

### Main Features

- ▶ 8 inputs and 8 combined I/O channels, available as input, output or in mixed I/O mode
- ▶ Support for redundant output configurations without back-powering
- ▶ Configuration of I/O channels as PWM output, frequency or event counter input
- ▶ Support for most common real-time Ethernet protocols including EtherNet/IP – CIP, IPTCom and TRDP
- ▶ duagon web server for remote firmware updates
- ▶ -40 to +70°C operating temperature

## Overview

The DXIO0808E is a remote I/O with 8 digital inputs and 8 combined input/outputs that is connected by an Ethernet interface. The combined inputs and outputs are software configured and may be used as I/O read-back. All I/O channels can be configured as PWM (output) or frequency or event counter (input). They are galvanically isolated from the internal logic and the Ethernet interface.

Additionally, the I/O module offers 8 CODE inputs, used to generate an index, which enables geographical addressing by the application.

The integrated Ethernet controllers, designed by duagon, feature hardware prioritisation and very low jitter. The Ethernet interface supports various real-time communication stacks, e.g. EtherNet/IP – CIP, IPTCom or TRDP. The real-time protocols are built upon duagon's proprietary UDP stack, enabling process data prioritization to decrease the message latency.

Furthermore, the internal logic is prepared for the future "Ethernet on traction vehicles" standard IEC 61375-3-4. The Ethernet interface is compliant to IEEE 802.3 and

support auto negotiation, auto MDI-X as well as half and full duplex.

All duagon Ethernet products offer a web front-end that can be used for diagnostic purposes and to upload and execute firmware updates.

The applications running on the DXIO0808E are generally developed by customers. duagon provides a build environment including the development library required to implement any customer-specific application. The development library is accompanied by a simple demo application. On request duagon offers the application development as an engineering service. Please contact duagon for more information about the possibilities.

The DXIO0808E can be powered directly from battery, supporting voltage ranges of 24 Vdc to 110 Vdc. It is designed for harsh rolling stock environment and complies with the EN 50155 standard by:

- -40 to +70°C operating temperature
- coating against humidity
- enhanced EMI and vibration robustness

## Technical Specification

### PHYSICAL DATA

Fast Ethernet connectors	M12, female, D-coded
I/O connector	2x WAGO X-COM series connectors (15-pole)

Maintenance port connector	Header, 10-pin
Visual indicators (LEDs)	Ethernet: link, activity I/O channel: status
Power supply voltage range	24 Vdc to 110 Vdc

<b>Power consumption</b>	<7 W
<b>Overall dimensions</b>	127 × 100 × 51 mm (without grounding bolt)
<b>Weight</b>	445 g
<b>Operating temperature</b>	-40 to +70°C, according to EN 50155; Class TX
<b>Storage temperature</b>	-40°C to +70°C
<b>Relative humidity</b>	yearly average ≤75%, 95% for 30 consecutive days max. (EN 50155)
<b>Useful life</b>	20 years, according to EN 50155 Class L4

## COMPLIANCE

<b>EN 50155</b>	Railway Applications (Electronic equipment used on rolling stock)
<b>EN 50121-3-2</b>	Electromagnetic compatibility rolling stock apparatus
<b>EN 61373</b>	Shock & Vibration
<b>EN 45545-2</b>	Fire protection, HL3
<b>IEC 61375-3-4</b>	Ethernet Consist Network (ECN)
<b>RoHS</b>	Restriction of the Use of Certain Hazardous Substances
<b>REACH</b>	Registration, Evaluation, Authorisation and Restriction of Chemicals

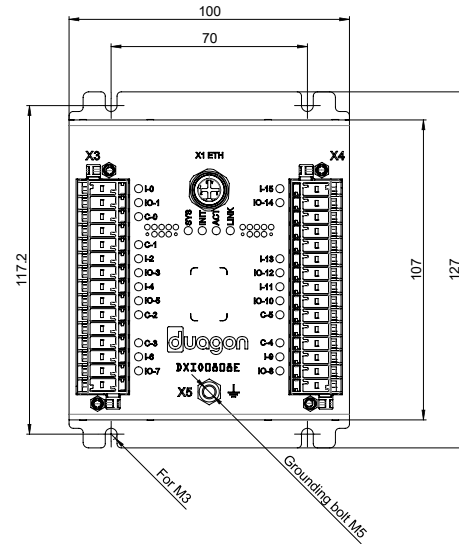
## IEEE STANDARDS

<b>IEEE 802.3u</b>	Fast Ethernet (FE)
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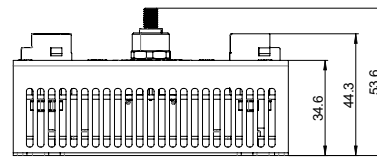
<b>IEEE 802.1X</b>	Port-based network access control
<b>IEEE 802.3ad</b>	Link Aggregation Control Protocol (LACP)

## Dimensions

Dimensions only for reference



Top view



Side view

(max. height with grounding bolt)

## Ordering Information

Product: **DXIO0808E** - **I** - **LV** - **G**      Example: **DXIO0808E-I-LV-G<sup>1</sup>**

Ethernet Protocols		Power Supply		Grounding Bolt	
TCP/IP, UDP Sockets	<b>I</b>	Nominal Battery Voltage 24V, 36V	<b>LV</b>	With	<b>G</b>
IPTCom	<b>B</b>	Nominal Battery Voltage 48V, 72V, 96V, 110V	<b>HV</b>	Without	
EtherNet/IP-CIP	<b>C</b>				
PROFINET*	<b>R</b>				
TRDP	<b>TR</b>				

<sup>1</sup> default ordering options

\* contact duagon for availability and lead times

duagon AG  
 Riedstrasse 12  
 CH-8953 Dietikon  
 Phone +41 44 743 73 00  
 Fax +41 44 743 73 15

www.duagon.com

