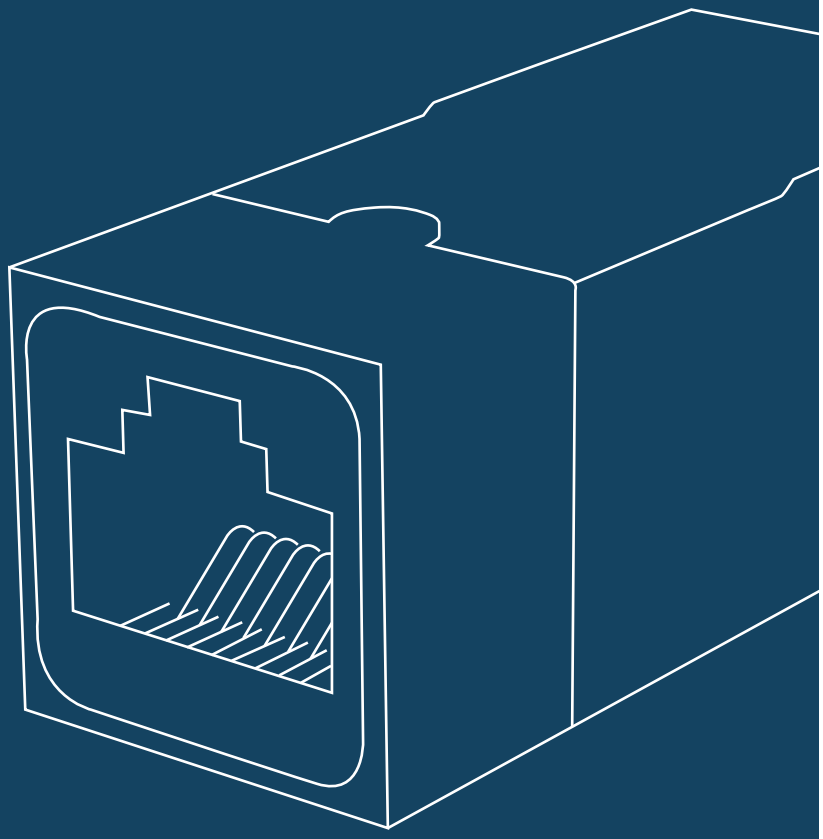
Product Catalog



Enhanced safety in the power grid

emo systems

emo

EMO Systems GmbH

We develop and manufacture our products for you directly in the heart of Berlin. Our certified suppliers come from the region, reinforcing our location and promoting sustainability. This results in a very short supply chain, which is environmentally friendly, saves resources, and allows us to respond quickly to your needs.

We are committed to establishing long-term and sustainable relationships with our customers. We focus upon maintaining high-quality standards, supported by a dynamic and living quality management system; providing unconditional reliability; prompt responsiveness; and, most importantly, providing flexible working conditions where our employees can flourish.

In the pursuit of independence and crisis resilience, we have financed the company solely with our own resources since its inception. We invest heavily in the development of the company, particularly in improving and creating new products, as well as technological advancements in our field of operation.

Contents

Network Isolators

Network Isolators

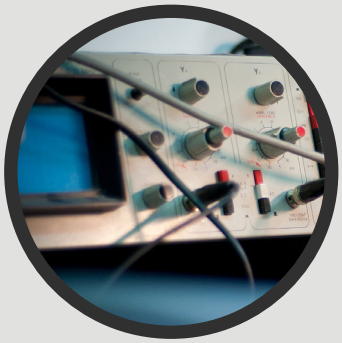
100% Quality - every single product undergoes our quality control.

Our key product lines include Network Isolators, where we offer the largest variety of options worldwide. Additionally, we have developed technologies that enable a performance of network isolators far beyond that of competitive products. Our Network Isolators are designed and manufactured in Germany according to the specifications of IEC 60601-1 and are listed as a “Recognized Component” by UL (Underwriters Laboratories).

Network Isolators developed by EMO Systems all serve as galvanic isolation devices. They are used to protect individuals and devices from hazardous voltages originating from network peripherals. Primarily utilized in the field of medical technology these isolators are distributed globally.

Application areas

Medical electrical devices that are only permitted to connect to the local medical network if the existing signal interfaces feature a standard-compliant isolation device. Hence, the frequently used term “medical network isolator”.



Sensitive measurement and monitoring devices in electrical test fields, which are connected to a control center via Ethernet interfaces and need to be protected against disruptive voltages and potential differences.

Computer systems that are interconnected via Ethernet cabling over longer distances in a galvanic manner and where potential equalization currents are to be prevented.

Audio applications, to reduce the transmission of low-frequency alternating currents (mains hum) over the network connection.

Data lines in rail vehicles that need to be protected against equalization currents to prevent disruption or interruption of the connection, fire outbreaks and endangerment of passengers and staff.

High performance

EN-66e

EN-66K

EN-66S

EN-76HE

EN-76HE-K

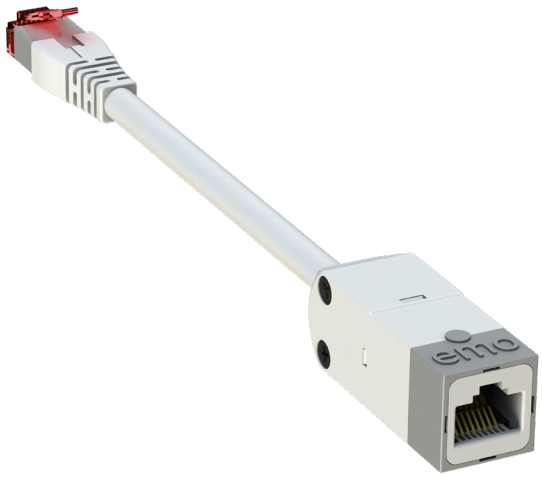
EN-76HE-S

EN-76VE-K

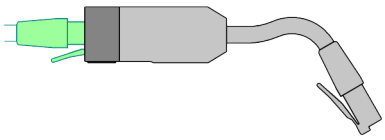
EN-76VE-S

High performance

EN-66e



The EMOSAFE EN-66e interrupts all electrically conductive connections (data lines and shield) between devices connected to each other via copper-based Ethernet cabling. It prevents potential equalization currents and protects connected devices and their users from transient overvoltages. This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. The construction with socket and cable stub provides the physical functionality of an extension cable. Low-frequency signal components are heavily damped, ensuring that connected devices are protected from ground loops.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, allowing for a total cable distance of 100 meters
- Achieves ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet performance in the channel link

TYPE	CONNECTION
standalone	RJ45 jack, straight
high performance	RJ45 plug, cable

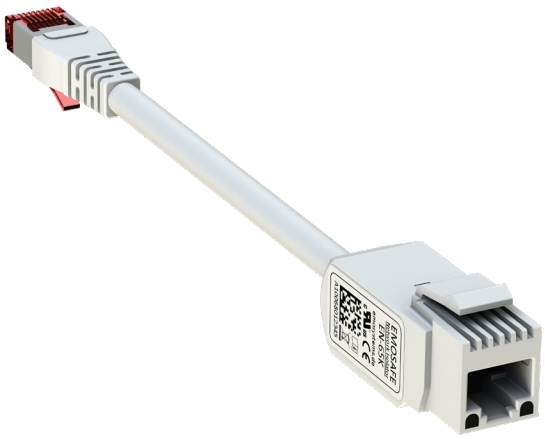
AC Dielectric strength @ 50 Hz	5000 V
DC Dielectric strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

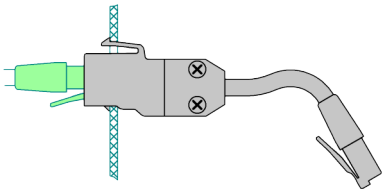
Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~26 g

High performance

EN-66K



The EMOSAFE EN-66K interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. As a Keystone module, it can be used in any outlet panel, patch panel, or housing cutout that complies with Keystone specifications. The construction with socket and cable stub provides the physical functionality of an extension cable. Low-frequency signal components are strongly attenuated, providing protection against ground loops for connected devices.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, enabling a total cable distance of 100 m
- ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet performance achievable in the channel link

EN-66K

TYPE	CONNECTION
Keystone	RJ45 jack, straight
high performance	RJ45 plug, cable

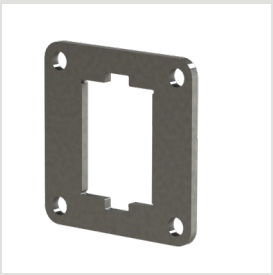
AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~26 g

Accessories

Z-5-KMB

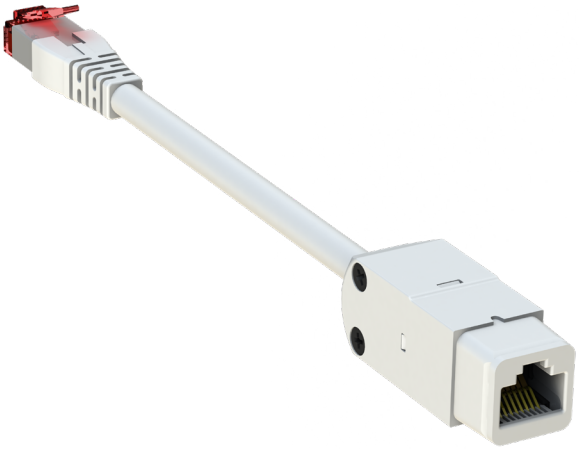


Z-6-KMB

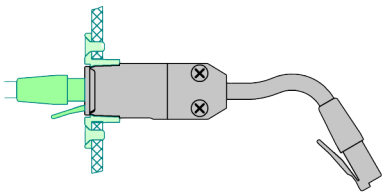
see page 90

High performance

EN-66S



The EMOSAFE EN-66S interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. The construction with socket and cable stub provides the physical functionality of an extension cable. Low-frequency signal components are strongly attenuated, providing protection against ground loops for connected devices.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, enabling a total cable distance of 100 m
- ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet performance achievable in the channel link

EN-66S

TYPE	CONNECTION
SnapFit	RJ45 jack, straight
high performance	RJ45 plug, cable

AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP65
Weight	~26 g

Accessories

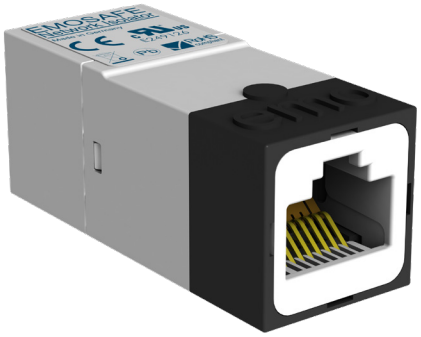
Z-3-SF-INT

Z-4-SF-EXT

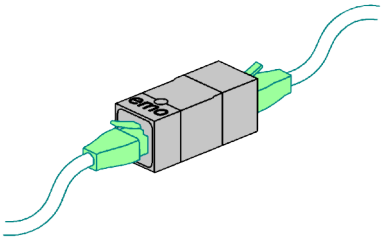
see page 89

High performance

EN-76HE



The EMOSAFE EN-76HE interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages.This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. Low-frequency signal components are strongly attenuated, providing protection against ground loops for connected devices.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, enabling a total cable distance of 100 m
- ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet Performance

EN-76HE

TYPE	CONNECTION
Standalone	RJ45 jack, straight
high performance	RJ45 jack, straight

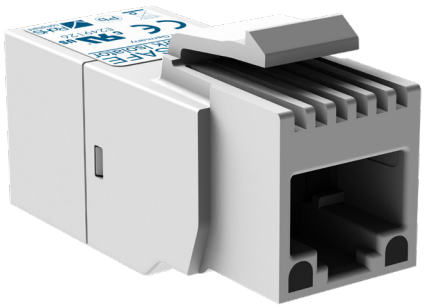
AC Dielectric Strength @ 50 Hz	6000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

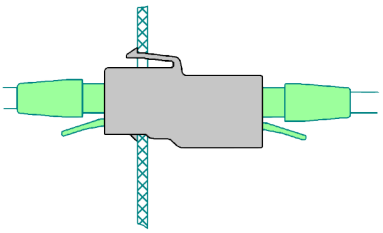
Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~12 g

High performance

EN-76HE-K



The EMOSAFE EN-76HE-K interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. Low-frequency signal components are strongly attenuated, providing protection against ground loops for connected devices.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, enabling a total cable distance of 100 m
- ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet Performance

EN-76HE-K

TYPE	CONNECTION
Keystone	RJ45 jack, straight
high performance	RJ45 jack, straight

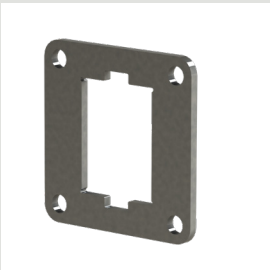
AC Dielectric Strength @ 50 Hz	6000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~12 g

Accessories

Z-5-KMB

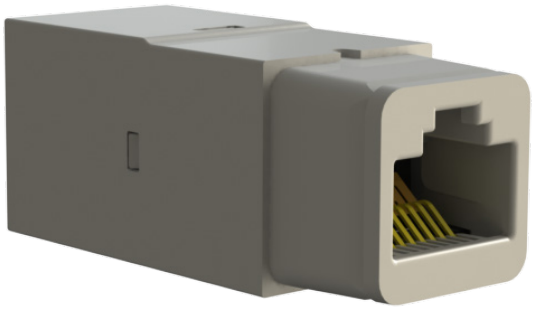


Z-6-KMB

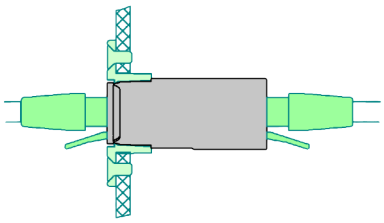
see page 90

High performance

EN-76HE-S



The EMOSAFE EN-76HE-S interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. Low-frequency signal components are strongly attenuated, providing protection against ground loops for connected devices.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, enabling a total cable distance of 100 m
- ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet Performance

EN-76HE-S

TYPE	CONNECTION
SnapFit	RJ45 jack, straight
high performance	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	6000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~12 g

Accessories

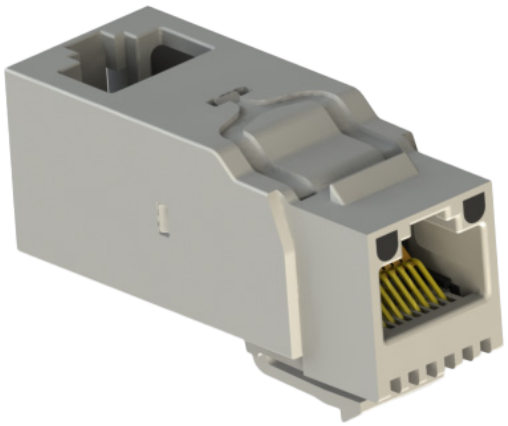
Z-3-SF-INT

Z-4-SF-EXT

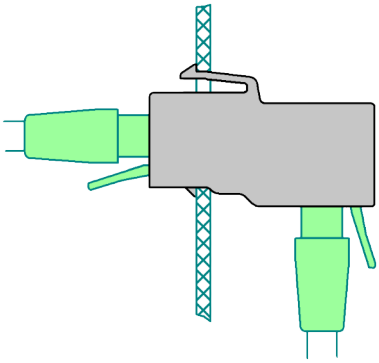
see page 89

High performance

EN-76VE-K



The EMOSAFE EN-76VE-K interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. Low-frequency signal components are strongly attenuated, providing protection against ground loops for connected devices.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, enabling a total cable distance of 100 m
- ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet Performance

EN-76VE-K

TYPE	CONNECTION
Keystone	RJ45 jack, straight
high performance	RJ45 jack, angled

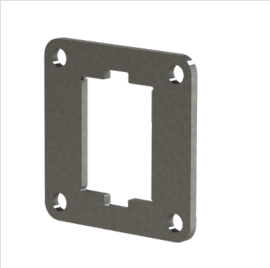
AC Dielectric Strength @ 50 Hz	6000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~12 g

Accessories

Z-5-KMB

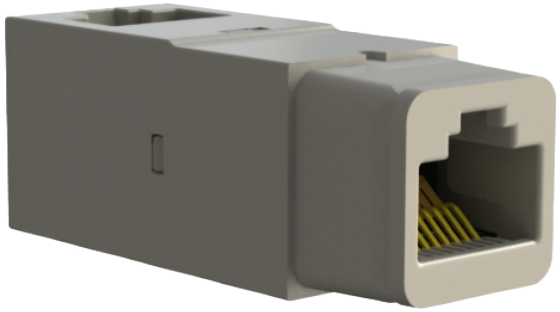


Z-6-KMB

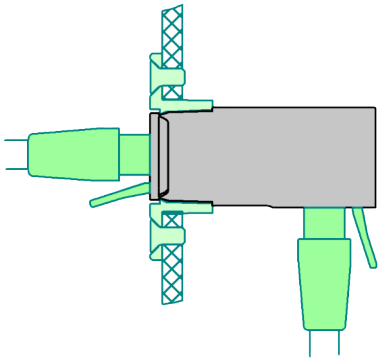
see page 90

High performance

EN-76VE-S



The EMOSAFE EN-76VE-S interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. This powerful and compact 10 gigabit per second Network Isolator is distinguished by its excellent Ethernet performance and very high dielectric withstanding voltage. Low-frequency signal components are strongly attenuated, providing protection against ground loops for connected devices.



Overview

- 10 Gigabit Ethernet
- UL Recognized Component
- RoHS compliant
- 6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Extremely low insertion loss, enabling a total cable distance of 100 m
- ISO/IEC 11801 Class E_A and TIA/EIA-568 Cat 6A Ethernet Performance

EN-76VE-S

TYPE	CONNECTION
SnapFit	RJ45 jack, straight
high performance	RJ45 jack, angled

AC Dielectric Strength @ 50 Hz	6000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	100 Mbit/s, 1000 Mbit/s, 10 Gbit/s

Performance category according to ISO 11801	Class E_A
Insertion Loss (typical)	see data sheet and white paper
Return Loss (typical)	see data sheet and white paper
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~12 g

Accessories

Z-3-SF-INT

Z-4-SF-EXT

see page 89

Self-enclosed

EN-1005+

EN-30

EN-20G

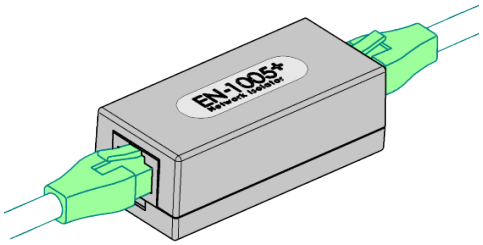
EN-95

Self-enclosed

EN-1005+

The EN-1005+ is equipped with a transient voltage suppression (TVS) diode circuit. While conventional network isolators can only block voltage spikes that occur at the same level on all signal wires, the TVS diode circuit also limits voltage levels on differential pairs. Without this circuit, these voltage spikes could pass through the transformer unhindered, posing a risk to patients, users, and devices. A unique feature of the EN-1005+ is the option to customize the metal label to your preferences - an OEM Network Isolator exclusively for and from your company.

Overview



- High-Performance Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5.0 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-1005+

TYPE	CONNECTION
standalone	RJ45 jack, straight
self-enclosed	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB
Return Loss (typical)	20 dB
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~30 g

Accessories

Z-6-R

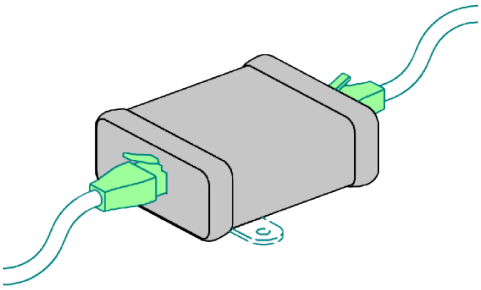
Z-6-W

see page 91

Self-enclosed

EN-30

The EMOSAFE EN-30 interrupts all electrically conductive connections (data lines and shielding) between devices that are interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. In addition to its elegant aluminum housing, this Network Isolator stands out with its robust construction and supports data rates of 10, 100, and 1000 Mbit/s.



Overview

- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- Impact-resistant aluminum housing
- ISO 11801 Class D

EN-30

TYPE	CONNECTION
standalone	RJ45 jack, straight
self-enclosed	RJ45 jack, straight

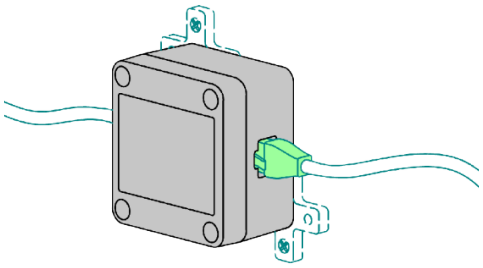
AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	1.5 dB @ 100 MHz
Return Loss (typical)	8 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP40
Weight	~75 g

Self-enclosed

EN-20G



The Network Isolator EMOSAFE EN-20G provides the necessary conditions for the secure operation of a medical device in a patient environment concerning network connectivity. The EN-20G meets all the constructive requirements of IEC 60601-1 to establish two protective measures (2 MOPP) within the network interface for patient safety and to nearly eliminate the risk of electric shock due to foreign voltage at the network connection for both the patient and the operator.

Overview

- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- Includes optional mounting brackets
- ISO 11801 Class D

EN-20G

TYPE	CONNECTION
standalone	RJ45 jack, straight
self-enclosed	RJ45 jack, straight

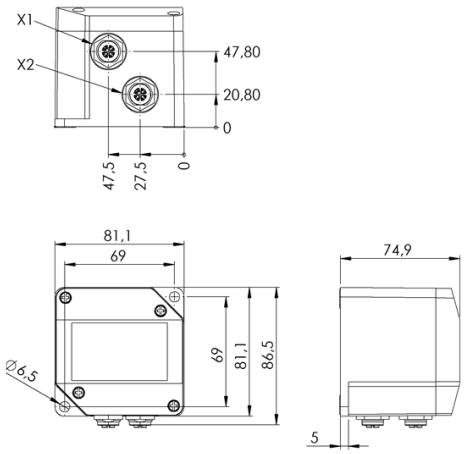
AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	1.5 dB @ 100 MHz
Return Loss (typical)	8 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP40
Weight	~95 g

Self-enclosed

EN-95



The EMOSAFE EN-95 interrupts all electrically conductive connections (data lines and shielding) between devices interconnected via copper-based Ethernet cabling. It suppresses potential equalization currents and protects connected devices and their users from transient overvoltages. Additionally, the Network Isolator EMOSAFE EN-95 fulfills the requirements for a secure network connection of electronic devices in rail vehicles and complies with all constructive specifications of DIN EN 50155.

Overview

- **Gigabit Ethernet**
- **DIN EN 50155 compliant**
- **RoHS compliant**
- **4.0 kV AC dielectric strength**
- **5.6 kV DC dielectric strength**
- **ISO 11801 Class D**
- **Extremely low insertion loss**

EN-95

TYPE	CONNECTION
standalone	M12 jack, 8 pins, X-coded, straight
self-enclosed	M12 jack, 8 pins, X-coded, straight

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB @ 100 MHz
Return Loss (typical)	20.0 dB @ 100 MHz
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP65
Weight	~347 g

Ultra-compact

EN-70e

EN-70HD

EN-70HD-K

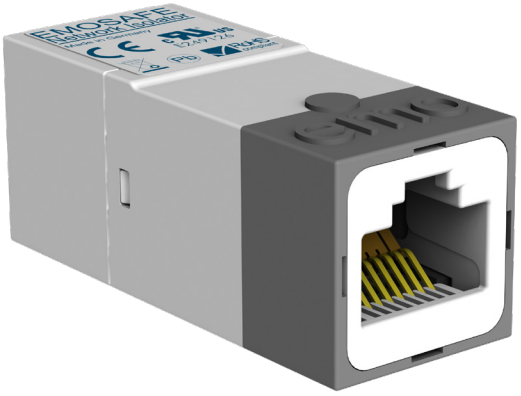
EN-70HD-S

EN-70VD-K

EN-70VD-S

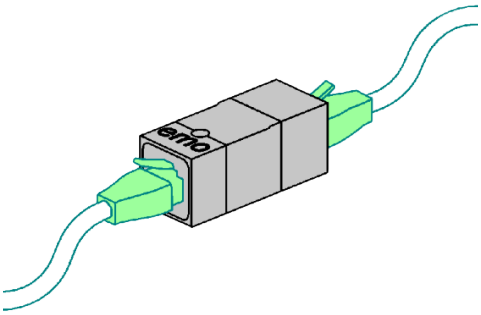
Ultra-compact

EN-70e



EMOSAFE EN-70e Network Isolators are characterized primarily by their particularly small size and versatile usability. When connected to a medical endpoint device, the EN-70 series isolators provide the necessary network connection conditions for the secure operation of this device in a patient environment.

Overview



- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4.6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

TYPE	CONNECTION
standalone	RJ45 jack, straight
ultra-compact	RJ45 jack, straight

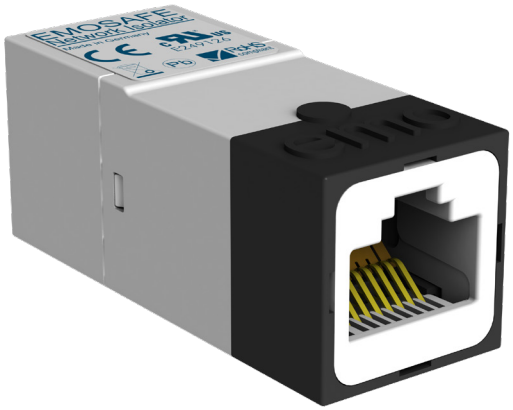
AC Dielectric Strength @ 50 Hz	4600 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

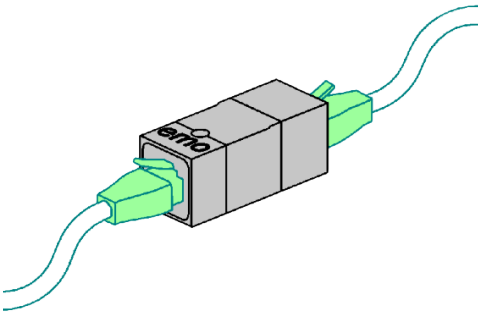
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	1.0 dB @ 100 MHz
Return Loss (typical)	17 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating	IP40
Weight	~12 g

Ultra-compact

EN-70HD



EMOSAFE EN-70HD Network Isolators are characterized primarily by their particularly small size, low insertion loss, and versatile usability. When connected to a medical endpoint device, these Network Isolators provide the necessary network connection conditions for the secure operation of this device in a patient environment. The EN-70HD offers particularly effective device protection. Voltage spikes on individual signal wires are eliminated by means of an additional transient voltage suppression (TVS) diode circuit. These spikes cannot be blocked by conventional network isolators.



Overview

- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5.0 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

TYPE	CONNECTION
standalone	RJ45 jack, straight
ultra-compact	RJ45 jack, straight

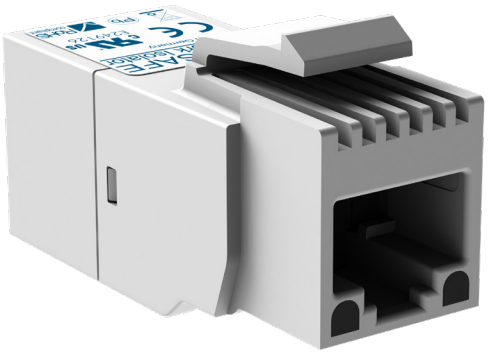
AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

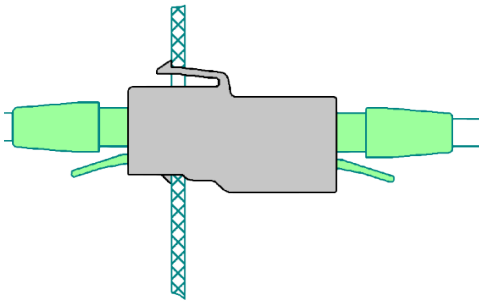
Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB @ 100 MHz
Return Loss (typical)	20 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~12 g

Ultra-compact

EN-70HD-K



EMOSAFE EN-70HD-K Network Isolators are characterized primarily by their particularly small size and their Keystone compatibility. When connected to a medical endpoint device, these Network Isolators provide the necessary network conditions for the secure operation of this device in a patient environment. The EN-70HD-K offers particularly effective device protection. Voltage spikes on individual signal wires are eliminated by means of an additional transient voltage suppression (TVS) diode circuit. These spikes cannot be blocked by conventional network isolators.



Overview

- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5.0 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-70HD-K

TYPE	CONNECTION
Keystone	RJ45 jack, straight
ultra-compact	RJ45 jack, straight

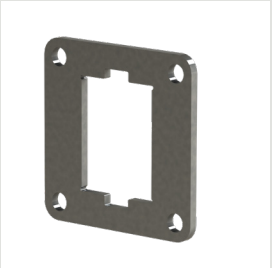
AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB @ 100 MHz
Return Loss (typical)	20 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~12 g

Accessories

Z-6-R

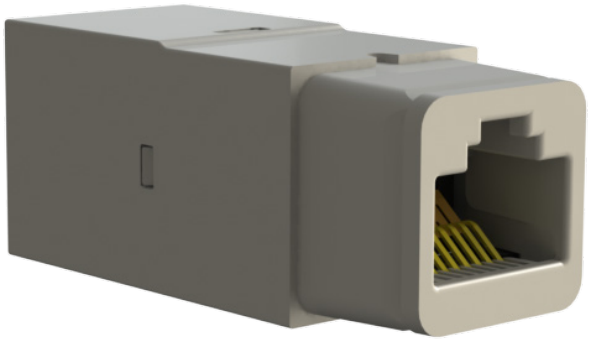


Z-6-W

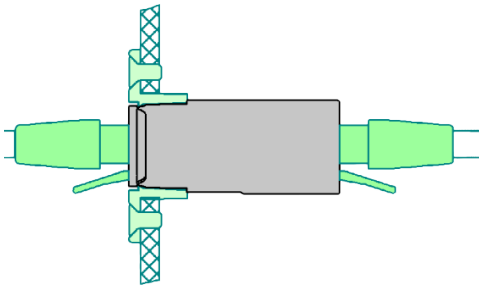
see page 90

Ultra-compact

EN-70HD-S



EMOSAFE EN-70HD-S Network Isolators are characterized primarily by their particularly small size and universal usability. When connected to a medical endpoint device, these Network Isolators provide the necessary network conditions for the secure operation of this device in a patient environment. The EN-70HD-S offers particularly effective device protection. Voltage spikes on individual signal wires are eliminated by means of an additional transient voltage suppression (TVS) diode circuit. These spikes cannot be blocked by conventional network isolators.



Overview

- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-70HD-S

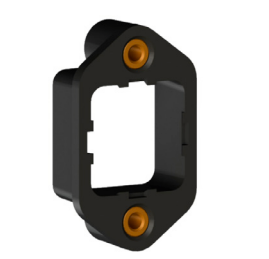
TYPE	CONNECTION
SnapFit	RJ45 jack, straight
ultra-compact	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB @ 100 MHz
Return Loss (typical)	20 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~12 g

Accessories



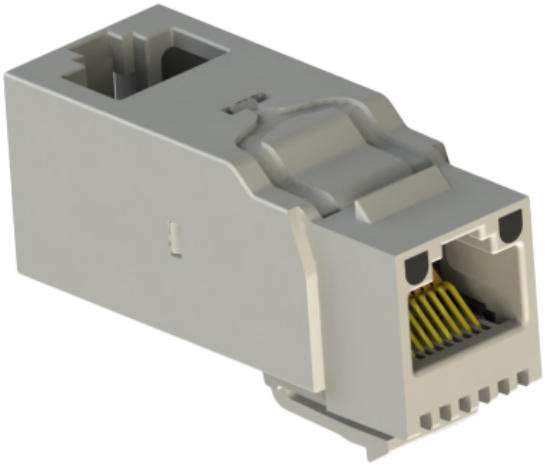
Z-3-SF-INT

Z-4-SF-EXT

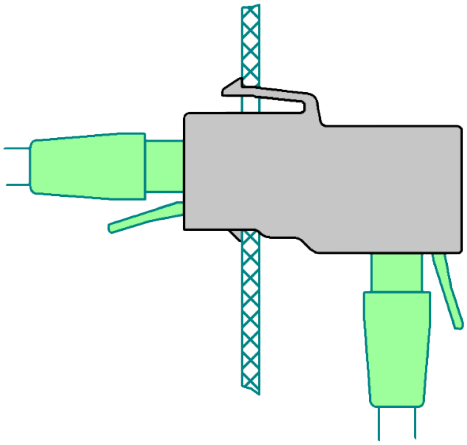
see page 89

Ultra-compact

EN-70VD-K



EMOSAFE EN-70VD-K Network Isolators are characterized primarily by their particularly small size and universal usability. When connected to a medical endpoint device, these Network Isolators provide the necessary network conditions for the secure operation of this device in a patient environment. The EN-70VD-K offers particularly effective device protection. Voltage spikes on individual signal wires are eliminated by means of an additional transient voltage suppression (TVS) diode circuit. These spikes cannot be blocked by conventional network isolators.



Overview

- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-70VD-K

TYPE	CONNECTION
Keystone	RJ45 jack, straight
ultra-compact	RJ45 jack, angled

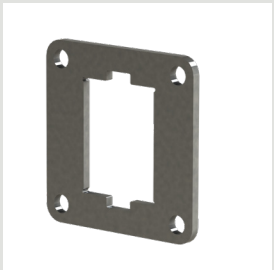
AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB @ 100 MHz
Return Loss (typical)	20 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~12 g

Accessories

Z-6-R

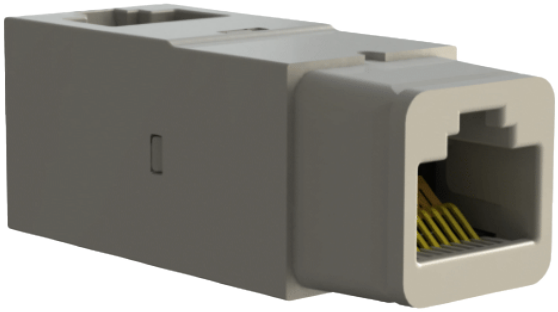


Z-6-W

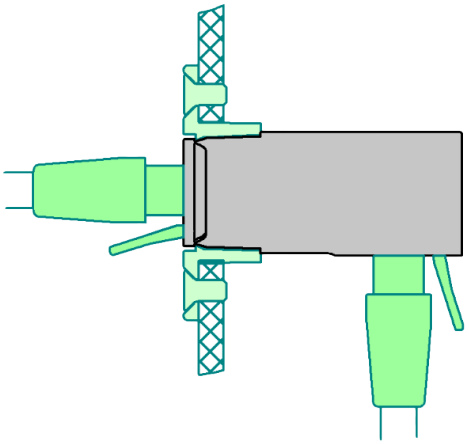
see page 90

Ultra-compact

EN-70VD-S



EMOSAFE EN-70VD-S Network Isolators are characterized primarily by their particularly small size and universal usability. When connected to a medical endpoint device, these network isolators provide the necessary network conditions for the secure operation of this device in a patient environment. The EN-70VD-S offers particularly effective device protection. Voltage spikes on individual signal wires are eliminated by means of an additional transient voltage suppression (TVS) diode circuit. These spikes cannot be blocked by conventional network isolators.



Overview

- Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-70VD-S

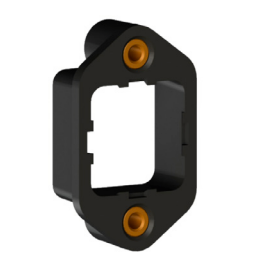
TYPE	CONNECTION
Keystone	RJ45 jack, straight
ultra-compact	RJ45 jack, angled

AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB @ 100 MHz
Return Loss (typical)	20 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~12 g

Accessories



Z-3-SF-INT

Z-4-SF-EXT

see page 89

With cable and plug

EN-60KDS

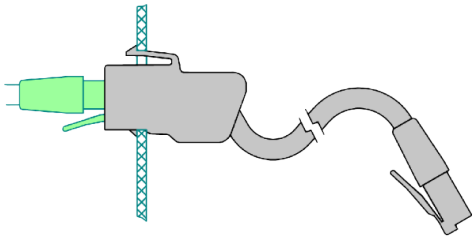
EN-65K

EN-65S

EN-85e

With cable and plug

EN-60KDS



The EMOSAFE EN-60KDS is a powerful and compact Gigabit Network Isolator, distinguished by its excellent Ethernet performance and high dielectric withstanding voltage. As a Keystone module, it can be installed in any outlet, patch panel, or housing cutout that meets the Keystone specifications. The construction with socket and cable stub provides the physical functionality of an extension cable. The EN-60KDS is equipped with additional ESD and lightning protection measures. Voltage spikes on individual signal wires are not blocked by normal network isolators. However, in the EN-60KDS, these spikes are eliminated through a transient voltage suppression (TVS) diode circuit. This measure particularly enhances protection against the effects of electrostatic discharges, which may occur during the physical connection process.

Overview

- **Compact Keystone module with cable**
- **IEC 60601-1 compliant**
- **UL Recognized Component**
- **RoHS compliant**
- **6 kV AC dielectric strength**
- **8.5 kV DC dielectric strength**
- **ISO 11801 Class D**

With cable and plug

EN-60KDS

TYPE	CONNECTION
Keystone	RJ45 jack, straight
with cable and plug	RJ45 plug, cable

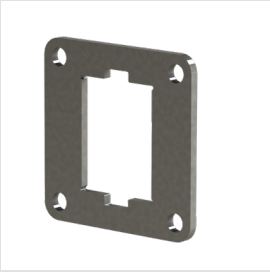
AC Dielectric Strength @ 50 Hz	6000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.7 dB @ 100 MHz
Return Loss (typical)	17 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~22 g

Accessories

Z-6-R



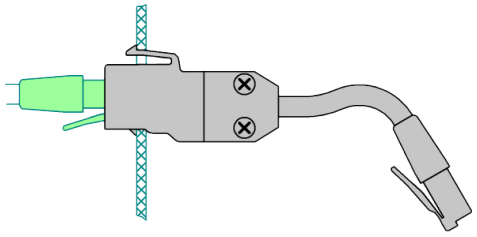
Z-6-W

see page 90

With cable and plug

EN-65K

The EMOSAFE EN-65K is designed as a Keystone module and is particularly suitable for installation in wall ducts and service bridges. The functionality of the EN-65K is complemented by a transient voltage suppression (TVS) diode circuit. While conventional network isolators can only block voltage spikes that occur at the same level on all signal wires, the TVS diode circuit also trims differential signal levels on a pair of wires. These could pass through the transformer unhindered without this circuit and pose a risk to patients, users, and devices. Such differential voltage spikes can occur due to malfunctions in connected devices or even due to electrostatic discharges during the physical plugging process.



Overview

- High Performance Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

With cable and plug

EN-65K

TYPE	CONNECTION
Keystone	RJ45 jack, straight
with cable and plug	RJ45 plug, cable

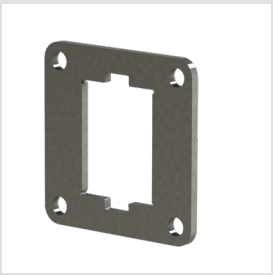
AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.5 dB @ 100 MHz
Return Loss (typical)	20 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~26 g

Accessories

Z-6-R



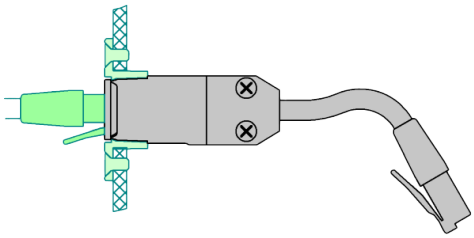
Z-6-W

see page 90

With cable and plug

EN-65S

The EMOSAFE EN-65S is designed for panel installation. The SnapFit accessories support both flush and slightly proud panel mounting. The functionality of the EN-65S is complemented by a transient voltage suppression (TVS) diode circuit. While conventional network isolators can only block voltage spikes that occur at the same level on all signal wires, the TVS diode circuit also trims differential signal levels on a pair of wires. These could pass through the transformer unhindered without this circuit and pose a risk to patients, users, and devices. Such differential voltage spikes can occur due to malfunctions in connected devices or even due to electrostatic discharges during the physical plugging process.



Overview

- High Performance Gigabit Ethernet
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 5 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-65S

TYPE	CONNECTION
SnapFit	RJ45 jack, straight
with cable and plug	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	5000 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.5 dB @ 100 MHz
Return Loss (typical)	20 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~26 g

Accessories

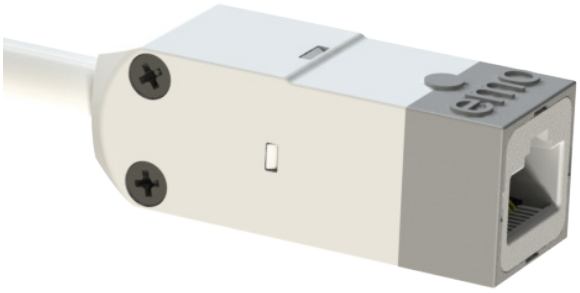
Z-3-SF-INT

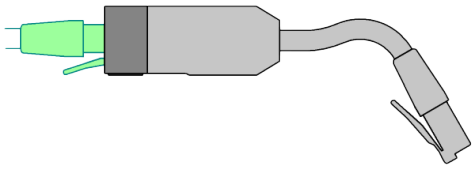
Z-4-SF-EXT

see page 89

With cable and plug

EN-85e





The EMOSAFE EN-85e is an external Network Isolator with a cable connection equipped with Overtension Auto-Release (OTAR), providing mechanical protection that supplements the electrical protection of the Ethernet interface. A common cause of expensive equipment failure is the application of excessive pulling or lateral forces on the Ethernet socket of the end device, resulting in irreparable damage to the socket or the associated circuit board. Such forces can occur, for example, when mobile devices are unintentionally moved outside a radius larger than that allowed by the connected cable, or simply when people trip over the connected patch cables.
When the EN-85e is plugged into the Ethernet socket of an electrically protected end device, the end device is subsequently protected from such physical dangers. The socket of the Network Isolator, which accommodates the incoming patch cable, is equipped with an overload release mechanism. If the pulling forces on the cable exceed a defined limit, the locking mechanism is automatically released.

Overview

- **Overtension Auto-Release (OTAR)**
- **IEC 60601-1 compliant**
- **UL Recognized Component**
- **RoHS compliant**
- **4.6 kV AC dielectric strength**
- **8.5 kV DC dielectric strength**
- **ISO 11801 Class D**

With cable and plug

EN-85e

TYPE	CONNECTION
Standalone	RJ45 jack, straight
with cable and plug	RJ45 plug, cable

AC Dielectric Strength @ 50 Hz	4600 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.4 dB @ 100 MHz
Return Loss (typical)	17 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Protection Rating according to EN 60529	IP40
Weight	~24 g

For PCB assembly

EN-100C

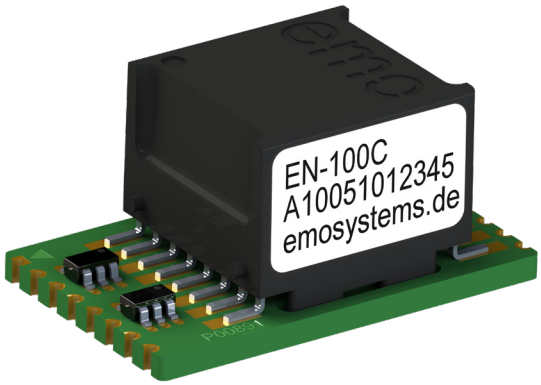
EN-100L

EN-100S

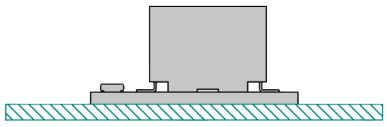
EN-100T

For PCB assembly

EN-100C



EMOSAFE EN-100C Network Isolators are designed for integration directly onto a device's circuit board. The EN-100C is to be soldered onto a circuit board. Due to its extremely compact design, it can be easily implemented in very confined spaces. Additional transient voltage suppression (TVS) diodes protect individual pairs from voltage spikes.



Overview

- Ultra-compact
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4.6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-100C

TYPE	CONNECTION
PCB Assembly	Solder pads
	Solder pads

AC Dielectric Strength @ 50 Hz	4600 V
DC Dielectric Strength	8500 V

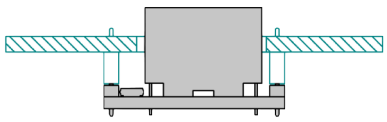
Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.8 dB @ 100 MHz
Return Loss (typical)	17 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Weight	~6 g

For PCB assembly

EN-100L

EMOSAFE EN-100L Network Isolators are designed for integration directly onto a device's circuit board. The EN-100L minimizes the total required height clearance for such an isolator. Due to their extremely compact design, they are easily implemented in very confined spaces.



Overview

- Ultra-compact
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4.6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-100L

TYPE	CONNECTION
PCB Assembly	2 mm pin header
	2 mm pin header

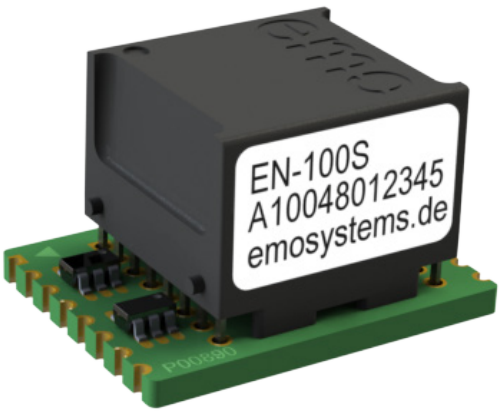
AC Dielectric Strength @ 50 Hz	4600 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

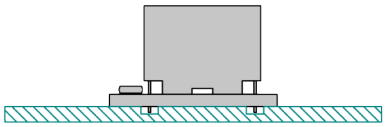
Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.8 dB @ 100 MHz
Return Loss (typical)	17 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Weight	~6 g

For PCB assembly

EN-100S



EMOSAFE EN-100S Network Isolators are designed for integration directly onto a device's circuit board. The EN-100S is to be soldered onto a circuit board, and is characterized by extra-short solder connections. Due to its extremely compact design, it can be easily implemented in very confined spaces. Additional transient voltage suppression (TVS) diodes protect individual pairs from voltage spikes.



Overview

- Ultra-compact
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4.6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-100S

TYPE	CONNECTION
PCB Assembly	Solder pads
	Solder pads

AC Dielectric Strength @ 50 Hz	4600 V
DC Dielectric Strength	8500 V

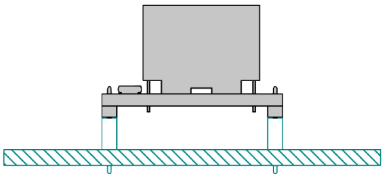
Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.8 dB @ 100 MHz
Return Loss (typical)	17 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Weight	~6 g

For PCB assembly

EN-100T

EMOSAFE EN-100T Network Isolators are designed for integration directly onto a device's circuit board. The EN-100T can be either plugged into a socket or directly soldered onto a circuit board. Due to its extremely compact design, it can be easily implemented in very confined spaces. Additional transient voltage suppression (TVS) diodes protect individual pairs from voltage spikes.



Overview

- Ultra-compact
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4.6 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- ISO 11801 Class D

EN-100T

TYPE	CONNECTION
PCB Assembly	2 mm pin header
	2 mm pin header

AC Dielectric Strength @ 50 Hz	4600 V
DC Dielectric Strength	8500 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Supplementary ESD Protection	yes (TVS)
Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.8 dB @ 100 MHz
Return Loss (typical)	17 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	400 V AC
Weight	~6 g

Panel mount

EN-10H

EN-10HG

EN-10V

EN-10VG

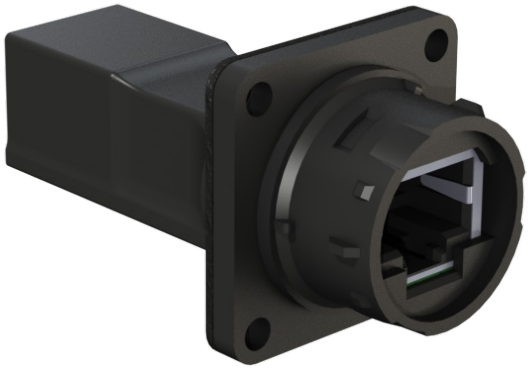
EN-50HG-S

EN-50HG-Y

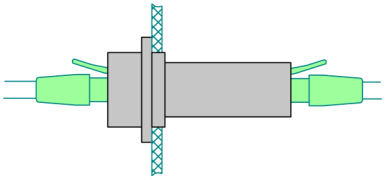
EN-50VG-S

Panel mount

EN-10H



The EMOSAFE EN-10 features an extremely robust, dust- and water-resistant Ethernet jack. When installed in a correspondingly protected housing, and the incoming Ethernet cable is correctly supplemented with our Z-1 accessory (IP67 plug Housing), it achieves an ingress protection class of IP67. Furthermore, the IP67 plug Housing Z-1 provides additional strain relief. Therefore, the EMOSAFE EN-10 is suitable for outdoor applications and in environments where exceptional mechanical stresses are exerted upon the connector or cable. The internal cable connection is horizontal.



Overview

- Robust plug connector
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- IP67 achievable
- ISO 11801 Class C

EN-10H

TYPE	CONNECTION
Panel mount	RJ45 jack, straight
	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s

Performance category according to ISO 11801	Class C
Insertion Loss (typical)	0.5 dB @ 16 MHz
Return Loss (typical)	12 dB @ 16 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP20 (IP67 when used in conjunction with accessories Z-1 or Z-2)
Weight	~25 g

Accessories

Z-1

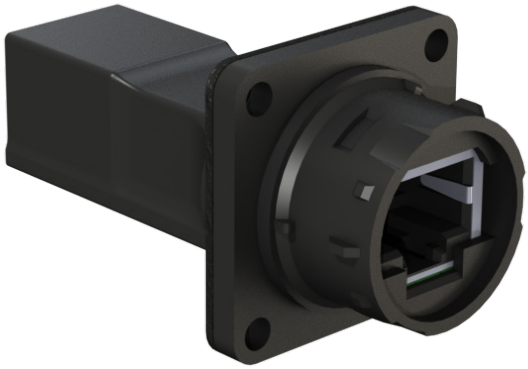
Z-2

Z-EN10-RP

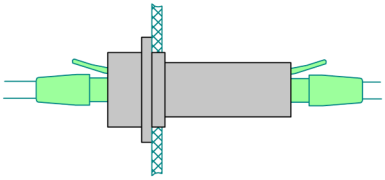
see page 88 & 93

Panel mount

EN-10HG



The EMOSAFE EN-10HG features an extremely robust, dust- and water-resistant Ethernet jack. When installed in a correspondingly protected housing, and the incoming Ethernet cable is correctly supplemented with our Z-1 accessory (IP67 plug Housing), it achieves an ingress protection class of IP67. Furthermore, the IP67 plug Housing Z-1 provides additional strain relief. Therefore, the EN-10HG is suitable for outdoor applications and in environments where exceptional mechanical stresses are exerted upon the connector or cable. The internal cable connection is horizontal.
The EN-10HG supports data rates up to 1000 Mbit/s.



Overview

- Robust plug connector
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- IP67 achievable
- ISO 11801 Class D

EN-10HG

TYPE	CONNECTION
Panel mount	RJ45 jack, straight
	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.8 dB @ 100 MHz
Return Loss (typical)	15 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP20 (IP67 when used in conjunction with accessories Z-1 or Z-2)
Weight	~25 g

Accessories

Z-1

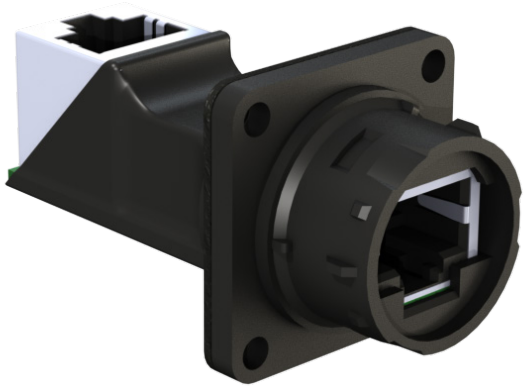
Z-2

Z-EN10-RP

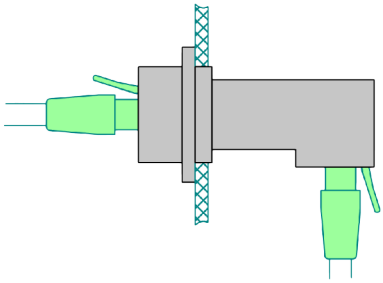
see page 88 & 93

Panel mount

EN-10V



The EMOSAFE EN-10V features an extremely robust, dust- and water-resistant Ethernet jack. When installed in a correspondingly protected housing, and the incoming Ethernet cable is correctly supplemented with our Z-1 accessory (IP67 plug Housing), it achieves an ingress protection class of IP67. Furthermore, the IP67 plug Housing Z-1 provides additional strain relief. Therefore, the EN-10V is suitable for outdoor applications and in environments where exceptional mechanical stresses are exerted upon the connector or cable. The internal cable connection is vertical.



Overview

- Robust plug connector
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- IP67 achievable
- ISO 11801 Class C

EN-10V

TYPE	CONNECTION
Panel mount	RJ45 jack, straight
	RJ45 jack, angled

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s

Performance category according to ISO 11801	Class C
Insertion Loss (typical)	0.5 dB @ 16 MHz
Return Loss (typical)	12 dB @ 16 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP20 (IP67 when used in conjunction with accessories Z-1 or Z-2)
Weight	~25 g

Accessories

Z-1

Z-2

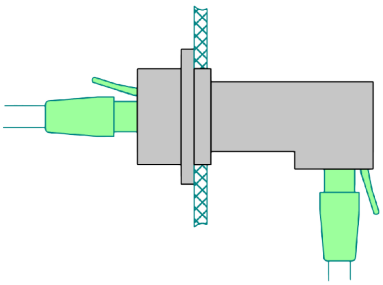
Z-EN10-RP

see page 88 & 93

Panel mount

EN-10VG

The EMOSAFE EN-10VG features an extremely robust, dust- and water-resistant Ethernet jack. When installed in a correspondingly protected housing, and the incoming Ethernet cable is correctly supplemented with our Z-1 accessory (IP67 plug Housing), it achieves an ingress protection class of IP67. Furthermore, the IP67 plug Housing Z-1 provides additional strain relief. Therefore, the EN-10VG is suitable for outdoor applications and in environments where exceptional mechanical stresses are exerted upon the connector or cable. The cable connection is vertical. The EN-10VG supports data rates up to 1000 Mbit/s.



Overview

- Robust plug connector
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- IP67 achievable
- ISO 11801 Class D

EN-10VG

TYPE	CONNECTION
Panel mount	RJ45 jack, straight
	RJ45 jack, angled

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	0.8 dB @ 100 MHz
Return Loss (typical)	15 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP20 (IP67 when used in conjunction with accessories Z-1 or Z-2)
Weight	~25 g

Accessories

Z-1

Z-2

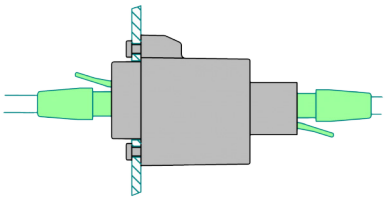
Z-EN10-RP

see page 88 & 93

Panel mount

EN-50HG-S

In conventional built-in network isolators where the cable shield remains unconnected, a recurring issue arises when the housing opening required for the network isolator becomes an electromagnetic leak, potentially causing problems during EMC testing. A device or cable connected to the Ethernet interface, which is not grounded itself, can be a source of electromagnetic interference. To address this issue, the EN-50 series supports a connection of the shield to ground through its integrated chain of resistors and parallel Y-capacitors. This significantly reduces the risk of electromagnetic interference without compromising the protective effect of the Network Isolator. Additionally, the high-ohmic resistor chain enables a gradual equalization of potential voltages.



Overview

- Compact
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- Optional touch protection
- ISO 11801 Class D

EN-50HG-S

TYPE	CONNECTION
Panel mount	RJ45 jack, straight
	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	1.5 dB @ 100 MHz
Return Loss (typical)	8 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP20
Weight	~35 g

Accessories

Z-EN50-B

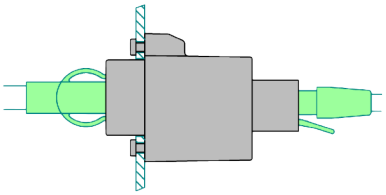
Z-EN50-SLB

Z-EN50-RP

see page 92 & 93

Panel mount

EN-50HG-Y



In conventional built-in network isolators where the cable shield remains unconnected, a recurring issue arises when the housing opening required for the network isolator becomes an electromagnetic leak, potentially causing problems during EMC testing. A device or cable connected to the Ethernet interface, which is not grounded itself, can be a source of electromagnetic interference. To address this problem, the EN-50 series supports a connection of the shield to ground through its integrated chain of resistors and parallel Y-capacitors. This significantly reduces the risk of electromagnetic interference without compromising the protective effect of the Network Isolator. Additionally, the high-impedance resistor chain enables a gradual equalization of potential voltages. The Yamaichi Y-Con® connection system ensures better retention force whilst also reducing the risk of accidental human contact of the conductive surfaces.

Overview

- Compact
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- Optional touch protection
- ISO 11801 Class D

EN-50HG-Y

TYPE	CONNECTION
Panel mount	RJ45 jack, straight
	RJ45 jack, straight

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	1.5 dB @ 100 MHz
Return Loss (typical)	8 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP20
Weight	~35 g

Accessories

Z-EN50-B

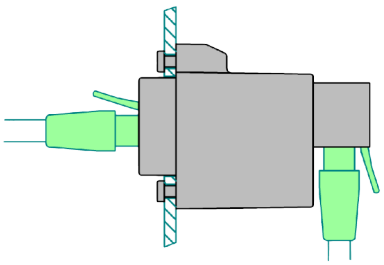
Z-EN50-SLB

Z-EN50-RP

see page 92 & 93

Panel mount

EN-50VG-S



In conventional built-in network isolators where the cable shield remains unconnected, a recurring issue arises when the housing opening required for the network isolator becomes an electromagnetic leak, potentially causing problems during EMC testing. A device or cable connected to the Ethernet interface, which is not grounded itself, can be a source of electromagnetic interference. To address this problem, the EN-50 series supports a connection of the shield to ground through its integrated chain of resistors and parallel Y-capacitors. This significantly reduces the risk of electromagnetic interference without compromising the protective effect of the Network Isolator. Additionally, the high-ohmic resistor chain enables a gradual equalization of potential voltages.

Overview

- Compact
- IEC 60601-1 compliant
- UL Recognized Component
- RoHS compliant
- 4 kV AC dielectric strength
- 5.6 kV DC dielectric strength
- Optional touch protection
- ISO 11801 Class D

EN-50VG-S

TYPE	CONNECTION
Panel mount	RJ45 jack, straight
	RJ45 jack, angled

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	5600 V

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Insertion Loss (typical)	1.5 dB @ 100 MHz
Return Loss (typical)	8 dB @ 100 MHz
UL File No.	E362969
Maximum Working Voltage Environment	250 V AC
Protection Rating	IP40
Weight	~35 g

Accessories

Z-EN50-B

Z-EN50-SLB

Z-EN50-RP

see page 92 & 93

Accessories

Accessories

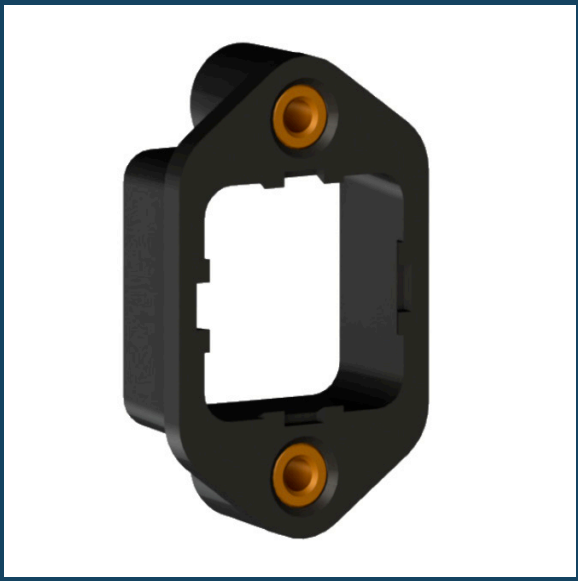
Z-1

Robust plug housing; easily retrofittable to suitable existing patch cables; provides IP67-rated protection against water and dust ingression; mechanical protection of the Ethernet coupling; and electrical touch protection

Z-2

Robust protective cap; provides IP67-rated protection against water and dust; as well as mechanical protection of the coupling

Accessories



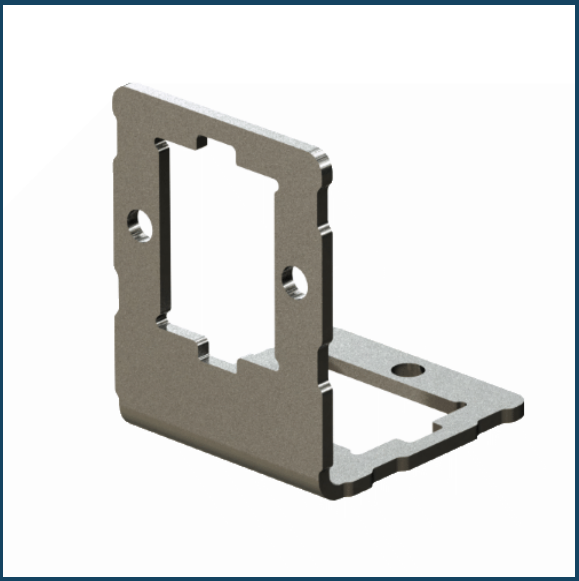
Z-3-SF-INT

Internally fitted bezel for flush panel mounting of SnapFit compatible Network Isolators, black plastic

Z-4-SF-EXT

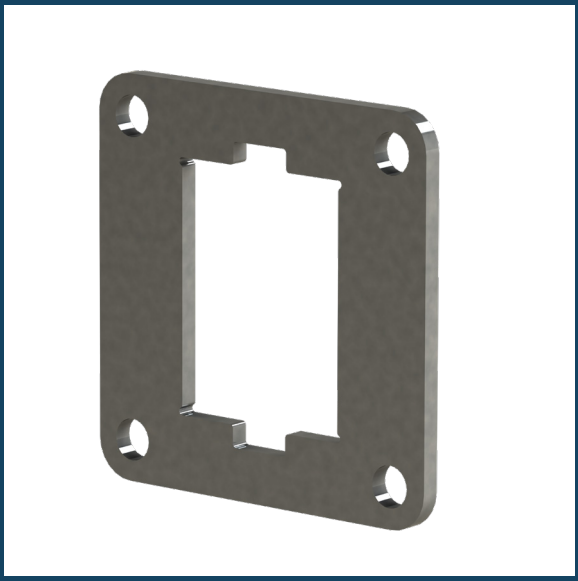
Externally fitted bezel for protruding panel mounting of SnapFit compatible Network Isolators, black plastic

Accessories



Z-5-KMB

Universal Keystone mounting bracket with four possible orientations, stainless steel, blank, suitable for use with all Keystone-compatible Network Isolators



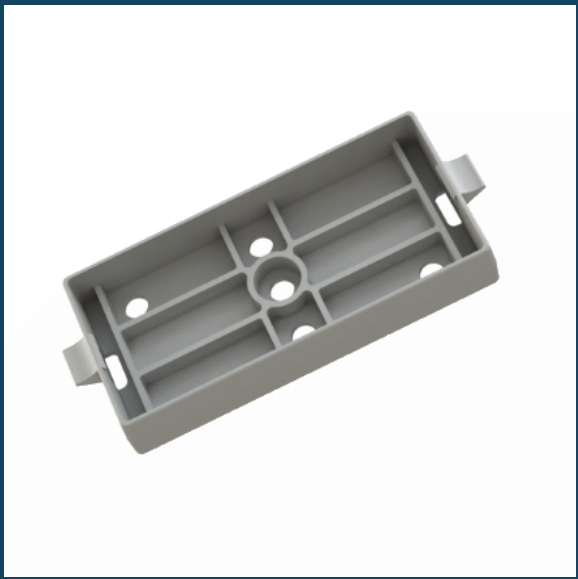
Z-6-KMB

Universal Keystone mounting bracket with two possible orientations, stainless steel, blank, suitable for use with all Keystone-compatible Network Isolators

Accessories

Z-6-R

DIN rail adapter for use with EN-1005+, Metal DIN clip with gray plastic mounting plate



Z-6-W

Wall mounting plate for use with EN-1005+, gray plastic

Accessories

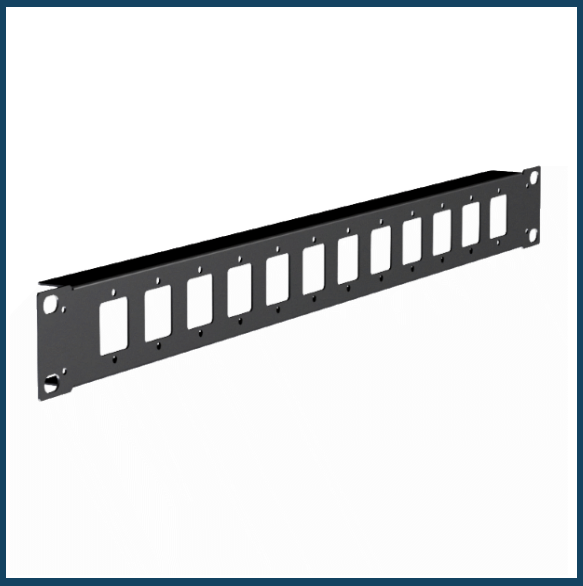
Z-EN50-SLB

Safety Locking Bezel for EN-50 Network Isolators, with touch protection and safety locking, unlocking is only achievable with a tool (e.g. screwdriver), black plastic

Z-EN50-B

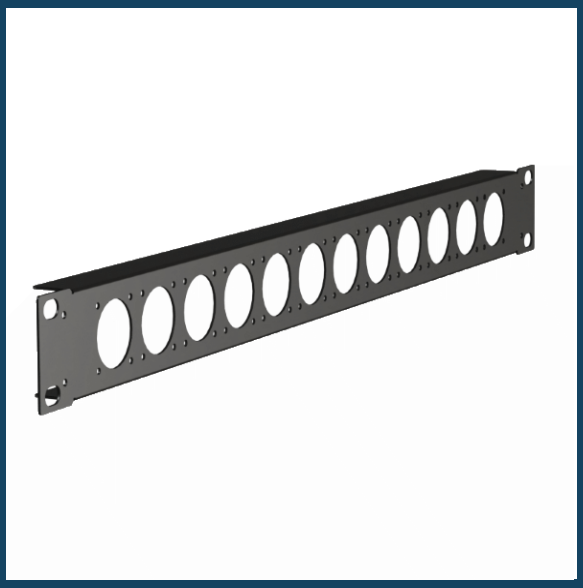
Bezel for EN-50 Network Isolators, black plastic

Accessories



Z-EN50-RP

19” rack panel, providing mounting locations for 12 × EN-50 Network Isolators, matt black powder coated steel



Z-EN10-RP

19” rack panel, providing mounting locations for 12 × EN-10 Network Isolators, matt black powder coated steel

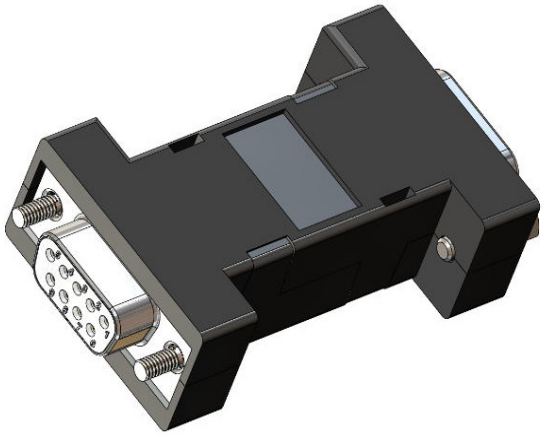
Accessories

KEYSTONE MODULE CARRIER

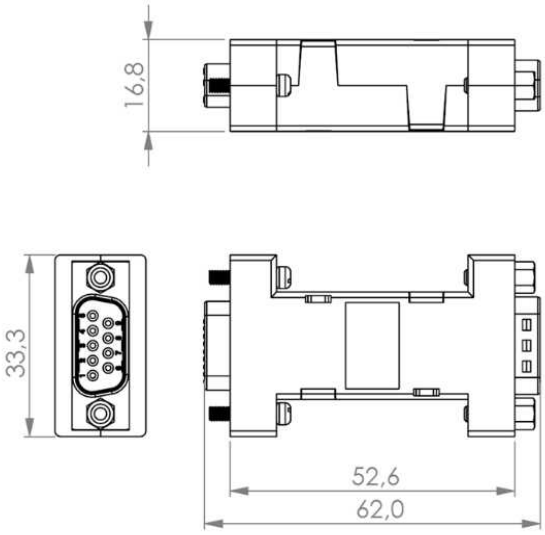
19” rack panel, providing mounting locations for 24 × Keystone-compatible Network Isolators, steel, white

Additional Safety Devices

RS232 Medical Isolator E1



The RS232 Medical Isolator E1 interrupts all electrically conductive connections (data lines and shield) between devices connected to each other via a 9-pin serial D-sub cable. It prevents potential equalization currents from flowing, and protects connected devices and their users from overvoltages that are directly or inductively coupled onto the data lines by installation errors, lightning, switching operations, electrostatic discharges, etc.
It is encased in a robust, black plastic housing, and containsjack screws for secure attachment.



Overview

- Suitable for use in medical supply units (up to 250 V AC)
- 4 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Designed and tested in accordance with IEC 60601-1 and IEC 60601-1-2
- Data transfer speeds up to 576 kbaud (576 kbit/s)
- UL Recognized Component
- No additional power supply required
- Supports both polar and unipolar signaling
- Level matching at data receiver
- RoHS compliant
- 100% quality control testing

RS232 Medical Isolator E1

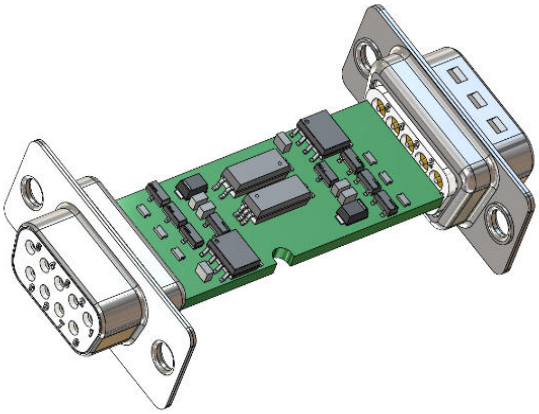
TYPE	CONNECTION
RS232	9 pin D-sub jack
	9 pin D-sub plug

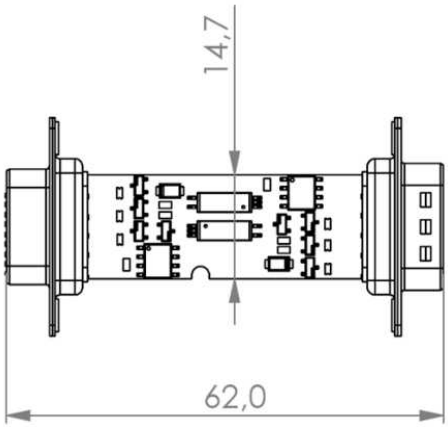
AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	8500 V

Maximum RS-232 Transfer Rate	576 kBaud

UL File No.	E362969
Maximum Working Voltage Environment	250 V AC 300 V DC
Protection Rating	IP40
Weight	25 g

RS232 Medical Isolator I1





The RS232 Medical Isolator I1 interrupts all electrically conductive connections (data lines and shield) between devices connected to each other via a 9-pin serial D-sub cable. It prevents potential equalization currents from flowing, and protects connected devices and their users from overvoltages that are directly or inductively coupled onto the data lines by installation errors, lightning, switching operations, electrostatic discharges, etc.
The RS232 Medical Isolator I1 has neither a housing norjack screws, and as such, it is intended for internal incorporation into other devices and systems only.

Overview

- Suitable for use in medical supply units (up to 250 V AC)
- 4 kV AC dielectric strength
- 8.5 kV DC dielectric strength
- Designed and tested in accordance with IEC 60601-1 and IEC 60601-1-2
- Data transfer speeds up to 576 kbaud (576 kbit/s)
- UL Recognized Component
- No additional power supply required
- Supports both polar and unipolar signaling
- Level matching at data receiver
- RoHS compliant
- 100% quality control testing

RS232 Medical Isolator I1

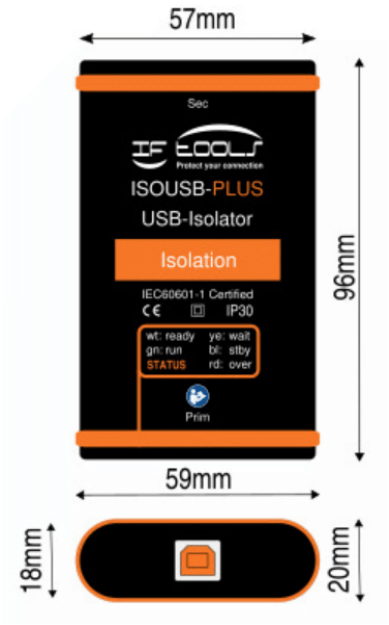
TYPE	CONNECTION
RS232	9 pin D-sub jack
	9 pin D-sub plug

AC Dielectric Strength @ 50 Hz	4000 V
DC Dielectric Strength	8500 V

Maximum RS-232 Transfer Rate	576 kBaud

UL File No.	E362969
Maximum Working Voltage Environment	250 V AC 300 V DC
Protection Rating	IP40
Weight	13 g

ISOUSB-PLUS-BOX



The ISOUSB-PLUS-BOX is a full-speed USB isolator that provides electrical isolation for USB 2.0 and USB 1.1 connections. It is a professional tool designed to prevent ground loops, equalization currents, and protect against overvoltages. These features are essential for effective safety of people and devices. By isolating the USB interface, medical and other systems are divided into two separate circuits. The sensitive application units are safely isolated from the control and operating devices (e.g. a PC), preventing hazardous voltage spikes and discharge disturbances from being passed in either direction. The USB isolator is tested according to DIN EN 60601-1 (Edition 3.2). No additional power source is required for its operation.

Overview

- Full-Speed - up to 12 Mbit/s data transfer rate
- RoHS compliant
- 7500 V DC for 1 second, 5000 V AC for 1 minute
- Compatible with USB 1.1 and 2.0 standards
- 250 V AC maximum operating voltage
- Robust shielded metal housing with Standard-Ajack and Standard-Bjack
- Tested according to DIN EN 60601-1 (Edition 3.2)
- No separate power source required

ISOUSB-PLUS-BOX

TYPE	CONNECTION
USB	Standard A jack
Full Speed	Standard B jack

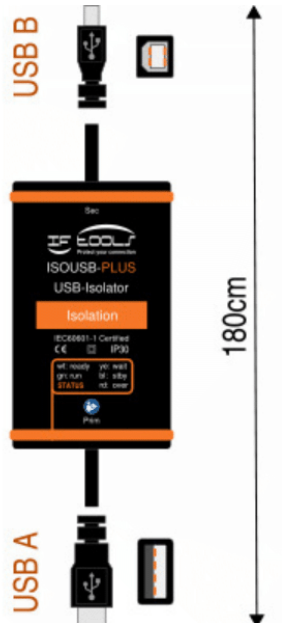
DC Dielectric strength	5000 V
Energy transmission	Max 3 W (primary to secondary), 85% efficiency, overload protection

Supported Transfer Rate	Up to 12 Mbit/s (Full-Speed)

Standards	USB 1.1/2.0 compatible
Maximum working range	250 V AC
Transient protection	15 kV according to IEC 61000-4-2
Certification	EN60601-1:2020 (Ed. 3.2), CE, FCC
Design	Robust shielded metal housing with USB sockets
Environment	0°C to 40°C, 20% to 90% RH, non-condensing
Dimensions	96 x 57 x 18mm
Weight	110 g

ISOUSB-PLUS-CABLE

The USB Isolator ISOUSB-PLUS-CABLE is a full-speed USB isolator that provides electrical isolation for USB 2.0 and USB 1.1 connections. It is a professional tool designed to prevent ground loops, equalization currents, and protect against overvoltages. These features are essential for effective safety of people and devices. By isolating the USB interface, medical and other systems are divided into two separate circuits. The sensitive application units are safely isolated from the control and operating devices (e.g. a PC), preventing hazardous voltage spikes and discharge disturbances from being passed in either direction. The USB isolator is tested according to DIN EN 60601-1 (Edition 3.2). No additional power source is required for its operation.



Overview

- Full-Speed - up to 12 Mbit/s data transfer rate
- RoHS compliant
- 7500 V DC for 1 second, 5000 V AC for 1 minute
- Compatible with USB 1.1 and 2.0 standards
- 250 V AC maximum operating voltage
- Robust shielded metal housing with Standard-A plug and Standard-B plug cables
- Tested according to DIN EN 60601-1 (Edition 3.2)
- No separate power source required

ISOUSB-PLUS-CABLE

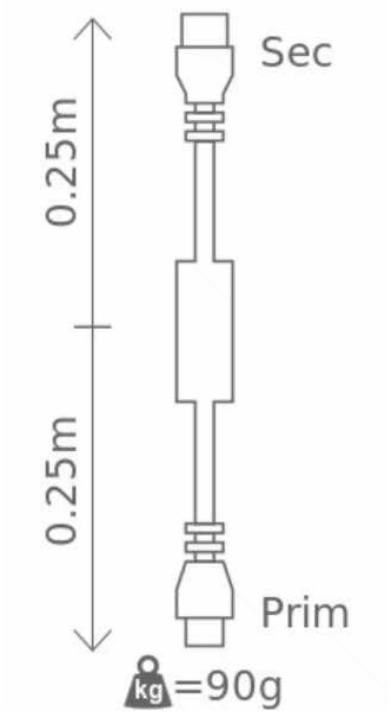
TYPE	CONNECTION
USB	Standard A jack
Full Speed	Standard B jack

DC Dielectric strength	7500 V
Energy transmission	Max 3 W (primary to secondary), 85% efficiency, overload protection

Supported Transfer Rate	Up to 12 Mbit/s (Full-Speed)

Standards	USB 1.1/2.0 compatible
Maximum working range	250 V AC
Transient protection	15 kV according to IEC 61000-4-2
Certification	EN60601-1:2020 (Ed. 3.2), CE, FCC
Design	Robust shielded metal housing with cable connections
Environment	0°C to 40°C, 20% to 90% RH, non-condensing
Dimensions	96 x 57 x 18mm
Weight	220 g

ISOUSB-CABLE-A



The USB Isolator ISOUSB-Cable-A is a full-speed USB isolator that provides electrical isolation for USB 2.0 and USB 1.1 connections. It is a professional tool designed to prevent ground loops, equalization currents, and protect against overvoltages. These features are essential for effective safety of people and devices. By isolating the USB interface, medical and other systems are divided into two separate circuits. The sensitive application units are safely isolated from the control and operating devices (e.g. a PC), preventing hazardous voltage spikes and discharge disturbances from being passed in either direction. The USB isolator is tested according to DIN EN 60601-1 (Edition 3.0). No additional power source is required for its operation.

Overview

- **Full-Speed - up to 12 Mbit/s data transfer rate**
- **RoHS compliant**
- **5000 V DC for 1 second, 4000 V AC for 1 minute**
- **Compatible with USB 1.1 and 2.0 standards**
- **250 V AC maximum operating voltage**
- **Encapsulated housing with Standard-A plug and Standard-A socket cables**
- **Tested according to DIN EN 60601-1 (Edition 3.0)**
- **No separate power source required**

ISOUSB-CABLE-A

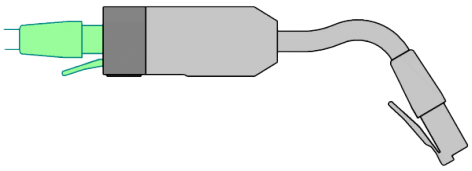
TYPE	CONNECTION
USB	Standard A jack
Full Speed	Standard A jack

DC Dielectric strength	5000 V
Energy transmission	500 mA, with overload protection

Supported Transfer Rate	Up to 12 Mbit/s (Full-Speed)

Standards	USB 1.1/2.0 compatible
Maximum working range	250 V AC
Transient protection	15 kV according to IEC 61000-4-2
Certification	EN60601-1:2020 (Ed. 3.0), CE, FCC
Design	Encapsulated housing in center of USB cable
Environment	0°C to 40°C, 20% to 90% RH, non-condensing
Dimensions	78 x 37 x 20 mm
Weight	90 g

LAN Port Protector



Adapter with Overtension Auto-Release (OTAR), Class D Gigabit Ethernet Performance.
The LAN Port Protector network adapter does not replace a network isolator and does not provide overvoltage protection between the network and the connected device. It provides physical protection to an Ethernet LAN port by automatically releasing the locking mechanism when a mechanical force acting on the cable exceeds a defined limit, preventing this excessive force from damaging the physical connections.

Overview

- Protection of network sockets through automatic overtension release
- High Performance Gigabit Ethernet
- ISO 11801 PL Class D Ethernet Performance
- RoHS compliant
- 100% testing of performance in quality control

LAN Port Protector

TYPE	CONNECTION
LAN Port Protector	RJ45 jack, straight
Standalone	RJ45 plug on cable

Supported Ethernet Transfer Rates	10 Mbit/s, 100 Mbit/s, 1000 Mbit/s

Performance category according to ISO 11801	Class D
Protection Rating	IP40
Weight	~20 g

Industrial Image Processing

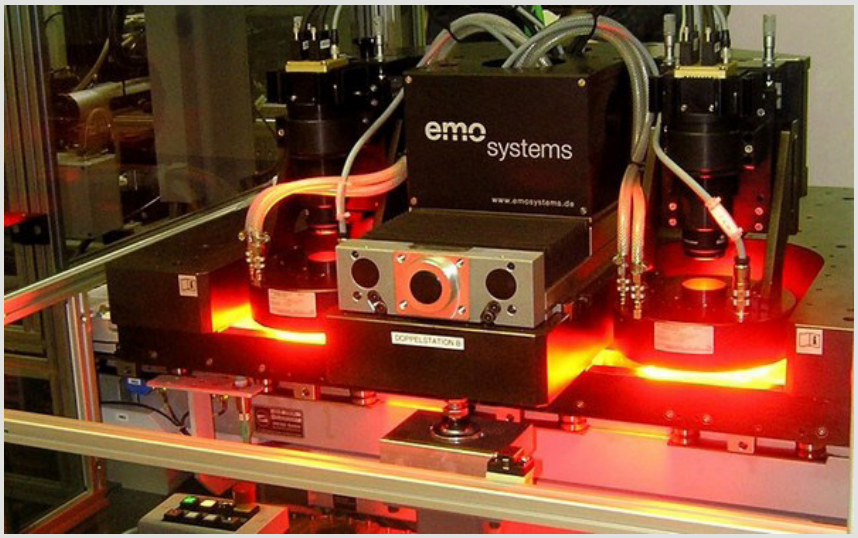
emovision

emovision

We solve challenging measurement tasks using state-of-the-art image processing tools.

We typically perform image acquisition with high-resolution industrial black-and-white or color CCD cameras.

emovision



- 3D contour capture and modeling through structured illumination
- Developing bespoke lighting systems, e.g. for illuminating reflective metallic surfaces
- Combinating multiaxial mechanical systems with optical measuring systems
- High-precision dimensional measuring of objects large and small

Footswitches

Footswitches

emoswitch

For industrial and medical technology applications.

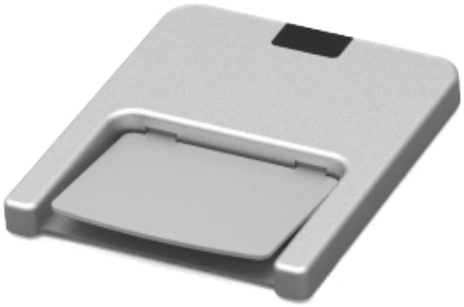
EMO Systems develops and manufactures a range of standard footswitches as well as custom-designed wireless and wired footswitches in single and double-pedal configurations. They meet the highest requirements for safety, ergonomics, and design. The switches are robust, waterproof (IP65), and incredibly flat.

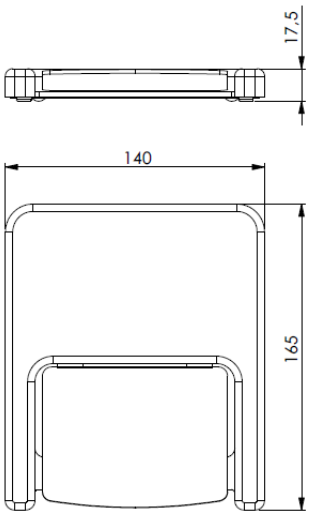
Each pedal actuates one or two microswitches with factory-adjustable predefined switching points, allowing for two-stage and self-monitoring circuits.
The housing is milled from high-quality aluminum, which is optionally anodized or powder-coated. Baseplates and foot pedals are made of stainless steel, and are also available with various surface finishes. Individual switch functions can be labeled on the housing and/or pedals with laser markings, stickers, or engravings; or by using a color code system. Footswitches are constructed from materials that resist standard disinfection and cleaning agents.

Features & Options

- Ultra-flat and robust aluminum housing
- Surface anodized or powder-coated
- Stainless steel baseplates, switch pedals, guards, and screws
- 2.4 GHz radio module (wireless models only)
- All seals made of EPDM rubber
- Resistant to standard disinfection and cleaning agents
- Encapsulated Microswitches
- Lifespan of at least 500,000 switching cycles (at up to 24 V, 4 mA for wired models only)
- Integrated cable strain relief (wired models only)
- Bespoke cable and connector systems available. e.g. AMP 3+, AMP D-sub, ODU, LEMO, DIN, mini DIN, Preh, etc.

emoswitch-single





Our emoswitch wireless footswitches meet the highest standards of safety, ergonomics, and design. The switches are robust, waterproof (IP65), and incredibly flat.
The emoswitch-single is a single-pedal, wireless footswitch with a USB receiver dongle. The pedal activates a microswitch with a factory-adjustable, predefined switching point. The USB receiver dongle functions as a standard HID (Human Interface Device) keyboard, which means that no software drivers need to be installed for operation. Each wireless footswitch is assigned a unique 48-bit code, preventing false triggers from other footswitches. Milled from high-quality aluminum and naturally anodized, the housing has a clean and modern look. The baseplate and pedal are constructed from stainless steel.

Overview

- **Ultra-flat metal housing**
- **One pedal**
- **Wireless**
- **Includes USB receiver**
- **Ingress protection level IP65**
- **Resistant to standard disinfection and cleaning agents**

emoswitch-single

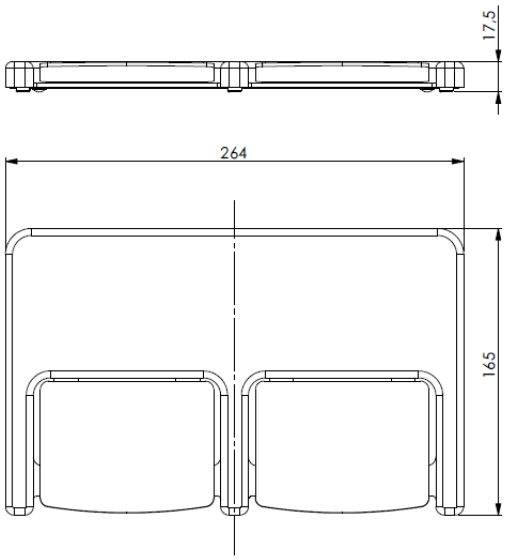
OPERATING CONDITIONS	
Temperature	1°C to 45°C
Air humidity	10% to 90%
Air pressure	860 hPa to 1060 hPa

STORAGE AND TRANSPORTATION	
Temperature	-25°C to 80°C
Air humidity	10% to 90%
Air pressure	600 hPa to 1060 hPa

PHYSICAL PROPERTIES	
Weight	739 g

PROTECTION RATING	
Housing	IP65

emoswitch-double



Our emoswitch wireless footswitches meet the highest standards of safety, ergonomics, and design. The switches are robust, waterproof (IP65), and incredibly flat.

The emoswitch-double is a twin-pedal, wireless footswitch with a USB receiver dongle. The pedals activate microswitches with factory-adjustable, predefined switching points. The USB receiver dongle functions as a standard HID (Human Interface Device) keyboard, which means that no software drivers need to be installed for operation. Each wireless footswitch is assigned a unique 48-bit code, preventing false triggers from other footswitches. Milled from high-quality aluminum and naturally anodized, the housing has a clean and modern look. The baseplate and pedal are constructed from stainless steel.

Overview

- **Ultra-flat metal housing**
- **Two pedals**
- **Wireless**
- **Includes USB receiver**
- **Ingress protection level IP65**
- **Resistant to standard disinfection and cleaning agents**

emoswitch-double

OPERATING CONDITIONS	
Temperature	1°C to 45°C
Air humidity	10% to 90%
Air pressure	860 hPa to 1060 hPa

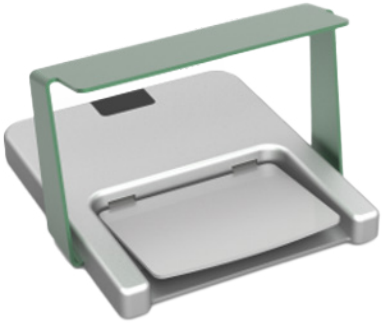
STORAGE AND TRANSPORTATION	
Temperature	-25°C to 80°C
Air humidity	10% to 90%
Air pressure	600 hPa to 1060 hPa

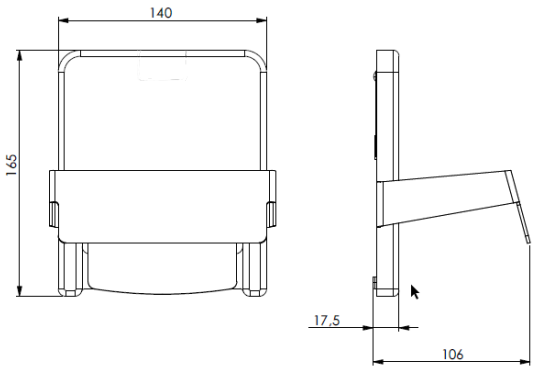
PHYSICAL PROPERTIES	
Weight	1484 g

PROTECTION RATING	
Housing	IP65

Foot switches

emoswitch-single-guarded





Our emoswitch wireless footswitches meet the highest standards of safety, ergonomics, and design. The switches are robust, waterproof (IP65), and incredibly flat.

The emoswitch-single-guarded is a single-pedal, wireless footswitch with a stainless steel guard and a USB receiver dongle. The pedal activates a microswitch with a factory-adjustable, predefined switching point. The USB receiver dongle functions as a standard HID (Human Interface Device) keyboard, which means that no software drivers need to be installed for operation. Each wireless footswitch is assigned a unique 48-bit code, preventing false triggers from other footswitches. Milled from high-quality aluminum and naturally anodized, the housing has a clean and modern look. The baseplate, guard, and pedals are constructed from stainless steel.

Overview

- **Ultra-thin metal housing**
- **One pedal with guard**
- **Wireless**
- **Includes USB receiver**
- **Ingress protection level IP65**
- **Resistant to standard disinfection and cleaning agents**

emoswitch-single-guarded

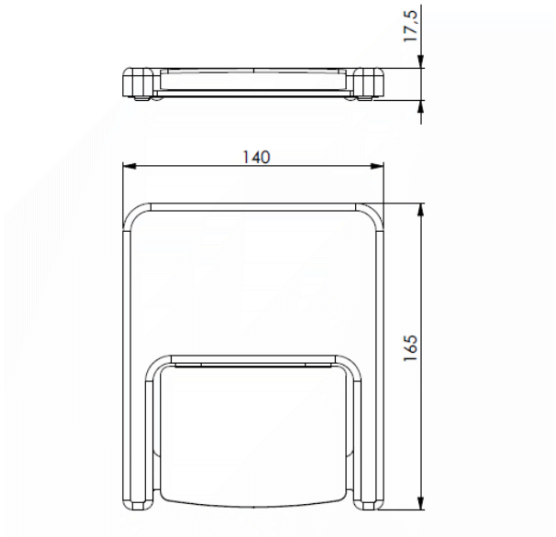
OPERATING CONDITIONS	
Temperature	1°C to 45°C
Air humidity	10% to 90%
Air pressure	860 hPa to 1060 hPa

STORAGE AND TRANSPORTATION	
Temperature	-25°C to 80°C
Air humidity	10% to 90%
Air pressure	600 hPa to 1060 hPa

PHYSICAL PROPERTIES	
Weight	942 g

PROTECTION RATING	
Housing	IP65

emoswitch-connect-single



Our emoswitch footswitches meet the highest standards of safety, ergonomics, and design. The switches are robust, waterproof (IP65), and incredibly flat. The emoswitch-connect-single is a single-pedal footswitch with an optionally usable USB adaptor cable. The pedal activates a microswitch with a factory-adjustable, predefined switching point. The USB adaptor cable functions as a standard HID (Human Interface Device) keyboard, which means that no software drivers need to be installed for operation. Alternatively, the USB adaptor does not need to be used, and the footswitch can be easily interfaced to any other system. Custom cable and connector variations are available upon request. Also available upon request is the possibility to interface to serial or bus systems (e.g. USB, RS232, RS458, CAN), or to intelligently equip the switches for a bespoke solution. For example, time-controlled switching functions. Milled from high-quality aluminum and naturally anodized, the housing has a clean and modern look. The baseplate and pedal are constructed from stainless steel.

Overview

- **Ultra-flat metal housing**
- **One pedal**
- **Extremely flexible cable to reduce tripping hazards**
- **Includes USB adaptor cable**
- **Ingress protection level IP65**
- **Resistant to standard disinfection and cleaning agents**

emoswitch-connect-single

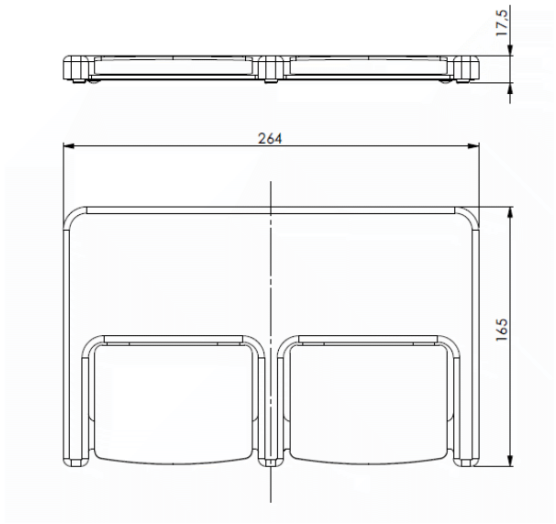
OPERATING CONDITIONS	
Temperature	1°C to 45°C
Air humidity	10% to 90%
Air pressure	860 hPa to 1060 hPa

STORAGE AND TRANSPORTATION	
Temperature	-25°C to 70°C
Air humidity	10% to 90%
Air pressure	600 hPa to 1060 hPa

PHYSICAL PROPERTIES	
Weight	1000 g

PROTECTION RATING	
Housing	IP65

emoswitch-connect-double



Our emoswitch footswitches meet the highest standards of safety, ergonomics, and design. The switches are robust, waterproof (IP65), and incredibly flat. The emoswitch-connect-double is a twin-pedal footswitch with an optionally usable USB adaptor cable. The pedal activates a microswitch with a factory-adjustable, predefined switching point. The USB adaptor cable functions as a standard HID (Human Interface Device) keyboard, which means that no software drivers need to be installed for operation. Alternatively, the USB adaptor does not need to be used, and the footswitch can be easily interfaced to any other system. Custom cable and connector variations are available upon request. Also available upon request is the possibility to interface to serial or bus systems (e.g. USB, RS232, RS458, CAN), or to intelligently equip the switches for a bespoke solution. For example, time-controlled switching functions. Milled from high-quality aluminum and naturally anodized, the housing has a clean and modern look. The baseplate and pedals are constructed from stainless steel.

Overview

- **Ultra-flat metal housing**
- **Two pedals**
- **Extremely flexible cable to reduce tripping hazards**
- **Includes USB adaptor cable**
- **Ingress protection level IP65**
- **Resistant to standard disinfection and cleaning agents**

emoswitch-connect-double

OPERATING CONDITIONS	
Temperature	1°C to 45°C
Air humidity	10% to 90%
Air pressure	860 hPa to 1060 hPa

STORAGE AND TRANSPORTATION	
Temperature	-25°C to 70°C
Air humidity	10% to 90%
Air pressure	600 hPa to 1060 hPa

PHYSICAL PROPERTIES	
Weight	1800 g

PROTECTION RATING	
Housing	IP65

Isolation Transformers

Isolation Transformers

IMED

Isolation transformers are, in a narrower sense, also referred to as network transformers. The mains voltage is transferred with minimal loss to a secondary winding. This winding is electrically separated from the primary winding by a so-called protective separation.

The medical isolation transformers IMEDi (international series) and IMEDe (European series) enhance protection against electric shocks for patients and staff. However, isolation transformers do not protect against electric shock if both mains output contacts (phase and neutral) are touched simultaneously.

Features & Options

- Fixed input and output operating voltage of 230 V AC
- Built-in semiconductor-based inrush current limiter (NTC thermistor)
- One or two equipotential bonding bolts (POAG according to DIN 42801)
- Designed for continuous operation
- Self-resetting over-temperature switch
- Conformity testing according to EN 60601-1
- Equipped with a base potential equalization

Isolation Transformers

IMEDe 150

Special isolating toroidal transformer for medical application built in an attractive white finish aluminum enclosure. The power entry module contains a power switch, green LED (when operating), line filter for medical use, and dual current limiting fuses. Double insulated windings ensure a galvanic physical separation between input and output as well as holding the leakage current below the stipulated maximum value. Supports stringent requirements for extremely low leakage currents, as well as the minimisation of leakage current when several units are combined - ideal for hospital environments. Typical applications include installations in hospitals of computers, printers, analytical Instruments, surveying cameras, video monitors, etc.

Overview

- **Supplies up to 150 W total**
- **Two outlets**
- **Input 230 V AC, output 230 V AC, 50/60 Hz**

IMEDe 150

Max. Power output	150 VA
Output sockets	2 x IEC 320
Housing protection class	IP20
Weight without packaging	approx. 3 kg
Dimensions (L x W x H) mm	194 x 148 x 77
Device leakage current	< 100 µA
Output leakage current	< 50 µA
Inrush current limiter	Thermal semiconductor
Short circuit protection	Micro fuse primary
Excess temperature protection	Self-resetting over-temperature switch
Housing design	Sheet steel housing, powder-coated, light-gray RAL7035
Mains cable primary	Included in delivery
Mounting possibility	Floor, table or wall mounting
Conformity	EN60601
Classification according to German Medical Devices Act (MPG)	Product class I

Isolation Transformers

IMEDe 300

Special isolating toroidal transformer for medical application built in an attractive white finish aluminum enclosure. The power entry module contains a power switch, green LED (when operating), line filter for medical use, and dual current limiting fuses. Double insulated windings ensure a galvanic physical separation between input and output as well as holding the leakage current below the stipulated maximum value. Supports stringent requirements for extremely low leakage currents, as well as the minimisation of leakage current when several units are combined - ideal for hospital environments. Typical applications include installations in hospitals of computers, printers, analytical Instruments, surveying cameras, video monitors, etc.

Overview

- **Supplies up to 300 W total**
- **Four outlets**
- **Input 230 V AC, output 230 V AC, 50/60 Hz**

IMEDe 300

Max. Power output	300 VA
Output sockets	4 x IEC 320
Housing protection class	IP20
Weight without packaging	approx. 4.5 kg
Dimensions (L x W x H) mm	194 x 148 x 92
Device leakage current	< 100 µA
Output leakage current	< 70 µA
Inrush current limiter	Thermal semiconductor
Short circuit protection	Micro fuse primary
Excess temperature protection	Self-resetting over-temperature switch
Housing design	Sheet steel housing, powder-coated, light-gray RAL7035
Mains cable primary	Included in delivery
Mounting possibility	Floor, table or wall mounting
Conformity	EN60601
Classification according to German Medical Devices Act (MPG)	Product class I

Isolation Transformers

IMEDe 600

Special isolating toroidal transformer for medical application built in an attractive white finish aluminum enclosure. The power entry module contains a power switch, green LED (when operating), line filter for medical use, and dual current limiting fuses. Double insulated windings ensure a galvanic physical separation between input and output as well as holding the leakage current below the stipulated maximum value. Supports stringent requirements for extremely low leakage currents, as well as the minimisation of leakage current when several units are combined - ideal for hospital environments. Typical applications include installations in hospitals of computers, printers, analytical Instruments, surveying cameras, video monitors, etc.

Overview

- **Supplies up to 600 W total**
- **Six outlets**
- **Input 230 V AC, output 230 V AC, 50/60 Hz**

IMEDe 600

Max. Power output	600 VA
Output sockets	6 x IEC 320
Housing protection class	IP20
Weight without packaging	approx. 9 kg
Dimensions (L x W x H) mm	270 x 188 x 92
Device leakage current	< 100 µA
Output leakage current	< 100 µA
Inrush current limiter	Thermal semiconductor
Short circuit protection	Micro fuse primary
Excess temperature protection	Self-resetting over-temperature switch
Housing design	Sheet steel housing, powder-coated, light-gray RAL7035
Mains cable primary	Included in delivery
Mounting possibility	Floor, table or wall mounting
Conformity	EN60601
Classification according to German Medical Devices Act (MPG)	Product class I

Isolation Transformers

IMEDe 1000

Special isolating toroidal transformer for medical application built in an attractive white finish aluminum enclosure. The power entry module contains a power switch, green LED (when operating), line filter for medical use, and dual current limiting fuses. Double insulated windings ensure a galvanic physical separation between input and output as well as holding the leakage current below the stipulated maximum value. Supports stringent requirements for extremely low leakage currents, as well as the minimisation of leakage current when several units are combined - ideal for hospital environments. Typical applications include installations in hospitals of computers, printers, analytical Instruments, surveying cameras, video monitors, etc.

Overview

- **Supplies up to 1000 W total**
- **Nine outlets**
- **Input 230 V AC, output 230 V AC, 50/60 Hz**

IMEDe 1000

Max. Power output	1000 VA
Output sockets	9 x IEC 320
Housing protection class	IP20
Weight without packaging	approx. 14 kg
Dimensions (L x W x H) mm	305 x 218 x 110
Device leakage current	< 100 µA
Output leakage current	< 100 µA
Inrush current limiter	Thermal semiconductor
Short circuit protection	Micro fuse primary
Excess temperature protection	Self-resetting over-temperature switch
Housing design	Sheet steel housing, powder-coated, light-gray RAL7035
Mains cable primary	Included in delivery
Mounting possibility	Floor, table or wall mounting
Conformity	EN60601
Classification according to German Medical Devices Act (MPG)	Product class I

Isolation Transformers

IMEDe 2000

Special isolating toroidal transformer for medical application built in an attractive white finish aluminum enclosure. The power entry module contains a power switch, green LED (when operating), line filter for medical use, and dual current limiting fuses. Double insulated windings ensure a galvanic physical separation between input and output as well as holding the leakage current below the stipulated maximum value. Supports stringent requirements for extremely low leakage currents, as well as the minimisation of leakage current when several units are combined - ideal for hospital environments. Typical applications include installations in hospitals of computers, printers, analytical Instruments, surveying cameras, video monitors, etc.

Overview

- **Supplies up to 2000 W total**
- **Nine outlets**
- **Input 230 V AC, output 230 V AC, 50/60 Hz**

IMEDe 2000

Max. Power output	2000 VA
Output sockets	9 x IEC 320
Housing protection class	IP20
Weight without packaging	approx. 21 kg
Dimensions (L x W x H) mm	312 x 285 x 110
Device leakage current	< 100 µA
Output leakage current	< 100 µA
Inrush current limiter	Thermal semiconductor
Short circuit protection	Micro fuse primary
Excess temperature protection	Self-resetting over-temperature switch
Housing design	Sheet steel housing, powder-coated, light-gray RAL7035
Mains cable primary	Included in delivery
Mounting possibility	Floor, table or wall mounting
Conformity	EN60601
Classification according to German Medical Devices Act (MPG)	Product class I

Accessories

Accessories

IEC CABLE

Adapter cable for connecting devices with European-style Schuko plugs to an IEC 60320 C13 output of an isolation transformer.

Cable length 1 meter.

ELG 130060

The earth leakage guard ELG 130060 monitors the dielectric resistance between a medical supply circuit and the earth potential.
The typically arranged protective measures against insulation fault on the building power supply (such as ground fault circuit breaker) may not principally identify possible insulation defects on the output side due to the galvanic insulation through the IMED isolating transformer. This leads to a potential danger for the patients or the operating personnel. The ELG 130060 closes this security gap reliably by clearly warning against insulation faults. The leakage resistance is constantly monitored, and if this falls short of a specific minimum limit the ELG 130060 emits warnings both optically (via an LED) as well as acoustically (via a loud, clear tone).
The earth leakage guard is to be directly connected to one of the output sockets of an IMED isolation transformer, and serves solely as an indicator and alarm device for insulation faults. The ELG is intended exclusively for use in conjunction with isolation transformers of the IMEDe and IMEDi series.

Our services at a glance:

DESIGN & DEVELOPMENT

- Product Development
- Electronics Development
- Image Processing

INDUSTRIAL IMAGE PROCESSING

- Dimensional measurement of large and small objects

MICRO-CT

- Micro-computed tomography
- Reverse engineering

PROJECT WORK

- Prototype construction & series production
- Technical documentation
- Consulting

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