

EGM Series

Encoder

— Product Selection Guide



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CONTENTS

▸ PRODUCT CATEGORY P01

- EGM Series
- EGU Series

▸ APPLICATIONS P07

▸ COMPANY PROFILE P09

EGM Series Photoelectric Sensor



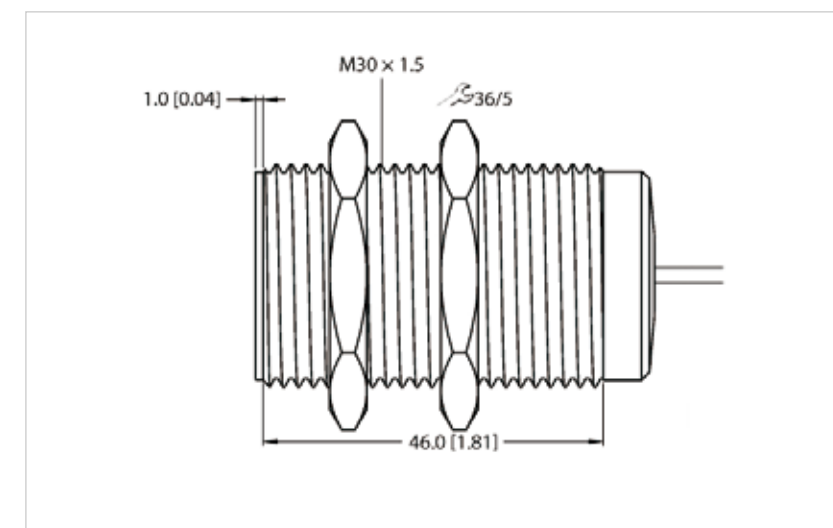
— Product Introduction

ELEsenson EGM photoelectric sensor is an intelligent non-contact inductive switch integrating infrared reception and control. It features anti-sunlight interference function, with a sensing distance of up to 500cm even under direct sunlight, and is suitable for both indoor and outdoor environments. The sensor utilizes the principle of infrared diffuse reflection from objects. When a person or object enters the sensing area directly in front of the sensor, it immediately enters the sensing state and controls the output signal. When the person or object leaves the sensing range, the sensor immediately recognizes and stops sensing, releasing the output signal to achieve intelligent control (reverse output can also be customized).

— Features

- **Intelligent Non-contact Inductive Switch**
Integrates infrared reception and control functions.
- **Anti-sunlight Interference**
Maintains stable sensing performance even under direct sunlight.
- **Long Sensing Distance**
Sensing distance up to 500cm under sunlight.
- **Instant Sensing & Control**
When a person or object enters the sensing area directly in front, the sensor immediately enters the sensing state and controls the output signal. When the person or object leaves the sensing range, it immediately recognizes and stops sensing, releasing the output signal.
- **Intelligent Control**
Achieves intelligent control (reverse output can also be customized).
- **Wide Application Range**
Suitable for various indoor and outdoor environments.

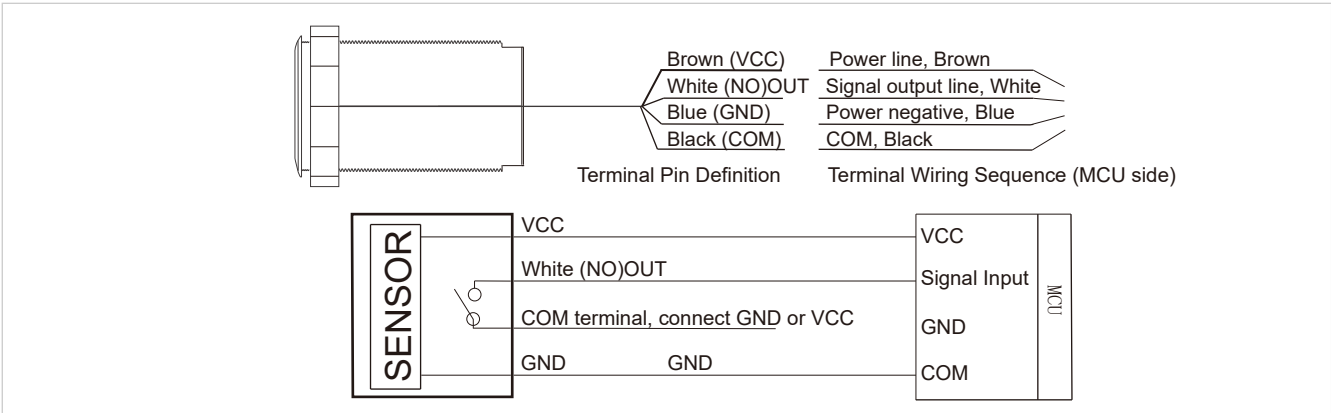
— Dimension Drawing



Specifications

Item	Specifications		
Operating Voltage	DC 3.3 V~35V		
Sensing Distance	Indoor: 5cm~500cm	Outdoor: 5cm~500cm	Direct sunlight: 5cm~300cm
Sensing Accuracy	Indoor: ±15cm	Outdoor: ±20cm	Direct sunlight: ±40cm
Response Time	≤500ms		
Sensing Angle	30-40° cone angle		
Sensing Method	Active		
Static Current	<4.0mA		
Load Current	50~200mA		
Operating Temperature	-20~85℃℃		
Storage Temperature	-20~85℃℃		
Cable Length	2 m (±10mm) (customizable for bulk orders)		
Material	Housing: Aviation aluminum		
Waterproof Performance	Up to IP67		
Certification	CE		

Wiring Diagram



EGU Series



Product Introduction

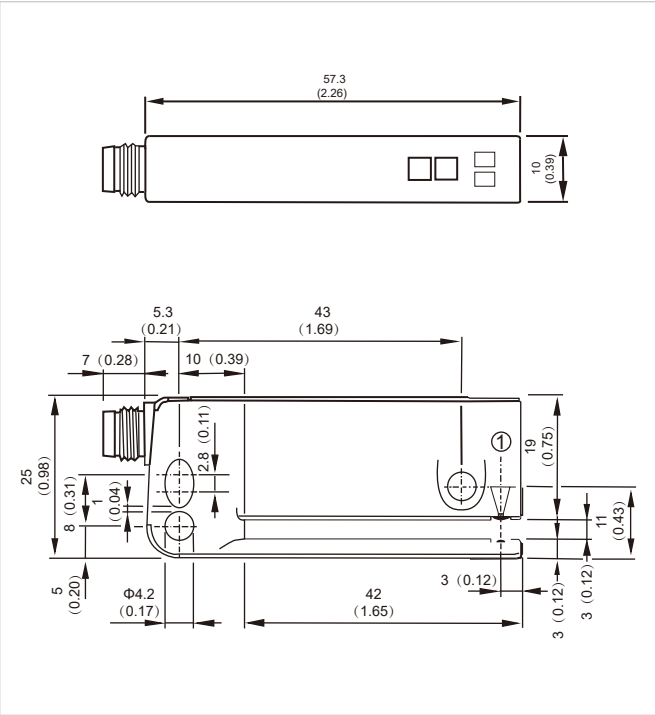
ELEsenson EGU infrared label detection sensor is based on a unique optical detection principle. It integrates a high-power infrared emitting tube and a high-sensitivity receiving tube inside. The emitting tube continuously emits invisible infrared light beams, forming a stable detection light curtain.

When a label enters the sensor's detection area, the label material absorbs, reflects or scatters the infrared light, causing changes in the infrared intensity received by the receiving tube. The sensor's built-in intelligent signal processing circuit rapidly captures and analyzes these changes, converting them into precise electrical signal outputs. This enables fast and accurate label detection — whether stationary or high-speed moving labels cannot escape its "sharp eyes." It can be widely applied in logistics & warehousing, food & beverage, electronics manufacturing, pharmaceutical and other industries.

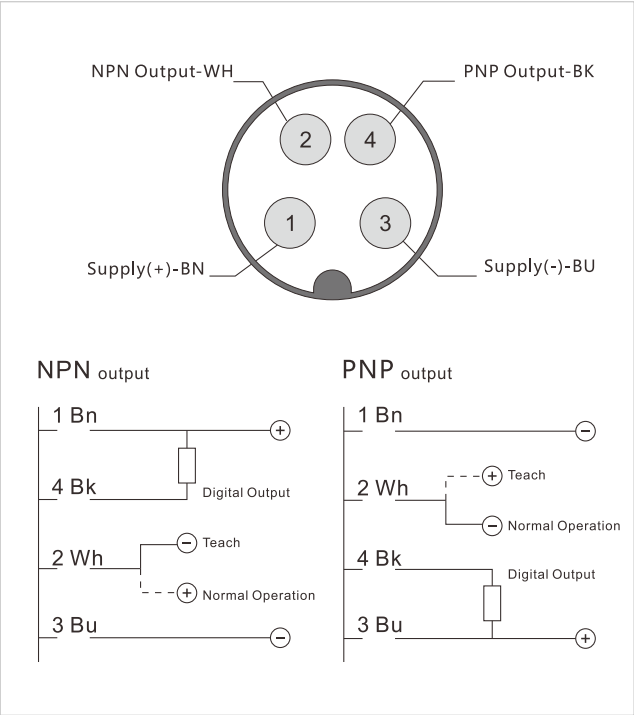
— Features

- **High Detection Accuracy**
Capable of accurately identifying tiny labels and extremely fine gaps between labels, with detection accuracy up to $\pm 0.1\text{mm}$. Ensures stable and reliable operation even in complex production environments, providing high-precision data feedback for production processes and effectively reducing defect rates.
- **Fast Response Speed**
Features nanosecond-level response speed, easily handling high-speed label detection requirements of up to 1000 times/second. Even when labels pass through the detection area at high speed, it can instantly capture and feedback signals, greatly improving production efficiency and meeting the stringent requirements of modern high-speed production lines.
- **Strong Adaptability**
Adapts to labels of various materials, such as paper, plastic, metal foil, etc., as well as different background environments. Whether under strong light, weak light or complex industrial environments, it can stably detect without being affected by external light and electromagnetic interference, ensuring accurate and reliable detection results.
- **Non-contact Detection**
Adopts non-contact detection method, avoiding wear or damage caused by direct contact with labels, extending the service life of labels and equipment, reducing maintenance costs, and also improving the stability and reliability of the detection process.

— Dimension Drawing



— Wiring Diagram



— Specifications

Item	Specifications
Working Principle	Optical principle
Dimensions (W×H×D)	10mm × 25mm × 64.3mm
Slot Width	3MM
Housing Shape (Beam Outlet)	42 MM
Fork Depth	Fork shape
Label Detection	Yes
Minimum Detectable Object (MDO)	Gap between labels / label size: 2mm (depends on label thickness)
Light Source	LED, infrared
Switching Function	Light-on / Dark-on switchable via button
Setting	Plus/Minus buttons
Teach-in Function Program	2 teach-in contacts, dynamic teach-in function program
Digital Output	NPN/PNP
Switching Frequency	10 kHz (at 1:1 light/dark ratio)
Response Time	50ms (signal transmission time, with resistive load)
Digital Output (Voltage)	PNP: High level = UV-≤2V, Low level ≈ 0V
Switching Type	Light-on / Dark-on switchable
Connection Type	Connector, M8, 4-pin / Cable

— APPLICATION FIELDS



Industrial Automation



Security Monitoring



Transportation



Public Facilities

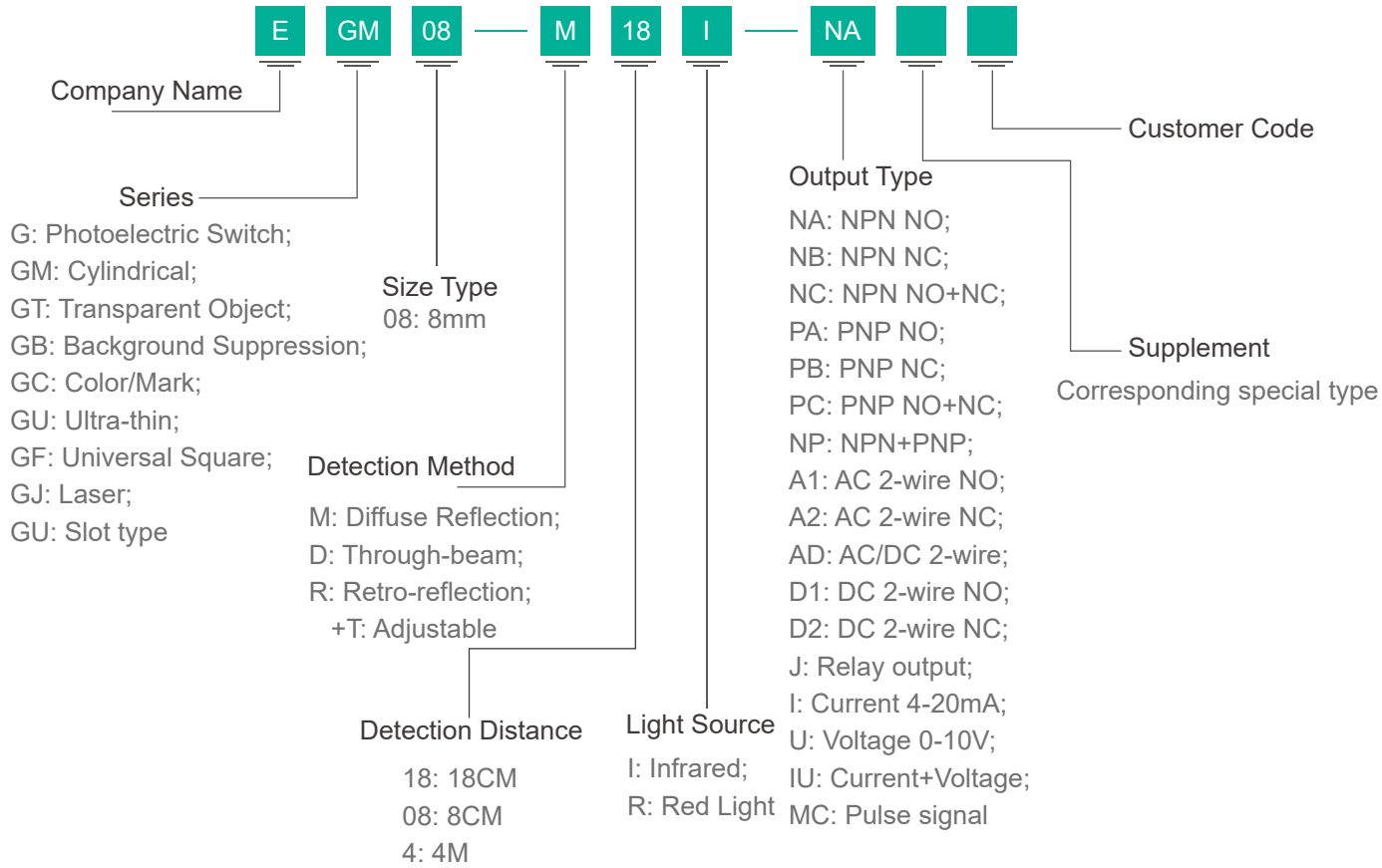


Smart Home



Medical Equipment

— Product Model Coding Rule



COMPANY PROFILE



ELEsenson focuses on R&D, manufacturing and sales of sensors. We have a high-caliber, innovative technical team. Pursuing continuous technical improvement, we deliver high-performance, reliable sensor products for customers.

Our broad product portfolio covers multiple industries including industrial automation, smart home and automotive electronics. Our products are well-received for precise measurement, stable performance and outstanding durability.

During production, strict quality-control procedures guarantee premium quality for every unit leaving our factory. We maintain close cooperation with customers, deeply understanding requirements and delivering customized solutions for special-scenario demands.

ELEsenson regards innovation as core driving force. Continuous investment in R&D and product upgrades. With professional teams, premium products and thoughtful service, Zhejiang ELEsenson Sensors has built solid reputation in the industry, contributing technical strength to the advancement of multiple sectors.

10+	300+	15+	20+
Product Series	Product Types	Honors & Certifications	Market Layout Regions

■ Corporate Culture

— Vision

Uphold conviction, reach new heights of sensor-technology development.
Build a globally-leading sensor enterprise and lead industry progress through technological innovation.

— Mission

Drive development through innovation, win trust by quality.
Supply precise,stable,durable and reliable sensor products plus customized solutions for industrial automation, rail transit, automotive electronics and other industries.

— Core Values

Customer-Oriented, Integrity-Based, Innovation-Driven, Quality-First.
We are customer-demand oriented, operate with integrity, pursue innovation and strive for superior product & service quality.

CORE ADVANTAGES

- 

Professional & Efficient Team

Experienced and skilled personnel providing high-quality service & technical support.
- 

Strong R&D Capability

Advanced R&D equipment & specialist team to develop innovative, competitive products.
- 

Complete After-Sales Support System

Timely response to customer requests, comprehensive technical support & solutions to maximize customer satisfaction.



HONORS AND QUALIFICATIONS



Brief Product Catalog | English Version | Issue 1, 2025

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