

Universal Gate Box with Integrated Industrial Ethernet

UGB-NET Product Overview Brochure



What We Do

IDEM designs and manufactures machine safety products, that make industry safer.



Proud Winners of The Queen's Award for Enterprise: International Trade 2022

Our History

The founder of IDEM, Medi Mohtasham begins his employment at EJA Engineering where he designed Trojan, Atlas, Rotacam and LRS1 under the Guardmaster brand. Rockwell Automation acquires EJA in 1996.

Medi leaves his position as Technical Director of Rockwell to create IDEM Safety Switches, with the vision to develop the 'Next Generation' of Safety Switches, designed and manufactured in the UK.

2005

IDEM manufactures the GuardianLine range of safety rope switches, specialising in products for the Food Industry, Explosion Proof applications and Factory Automation.

Today IDEM operates globally, providing reliable, cost-effective safety interlock solutions that save lives. IDEM continues to invest in new ways to protect your personnel and improve your productivity.

Why Choose IDEM?



Global leadership in the design and manufacture of machine safety products since 1985.



Renowned for world-class product quality and reliability on a global scale.



IDEM's global headquarters is based in the UK with offices in the USA and Europe.



State-of-the-art manufacturing and test facilities. This includes Ingress Protection (IP) and Shock testing.



Privately owned business with in house sales, R&D and technical support teams.



Exceptional delivery time for both small and large orders. We put the customers' needs first.



ACCESS GATE BOX SOLUTION - UGB-NET

WHAT IS UGB-NET?

ROBUST

UGB-NET is an access gate box which combines solenoid locking, RFID coded sensor and integrated machine control funcions in a robust heavy duty housing. Available in Die - Cast Metal (red) or Stainless Steel 316.



PASSED CONFORMITY Profinet - with **PROFIsafe** PASSED CONFORMITY Ethernet / IP with CIP Safety

NETWORKED

Integrated safety protocols for use with industry recognised Industrial Ethernet network protocols. Choose between PROFINET with PROFIsafe or Ethernet/IP with CIP Safety.

CUSTOMISABLE

The UGB-NET is highly customisable, allowing for up to 6 illuminated pilot devices (pushbuttons, lamps, selector switches and e-stops) to be included on the lid. These are factory configured to your specification.





EASY TO INSTALL

Depending on the application, the UGB-NET is available with rear escape functionality, mounting plate and handle accessories and emergency stop protection shroud. The external fixing points means the lid does not need to be removed during or after installation.

FEATURES AND BENEFITS

DIE-CAST OR 316 STAINLESS STEEL



UGB-NET is available in robust die-cast metal painted red, or mirror polished 316 stainless

The 316 stainless steel IP69K version is suitable for washdown.

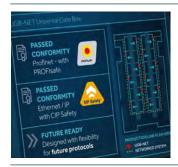
UP TO 6 PILOT DEVICES



UGB-NET base models are available with either 4 or 6 illuminated push buttons on the

For requirements greater than 6, see page 6.

INDUSTRIAL ETHERNET READY



Compatible with both Ethernet/IP with CIP Safety and PROFINET with PROFIsafe industrial ethernet protocols.

Fully approved by cULus and TUV to the latest international safety standards.

CONFIGURABLE CONTROL FUNCTIONALITY



Low profile design and replaceable pushbuttons reduce risk of damage and lowers maintenance costs.

The lid incorporates up to 6 pilot devices which are factory set to your specification.

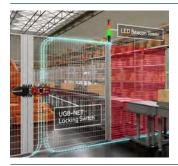
DUAL ACTUATOR ENTRY WITH RFID CODING



UGB-NET has two 2 entry directions for the RFID coded tongue, one on the face and the other on the side. This gives flexibility of mounting for both sliding and hinged doors.

RFID code can be re-taught to a new actuator if required. Doing so will obsolete the old code.

CONNECT FIELD DEVICES TO THE UGB-NET



The UGB-NET is available with up to 4 additional M12 plugs for connecting external devices. These can include emergency stops, light curtains, light towers, enabling pendants, rope switches plus many more. Please specify before ordering as they are factory configured. See page 6.

EASY TO MOUNT / OPTIONAL REAR RELEASE



The UGB-NET has a choice of sliding and rotary handles, both with optional rear release functionality.

The external mounting holes make it quick and easy to install.

RELIABLE MECHANICAL INTERLOCKING



The robust, industry proven cam system provides a high level of anti-tamper and a holding force of up to 3000N on a sliding handle, and up to 10000N on a rotary handle.

CODED RELEASE KEY



The UGB-NET incorporates a coded key that can be released once the machine has stopped.

The key can then be taken inside the hazardous area to prevent inadvertant start-ups.

EMERGENCY STOP AND PROTECTION SHROUD



If the protruding nature of the E-Stop is a concern, the UGB-NET is available with a button shroud for increased protection from external impact.

CUSTOMISATION

The UGB-NET is compact and highly configurable. The lid incorporates up to 6 x 22mm pilot devices that are factory configured for your convenience. See page 9 for ordering information.

PUSH BUTTONS

- · Contacts 1NO.
- · Choice of 5 colours; red, blue, green, yellow, white.

LAMPS

· Choice of 5 colours; red, blue, green, yellow, white.

EMERGENCY STOP

· Contacts 2NC.

SELECTOR SWITCH

· Contacts 1NO maintained.



REPLACEABLE LID

The UGB-NET has been designed with a replaceable lid, resulting in lower maintenance costs.

CHOOSE YOUR REQUIRED PROTOCOL (FACTORY CONFIGURED)

Choosing your protocol is usually determined by your machine's software architecture.

- · PROFIsafe
- · CIP Safety





CIP Safety - short for "Common Industrial Protocol" - is designed to provide fail-safe communication between different nodes on a safety network.





PROFIsafe is an additional software layer that provides functional safety over the bus in PROFINET networks.

PROFIsafe will take care of the functional safety portion of communications.

CHOOSE YOUR PREFERED HANDLE ARRANGEMENT

- · All handles are available in either painted die-cast or mirror polished 316 stainless-steel.
- \cdot If you have opted for the UGB-NET with rear release, you will need one of the rear handles below.
- · It is important you that you specify if your guard is left or right hand opening.
- · Handles supplied in left-hand or right-hand depending on your requirements. See page 14 for part numbers.



FRONT ROTARY HANDLE (RIGHT-HAND SHOWN)



FRONT SLIDING HANDLE (RIGHT-HAND SHOWN)



REAR ROTARY HANDLE



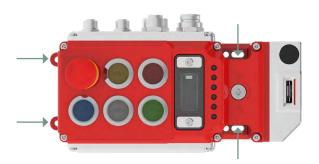
REAR SLIDING HANDLE



EASE OF INSTALLATION

The UGB-NET has been designed for quick and easy installation. Networking your safety reduces the number of components, less wiring, fewer cabinets, faster installation, and faster commissioning.

EXTERNAL MOUNTING HOLES



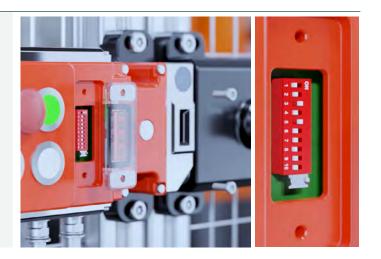
UGB-NET features external mounting holes make it quick and easy to install. No need to remove the lid during installation.

The fixings are made from metal, ensuring a firm mounting that can withstand external impact.

EASILY ACCESSABLE DIP SWITCHES

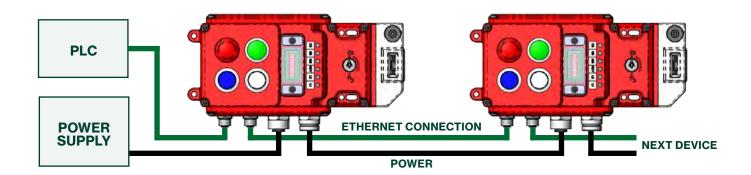
Easily accessible DIP switches, by way of removing the polycarbonate cover.

Set your network address post installation.



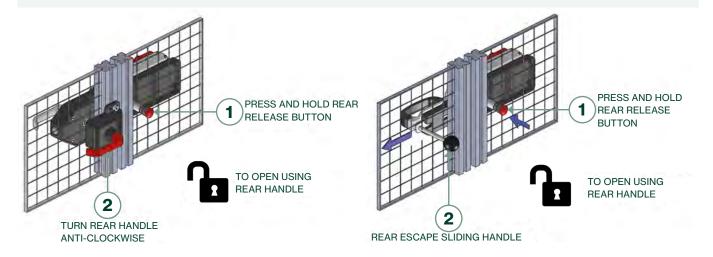
CONNECT MULTIPLE UNITS

Simple power in / out and data in / out makes connectivity quick and efficient. Data can pass 2-ways over industrial ethernet, so no need to wire back to the PLC from the last unit.



REAR RELEASE FUNCTIONALITY

The UGB-NET is available with rear release functionality granting the operator a means of escape from the hazardous area. Depending on your handle arrangement, the UGB-NET requires a simple 2-step process to overide the solenoid (and trapped key if used) and unlatch the actuator.



REAR ROTARY HANDLE

REAR SLIDING HANDLE

REAR ESCAPE APPLICATION EXAMPLE

Robot cells are a great example of when rear release functionality is required.

Robots can cause serious harm should they come into contact with a person. In the unfortunate event that an inadvertent start-up happens, immediate escape from the hazardous area is required.



RFID CODED TONGUE

RFID coded tongue meets the requirements of Type 4 high level coding in accordance with EN ISO 14119.



ADDITIONAL CONTROL AND CONNECTIVITY

The UGB-NET is compatible with safe and non-safe external devices. Products such as light curtains, beacons, enabling pendants can be added to your UGB-NET's network via additional M12 connectors. These are configured at the factory for a plug-and-play solution. Additional control functionality can be added via the expandable module. Please contact IDEM Safety Switches directly for ordering details.

FIELD DEVICE CONNECTOR PLATE



If you require additional connectivity, a connector plate can be purchased. It is available with 1, 2, 3 or 4 M12 plugs depending on your requirement. Factory assembled and configured.



POPULAR PRODUCTS CONNECTED TO THE UGB-NET













LIGHT CURTAINS / SCANNERS

LED TOWERS

ENABLING PENDANTS

SAFETY ROPE PULLS

LOCKING SWITCHES

TRAPPED KEY

APPLICATION EXAMPLE

Modern day factories require flexible safety solutions that can adapt to many different guarding requirements. Warehouse automation applications are a great example of this, often requiring a mixture of part- and full-body access. The use of light curtains, LED beacon towers and rope pull switches are some of the more commonly used safety devices used in Intralogistic applications. Incorporating these products into the UGB-NET's industrial network will save on wiring, safety I/O requirements at the panel and improve the overall diagnostics.



UGB-NET WITH CODED RELEASE KEY

The UGB-NET is available with a coded mechanical personnel key that is trapped when the guard is closed, and the machine is running. Requesting entry then energises the solenoid, allowing the key to be removed.

Removal of the key unlocks the gate, permitting access. The operator can then take the personnel key inside, ensuring no inadvertent startups can occur whilst working in the hazardous area.



ORDERING YOUR CODED KEY

Each key code letter has a unique colour associated with it (as shown in the table).

- · Thousands of key codes available
- · Custom key labels available on request



Yellov	N	White	•	Greei	n	Blue	
A404	Δ111	B004	B211	0204	0044	D404	D.444
A101		B201		C301	C311	D401	D411
A102	A112	B202	B212	C302	C312	D402	D412
A103	A113	B203	B213	C303	C313	D403	D413
A104	A114	B204	B214	C304	C314	D404	D414
A105	A115	B205	B215	C305	C315	D405	D415
A106	A116	B206	B216	C306	C316	D406	D416
A107	A117	B207	B217	C307	C317	D407	D417
A108	A118	B208	B218	C308	C318	D408	D418
A109	A119	B209	B219	C309	C319	D409	D419
A110	A120	B210	B220	C310	C320	D410	D420

ORDERING A UNIQUELY CODED KEY

Uniquely coded keys available on request. These types of keys come with a key management/tracking service to ensure strict access to replacements.

APPLICATION EXAMPLE

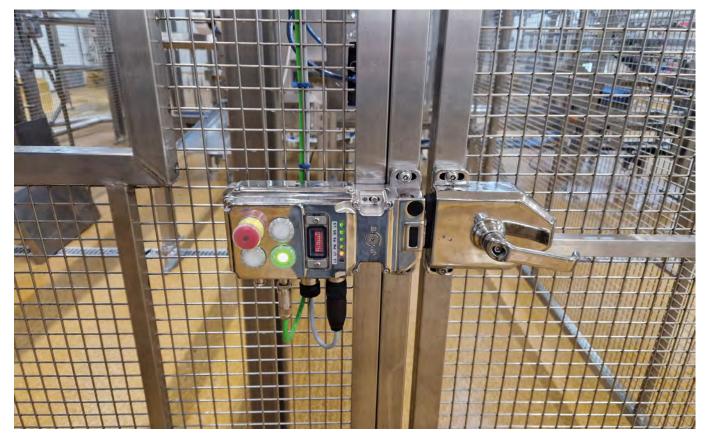
The personnel key feature is predominantly used to reduce the risk of inadvertent startups whilst operating inside the hazardous area. The key can be in conjunction with IDEM's isolation switch to enable features such as robot teach modes and activating manual modes on production lines. This dual purpose encourages the user to take the personnel key with them whilst operating inside hazardous areas.



UGB-NET-SS TESTED TO IP69K

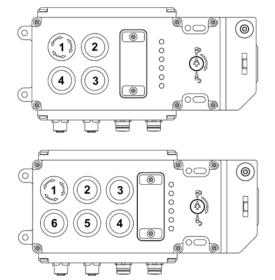
The UGB-NET-SS is the only network enabled safety device on the market with IP69K rating. The housing is manufactured using mirror polished 316 stainless steel, closed with double-seal gaskets and the buttons are protected using transparent silicone covers.

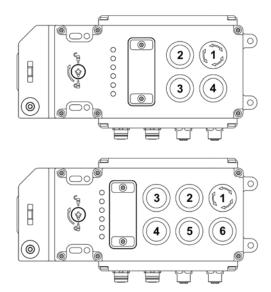




UGB-NET PILOT DEVICE LAYOUT

The UGB-NET is available with 4 or 6 customisable 22mm pilot devices. A plastic blanking plug (x) is used to seal any unused positions. When ordering, please confirm the position of the pilot devices via the part number as shown in the diagram below. The E-Stop (if used) can only be fitted in position 1.



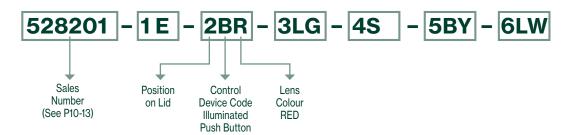


RIGHT HANDED

LEFT HANDED

UGB-NET ORDERING EXAMPLE

UGB-NET-M-PS (Right Hand) PROFIsafe. Note: E-Stop (if used) can only be fitted in position "1". To include: 1 x Illuminated Emergency Stop + 1 x RED Illuminated Push Button + 1 x GREEN Lamp + 1 x Illuminated Selector Switch + 1 x YELLOW Illuminated Push Button + 1 x WHITE Lamp



Illuminated Emergency Stop			
Contacts: 2NC			
Control Device Code	Note		
E	E-Stop can only be fitted into Position 1 on Lid		

Illuminated Sector Switch			
Control Device Code	Colour Code		
	1NO Maintained		
S	90°		

Illuminated Push Buttons					
Contacts: 1NO					
Control Device Code	Colour Code	Colour of Lens			
	R				
	В				
В	G				
	Υ				
	W	0			

Lamps				
Control Device Code	Colour Code	Colour of Lens		
	R			
	В			
	G			
_	Υ			
	W	0		

Blanking Plug			
Code	Description		
X	Plastic Plug used to seal any unused positions		

For additional connectivity (shown on page 6), please contact us directly.



UGB-NET DIE-CAST (PROFISAFE) 4-STATION









UGB-NET-M-PS
(Right Hand)

UGB-NET-M-PS-RR (Right Hand)

UGB-NET-M-PS (Left Hand)

UGB-NET-M-PS-RR (Left Hand)

Connectors:

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

Connectors:

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

Connectors:

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

Connectors:

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

4 x Control Devices:

Refer to page 9 for ordering information

4 x Control Devices:

Refer to page 9 for ordering information

4 x Control Devices:

Refer to page 9 for ordering information

4 x Control Devices:

Refer to page 9 for ordering information

Sales Number:

(Auxiliary Release) 528001

Sales Number:

(Auxiliary Release) 528002

Sales Number:

(Auxiliary Release) 528005

Sales Number:

(Auxiliary Release) 528006

Sales Number:

(No Auxiliary Release) 528003

Sales Number: (No Auxiliary Release)

528004

Sales Number:

(No Auxiliary Release) 528007

Sales Number:

(No Auxiliary Release) 528008

Sales Number:

528009 (Trapped Key) 528013 (Trapped Key + Aux. Release)

Sales Number:

528010 (Trapped Key) 528014 (Trapped Key + Aux. Release)

Sales Number:

528011 (Trapped Key) 52815 (Trapped Key + Aux. Release)

Sales Number:

528012 (Trapped Key) 528016 (Trapped Key + Aux. Release)

UGB-NET DIE-CAST (PROFISAFE) 6-STATION





UGB-NET-M-PS-RR





UGB-NET-M-PS (Right Hand)

(Right Hand)

UGB-NET-M-PS (Left Hand)

UGB-NET-M-PS-RR (Left Hand)

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

2 x M12 Data Connectors 2 x 7/8" Power (24Vdc Connectors

6 x Control Devices:

Refer to page 9 for ordering information

6 x Control Devices:

Refer to page 9 for ordering information

6 x Control Devices:

Refer to page 9 for ordering information

6 x Control Devices:

Refer to page 9 for ordering information

Sales Number:

(Auxiliary Release) 528201

Sales Number:

(Auxiliary Release) 528202

Sales Number: (Auxiliary Release)

528205

Sales Number:

(Auxiliary Release) 528206

Sales Number:

(No Auxiliary Release) 528203

Sales Number: (No Auxiliary Release)

528204

Sales Number:

(No Auxiliary Release) 528207

Sales Number:

(No Auxiliary Release) 528208

Sales Number:

(With Trapped Kev) Currently Not Available

Sales Number: (With Trapped Key)

Currently Not Available

Sales Number: (With Trapped Key)

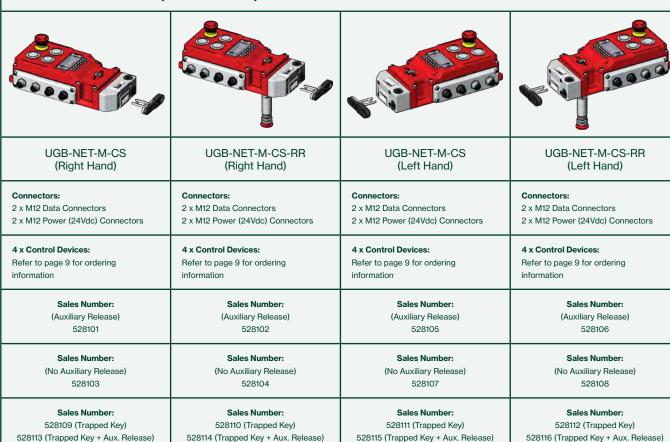
Currently Not Available

Sales Number: (With Trapped Kev)

Currently Not Available

CATALOGUE NUMBERS

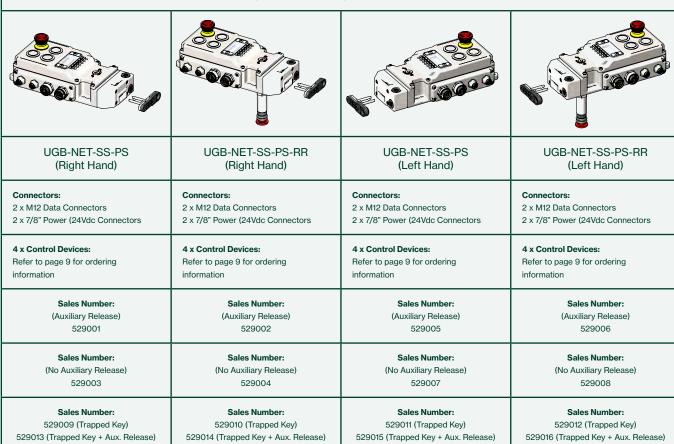
UGB-NET DIE-CAST (CIP SAFETY) 4-STATION



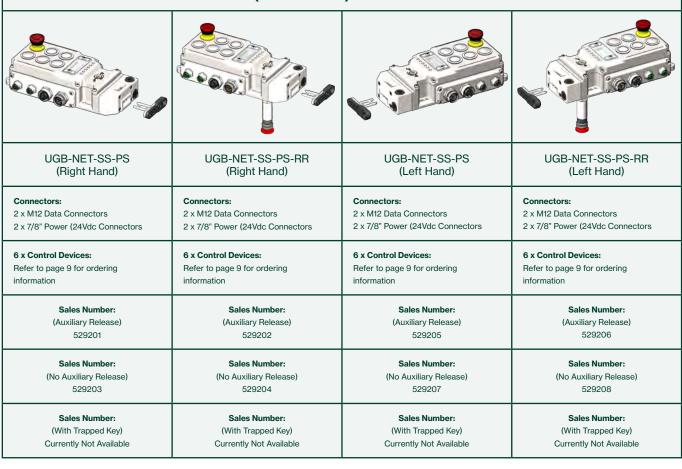
UGB-NET DIE-CAST (CIP SAFETY) 6-STATION



UGB-NET 316 STAINLESS STEEL (PROFISAFE) 4-STATION



UGB-NET 316 STAINLESS STEEL (PROFISAFE) 6-STATION



CATALOGUE NUMBERS

UGB-NET DIE-CAST (CIP SAFETY) 4-STATION UGB-NET-SS-CS UGB-NET-SS-CS-RR **UGB-NET-SS-CS** UGB-NET-SS-CS-RR (Right Hand) (Right Hand) (Left Hand) (Left Hand) Connectors: Connectors: Connectors: Connectors: 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors 4 x Control Devices: 4 x Control Devices: 4 x Control Devices: 4 x Control Devices: Refer to page 9 for ordering information information information information Sales Number: Sales Number: Sales Number: Sales Number: (Auxiliary Release) (Auxiliary Release) (Auxiliary Release) (Auxiliary Release) 529101 529102 529105 529106 Sales Number: Sales Number: Sales Number: Sales Number: (No Auxiliary Release) (No Auxiliary Release) (No Auxiliary Release) (No Auxiliary Release) 529103 529104 529107 529108 Sales Number: Sales Number: Sales Number: Sales Number: 529109 (Trapped Key) 529110 (Trapped Key) 529111 (Trapped Key) 529112 (Trapped Key) 529113 (Trapped Key + Aux. Release) 529114 (Trapped Key + Aux. Release) 529115 (Trapped Key + Aux. Release) 529116 (Trapped Key + Aux. Release) **UGB-NET DIE-CAST (CIP SAFETY) 6-STATION UGB-NET-SS-CS** UGB-NET-SS-CS-RR **UGB-NET-SS-CS UGB-NET-SS-CS-RR** (Right Hand) (Right Hand) (Left Hand) (Left Hand) Connectors: Connectors: 2 x M12 Data Connectors 2 x M12 Power (24Vdc) Connectors 6 x Control Devices: 6 x Control Devices: 6 x Control Devices: 6 x Control Devices: Refer to page 9 for ordering information information information information Sales Number: Sales Number: Sales Number: Sales Number: (Auxiliary Release) (Auxiliary Release) (Auxiliary Release) (Auxiliary Release) 529301 529302 529305 529306 Sales Number: Sales Number: Sales Number: Sales Number: (No Auxiliary Release) (No Auxiliary Release) (No Auxiliary Release) (No Auxiliary Release) 529303 529304 529307 529308 Sales Number: Sales Number: Sales Number: Sales Number: (With Trapped Key) (With Trapped Key) (With Trapped Key) (With Trapped Key) Currently Not Available Currently Not Available Currently Not Available Currently Not Available

CATALOGUE NUMBERS

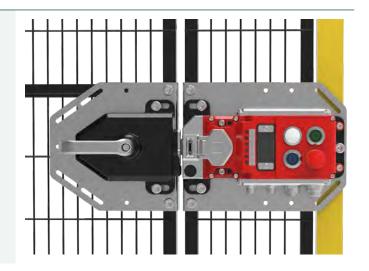
HANDLES AND MOUNTING PLATE ACCESSORIES				
SLIDING HANDLE WITH MOUNTING PLATE	ROTARY HANDLE WITH MOUNTING PLATE	SLIDING HANDLE WITH MOUNTING PLATE	ROTARY HANDLE WITH MOUNTING PLATE	
Material: Painted Die-Cast	Material: Painted Die-Cast	Material: 316 Stainless Steel	Material: 316 Stainless Steel	
Sales Number (Right + Left Hand): 527006	Sales Number (Right Hand): 527007-R	Sales Number (Right + Left Hand): 522006	Sales Number (Right Hand): 522007-R	
	Sales Number (Left Hand): 527007-L		Sales Number (Left Hand): 522007-L	
REAR ESCAPE HANDLE ACCESSORIES				
SLIDING REAR HANDLE	ROTARY REAR HANDLE	ROTARY REAR HANDLE		
Material: Stainless Steel Rod / Plastic Knob	Material: Painted Die-Cast	Material: 316 Stainless Steel		
Sales Number: 210005	Sales Number (Right Hand): 527005-R	Sales Number (Right Hand): 522005-R		
	Sales Number (Left Hand):	Sales Number (Left Hand):		

COMPATIBLE WITH MODULAR GUARDING

The UGB-NET is fully compatible with modular guarding through the use of a mounting bracket.

527005-L

Contact the office for further information.



522005-L

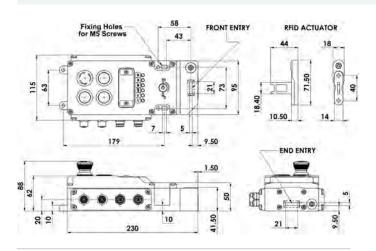
TECHNICAL SPECIFICATION

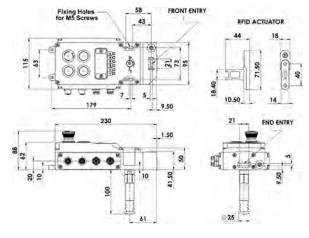
Technical Data				
Supply Voltage	24Vdc (+/- 10%) SELV/PELV			
Power Consumption	1A (max)			
Connector Option A PROFInet / PROFIsafe	Data: 2x M12 D Code 4 Pin Power: 2x 7/8" 5 Pin			
Connector Option B Ethernet I/P CIP Safety	Data: 2x M12 D Code 4 Pin Power: 2x M12 A Code 5 Pin			
Safety Outputs	CIP Safety or PROFIsafe			
Performance Level / Category	PL e/Cat 4			
Rated Insulation Voltage	250V			
Holding Force (ISO14119)	Fmax: 3000N, Fzh: 2307N			
Body Material	Die-cast painted red or Stainless Steel 316			
Head/Actuator Material	Polished Stainless Steel 316			
Enclosure Protection	IP65 / IP69K			
Operating Temperature	-25C +40C			



TECHNICAL DRAWINGS

See below UGB-NET technical drawings. For more in-depth technical information please visit idemsafety.com to find the full data sheet.



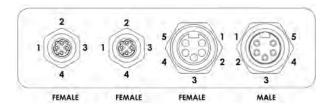


UGB-NET

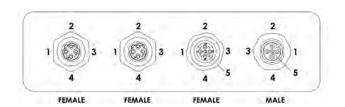
UGB-NET-RR

CONNECTION PLATE

See default connectivity layouts below. If you have a different requirement, these can be configured to your specification.



Power - PROFINET/ PROFIsafe				
Port C FEMALE 7/8" 5-Pin	Port D MALE 7/8" 5-Pin	Function		
1	1	0V dc		
2	2	0V dc		
3	3	Earth (Case)		
4	4	+24 dc supply		
5	5	+24 de supply		



Power - Ethernet/IP CIP Safety				
Port C M12 FEMALE 5-Pin A Code	Port D M12 MALE Pin-5 A Code	Function		
1	1	+24 dc supply		
2	2	0V dc		
3	3	0V dc		
4	4	+24 dc supply		
5	5	Earth (Case)		



Sensormatic srl Via della Beverara 13 40131 Bologna Tel. 051 6353511 smbox@sensormatic.it www.sensormatic.it









