Fortress Interlocks

Data Sheet

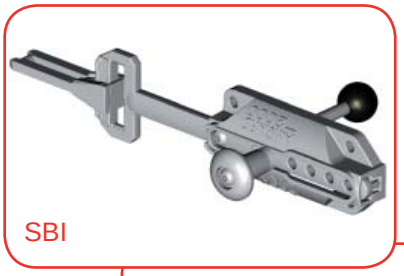
Slide Bar: Internal Release or Spring Loaded

amGard

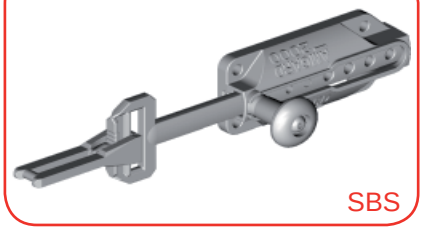
amGard safety gate switch solutions consist of a range of 'Control interlocks'. The control interlocks are split into gate switches (Stops) and solenoid interlocks (Loks). Combining tamper proof locking mechanisms and dual channel safety circuitry **amGard** is suitable for category 4 applications.

description:

SBI/SBS: the slide bar can be used with Fortress' modular amGard range, incorporating an auto head, it can be used on hinged or sliding doors. The slide bar is particularly useful for applications using small radius, hinged doors. The slide bar is available in two variants: Internal Release (as standard) and a Spring Loaded option. Both are constructed from stainless steel castings and feature built-in lock-outs. Ideally designed for machines without a run down cycle, where quick and frequent access to equipment is required. The slide bar operates in conjunction with the AutoStop and AutoLok products.



SBI



SBS

operation - the slide bar is generally intended to be operated from outside the guarded area. When the machine is in operation the guard is closed and the slide bar is extended so that the tongue is in the Auto Head. To gain access slide the slide bar by pulling the knob away from the Auto Head until it is fully retracted. Padlocks may be fitted to the holes in the end of the slide bar to provide a lock-out facility. To restart the machine pull the knob and slide the bar back so the tongue re-enters the Auto Head.

internal release - the internal release slide bar can also be operated from inside the guarded area but must also only be used within an AutoStop, without additional safety or access key (SKA/AKA) modules. In an emergency, the internal lever can be moved away from the AutoStop as far as it will go. The mechanism prevents the operator from restarting the machine from inside the guard.

spring loaded - the spring loaded slide bar is loaded towards the Autohead. The knob holds the bar in the fully retracted position.

www.fortressinterlocks.com

Fortress Interlocks

Data Sheet

Slide Bar: Internal Release or Spring Loaded

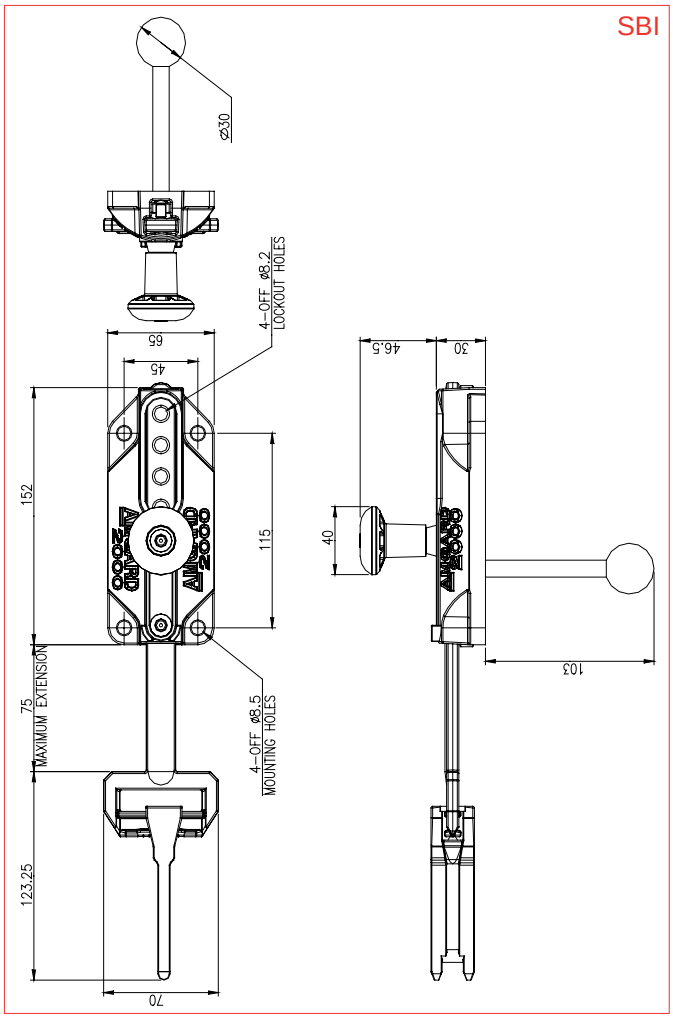
Technical Specification

Housing Materials	Stainless Steel to BS3146
Colour	Stainless Steel
Operating Force (Spring Loaded)	194Nm
Maximum Approach Speed	20m/minute

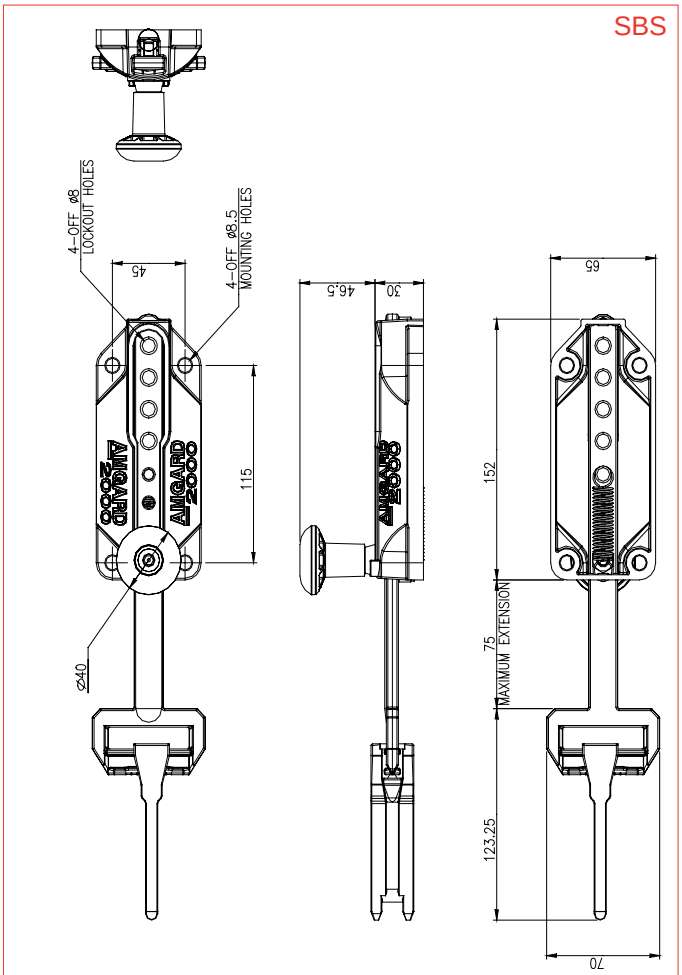
Technical Specification

Maximum Frequency of Operation	7,200/hour
Ambient Temperature	-50°C to +40°C (Mean Over 24 Hours = +35°C)

SBI



SBS



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amGard

Fortress Interlocks

Data Sheet AmLok AS-i

amGard

amGard safety gate switch solutions consist of a range of 'Control interlocks'. The control interlocks are split into gate switches (Stops) and solenoid interlocks (Loks). Combining tamper proof locking mechanisms and dual channel safety circuitry **amGard** is suitable for category 4 applications.

description:

amlok AS-i is a heavy duty solenoid controlled, handle operated switch, designed for direct connection onto a 'AS-i Safety at Work' installation. Fitted with a standard M12 quick connect fitting, it has a heavy duty handle unit which allows for a high degree of misalignment and can rotate in 90^{o} increments, the handle can also be turned through 360^{o} in 45^{o} increments. It features a key operated auxiliary release (in the event of a power failure) and LED status indicators. The product is suitable for both sliding and hinged door applications and is fitted with a shear pin to protect both machinery and personnel. It has a coded tamper resistant locking mechanism.

operation - when the machinery is in operation within the guarded area, the handle is trapped in the AmLok AS-i unit and cannot be removed. The access door to the guarded area is locked closed. A solenoid controlled mechanism prevents the handle from being turned and released. To open the door, the operator must first select stop on the machine control panel. Only when the machine has completed its run down cycle should the **AmLok AS-i** solenoid be energised, via the AS-i control with auxiliary supply. At this point, the 'solenoid circuit healthy' LED will extinguish on the unit indicating that the handle can be released. When the handle is removed, the 'door circuit healthy' LED will extinguish indicating that access has been granted.

Options

Safety Key Adaptor

Access Key Adaptor

Padlock Adaptor

www.fortressinterlocks.com

A_DS_E_AMLOKASI_V2.0_DEC05

amGard

Fortress Interlocks

Data Sheet

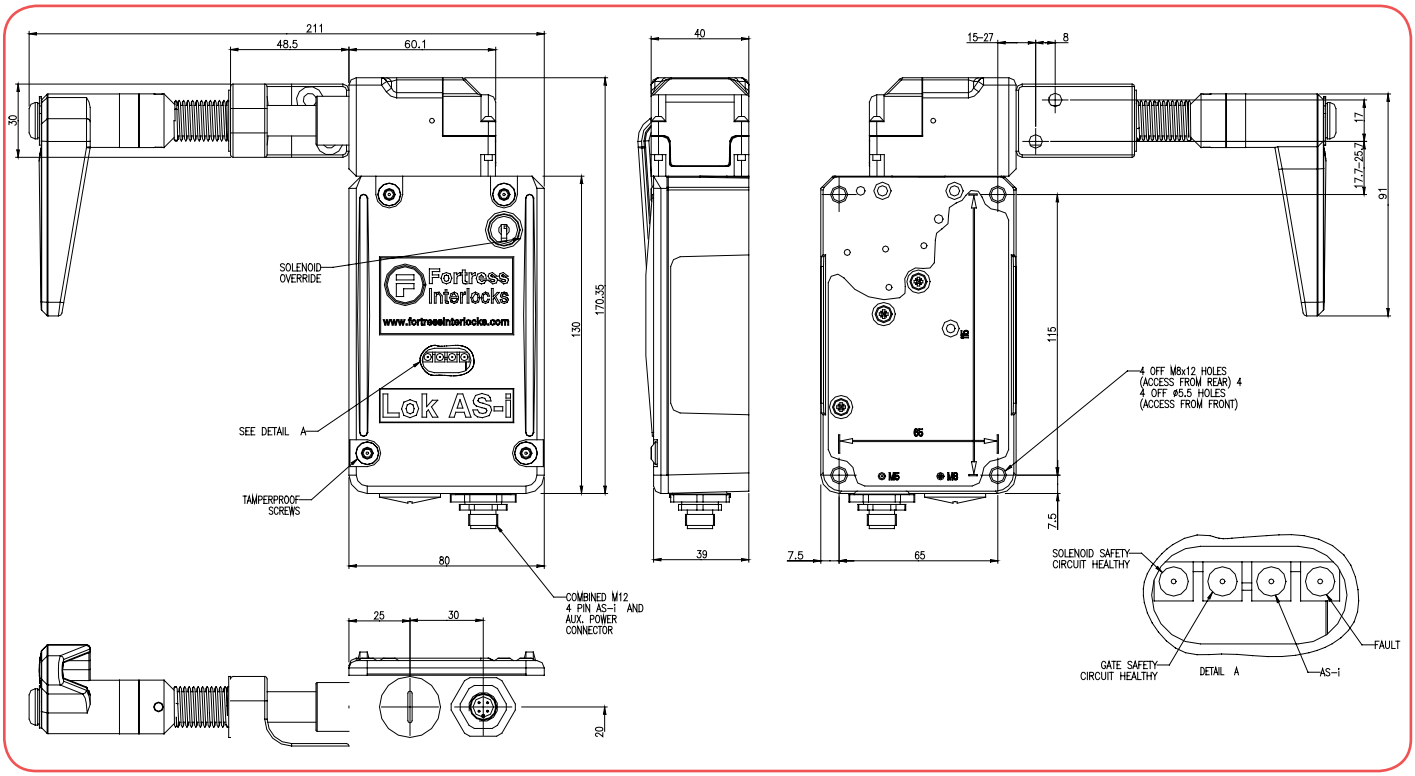
AmLok AS-i

Technical Specification

Housing Materials	Zinc Alloy to BS EN 12844/ Stainless Steel to BS3146
Paint Finish	Gloss Polyester Powder Coat on Passivated Base Material
Colour	Red & Black & Stainless Steel
Ingress Protection	IP67 (DIN 400050)
Am Handle Operating Force	0.5Nm
Auto Head Retention Forced Locked	10KN
Maximum Approach Speed	20m/minute
Mechanical Life	>1,000,000 Switching Cycles

Technical Specification

Maximum frequency of operation	7,200/hour
Ambient temperature	-5^{O}C to +40^{O}C (Mean Over 24 Hours = +35^{O}C)
Connector Type	M12 Male
Switching Principal	Positive Break
Contact Material	90% Silver and 10% Nickel
Solenoid Power Rating	12W
(Solenoid current at Nominal 24V DC)	(500mA)
Solenoid Rating (Duty Cycle)	100%



www.fortressinterlocks.com

amGard

Fortress Interlocks

Data Sheet AmStop AS-i

amGard

amGard safety gate switch solutions consist of a range of 'Control interlocks'. The control interlocks are split into gate switches (Stops) and solenoid interlocks (Loks). Combining tamper proof locking mechanisms and dual channel safety circuitry **amGard** is suitable for category 4 applications.

description:

amStop AS-i is a heavy duty handle operated switch, designed for direct connection onto an 'AS-i Safety at Work' installation, it features a head that can rotate in 90^{o} increments. The handle can be turned through 360^{o} in 45^{o} increments allowing for a high degree of misalignment. The AmStop AS-i features LED status indicators and is suitable for both sliding and hinged door applications. It has a coded tamper resistant locking mechanism and is fitted with a shear pin to protect both machinery and personnel. This product is ideally designed for machines without run down cycles and holding door/guard shut. Typical applications would include conveyor lines and packaging lines.

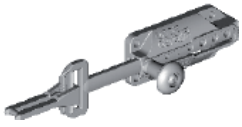
operation - when the machinery is in operation the handle is engaged and the power is on. If access is required, the door is simply opened releasing the handle from the unit, giving positively guided, forced disconnection of the safety switch contacts. This information is transmitted via the 'AS-i Safety at Work' system to the machines monitor(s). At this point the LED status indicators are extinguished. Although simple to operate AmStop AS-i provides twin protection for operator and machinery.

options

Safety Key Adaptor

Access Key Adaptor

Padlock Adaptor



Cast slide bar spring loaded

Cast slide bar internal release

Lockout device

www.fortressinterlocks.com

A_DS_E_AMSTOPASI_V2.0_DEC05

amGard

Fortress Interlocks

Data Sheet

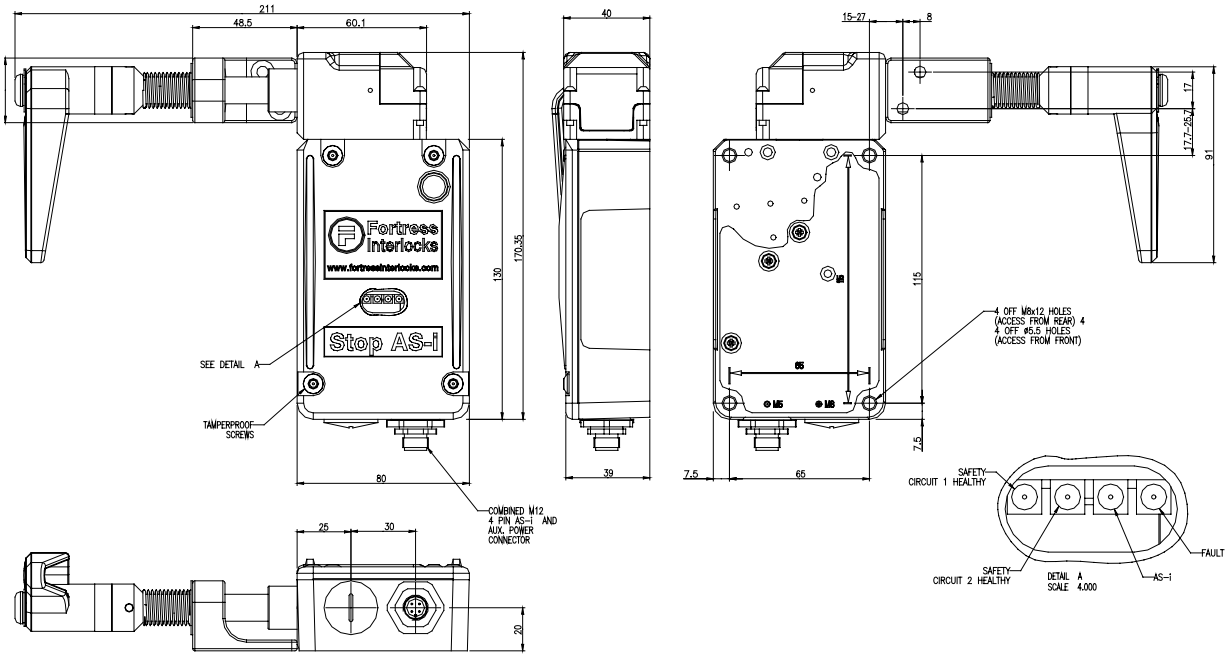
AmStop AS-i

Technical Specification

Housing Materials	Zinc Alloy to BS EN 12844/ Stainless Steel to BS3146
Paint Finish	Gloss Polyester Powder Coat on Passivated Base Material
Colour	Red & Black & Stainless Steel
Ingress Protection	IP67 (DIN 400050)
Am Handle Operating Force	0.5Nm
Auto Head Retention Forced Locked	10KN
Maximum Approach Speed	20m/minute
Mechanical Life	>1,000,000 Switching Cycles

Technical Specification

Maximum frequency of operation	7,200/hour
Ambient temperature	-5^{O}C to +40^{O}C (Mean Over 24 Hours = +35^{O}C)
Connector Type	M12 Male
Switching Principal	Positive Break
Contact Material	90% Silver and 10% Nickel
Solenoid Power Rating	12W
(Solenoid current at Nominal 24V DC)	(500mA)
Solenoid Rating (Duty Cycle)	100%



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Fortress Interlocks

Data Sheet AtLok AS-i

amGard

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description:

atlok AS-i is a heavy duty solenoid controlled, tongue switch, designed for direct connection onto an 'AS-i Safety at Work' installation. Fitted with a standard M12 quick connect fitting. The heavy duty tongue and head can rotate in 90^{o} increments, and allows for a +/- 12 mm misalignment. It features a key operated auxiliary release (in the event of a power failure) and LED status indicators.

Suitable for both sliding and hinged doors, this product is ideally designed for machines with run down cycles where quick and frequent access to equipment it required.

operation - when the machinery is in operation the tongue is trapped in the AtLok AS-i unit with the access door securely closed. An integral solenoid prevents the tongue from being released. To open the guard door an operator must first select stop on the machine control panel. Only when the machine has completed its run down cycle should the solenoid be energised, via the AS-i control with AUX supply. At this point, the 'solenoid circuit healthy' LED will extinguish on the unit indicating that the tongue actuator can be released. When the tongue is removed, the 'door circuit healthy' LED will be extinguished.

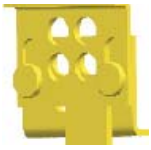
Options

Safety Key Adaptor

Internal Release

Padlock Adaptor

Lockout Device



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A_DS_E_ATLOKASI_V2.1_MAY07

amGard

Fortress Interlocks

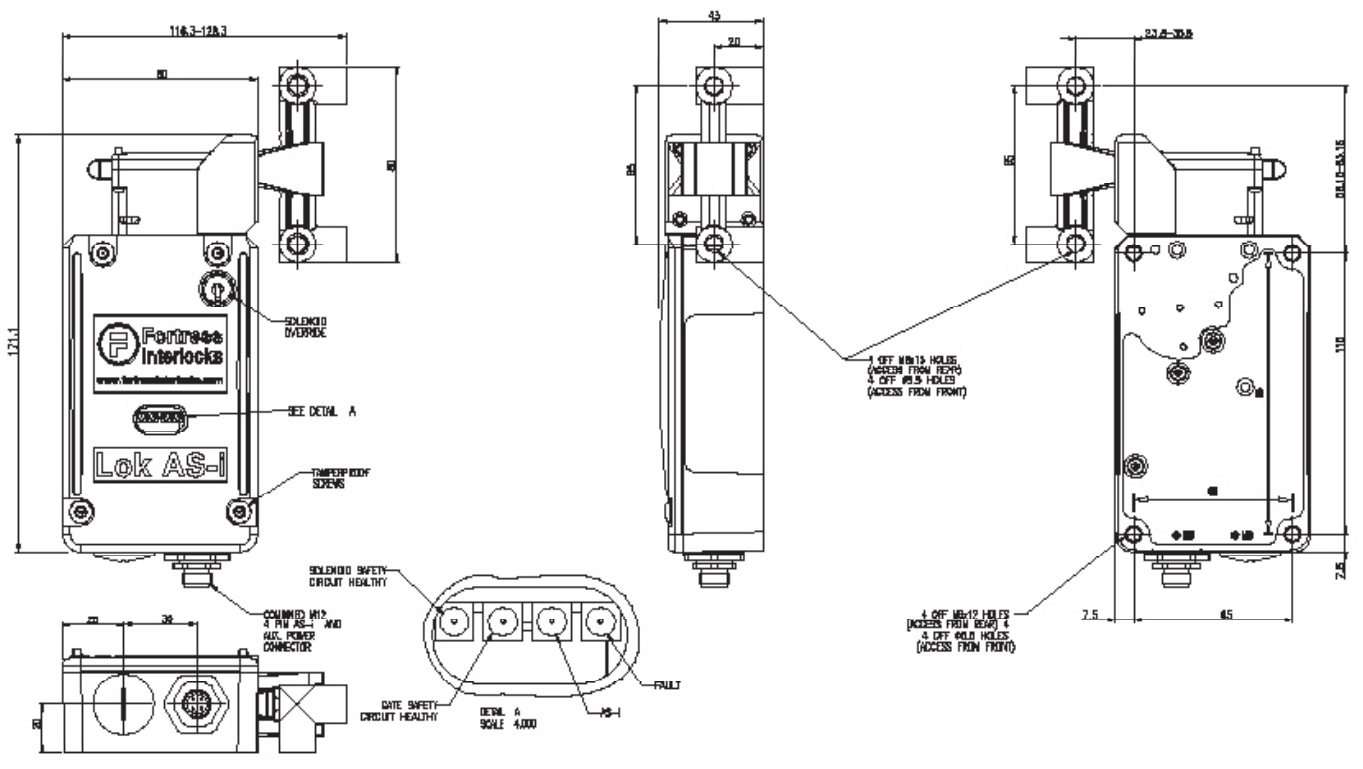
Data Sheet AtLok AS-i

Technical Specification

Housing Materials	Zinc Alloy to BS EN 12844/ Stainless Steel to BS3146
Paint Finish	Gloss Polyester Powder Coat on Passivated Base Material
Colour	Red & Black & Stainless Steel
Ingress Protection	IP67 (DIN 400050)
Am Handle Operating Force	0.5Nm
Auto Head Retention Forced Locked	10KN
Minimum door radius	900mm
Maximum Approach Speed	20m/minute
Mechanical Life	>1,000,000

Technical Specification

Maximum frequency of operation	7,200/hour
Ambient temperature	-5°C to 40°C (Mean Over 24 Hours = +35°C)
Connector Type	M12 Male
Switching Principal	Positive Break
Contact Material	90% Silver and 10% Nickel
Solenoid Power Rating	12W
(Solenoid current at Nominal 24V DC)	(500mA)
Solenoid Rating (Duty Cycle)	100%



www.fortressinterlocks.com

amGard

Fortress Interlocks

Data Sheet AtStop AS-i

amGard

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description:

atStop AS-i is a heavy duty tongue operated switch, designed for direct connection onto an 'AS-i Safety at Work' installation. It features an M12 quick connect fitting with a tongue and head arrangement where the tongue allows for a +/- 12 mm misalignment. The tongue and head unit can rotate in 90^{o} increments. It features LED status indicators and is suitable for both sliding and hinged door applications.

The product is ideally designed for machines without run down cycles, where quick and frequent access to equipment is required. Typical applications include Process Lines and Packaging Lines.

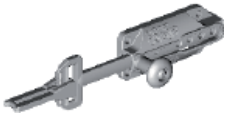
operation - when the machinery is in operation the tongue is engaged and the power is on. If access is required, the door is simply opened releasing the tongue from the unit, giving positively guided, forced disconnection of the safety switch contacts. This information is transmitted via the 'AS-i Safety at Work' system to the machines monitor(s). At this point the door circuits healthy LED status indicators are extinguished. Although simple to operate, **AtStop AS-i** provides twin protection for operator and machinery.

Options

Safety Key Adaptor

Internal Release

Padlock Adaptor



Cast slide bar spring loaded

Cast slide bar internal release

Lockout Device

www.fortressinterlocks.com

A_DS_E_ATSTOPASI_V2.1_MAY07

amGard

Fortress Interlocks

Data Sheet

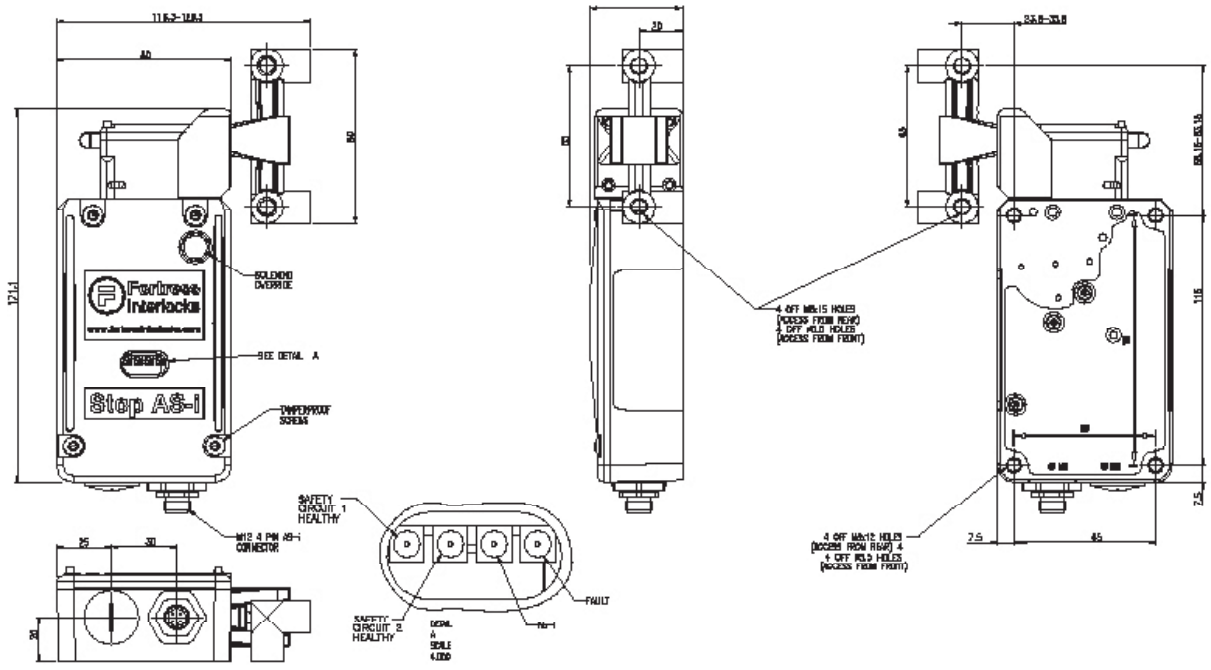
AtStop AS-i

Technical Specification

Housing Materials	Zinc Alloy to BS EN 12844/ Stainless Steel to BS3146
Paint Finish	Gloss Polyester Powder Coat on Passivated Base Material
Colour	Red & Black & Stainless Steel
Ingress Protection	IP67 (DIN 400050)
Am Handle Operating Force	0.5Nm
Auto Head Retention Forced Locked	10KN
Minimum door radius:	900mm
Maximum Approach Speed	20m/minute
Mechanical Life	>1,000,000

Technical Specification

Maximum frequency of operation	7,200/hour
Ambient temperature	-5^{O}C to 40^{O}C (Mean Over 24 Hours = +35^{O}C)
Connector Type	M12 Male
Switching Principal	Positive Break
Contact Material	90% Silver and 10% Nickel
Solenoid Power Rating	12W
(Solenoid current at Nominal 24V DC)	(500mA)
Solenoid Rating (Duty Cycle)	100%



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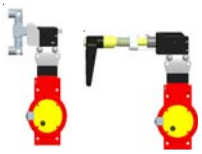
Fortress Interlocks

Data Sheet

Stop XP / TX



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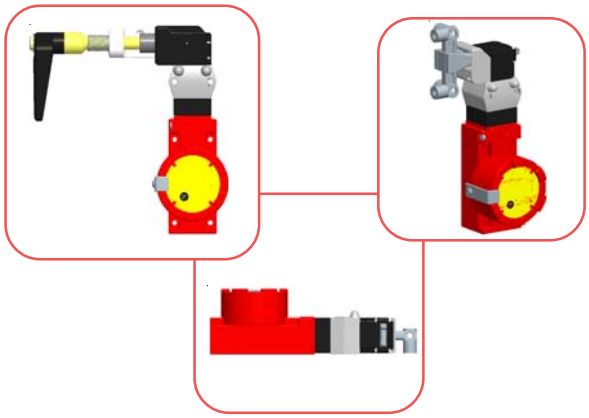

description:

Stop XP/TX products are heavy duty explosion protection safety gate switches designed to provide versatile solution to controlling access to machinery and process lines operating in potentially explosive environments. Suitable for use in zone 1 and 2 environments found in the chemical and petrochemical paint, pharmaceutical, powders and mining industries.

options:

part number

UL/CSA Certified Product

AtStopXP

ATEX Certified Product

AtStopTX

UL/CSA Certified Product

AmStopXP

ATEX Certified Product

AmStopTX

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amGard

Fortress Interlocks

Technical Data

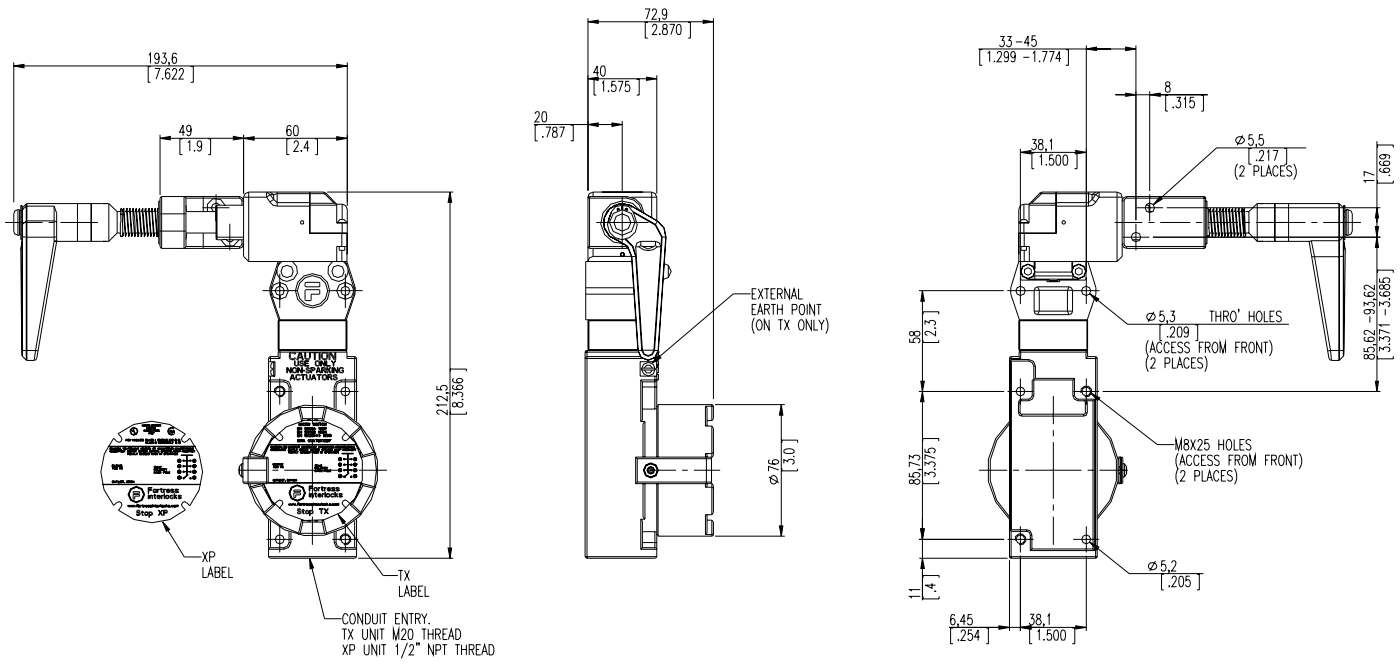
Stop XP / TX

Features & Benefits

Certification	**UL/CSA, ATEX**
Switch	**Dual channel force break safety switch**
	3N/C 1 N/O
Misalignment	**Am - +/- 3mm**
	At - +/- 12mm
Heads	**Am & At 360⁰ at 90⁰ increments**
Door	**Suitable for sliding or hinged doors.**
Actuators	**Am - Handle**
	At - Tongue Actuator
Sequence	**Door open control power isolated**
Safety Key Modules	**Available**

Technical Specification

Certification:	XP - UL (#E61730) CSA (#LR57327) TX - ATEX – En50014:1997, En50018:1994, En50281:1998, SIRA 00ATEX1037
Protection against Dust & Water:	XP- NEMA 1, 3, 4, 6, 7, 9 and 13 TX – IP67
Rated AC Voltage (IEC947-5-1):	AC15 A300, 240V, 720 VA
Rated DC Voltage (IEC947-5-1):	DC13 Q300, 240V, 69 VA
Material:	Stainless Steel, Brass, Aluminium & Zinc Alloy.
Gland Entry:	XP – 3/4" – 14 NPT TX – M20
Safety Switch Type:	Positive Break (N/C Contacts)
Contacts:	3 N/C, 1 N/O
Switch contact gap:	5mm
Operating temperature:	-12 to 85ú C (10 to 185ú F)



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Fortress Interlocks

Data Sheet Key Adaptors

amGard

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description:

adaptors: provide users with the ability to have safe access to applications with the use of a key. Dependant upon your requirements we can supply either a Safety Key Adaptor or an Access Key Adaptor.

safety key adaptor - ensures that the machine / process cannot be restarted without returning the keys, preventing personnel being accidentally locked in a guarded area.

access key adaptor - is ideal for authorised access only, or for a linked access to other machinery, ensuring a specific sequence of operations. It features a safe and easy method of requesting a machine to stop.

Both adaptors provide a unique link to the mGard range and can be stacked or combined with other adaptors.

Options

Other Fortress Adaptor Products

Lock-Out Adaptor

Lock-In Lock-Out Adaptor

www.fortressinterlocks.com

A_DS_E_A/SKA_V2.0_DEC05

amGard

Fortress Interlocks

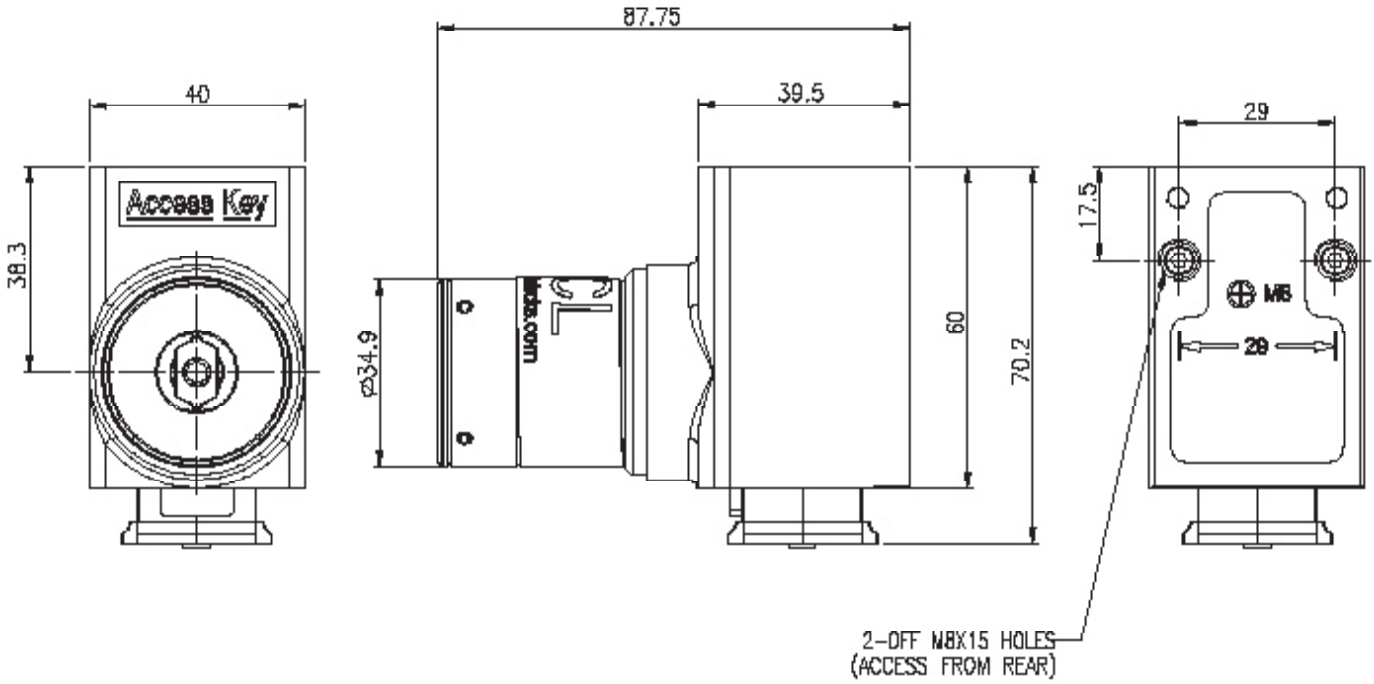
Data Sheet Key Adaptors

operation:

safety key adaptor - when the machine is in operation both the tongue/handle and the safety key are trapped. When configured with an AutoLok or AmLok product the integral solenoid prevents the safety key from being removed until the machine has completed its run down cycle. On the AutoLok or AmLok modules a yellow LED will illuminate when the solenoid has been energised and the key can be removed. When the Safety Key is removed a red LED will illuminate on the interlock indicating that the guard can be opened. The operator can then take the Safety Key into the guarded area preventing inadvertent restart of the machine. The Safety Key cannot be replaced until the guard is closed and the key/tongue is relocated in the interlock.

access key adaptor - the guard is locked closed until the Access key is inserted, only then can the guard be opened or the machine requested to stop - avoiding unauthorised personnel from stopping the machine.

Key Adaptor



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amGard

Fortress Interlocks

Data Sheet

Internal Release Adaptor

amGard

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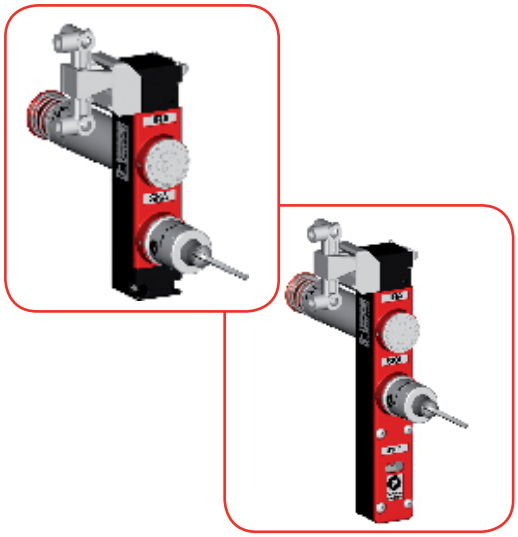
description:



IRA: provides an internal release function in Safety and Access Key Adaptor installations when used with the Auto Head. The IRA is also compatible with Fortress STOP, if switching of safety circuits is required. Alternatively it can be used with a FOOT if a purely mechanical installation is desired. The internal release adaptor is used to control access to enclosed areas until a safe condition has been achieved. However if someone gets trapped inside a guarded area the IRA can be operated to allow the release of the door.

operation - should an operator become locked inside the guarded area, the internal release button on rear of the unit can be pressed. This releases the tongue from the head, allowing the operator to leave the guarded area. If a STOP unit is being used, the IRA will also break the safety circuits. Following IRA operation, the unit will need to be reset .

Options

With or Without Stop body for breaking safety circuits

Lock portion

CL

ML

Stainless Steel spring loaded dustcover

Colour coding available

www.fortressinterlocks.com

A_DS_E_IRA_V2.2_MAY07

amGard

Fortress Interlocks

Data Sheet

Internal Release Adaptor

Features

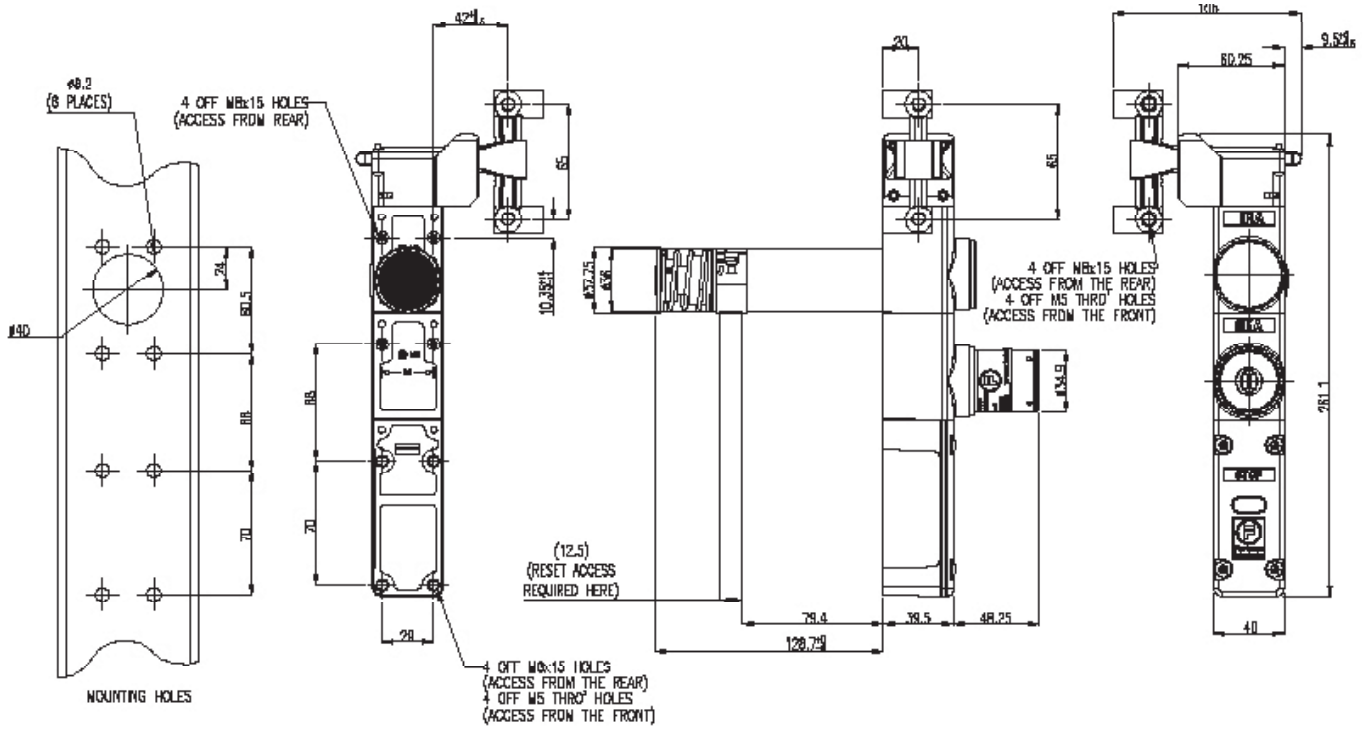
Standard guard thickness 3” maximum

Designed for RIA 15.06-1999 installations

Provides IR function for SKA/AKA applications

Technical Specification

Head	Die-cast zinc body painted black with stainless steel front end
Tongue	All stainless steel
Minimum door radius	900mm
Internals	All stainless steel contact components
Lock Mechanism	CL or ML lock types are of die - cast zinc body with stainless operating mechanism
Key	All Stainless Steel



www.fortressinterlocks.com

amGard

Fortress Interlocks

Data Sheet

Lock in & Lock Out Adaptor

amGard

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description:

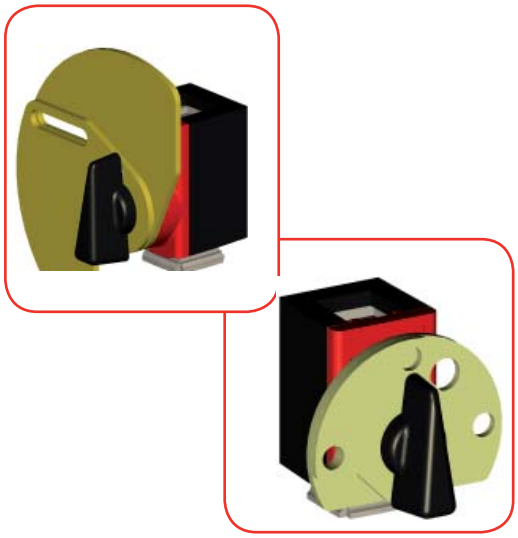
adaptors: fortress padlockable adaptors provide customers with an additional safety feature. Dependent upon your requirements we can supply either a Lock-Out or a Lock-In, Lock-Out Adaptor.

lock-out adaptor - provides a link with other lockout-tagout safety procedures, providing padlocking *only* in the **OFF** position. Up to five padlocks with 7.5mm hasps may be used.

lock-in, lock-out adaptor - provides a link with other lockout-tagout safety procedures, there are two padlock positions for use as a voluntary lockout facility. One padlock with up to 8mm diameter hasp may be used.

Both feature quick and easy access, allowing for enhanced supervisor security. They are robust, heavy duty adaptors suitable for hard-wearing applications.

modular arrangement - available as a modular assembly more than one Safety/Access Key, Lock-Out or Lock-In Lock-Out Adaptor may be fitted to a single interlock in a vertical stack.



Options

Other Fortress Adaptor Products

Access Key Adaptor

Safety Key Adaptor

www.fortressinterlocks.com

A_DS_E_LOKIN/OUT_V2.0_DEC05

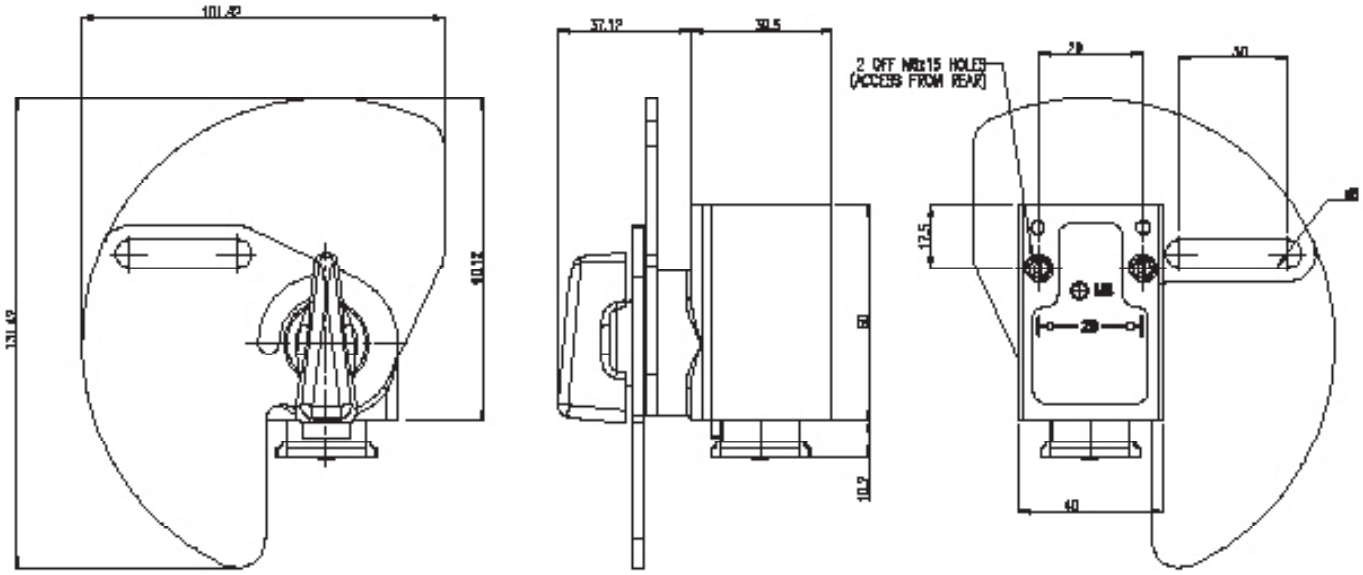
amGard

Fortress Interlocks

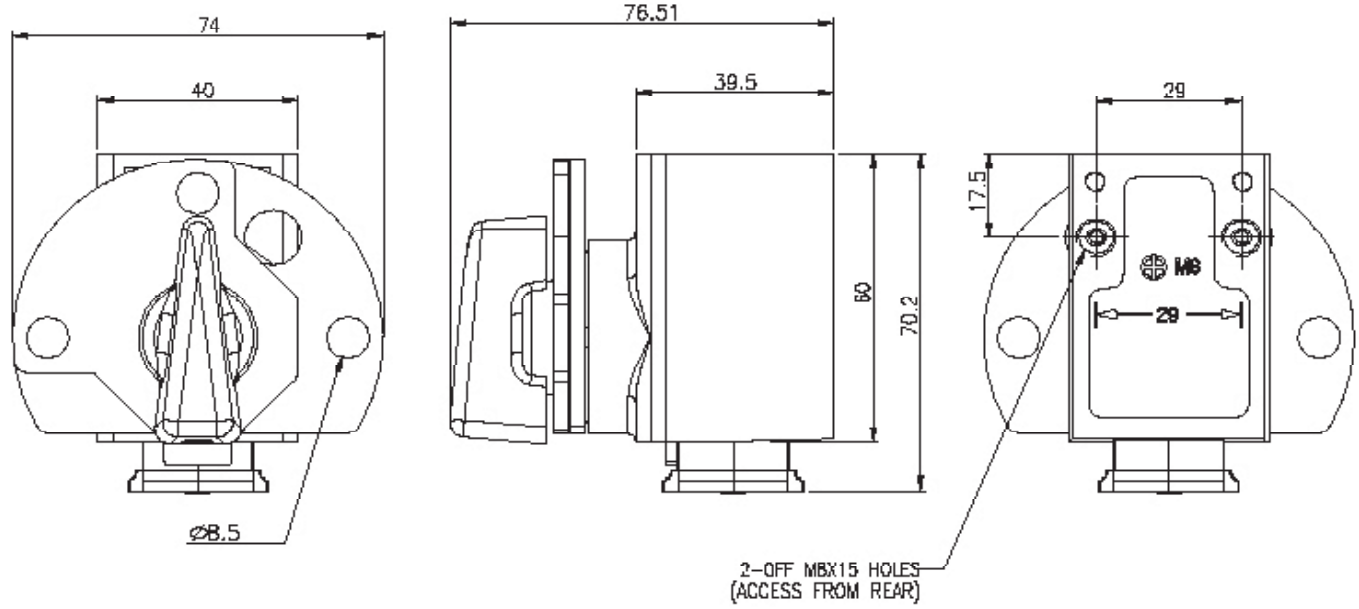
Data Sheet

Lock in & Lock Out Adaptor

Lock-Out Adaptor



Lock-In, Lock-Out Adaptor



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amGard

Fortress Interlocks

Data Sheet Key Adaptors

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description:

adaptors: provide users with the ability to have safe access to applications with the use of a key. Dependant upon your requirements we can supply either a Safety Key Adaptor or an Access Key Adaptor.

safety key adaptor - ensures that the machine / process cannot be restarted without returning the keys, preventing personnel being accidentally locked in a guarded area.

access key adaptor - is ideal for authorised access only, or for a linked access to other machinery, ensuring a specific sequence of operations. It features a safe and easy method of requesting a machine to stop.

Both adaptors provide a unique link to the mGard range and can be stacked or combined with other adaptors.

Options

Other Fortress Adaptor Products

Lock-Out Adaptor

Lock-In Lock-Out Adaptor

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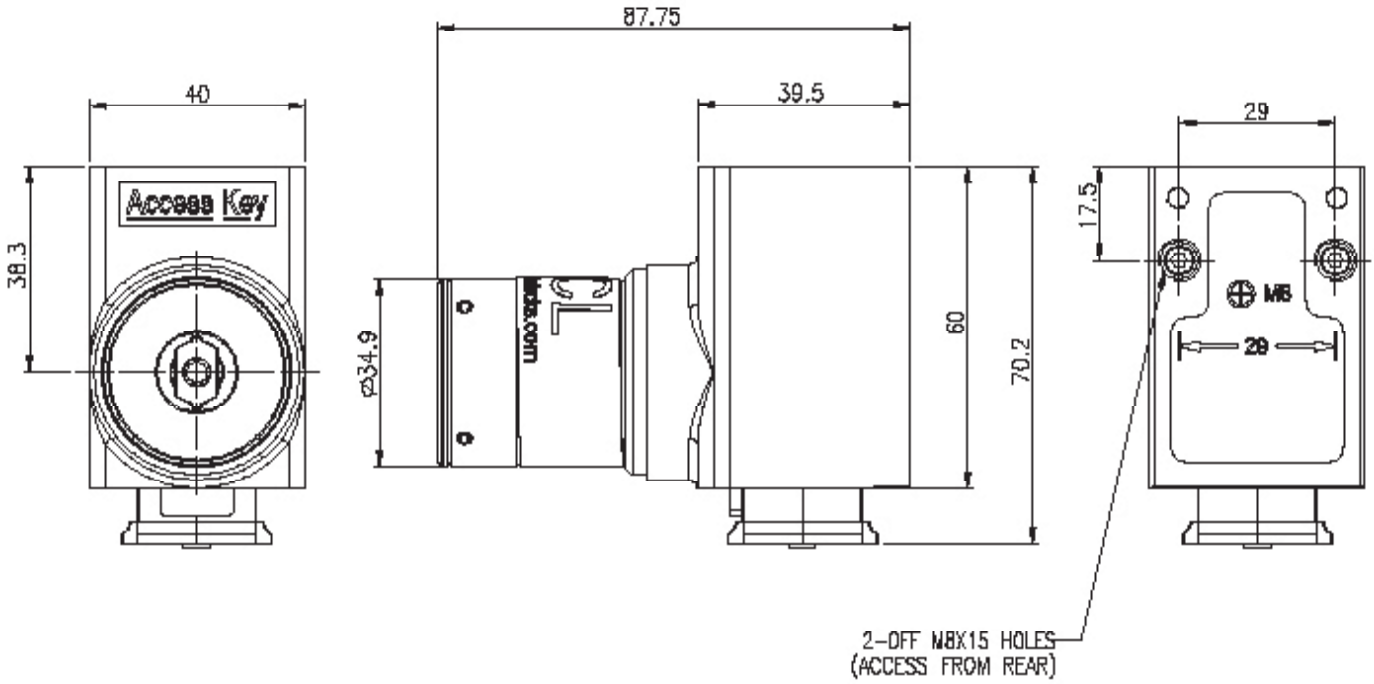
Data Sheet Key Adaptors

operation:

safety key adaptor - when the machine is in operation both the tongue/handle and the safety key are trapped. When configured with an AutoLok or AmLok product the integral solenoid prevents the safety key from being removed until the machine has completed its run down cycle. On the AutoLok or AmLok modules a yellow LED will illuminate when the solenoid has been energised and the key can be removed. When the Safety Key is removed a red LED will illuminate on the interlock indicating that the guard can be opened. The operator can then take the Safety Key into the guarded area preventing inadvertent restart of the machine. The Safety Key cannot be replaced until the guard is closed and the key/tongue is relocated in the interlock.

access key adaptor - the guard is locked closed until the Access key is inserted, only then can the guard be opened or the machine requested to stop - avoiding unauthorised personnel from stopping the machine.

Key Adaptor



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