DAPPRA DATASHEET

DSC-E220

Built-in Controller for Area Sensor & Safety Light Curtain

Compact AC110–220V built-in controller for integrating Area Sensor and Safety Light Curtain systems into industrial automation equipment. Integrated AC to **DC24V** power conversion, **relay signal output**, **<20 ms** response time, and a compact **90 × 115 × 72 mm** housing for control cabinet installation.

DOCUMENT		CONTACT	
TITLE	DSC-E220 Datasheet	EMAIL	sales@dappra.com
DOC NO.	DSC-E220-DS-001	WHATSAPP	+62 878 5542 7784
REVISION	Rev. 1.0	WEB	www.dappra.com
DATE	2021-01		

CONTENTS

Datasheet Contents

DSC-E220 overview, key features, specifications, power conversion, compatible series, wiring, applications, downloads and FAQ.

01 · Product Overview 03
SERIES INTRODUCTION AND POSITIONING
02 · Key Features 04
INPUT, OUTPUT, COMPACT DESIGN
03 · Technical Specifications 05
ELECTRICAL AND MECHANICAL PARAMETERS
04 · Power Conversion 06
AC110-220V TO DC24V CONVERSION
05 · Compatible DAPPRA Series 07
SENSOR AND LIGHT CURTAIN COMPATIBILITY
06 · Wiring Overview 08
EMITTER AND RECEIVER WIRE CONNECTIONS
07 · Applications 09
INDUSTRIAL AUTOMATION APPLICATIONS
08 · Downloads 10
DATASHEET, INSTALLATION GUIDE, CAD
09 · FAQ & Contact 11
FAQ AND CONTACT INFORMATION

AT A GLANCE

AC110-220V	DC24V	<20 ms	Relay
INPUT VOLTAGE	OUTPUT VOLTAGE	RESPONSE TIME	OUTPUT TYPE

01 · PRODUCT OVERVIEW

DSC-E220 Overview

Compact built-in controller for industrial safety sensing systems.

The DAPPRA DSC-E220 Built-in Controller is a compact controller designed for integrating Area Sensor and Safety Light Curtain systems into industrial automation equipment.

The controller accepts AC110–220V input power and converts it to DC24V for the connected sensor emitter and receiver. With an integrated relay output, the DSC-E220 provides a simple solution for connecting DAPPRA safety sensing products with machine control systems.

Designed for built-in installation inside industrial control cabinets, the DSC-E220 helps simplify power supply and signal integration while reducing the need for additional external components.

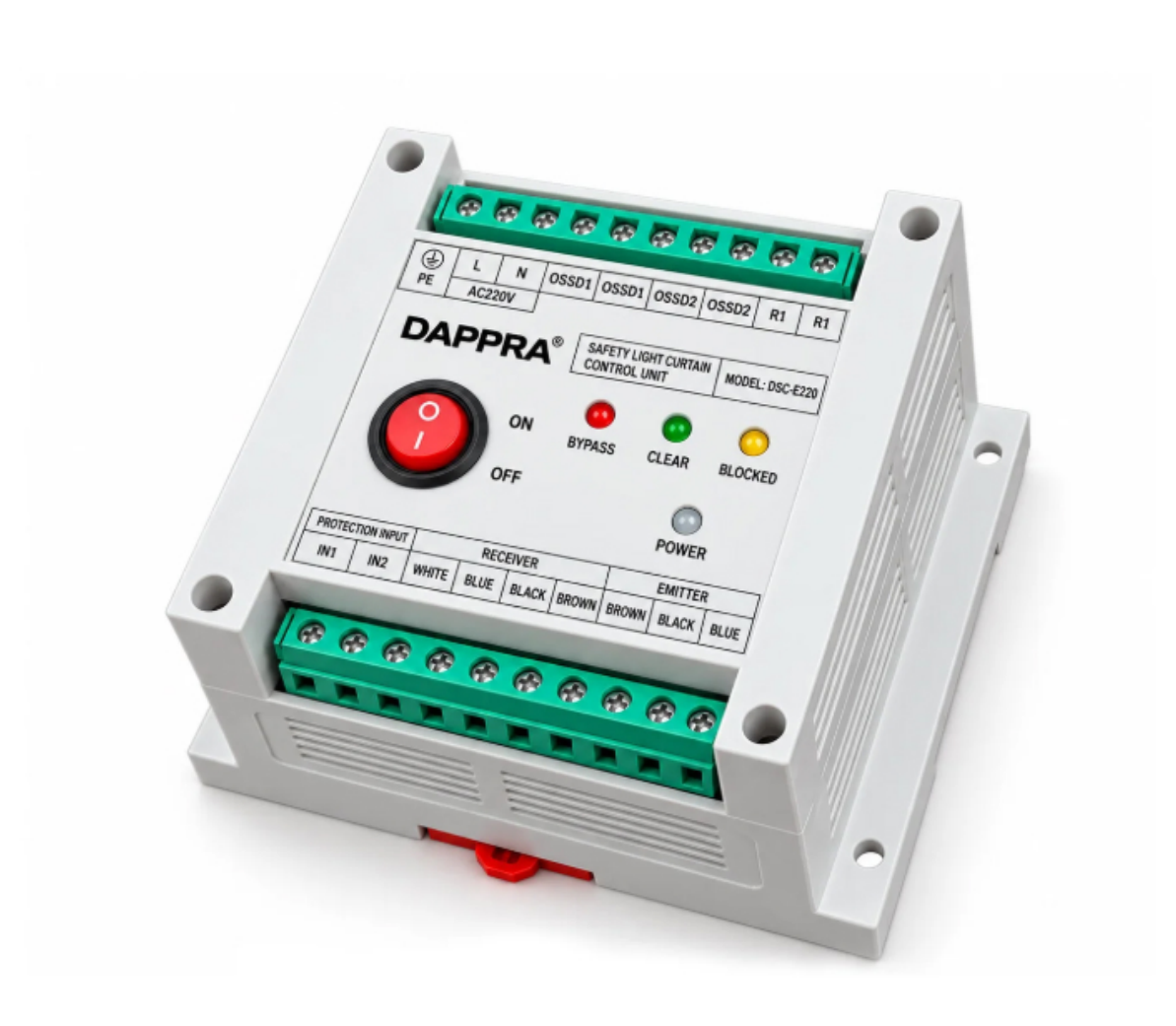

FIGURE 1 · DSC-E220 BUILT-IN CONTROLLER

CORE SPECIFICATIONS

Model	DSC-E220
Product Type	Built-in Controller
Input Voltage	AC110–220V
Input Frequency	50/60Hz
Output Voltage	DC24V
Output	Relay Signal
Maximum Contact Capacity	AC250V, 5A
Response Time	<20 ms (max.)
Maximum Power	<15 W (max.)
Dimensions	90 × 115 × 72 mm
Installation	Built-in / Cabinet Installation

02 · KEY FEATURES

DSC-E220 Key Features

Engineered for compact integration of Area Sensor and Safety Light Curtain systems.

AC110-220V INPUT POWER
The DSC-E220 accepts AC110–220V input power at 50/60Hz, covering common industrial mains voltages.

BUILT-IN AC TO DC24V POWER CONVERSION
The controller converts AC input to DC24V output, providing the standard supply voltage for connected sensor emitters and receivers.

DESIGNED FOR AREA SENSOR & SAFETY LIGHT CURTAIN
The DSC-E220 is purpose-designed for DAPPRA Area Sensor and Safety Light Curtain systems.

INTEGRATED RELAY SIGNAL OUTPUT
The integrated relay output with AC250V, 5A contact capacity allows direct interface with machine control systems.

COMPACT 90 × 115 × 72 MM HOUSING
The compact housing is designed for built-in installation inside industrial control cabinets.

BUILT-IN / CONTROL CABINET INSTALLATION
Designed for built-in installation, simplifying wiring and reducing external components.

SUITABLE FOR INDUSTRIAL AUTOMATION EQUIPMENT
Ideal for integrating safety sensing systems into automated machinery and production lines.

COMPATIBLE WITH MULTIPLE DAPPRA SERIES
Works with DPR, DPB, DPC, DPL, DPF, DRM and DRS series Area Sensor and Safety Light Curtain products.

03 · TECHNICAL PARAMETERS

DSC-E220 Technical Specifications

Confirmed electrical and mechanical parameters for the DAPPRA DSC-E220.

Model	DSC-E220
Product Type	Built-in Controller
Input Voltage	AC110–220V
Input Frequency	50/60Hz
Output Voltage	DC24V
Maximum Contact Capacity	AC250V, 5A
Response Time	<20 ms (max.)
Maximum Power	<15 W (max.)
Output	Relay Signal
Installation	Built-in / Cabinet Installation
Dimensions	90 × 115 × 72 mm

DIMENSIONS

With dimensions of 90 × 115 × 72 mm, the DSC-E220 is designed for installation inside industrial control cabinets where space and wiring organization are important.

Its integrated power conversion and relay output combine essential controller functions into a single compact unit.

Width	90 mm
Height	115 mm
Depth	72 mm
Installation	Built-in / Cabinet

04 · POWER CONVERSION

AC110–220V to DC24V Power Conversion

The DSC-E220 integrates a power conversion module inside the controller.

The AC110–220V input is converted to DC24V, providing power for the connected Area Sensor or Safety Light Curtain emitter and receiver.

BASIC CONNECTION

AC110-220V → DSC-E220 → DC24V → Emitter + Receiver

The integrated relay output provides the corresponding signal interface for connection with the machine control 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 · COMPATIBLE SERIES

Compatible DAPPRA Series

The DSC-E220 is designed to work with DAPPRA's range of industrial sensing and safety products.

SERIES	PRODUCT TYPE
DPR Series	General-Purpose Safety Light Curtain
DPB Series	Front Ultra-Thin Safety Light Curtain
DPC Series	Side Ultra-Thin Safety Light Curtain
DPL Series	Multi-Pitch Safety Light Curtain
DPF Series	Press Machine Safety Light Curtain
DRM Series	Relay Output Safety Light Curtain
DRS Series	Diffuse Reflection Area Sensor

The standardized DC24V power supply and sensor connection design allows the DSC-E220 to be integrated with multiple DAPPRA Area Sensor and Safety Light Curtain configurations.

06 · WIRING OVERVIEW

DSC-E220 Wiring Overview

The DSC-E220 uses separate connections for the sensor emitter and receiver.

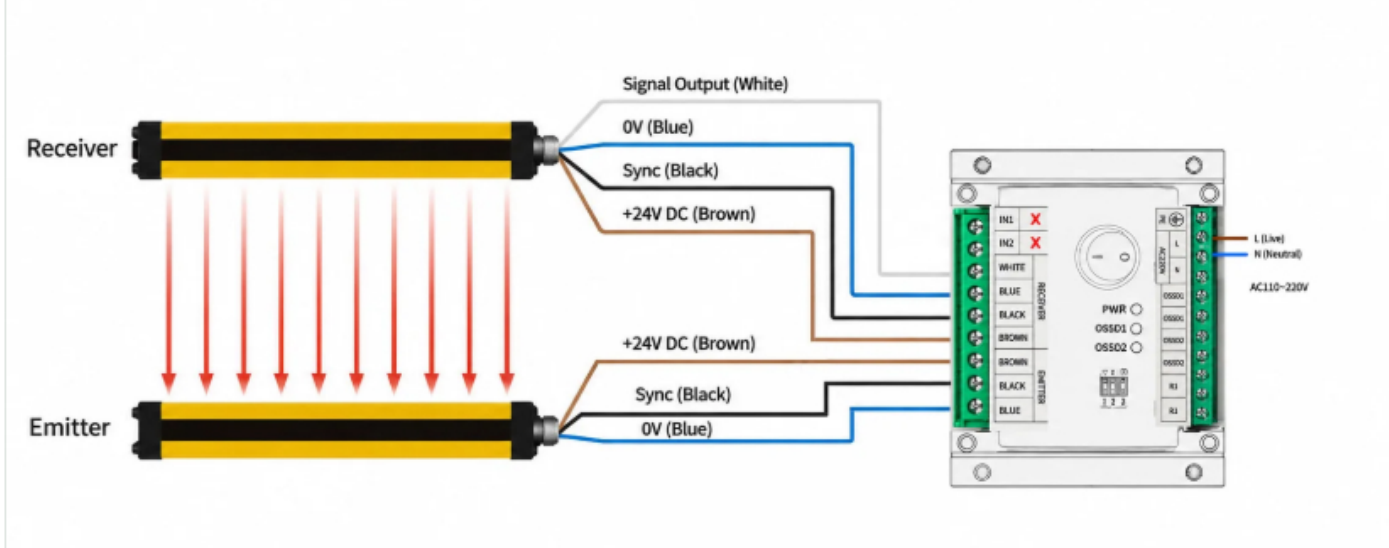

FIGURE 2 · DSC-E220 WIRING DIAGRAM FOR SAFETY LIGHT CURTAIN & AREA SENSOR

RECEIVER

White → Blue → Black → Brown

WIRE	COLOR	FUNCTION
WH	White	Signal Output
BU	Blue	0V
BK	Black	Synchronization Signal
BN	Brown	+24V DC

EMITTER

Brown → Black → Blue

WIRE	COLOR	FUNCTION
BN	Brown	+24V DC
BK	Black	Synchronization Signal
BU	Blue	0V

For the complete wiring diagram and terminal details, refer to the DSC-E220 Installation Guide.

07 · APPLICATIONS

DSC-E220 Industrial Applications

The DSC-E220 is suitable for integrating Area Sensor and Safety Light Curtain systems into industrial automation equipment.

INDUSTRIAL AUTOMATION MACHINERY
Integrating safety sensing systems into automated production equipment.

MACHINE CONTROL CABINETS
Built-in installation inside industrial control cabinets.

PRODUCTION LINES
Safety monitoring and personnel protection on automated production lines.

CONVEYOR SYSTEMS
Object detection and area guarding on conveyor equipment.

PACKAGING MACHINERY
Safety protection for packaging and wrapping equipment.

PRESS AND FORMING EQUIPMENT
Safety light curtain integration for press machines and forming equipment.

MATERIAL HANDLING EQUIPMENT
Detection and protection in material handling systems.

AUTOMATED MACHINERY
General integration of DAPPRA Area Sensor and Safety Light Curtain systems.

08 · DOWNLOADS

Technical Documents

Download technical documents for the DAPPRA DSC-E220 Built-in Controller, including datasheet, installation guide and CAD drawing.

01 / 03
DSC-E220 Datasheet
Technical specifications and product information.

02 / 03
Installation Guide
Detailed wiring, connection and installation instructions.

03 / 03
CAD Drawing
Dimensional drawing for equipment and control cabinet design.

Request Technical Documents

For the DSC-E220 datasheet, installation guide and CAD drawing, please contact DAPPRA through the channels below.

EMAIL	WHATSAPP
sales@dappra.com	+62 878 5542 7784

09 · FAQ & CONTACT

FAQ & Contact Information

Frequently asked questions and DAPPRA contact details.

What is the DAPPRA DSC-E220?
The DAPPRA DSC-E220 is a built-in controller for Area Sensor and Safety Light Curtain systems. It accepts AC110–220V input power and converts it to DC24V for the connected sensor emitter and receiver, with an integrated relay output for connecting to machine control systems.

What input voltage does the DSC-E220 require?
The DSC-E220 accepts AC110–220V input power at 50/60Hz.

What is the output voltage of the DSC-E220?
The DSC-E220 provides DC24V output, the standard supply voltage for DAPPRA Area Sensor and Safety Light Curtain emitters and receivers.

What type of output does the DSC-E220 provide?
The DSC-E220 provides an integrated relay output with a maximum contact capacity of AC250V, 5A, allowing direct interface with machine control systems.

Which DAPPRA series are compatible with the DSC-E220?
The DSC-E220 is designed to work with DAPPRA's range of industrial sensing and safety products, including DPR, DPB, DPC, DPL, DPF, DRM and DRS series.

What are the dimensions of the DSC-E220?
The DSC-E220 measures 90 × 115 × 72 mm, making it suitable for built-in installation inside industrial control cabinets.

What is the response time of the DSC-E220?
The maximum response time of the DSC-E220 is less than 20 ms, providing fast signal handling for industrial automation and machine safety applications.

What is the maximum power consumption of the DSC-E220?
The maximum power consumption of the DSC-E220 is less than 15 W.

How is the DSC-E220 wired to the sensor emitter and receiver?
The DSC-E220 uses separate connections for the sensor emitter and receiver. Receiver: White (Signal Output), Blue (0V), Black (Synchronization Signal), Brown (+24V DC). Emitter: Brown (+24V DC), Black (Synchronization Signal), Blue (0V).

What applications is the DSC-E220 suitable for?
The DSC-E220 is suitable for integrating Area Sensor and Safety Light Curtain systems into industrial automation machinery, machine control cabinets, production lines, conveyor systems, packaging machinery, press and forming equipment, material handling equipment and automated machinery.

Can the DSC-E220 be installed inside a control cabinet?
Yes. The DSC-E220 is designed for built-in / cabinet installation. Its compact 90 × 115 × 72 mm housing and integrated power conversion and relay output help simplify wiring and reduce the need for additional external components.

Where can I download DSC-E220 technical documents?
Technical documents are available through DAPPRA: DSC-E220 Datasheet, DSC-E220 Installation Guide, and DSC-E220 CAD Drawing. Please contact DAPPRA for the latest versions.

Contact DAPPRA

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

EMAIL	WHATSAPP
sales@dappra.com	+62 878 5542 7784
WEBSITE	**PRODUCT CATEGORY**
www.dappra.com	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-E220 Datasheet · Doc No. DSC-E220-DS-001 · Rev. 1.0 · 2021-01.