DAPPRA DATASHEET

DSC-G220

External Safety Light Curtain Controller

High-performance external safety controller for Safety Light Curtain systems. AC110–220V input, **DC24V** output, **≤5 ms** response time, dual-channel safety architecture, and customized **1-to-2 / 1-to-3 / 1-to-4** multi-sensor configurations. **AC380V version available on request.**

DOCUMENT

TITLE	DSC-G220 Datasheet
DOC NO.	DSC-G220-DS-001
REVISION	Rev. 1.0
DATE	2021-01

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AT A GLANCE

AC110-220V	DC24V	≤5 ms	Relay
INPUT VOLTAGE	OUTPUT VOLTAGE	RESPONSE TIME	OUTPUT TYPE

01 · PRODUCT OVERVIEW

DSC-G220 Overview

High-performance external safety controller for Safety Light Curtain systems.

The DAPPRA DSC-G220 External Safety Light Curtain Controller is a high-performance safety interface designed to work with safety light curtains and related safety devices in industrial automation systems.

The DSC-G220 accepts AC110–220V input power and converts the incoming AC power into DC24V for the connected safety light curtain emitter and receiver.

With a response time of ≤5ms, the DSC-G220 is designed for fast detection and reliable safety control in industrial machinery.

The controller supports 1-to-2, 1-to-3 and 1-to-4 customized configurations, making it suitable for machines requiring multiple safety light curtain protection zones. An AC380V input version is also available on request.

CORE SPECIFICATIONS

Model	DSC-G220
Product Type	External Safety Light Curtain Controller
Input Voltage	AC110–220V
Power Frequency	50/60Hz
Power Conversion	AC to DC
DC Output	DC24V
Contact Capacity	AC250V, 5A
Response Time	≤5ms
Power Consumption	15W
Multi-Sensor Configuration	1-to-2 / 1-to-3 / 1-to-4 Customization
AC380V Version	Available on Request
Dimensions	82 × 205 × 240 mm

02 · KEY FEATURES

DSC-G220 Key Features

Engineered for fast, reliable safety control in industrial machinery.

FAST RESPONSE ≤5MS

The DSC-G220 provides a response time of ≤5ms, supporting rapid detection and safety control when the protected area is interrupted.

DUAL-CHANNEL SAFETY ARCHITECTURE

The controller uses a dual-channel safety architecture to provide redundant safety logic for reliable operation in machine safety applications.

AC110-220V INPUT

The standard controller is designed for AC110–220V input power, suitable for industrial electrical environments.

AC TO DC24V POWER CONVERSION

The internal power supply circuit converts the incoming AC power into DC24V, providing the required power for the connected safety light curtain emitter and receiver.

FLEXIBLE SAFETY DEVICE CONNECTION

Designed to work with safety light curtains and can also be integrated with safety-related devices such as emergency stop switches according to the machine safety system configuration.

DIAGNOSTIC LED INDICATORS

Clear LED status indicators provide convenient visual information for commissioning, troubleshooting and maintenance.

CONFIGURABLE SAFETY OUTPUT LOGIC

Supports safety control output logic for different machine layouts and safety protection requirements.

MULTI-SENSOR CUSTOMIZATION

Supports customized configurations for 1-to-2, 1-to-3 and 1-to-4, allowing one customized controller configuration to support multiple safety light curtain protection zones.

AC380V CUSTOMIZATION

An AC380V input version is available on request for industrial applications requiring a 380V power supply.

INDUSTRIAL-GRADE DESIGN

Designed for use in industrial automation equipment and machine safety applications.

03 · TECHNICAL PARAMETERS

DSC-G220 Technical Specifications

Confirmed electrical and mechanical parameters for the DAPPRA DSC-G220.

Model	DSC-G220
Product Type	External Safety Light Curtain Controller
Input Voltage	AC110–220V
Power Frequency	50/60Hz
Power Conversion	AC to DC
DC Output	DC24V

Contact Capacity	AC250V, 5A
Response Time	≤5ms
Power Consumption	15W
Installation	External
Multi-Sensor Configuration	1-to-2 / 1-to-3 / 1-to-4 Customization
AC380V Version	Available on Request
Dimensions	82 × 205 × 240 mm

DIMENSIONS

The DSC-G220 external controller has an overall dimension of 82 × 205 × 240 mm.

Please refer to the DSC-G220 CAD Drawing for detailed installation dimensions.

Width	82 mm
Depth	205 mm
Height	240 mm
Installation	External

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04 · POWER CONVERSION

AC110–220V to DC24V Power Conversion

The DSC-G220 integrates an internal power conversion circuit designed to convert industrial AC power into DC24V.

The internal power supply circuit converts the incoming AC power into DC24V for the connected safety light curtain system.

POWER FLOW

AC110-220V Input
↓
DSC-G220 Internal Power Supply Circuit
↓
DC24V Output
↓
Safety Light Curtain Emitter + Receiver

This configuration allows the controller to serve as an external power and safety control interface for the connected light curtain system.

POWER CONVERSION SUMMARY

STAGE	INPUT	OUTPUT
Mains Input	AC110–220V, 50/60Hz	—
Power Conversion	AC110–220V	DC24V
Sensor Supply	DC24V	Emitter + Receiver
Signal Output	Relay Contact	AC250V, 5A

05 · MULTI-SENSOR CONFIGURATION

Multi-Sensor Custom Configuration

The DSC-G220 can be customized according to different machine layouts and protection requirements.

1-TO-2

Two Safety Light Curtain Sets

A customized DSC-G220 configuration can support two safety light curtain sets for applications requiring two independent protection areas.

1-TO-3

Three Safety Light Curtain Sets

A customized configuration can support three safety light curtain sets for machines with multiple protection zones.

1-TO-4

Four Safety Light Curtain Sets

For larger machines or systems requiring multiple protection areas, the DSC-G220 can be customized for four safety light curtain sets.

CUSTOM CONFIGURATION

The required configuration should be confirmed with DAPPRA according to the actual safety light curtain system and machine wiring requirements.

06 · AC380V CUSTOMIZATION

AC380V Customization

An AC380V input version is available on request for industrial applications requiring a 380V power supply.

The standard DSC-G220 is designed for AC110–220V input.

For industrial equipment using a 380V power supply, an **AC380V customized version** is available on request.

Please confirm the required input voltage when requesting a customized DSC-G220 configuration.

INPUT VOLTAGE OPTIONS

VERSION	INPUT VOLTAGE	AVAILABILITY
Standard	AC110–220V	Standard
Custom	AC380V	Available on Request

07 · EXTERNAL DESIGN & SAFETY CONTROL

External Controller Design

Unlike a built-in controller, the DSC-G220 is installed externally from the safety light curtain.

The external configuration provides a dedicated controller enclosure and allows the controller to be positioned separately from the sensing components according to the machine structure.

This configuration is suitable for industrial equipment where the safety controller needs to be installed inside a control cabinet or at a dedicated external position.

SAFETY CONTROL

The DSC-G220 is designed as a safety interface for systems using safety light curtains and related safety devices.
When the safety light curtain detects an interruption in the protected area, the safety control system can respond according to the configured safety logic and machine control circuit.

FAST SAFETY RESPONSE

≤5ms response time for rapid detection and control.

REDUNDANT SAFETY LOGIC

Dual-channel safety architecture for reliable operation.

SAFETY DEVICE INTERFACE

Connect safety light curtains and related safety devices.

CLEAR STATUS INDICATION

Diagnostic LED indicators for commissioning and maintenance.

The actual machine safety function depends on the complete safety circuit, connected safety devices and machine control configuration.

08 · WIRING OVERVIEW

DSC-G220 Wiring Overview

The DSC-G220 is connected between the AC power supply, the safety light curtain emitter and receiver, and the machine safety control system.

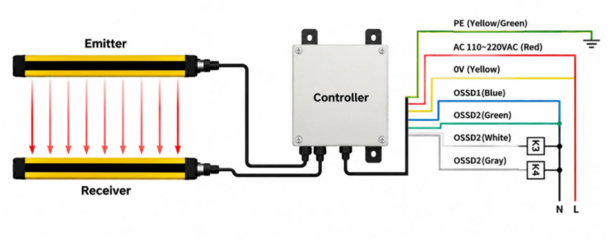

FIGURE 1 · DSC-G220 EXTERNAL CONTROLLER WIRING DIAGRAM

For the complete wiring diagram and terminal details, refer to the DSC-G220 Wiring Diagram available in the Downloads section.

09 · APPLICATIONS

DSC-G220 Industrial Applications

The DAPPRA DSC-G220 can be used in a wide range of industrial automation and machine safety applications.

MACHINE GUARDING

Suitable for press machines, cutting machines, shearing equipment and forming machinery.

AUTOMATED PRODUCTION LINES

Suitable for automated production lines, robotic work cells, assembly equipment and material handling systems.

PACKAGING & CONVEYOR SYSTEMS

Can be integrated into packaging machinery, conveyor systems, material handling equipment and personnel protection zones.

CNC & INDUSTRIAL MACHINERY

Applications may include CNC machines, textile machinery, assembly machinery and automated manufacturing equipment.

TYPICAL APPLICATION

```
Industrial AC Power
↓
DSC-G220 External Safety Controller
↓
DC24V
↓
Safety Light Curtain
↓
Emitter + Receiver
↓
Machine Safety Control System
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For multi-zone applications, customized configurations can be provided for 1-to-2, 1-to-3 or 1-to-4 safety light curtain systems.

10 · DOWNLOADS

Technical Documents

Download technical documents for the DAPPRA DSC-G220 External Safety Light Curtain Controller.

01 / 03

DSC-G220 Datasheet

Technical specifications, electrical characteristics and product information.

02 / 03

DSC-G220 CAD Drawing

Dimensional drawing for mechanical design, equipment integration and installation planning.

03 / 03

DSC-G220 Installation Guide

Installation and wiring information for integrating the DSC-G220 with the safety light curtain system.

Request Technical Documents

For the DSC-G220 datasheet, CAD drawing and installation guide, please contact DAPPRA through the channels below.

EMAIL
sales@dappra.com

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11 · FAQ & CONTACT

FAQ & Contact Information

Frequently asked questions and DAPPRA contact details.

What is the DAPPRA DSC-G220?

The DSC-G220 is an external safety light curtain controller designed for use with safety light curtains and related safety devices in industrial automation systems.

What is the input voltage?

The standard DSC-G220 supports AC110–220V input.

What is the DC output voltage?

The internal power conversion circuit converts the AC input into DC24V for the connected safety light curtain emitter and receiver.

What is the response time?

The DSC-G220 has a specified response time of ≤5ms.

What is the contact capacity?

The specified contact capacity is AC250V, 5A.

What is the power consumption?

The specified power consumption is 15W.

Can one DSC-G220 support multiple safety light curtains?

Yes. Customized configurations are available for 1-to-2, 1-to-3 and 1-to-4 applications.

Is an AC380V version available?

Yes. An AC380V customized version is available on request.

Is the DSC-G220 a built-in or external controller?

The DSC-G220 is an external controller. It is installed separately from the safety light curtain sensing components.

Where can the DSC-G220 be used?

It can be used in machine guarding, automated production lines, robotic work cells, packaging systems, conveyor systems, CNC machinery and other industrial automation applications requiring safety light curtain control.

What are the dimensions of the DSC-G220?

The DSC-G220 measures 82 × 205 × 240 mm.

Contact DAPPRA

For product selection, technical support, samples or quotation, please contact us through the channels below.

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WEBSITE
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PRODUCT CATEGORY
dappra.com/product-category/sensor/sensor-area/

Notice: Specifications, dimensions and product availability in this datasheet are subject to change without prior notice. Please refer to the latest DAPPRA official documentation or contact DAPPRA for the most current information. DSC-G220 Datasheet · Doc No. DSC-G220-DS-001 · Rev. 1.0 · 2021-01.