Recommended Mounting height

The upper edge of the station approx. 1.65 m (5,4 feet) from the finished floor, so that the microphone is approx. 1.40 m (4,6 feet) above the floor. Please adapt the mounting height to the individual needs.

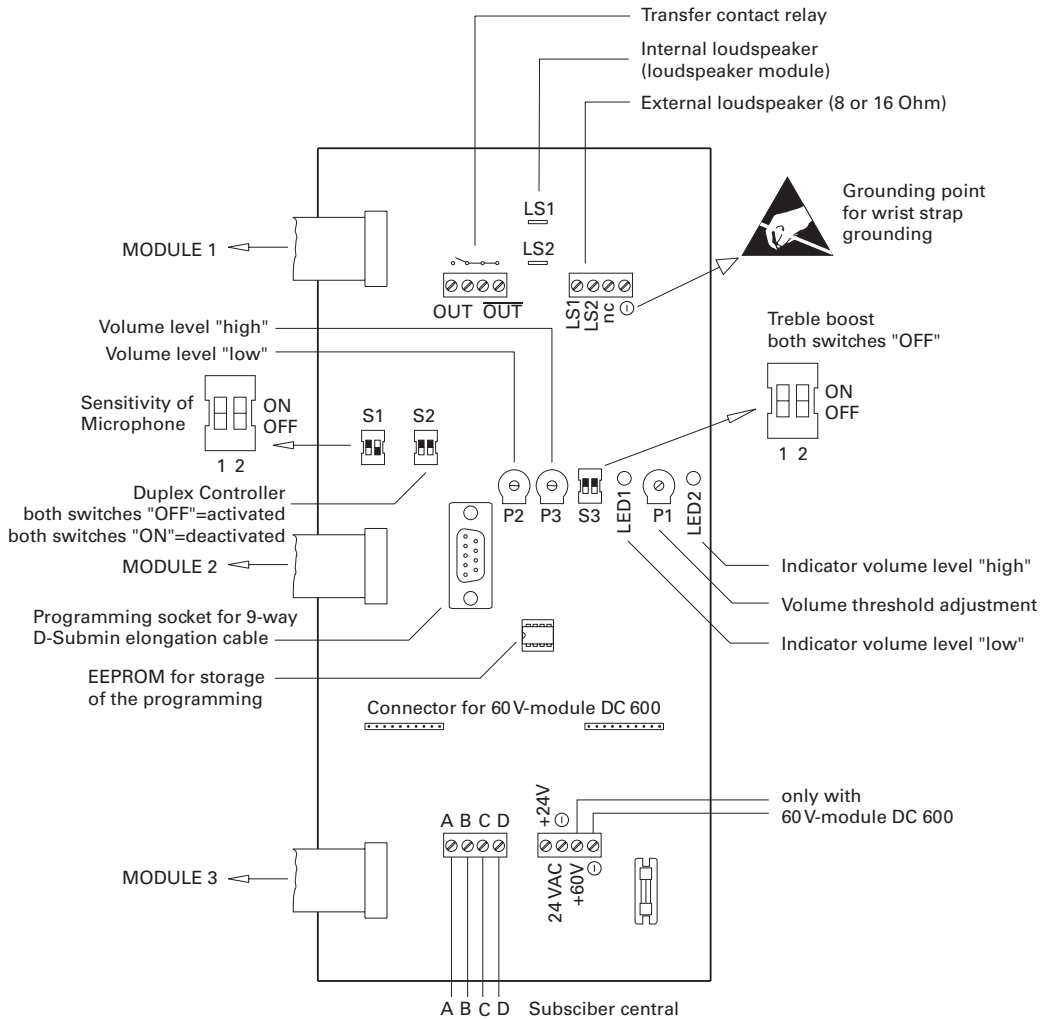


MOUNTING OF THE MODULES



Installation

CONNECTION DIAGRAM



DIP-SWITCHES

S1: Microphone sensitivity (speaking distance)

S1-1	OFF	ON	OFF
S1-2	ON	OFF	OFF
Setting	Near	Mid	Far
Electret microphone	10 cm (3.9 in)	50 cm (19.7 in)	2 m (6.6 ft)
Noise cancelling microphone	2 cm (1.2 in)	10 cm (3.9 in)	50 cm (19.7 in)

Mid = standard. The industrial station switches to minimal speaking distance when it is in volume state "high"

S2: Duplex controller

- Both switches OFF: duplex controller activated
- Both switches ON: duplex controller deactivated (standard)

S3: Treble boost

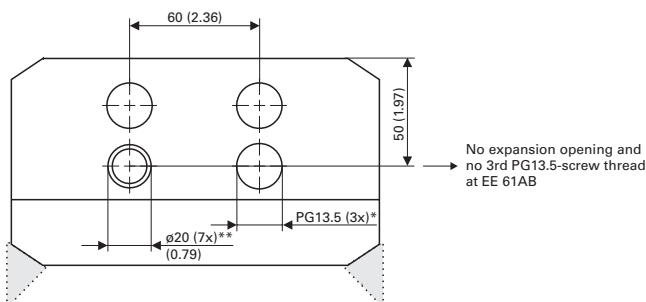
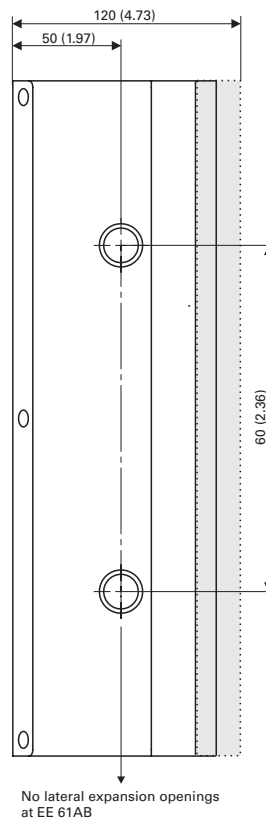
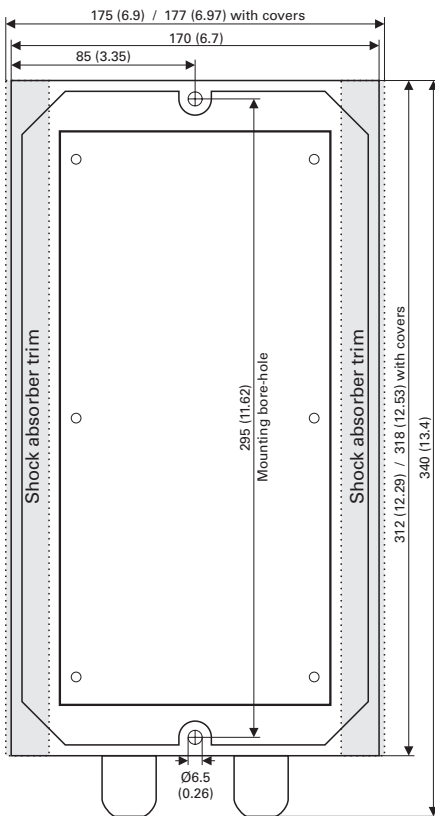
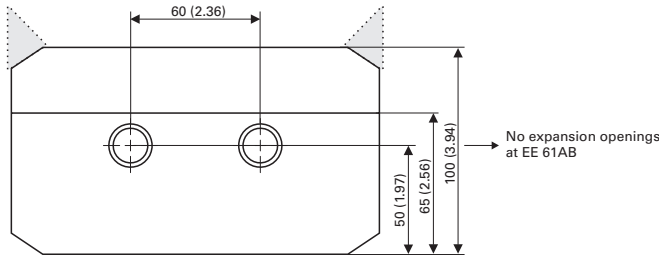
- Both switches OFF: treble boost activated
- Both switches ON: treble boost deactivated (standard)



Installation

MEASUREMENTS

Measuring units: mm (inch), not scale!



*Screw thread for PG13.5 thread cable glands

**Expansion openings: can be broken out

