

CARLO GAVAZZI
Automation Components



A Powerful Solution for Harsh Environments

- 3rd Generation Photoelectric Amplifier
- Diagnostics included
- Easy Alignment
- Safe Detection up to 50 m
- High Neighbour Immunity



The 3rd generation of Carlo Gavazzi's industry leading Photoelectric Sensor Amplifiers has been designed on the basis of customer demands as well as our own experience in harsh environments during the last twenty years. Our goal has been to make the best amplifier on the market which is easy to install and easy to service.

The amplifier is based on the latest microprocessor technology, which has made it possible to implement features such as – **Easy Alignment** – **Diagnostics** – **Neighbour Immunity** – **Automatic Distance Control** –and still keep the proven high immunity towards harsh environments.

Easy Alignment

Proper installation and aligning the sensors can be a time-consuming task, but necessary to ensure safe detection.

We have integrated an alignment control that allows you to optimize adjustment of the sensors by means of

- Visible alignment help
- Far distance alignment help
- optional Audio Alignment help.

Visible Alignment – When the amplifier is set to “Alignment Mode”, a yellow LED flashes slowly for weak alignment and emits light constantly for strong alignment.

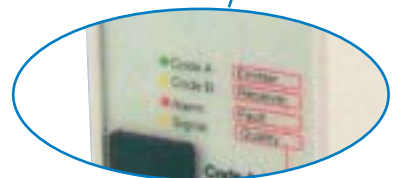
Far Distance Alignment – When the amplifier is out of sight from the sensors, a handheld multimeter with frequency function can be used to align the sensors – low frequency for weak alignment and high frequency for strong alignment.

Audio Alignment – As an option, we can offer a buzzer, which works as the Visible Alignment when alignment is performed by the use of sound and not light.

Diagnostics

Downtime on a machine is very costly, which is the reason for implementing diagnostic functions into the amplifier. If a fault occurs, a red LED flashes, and a bi-colour LED flashes yellow or green as notification of the fault:

- Yellow flashing LED shows either short-circuited or broken emitter sensor cables.
- Green flashing LED shows either short-circuited or broken receiver sensor cables.





Distance setup

Every application has its own unique requirements concerning setting up the correct sensing range of the system. Some require a small and some require a higher dirt reserve (excess gain). We have implemented two excess gain settings in the system - a low and high preset excess gain - thereby making setup easier:

Auto - Some customers like to let the amplifier control the distance, for those we have built in the auto setup mode.

Manual - Some customers like to control the settings themselves, for those we have kept the manual setup by the potentiometer.



Neighbour immunity

As machinery is gradually becoming more compact, and sensors therefore are mounted closer to each other, a need for high neighbour immunity has arisen.

We have implemented an emitter-coded amplifier option (code A or B) that allows two sets of sensors to be mounted close together without interfering with each other (crosstalk).



Mute function

In applications such as Industrial Automatic Doors, European and North American standards require a function for muting the emitter in order to test the sensor operation.

We have implemented this function to fulfil the requirements of these markets.



Sensors

The new amplifier is backward compatible in order to serve the many customers who have implemented our solutions in their applications. The amplifier uses our MOF series sensors, which are known for:

- High reliability
- Flexible distance
- High IP-ratings
- Robust design
- High EMC immunity and
- Largest program in optical angles, ± 2 , ± 5 and ± 8 degrees.

