Description of functions

General Information

The **VS 25/4 R** is the basic component for building a modular **3 fold multiplexed amplifier**.
By using the clock generator of the control component **SB 01**, the single amplifier components are controlled through a multiplexed process. Therefore, no mutual interference of the single light axes is possible. A maximum of **three plug-in ports for amplifier components EB 01 or EB 02** are available. These can be equipped depending on the application.

The possibility to connect a measurement instrument to each amplifier module enables optimum alignment of each light axis.

The amplifier modules **EB 02** are equipped with an **automatic calibration possibility** and a **warning signal output**. Through this, photoelectric sensors operated with this module are able to detect **minor shadowing** and to **compensate increasing contamination**. If the amplifier reaches the limit of its control range through **increasing soiling** a separate warning output issues an error message. This **warning output** is only erased, after having returned to optimum conditions and another impulse for automatic calibration.

Remarks

- The free plug-in ports for the amplifier modules EB 01 and EB 02 can be equipped according to each application.
- With amplifier modules EB 02, an automatic calibration for compensation of soiling, misalignment etc. is induced through an external polling pulse (connection terminals 36/50).
  If the limit of the control range should be reached during this process, a common warning output is activated and the LED corresponding to this module on the SB 01 activated.
- A measurement instrument can be connected to the terminals 32/33/34 and 46/47/48. Through this an optimum mechanical basic adjustment is possible.

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Description of functions

The control component SB01 includes a clock generator with a clock frequency of approx. 2 kHz. This pulse succession is assigned to the connected amplifier modules in multiplex process.
Through this, at a given time only one of the amplifiers is active and a mutual interference can not happen.
When connecting the operating voltage, an automatic self-calibration is performed for about 1 s on all amplifier modules EB 02. Through this, the transmitter current of these modules is adjusted to enable detection of objects with little shadowing with sufficient performance reserve. This adjustment can be cyclically repeated through an external PNP signal transmitter or a "positive" switching contact. During this process, a device internal pulse of 1 s duration is generated. The transmitter current is regulated accordingly if it is apparent that since the last automatic calibration, the effective signal on the receiver has become smaller. In case the limit of the control range should be reached during readjustment, the warning output is activated (PNP transistor and relay contact); in addition to that, the corresponding LED on the SB 01 is activated. To avoid unwanted switching processes during automatic calibration function, the switching outputs of the EB 02 modules are bridged.

Apart from this special automatic calibration function, the amplifier module EB 02 is a photoelectric sensor-alternating light amplifier with PNP transistor and relay output with light/dark switching for all gallium mini photoelectric sensors of the Leuze shipping program.

The amplifier module EB 01 is also an alternating light amplifier with PNP transistor and relay output, sensitivity adjustment, and light/dark switching.

Order guide

	Designation	Part No.
Amplifier	VS 25/4 R including SB 01	500 13009
Control component	SB 01	500 10635
Amplifier module 1	EB 01	500 10633
Amplifier module 2	EB 02	500 10634

The amplifier modules EB 01 and EB 02 have to be ordered separately.