Product Information

FHF Bergbautechnik GmbH & Co. KG

Speaking Station LV30

Ordering data

Designation	Type	Item no.
Speaking station with cable entries	LV 30	125 300 50 AX
Speaking station with plug connectors (socket / socket)	LV 30	125 300 51 AX
Speaking station with plug connectors (socket / plug)	LV 30	125 300 52 AX

- **Cost-efficient speaking station with 2 loudspeakers**
- **Clearly audible, reliable intercommunication and signalling**
- **Emergency operation (intercommunication) by means of batteries integrated into each LV30 in the event of a power failure**
- **Rechargeable NiCd battery (8.4 V / 180 mAh)**
- **Visual indication of DC-supply voltage**
- **Connection of the DC-wires: protected against polarity reversal**

- **Connection of the WL-wires: protected against polarity reversal**
- **Protection type: I M 1 EEx ia I**

Configuration

The electronic equipment of the speaking station realised in SMD technology is incorporated into a steel sheet enclosure of protection degree IP 54 and fixed to the swivelling front cover of the LV30 enclosure. The electronic equipment consists of two module housings encapsulated in sealing compound. The bottom housing contains the battery charging circuit, the loudspeaker and microphone amplifiers. The top housing accommodates the plug-in rechargeable NiCd battery pack.

This integrated battery on the one hand enables a high volume while consuming only an inferior amount of power from the system line, and, on the other hand, it enables the temporary emergency operation of the speaking station after shutdown of the supply voltage due to e.g. an increased methane content or a supply voltage failure.
(If the device is supplied through a power supply circuit of category I M 2, protection type EEx ib I or of category I M 2, protection type EEx ia I within a correspondingly approved intrinsically safe system, the user will be responsible for this power supply circuit to be shut down in the event of an explosive atmosphere (increased methane content), and thus for the DC connections (DC1, DC2) of the device to be de-energized. The circuits still kept operable, which are supplied with power through the internal battery of the device, conform to category I M 1, protection type EEx ia I.)

The two LV30 loudspeakers are integrated into the housing on the left and right side.

The buttons for intercommunication, control room alert and signalling as well as the integrated microphone are flush mounted. In addition, these talk, control room alert and signalling buttons are colour-marked (talk button = blue; control room alert button = yellow; signal button = red).
Through two PG16 cable entries (optionally: two 6-pole plug connectors, according to the design type socket / socket or socket / plug connector) the connecting cable is led into the interior of the enclosure and connected to the related terminals.

Function description

When used for instance in a L111 intercom system between the L11-H2 main station and the L11-E2 end unit, the speaking stations LV30 will be integrated into the connecting line. The LV30 features a built-in microphone which is activated when the talk button is pressed. The subsequently installed microphone amplifier amplifies the signals recorded via the microphone up to such an extent that afterwards it is possible to inject them at a nominal level of -6 dB into the WL (LF)-wire pair of the connecting line.

The microphone sensitivity can be varied by means of an internal potentiometer. In as-supplied condition, this potentiometer is set to a centre position.
All further LV30 speaking stations linked to the connecting line emit these signals through their built-in loudspeakers. In that case, the nominal level of the volume will be approx. 105 dB(A) at 1m distance.
An internal potentiometer allows to adjust the volume. In as-supplied condition, this potentiometer is set to max. volume.
In addition to the talk button, the speaking station LV30 is equipped with a signal button and a control room alert button. When the signal button is pressed, a signal tone of 1980 Hz (-6dB) will be emitted, when the control room alert button is pressed, a control room alert tone of 420 Hz (-6dB) is emitted onto the WL (LF)-wire pair. While the signal tone serves for signalling purposes, the control room alert tone can be used as a calling tone to call e.g. a WL200-switchboard by activating this button in a previously defined sequence.

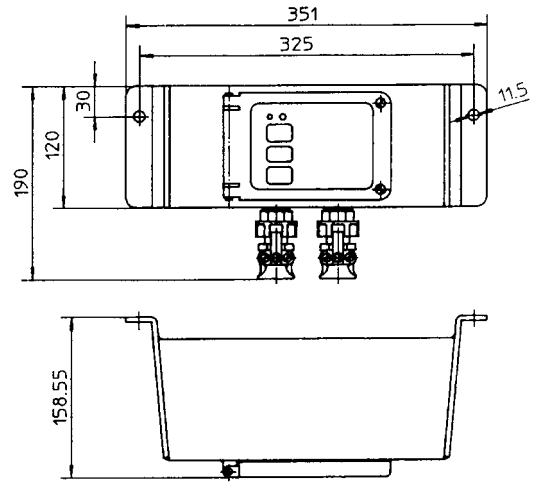
As a function check, the signal tone will also be shortly emitted (ca. 100ms) through the loudspeakers of the emitting station after the signal button (1980 Hz) has been pressed.
The output stage for activating the LV30 loudspeakers is controlled via a voice detector. This device features a transformer decoupled connection to the WL (LF)-wire pair of the connecting line.

In the case of AC levels with a value of > 60 mV on the WL (LF)-wire pair of the connecting line, the voice detector responds and activates the LV30 output amplifiers. With signal levels < 40 mV, the voice detector is deactivated and shuts down the output amplifier with an OFF delay (OFF delay ca. 1 s).

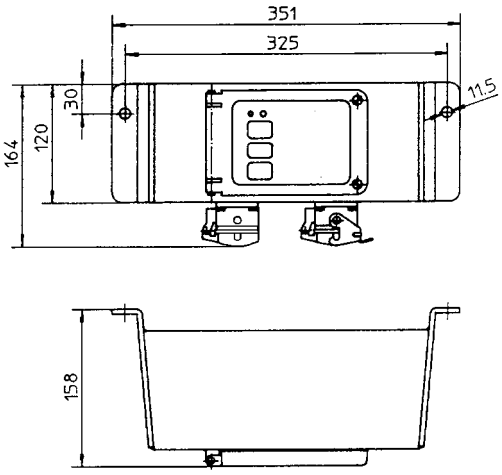
The battery of the speaking station is charged through an internal switching transformer with constant energy which is drawn from the supply voltage energizing the DC-input terminals (8 to 12V).
The front cover of the speaking station LV30 is equipped with a built-in visual DC-monitoring indicator (red LED). If there is a supply voltage on the DC-wires of the connecting line, the indicator light will be on (red LED).

Dimension drawing LV30

LV30 with cable entries



LV30 with plug connectors



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