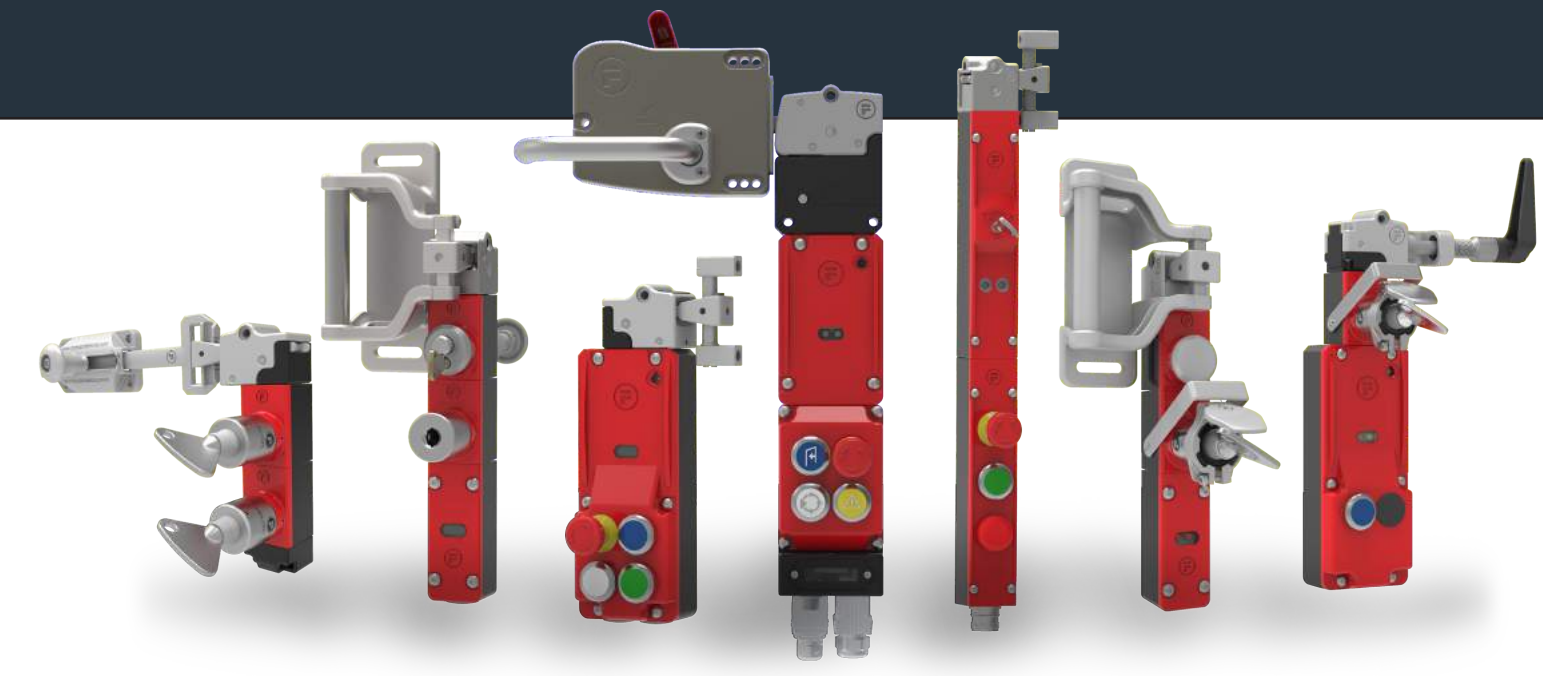
Fortress Interlocks

amGard pro

# Protecting People, Protecting Productivity



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## Modular Gate Switches for Safeguarding Hazardous Machinery

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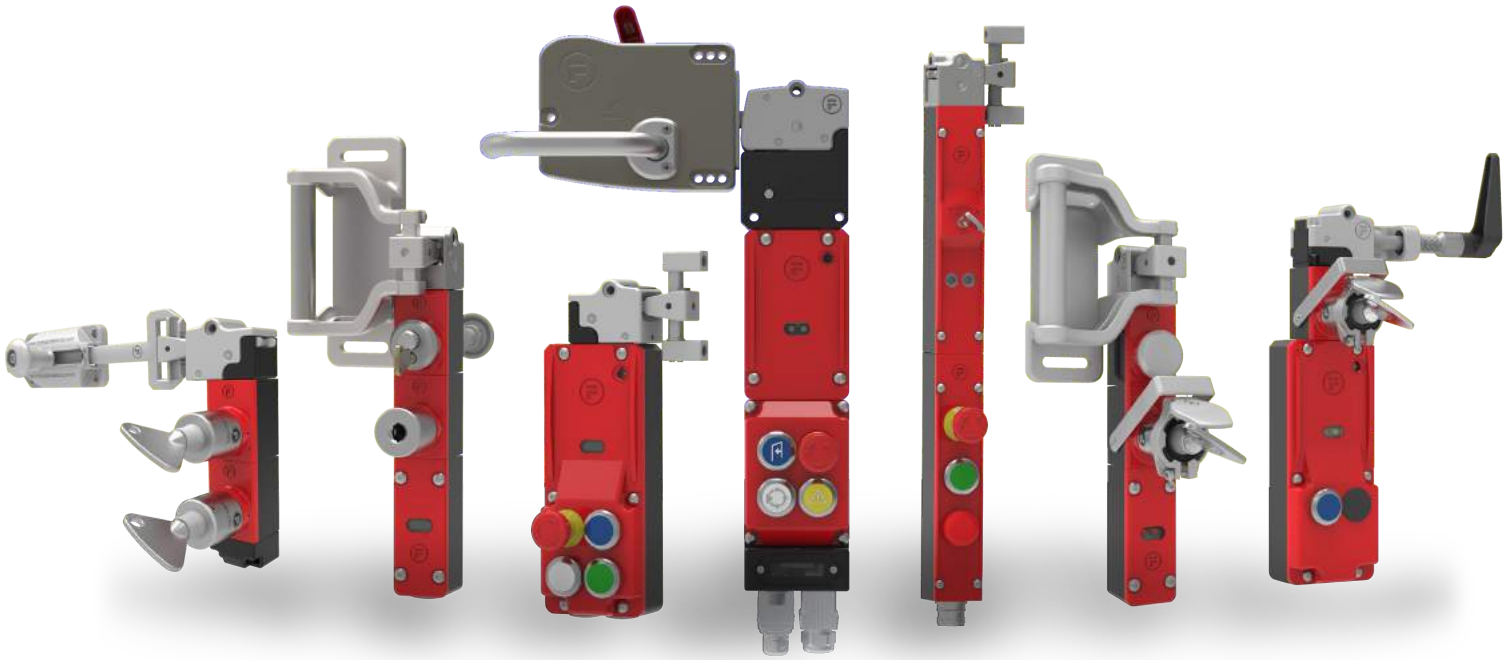
amGard pro "The Interlock of Choice"

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# The Company

"Who we are and What we do"

Fortress Interlocks helps customers protect their personnel and capital assets. The company has over 40 years of experience in the safety market, designing and manufacturing safety access and control systems based at its headquarters in Wolverhampton, UK. These systems create safe workplaces where employees in industrial environments are safeguarded from injury and equipment is protected from damage. A world leader in access control systems, Fortress products guarantee that actions and events are undertaken in a pre-determined sequence ensuring a safe working environment.

The company's products are suitable for applications across a wide industrial base including power generation and distribution, steel, automotive, recycling, building materials, food and beverage, robotics and palletisers. Its extensive product offering and interlocking experience allows Fortress to provide unique solutions for all safeguarding applications. It regularly creates bespoke solutions, often by customising its standard products.

# The Concept

amGard*pro* is the ultimate range of modular safety gate switch interlocks, for heavy duty applications. Its unique modular construction allows easy configuration and provides total electro-mechanical solutions for practically any safeguarding application up to SIL3 (EN/IEC 62061), Category 4 and PLe (EN/ISO 13849-1).

With its unrivalled design concept, amGard*pro* offers a range of fully integrated safety interlocks, including solenoid and non-solenoid safety switches complete with a host of additional options including key control modules, emergency release, redundant sensors, lock out/tag out and push buttons, E-stops and indication lights for enhanced functionality. The robust construction of this range makes it ideal for use in a wide range of industrial applications when safety, strength and reliability are of paramount importance.

The amGard*pro* system replaces all adaptions normally fitted within a guarding system, such that additional hardware like door catches, actuators, closing mechanisms, internal mechanisms, key functions including authorised access and deadlocks may be no longer needed. All of these separate functions can be incorporated into amGard*pro* configurations, resulting in the most flexible safety interlock solution available for today's industrial environment.

## Actuators

**Actuators**
*Handle Actuators*
*Hinged Handle Actuators*
*Tongue Actuator*
*Slimline Tongue Actuator*
*All in One Head and Handle Actuator*
*Slidebars*

## Head Modules

**Head Modules**
*Handle Actuator Head Module*
*Tongue Actuator Head Module*
*All in One Head and Handle Unit*
*Padlock Adaptor*

## Adaptors

**Adaptors**
*Safety Key Adaptors*
*Access Key Adaptors*
*Extracted Key Adaptors*
*Internal Release Adaptors*

## Electrical Switching / Locking

**Electrical Switching / Locking**
*Safety Switch Bodies*
*Solenoid Controlled Lok Bodies*
*Extended body Solenoid Controlled Lok Bodies*
*Slimline Solenoid Controlled Lok Bodies*
*Explosion Proof Switch Bodies*
*Foot (to terminate mechanical lock)*
*PROFINET and PROFIsafe versions available*
*Ethernet/IP CIP Safety versions available*
*AS-interface versions available*
*European, Canadian and North American approvals*

## Option Pods

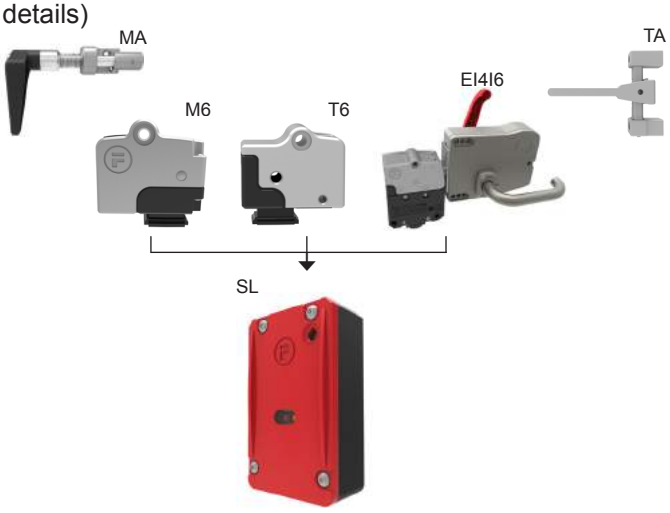
**Option Pods**
*Key Switch Option Pod*
*Indicator Lamp Option Pod*
*Pushbutton Option Pod*
*Slimline Pushbutton Option Pod*
*PROFINET and PROFIsafe versions available*
*Ethernet/IP CIP Safety versions available*
*AS-interface versions available*
*European, Canadian and North American approvals*

# The Concept

## amGard*pro* Technical Specifications

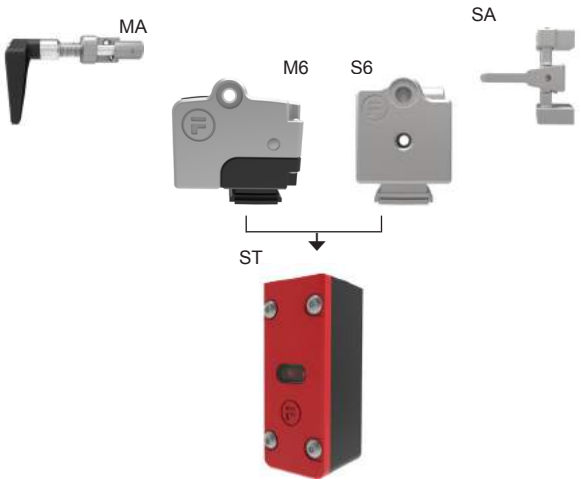
### MA2M6SL411 & TA4T6SL411 & EI4I6SR411

The solenoid controlled safety switch body (*pro*LOK) can be equipped with four different head types, creating door/hatch lock configurations that restrict access to the safeguarded area until it is safe to enter. (Please see amGard*pro* Range Card on page 22 for further details)




### MA2M6ST401 & SA4S6ST401

The safety switch body (*pro*STOP) can be equipped with four different head types. These configurations select machine stop and detect the position of doors/ hatches that give access to the safeguarded area or machine. (Please see amGard*pro* Range Card on page 22 for further details)

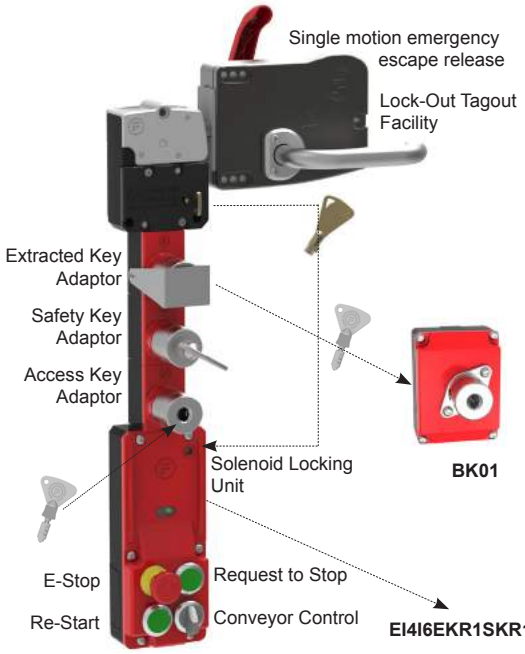



| **amGard*pro* Technical Specification** | |
|---|---|
| Housing Materials | Zinc Alloy to BSEN12844 & Stainless Steel to BS3146-2 ANC4B |
| Paint Finishes | Glass powder coat on passivated base material |
| Ingress Protection | IP65 + IP67 |
| Mechanical Life | 1,000,000 Switching Cycles |
| Performance Level | PLe |
| B10d | 5,000,000 |
| Ambient Temperature | -5°C to +40°C / 60°C |
| Switches Conformance | DIN VDE 0060 Part 206 & IEC 947-5-1 |
| Maximum Frequency of Ops | 7,200 per hour |
| Connector Type | Spring Activated Vibration Proof Block |

| **amGard*pro* Switching Specifications** | |
|---|---|
| Switching Principal | Positive Break (safety circuits) |
| Switch Circuit Current | 3A |
| Minimum Switch Current | 1mA at 5 VDC |
| Maximum Switch Current | 230V AC Max |
| Utilisation Category | AC15 or DC13 |
| Switching Contact Element | 4NC/2NO (*pro*LOK), 2NC/1NO (*pro*STOP) |
| Control Voltage | 24V AC/DC, 110V AC or 230V AC |
| Insulating Resistance | 20M 0hm |
| Insulating Voltage | 2500V AC |
| Solenoid Power Rating | 12W (current at Nominal 24V DC = 500mA) |
| Solenoid Rating (Duty Cycle) | 100% |
| Solenoid Voltage | 24V AC/DC, 110V AC and 230V AC |
| Solenoid Voltage Tolerance | 90% to 110% of nominal |
| Cable Size | 26 - 14 AWG |

# Compliance

## amGard pro "The Interlock of Choice"




**Improved Standards Compliance**
- Complies with all new and forthcoming machine safety standards.
- Integrated redundancy sensor solution (with coding options).
- Single motion emergency escape release regardless of solenoid or trapped key locking mechanisms.

**Enhanced Machine Control Functionality**
- Integrated pushbutton control in single unit.
- Up to 8 illuminated pushbuttons/lamps/selector switches, including 1 e-stop.
- Up to 10 safety/access keys in one configuration.

**Enhanced Strength**
- Stainless steel heads with mounting point, increasing retention force to market leading 10KN.
- Standardisation and enhancement of all anti-vibration features.
- Improved weather resistance.

EU machinery safety standards are regarded as the most stringent in the world and are adopted via IEC on a global basis. Fortress strive to adhere to such standards from design phase through to final product delivery, so that our customers can have peace of mind that their product or system selection from Fortress complies with the very latest machinery safety standards, regardless of where in the world the equipment is deployed.

Our amGard*pro* range complies with the EU Machinery Directive 2006/42/EC and the following standards:

- EN ISO 13849-1 Safety of Machinery - Safety related parts of control systems
- EN ISO 14119 Safety of Machinery - Interlocking devices associated with guards - Principles for design and selection

These products also carry TÜV SÜD NTRL Approval for U.S.A / Canada.
They comply with the following standards:

- UL508:1999R
- CAN/CSA 22.2 No 14

Extensive testing of all of our products is inherent in our design for industrial applications. In addition, all of the equipment within the amGard*pro* range has been independently assessed by TÜV SÜD to achieve Cat. 4, PLe.

We have several functional safety experts within our global applications team who are always on hand to offer advice on product selection, application and standards compliance.

**Fortress - "The interlock of choice"**

# Our Competency

## amGard*pro* Application Examples

Fortress Interlocks core competency is the design of safety interlock systems and products which are suitable for use in a wide cross section of industries and applications.
Our application expertise covers the following industrial sectors: Manufacturing, Power, Process and Transport.
The following section contains a selection of typical applications for Fortress amGard*pro* products.

**amGard*pro* Application Example 1**

This example shows the safeguarding of robot areas in which amGardpro products offer a combined mechanical and electrical solution.

1 NO2C6SKL12LL411L0WB00N
By pressing the access request button, the machine or installation is shut down by the machine control system.

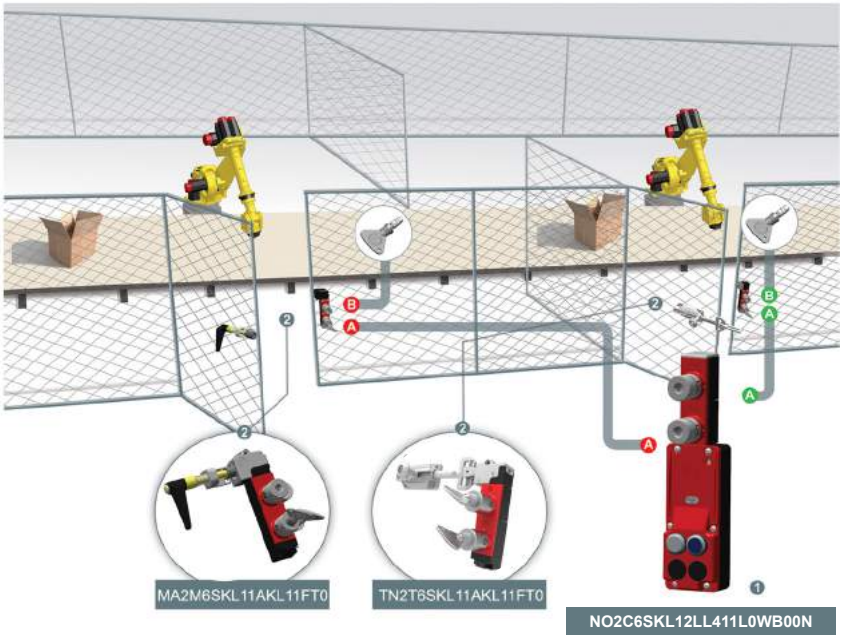
The solenoid, controlled by the machine control system restricts the release of keys A until the guarded area or machine is safe to enter (indicated by the yellow status LEDs).

Energising the solenoid breaks the dual safety circuits to prevent unexpected re-start.

Both safety keys A can now be released indicated by the red status LED.

2 TN2T6SKL11AKL11FT0
Keys A can be used to unlock the door locks and release the safety keys B. These can be taken inside the guarded area to prevent personnel being trapped and/or an accidental machine restart.

By reversing this compulsory procedure the machine can safely be restarted.




**amGard*pro* Application Example 2**

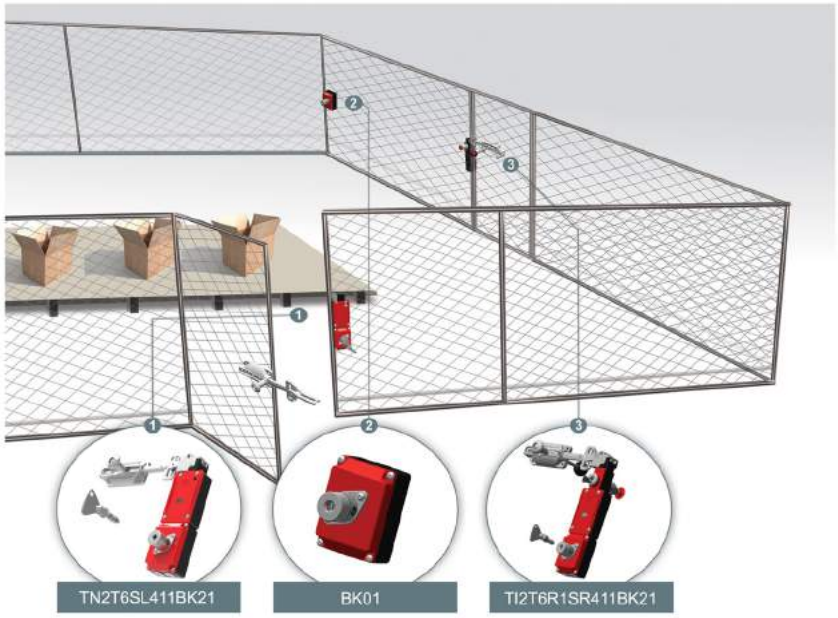
This example shows the safeguarding of a potentially dangerous area with a teach mode function inside.

1 TN2T6SL411BK21
Removal of the key from one of the pods at the doors selects machine stop at the end of a run down cycle. The solenoid is then energised by the machine control system and access can be gained.

The operator can take the safety key into the potentially hazardous area preventing restart.

2 BK01
By inserting one of the keys in the stand alone pod inside the guarded area safe programming can be initiated.

3 TI2T6R1SR411BK21
The LOK internal release option can be used to unlock the door from inside a guarded area should personnel become trapped. By pushing the button on the rear of the unit, the tongue is released from the actuator head and the door can be opened from the inside. This also breaks both safety circuits, which then have to be manually reset before the machine can re-start.



# Our Competency

## amGard pro Applications — Automotive Die Stamping Presses




**Application Requirement**

The metal die stamping presses in an automotive manufacturing plant are used to form various automotive body parts that will later be welded together to assemble the finished vehicle. These presses are used to create body parts of a series of different models therefore personnel may require entry in order to alter the current stamping operation. However, due to the series of hazards that arise from such a dangerous process, operators must only be able to gain entry once all moving parts of the presses have come to a complete stop.

**System Schematic**


**Fortress Solution**

**EI4A6SR411**
Solenoid Gate Switch with Escape Handle
**B0YB0KN**
Machine Control Push Button Station

**Sequence of Operation**

To gain entry into any of the press and die cells, an operator must request entry by pressing the yellow pushbutton on the machine control station sending a signal to the machine's control system, bringing that specific cell to a controlled rest. When it is safe, a signal is sent from the machine control system to energise the solenoid gate switch enabling the handle to be operated in order to unlock the door. The machine will not restart until the door is closed and an operator has pressed the illuminated blue pushbutton to reset the machine. In an emergency the red escape handle can be used as an internal release to open the locked cell from the inside.

# Our Competency

## amGard pro Applications — Brick Press



**Application Requirement**

A brick press is used in the forming process within a brick manufacturing plant. The clay material is placed in a die and then compacted with a steel plunger set at a desired pressure. Operators may need to gain access to the brick press for scheduled cleaning, or to remove pieces of lodged clay that are holding up the production process. However, access into the machine should not be possible until power to the machine has been isolated. Therefore, each door is fitted with a safety gate switch. Sliding doors are fitted with tongue operated gate switches and hinged doors are fitted with handle operated gate switches.

**System Schematic**

**MA2M6ST401**

**TA4T6ST401**

**Fortress Solution**

**MA2M6ST401**
Handle Operated Safety Switch
**TA4T6ST401**
Tongue Operated Safety Switch

**Sequence of Operation**

To gain entry into a sliding door, an operator simply opens the door which disengages the tongue from the interlocks head, isolating power to the machine. Whereas, to gain entry into a hinged door requires an operator to pull and rotate the latching handle 90 degrees clockwise before the door can be unlocked. The handle's latching feature is compensate against guard doors that are located to the actual press itself that is subject to high vibration.

# Our Competency

## amGard pro Applications — Automated Beverage Rinser and Filler


**Application Requirement**
Beverage bottling plants use automated rinser and filler machines to inject water into each plastic bottle as it moves down the production line to rinse out any unwanted material or bacteria before the filler machine fills the empty bottle with the freshly produced beverage. To comply with global safety and hygiene regulations, such machinery is protected with an interlocked guard to limit the possibility of external contamination. However, maintenance personnel may require access to the machine in the event of a blockage, but access can only be achieved once the machine has come to the end of its current operating cycle.

**System Schematic**

**MA2M6SL411**

**Fortress Solution**
**MA2M6SL411**
Handle Operated Solenoid Gate Switch

**Sequence of Operation**
In the event of a machine breakdown or minor maintenance task, a maintenance engineer needs to request entry using a nearby machine control panel, sending a signal to the machine's control system, bringing the machine to a controlled rest. Once the automated rinser and filler has finished its current operating cycle, a signal is sent to energise the solenoid, enabling the handle actuator to be operated. Maintenance personnel can now gain entry into the required section on the filling line by rotating the handle actuator 90 degrees clockwise to unlock the guard door.

# Our Competency

## amGard pro Applications — Beverage Can Bodymaker



**Application Requirement**

Beverage can manufacturers use a specialist press machine called a bodymaker in order to produce the finished beverage can bodies in rapid succession. Unfinished beverage cans are fed into the machine and pressed to create the final shape of the beverage can. Operators may need to gain access into the bodymaker if a misaligned beverage can were to cause the machine to breakdown. However as each can is pressed every 1/5$^{th}$ of a second, access into the machine should only be achieved once power to the machine has been isolated and all moving parts have come to a controlled stop.

**System Schematic**


**Fortress Solution**

**TA2T6SL411**

Left Handed Tongue Operated Solenoid Switch

**Sequence of Operation**

To gain entry into one of the maintenance hatches on the bodymaker, an operator must request entry using a nearby control panel. This sends a signal to the machine's control panel, isolating power to the machine and bringing all moving parts to a complete stop. Once it is safe to enter, the machine's control system will energise the solenoid enabling the tongue actuator to be removed from the interlocks head which enables the hatch door to be opened.

# Our Competency

## amGard pro Applications — Combined Palletiser & Stretch Wrapper



**Application Requirement**

The combined Palletiser & Stretch Wrapper in a food manufacturing plant is an automated 'end of line' process of stacking cases of finished goods onto pallets and wrapping them in a layer of protective film, ready for final shipment. Personnel may require entry into the guarded area in the event of a machine breakdown, but should only be able to gain access once the machine has finished its cycle. Therefore, such machinery is extensively guarded and interlocked to ensure that access inside the guarded area can only be achieved once power has been isolated and all moving parts have come to a complete stop.

**System Schematic**

**MA4M6EKL2LL411L0B000N**

**Fortress Solution**

**MA4M6EKL2LL411L0B000N**

Handle Operated Solenoid Gate Switch

**Sequence of Operation**

To gain entry into the machine, an operator must request entry by pressing the blue pushbutton, sending a signal to the machine's control system to bring the machine to the end of its current cycle. When it is safe to enter, the blue pushbutton will illuminate and flash intermittently, enabling an operator to turn and remove the extracted key before the door can be opened. This key must remain on the operator's person while they remain inside the danger zone to avoid inadvertent machine restart.

# Our Competency

## Gard Applications — Hot Rolling Mill - Steel Industry

**Application Requirement**

A hot rolling mill in a steel strip plant is the process in which semi-finished steel slabs, that are nearly at their melting point, are passed through a series of rolls to increase the length and reduce the thickness so that it forms a steel strip before coiling up the lengthened steel strip. There are six access doors into the hot rolling mill that might be accessed in the event of a machine breakdown therefore, each door has been fitted with a solenoid controlled safety gate switch to prevent access into the area until all moving parts of the mill have come to a complete stop.

**System Schematic**

**TA2T6R7LR416L0E3YKN**

**Fortress Solution**

**TA2T6R7LR416L0E3YKN**

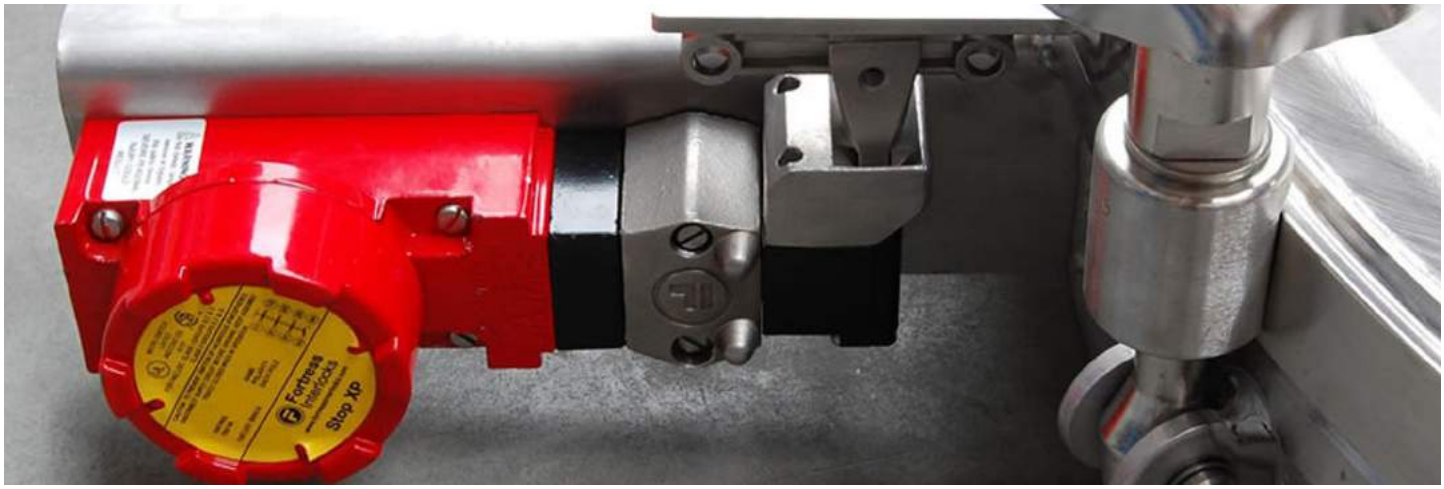
Tongue Operated Solenoid Gate Switch with an Escape Release Pushbutton

**Sequence of Operation**

In order for an operator to gain entry into the hot rolling mill area, they must request entry using the black pushbutton which sends a signal to the machine's control system, bringing the line to a controlled stop. Once it is safe to enter, a signal is sent to energise the solenoid and the green lamp is illuminated, indicating to the operator that access inside the area can now be achieved. In the unlikely event that an operator finds themselves trapped on the inside of the area, they can gain immediate exit by pressing the red escape release pushbutton.

# Our Competency

## amGard pro Applications — Mixing Vessel




**Application Requirement**

Mixing vessels in chemical processing plants are used to house the chemical compounds that have been mixed together to form the finished product. All vessels are air-tight to ensure that no outside contaminants can affect the chemical reaction that is taking place within the mixing vessels. There are a series of blades on the inside of the mixer that operate at incredibly fast speeds to blend the chemicals together. Therefore, such chemical processing machinery is extensively interlocked to ensure that cleaning and/or maintenance personnel can only gain entry to the vessels once power to the machine has been isolated and the chemicals being processed have been removed from the mixing vessels.

**System Schematic**


**TA2T6UX401**

**Fortress Solution**

**TA2T6UX401**

Explosion Proof Safety Switch

**Sequence of Operation**

In order to gain entry to the mixing vessels, an operator must isolate the power using a nearby control panel. The operator must then unscrew all the air tight fixings holding the vessels hatch door closed. Once all of these fixings are removed, the operator can gain entry by using the handle to open the mixing vessels hatch door. Upon opening the hatch door, this disengages the tongue from the locking mechanism on the 'TA2T6UX401' explosion proof safety switch to ensure that power to the machine cannot be restarted.

# Our Competency

## amGard pro Applications — Dehacking Line

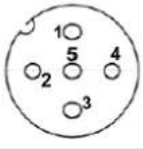


**Application Requirement**

Setting machines pile dried bricks onto a kiln car in a selected setting pattern before conveying the pile onto the Dehacker which unloads the bricks before packing and palletising ready for final shipment. Due to the dangerous nature of this process, the following safety system prevents access to operators until power to the machine has been isolated and the machines cycle has ended. Using the Profi-enabled device makes installation much simpler as the four core Profi-cables significantly reduces wiring while increasing real-time diagostic capability and maintaining the safety integrity.

**System Schematic**

**EI2I6EKR2SR411N2EY0BNPF08**

| Pin Out | |
|---|---|
| Power | Data |
|  |  |

**Fortress Solution**

**EI2I6EKR2SR411N2EY0BNPF08**

Left Handed Handle Operated Profi-enabled Solenoid Switch with Escape Release

**Sequence of Operation**

To gain access to the Dehacker, an operator must request entry by pressing the yellow illuminated pushbutton marked ‘Access’. This sends a signal to the machine’s control system bringing the machine to a controlled rest. Once the machine has finished its cycle, a signal is sent from the control system, energising the solenoid and enabling an operator to remove the extracted key before access into the machine can be achieved. This safety key must remain upon the operator’s person while they remain inside the danger zone. Communication control is transmitted via the PROFINET network and the safety is managed via the PROFIsafe network. If an operator should find themselves locked on the inside of the machine for any unforseen circumstance, the red internal escape release handle can be used to immediately isolate power to the machine and grants instant exit from the cell.

# Configurations Part 1

amGard pro is a modular design that enables the user to configure a wide range of safety gate switches to exactly meet the specific application. The products can therefore be used to satisfy a range of machine guarding situations. You simply select the actuator and head mechanism and then add in key adaptors and/or control units, as needed.

**Actuator and Head**

+

+

+

+

**Key Adaptors**

+

+

+

**Control Unit**

## Common Configurations

**MA2M6SL411**
**Handle Operated Solenoid Switch**

**TA2T6ST401**
**Non Solenoid Tongue Switch**

**EH2T6EKL1ST401**
**Handle Operated Tongue Switch with Safety Key**

**EH2T6LL411L0RGRGN**
**Handle Operated Solenoid Switch with Pushbutton Control**

# Configurations Part 2

amGard pro

Approvals Ethernet/IP - CIP

## Communications / Networked Safety Switches

Approvals PROFINET & PROFIsafe

### What is *pro*Net?

amGard *pro*Net is an addition to the amGard*pro* range that adds an Ethernet based networking capability to the range. It is designed as an add-on module that replaces, or can be used in addition to, an option pod so that any configurable unit can be converted to communicate over Ethernet. The two supported protocols are:

- 'PROFINET' with the 'PROFIsafe' functional safety extension.
- "Ethernet/IP" with the "CIP Safety" function safety extension

These protocols allow non-safety control functions (lamp outputs, switches, monitor signals) and safety functions (gate switch safety functions, E-stop functions) to be communicated over the same network, using the same connection. It is therefore now possible to create the following types of interlocks with industrial communication built in:

- Solenoid control guard switches with escape release
- Solenoid control guard switches with "safety key" protection
- Solenoid control guard switches with machine control functionality
- Control stations with E-stop included

The following features are built in to *pro*Net units:

- One cable for control and safety communication
- One cable for power – reducing installation time and cost
- 100% diagnostic capability – increasing up time
- Quick connection connections via M12 or 7/8 plug and socket or AIDA standard connectors
- Addressing flexibility either by web interface or dip switches aiding installation and maintainability
- An integrated network switch – 'daisy chain' bus topologies with no additional hardware
- Up to two power connectors – 'daisy chain' power topologies with no additional hardware
- Optional external safety switch connection

## Common Configurations

**EI2A6SR411N2B0WYNPF15**

**EI4A7SR411N5GAYUNPF10**

**MA4M6EKL2SL411N2EY0BNPF10**

# Configurations Part 3

## amGard*pro* Eazi-fit Mounting System

**Simple System**
Fortress new Eazi-fit mounting system is a series of packing and mounting plates to ensure any configured amGard*pro* safety switch can easily and simply be fitted to machine guarding. The configurable plates are a robust design of die cast aluminium and are suitable for both hinged and sliding guards with a choice of colour finishes. The packing and mounting plates are pre-fitted to the interlock when ordered together and the mounting plates can also be ordered separately.

**Easy to use Configurator**
The online configurator tool provides you with 2D Drawings, 2D and 3D Images and Models together with a part number for ordering purposes. To add our new Eazi-fit mounting system to your configurations visit www.fortressinterlocks.com and select the amGard*pro* configurator.

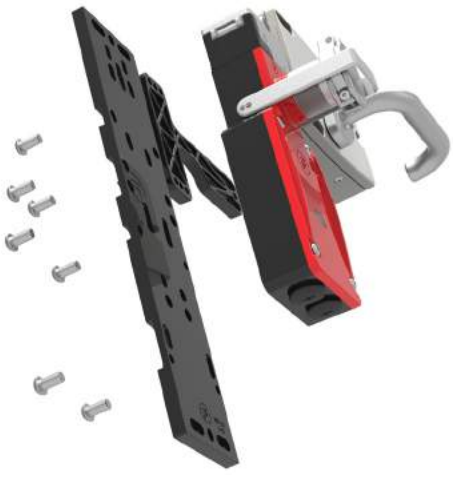
## amGard*pro* Eazi-fit Mounting System Benefits

- **Robust Design - 10KN Retention Force (when plate mounted correctly to amGard*pro* Unit)**
- **Configurable**
- **Accommodates most amGard*pro* configurations**
- **Pre-assembled**
- **Handle/tongue packing plates included**
- **Easy to order: Online configurator selects safety interlock and mounting plate to suit**
- **Easy to install: Interlock comes pre-fitted to mounting plate with actuator packing plate**
- **Painted Die Cast Aluminium either black finish or grey finish (to suit guarding finish)**
- **Standard designs for speedy delivery**

## Common Configurations

**EI2I6EKR2LR411L0E70BNMPB1**

**TA2T6R1EKR2AKR12SR411MPB1**



**EH4T6EKL2SL411MPB1**

# Configurations Part 4

## amGard*pro* Slimline *pro*

**What is Slimline *pro*?**

amGard*pro* now has two additions to the range which are in a slimline housing - a Solenoid Controlled LOK body and an Option Pod for up to three control or pushbutton elements. Both are compatible with the standard modules within the amGard*pro* range and enable numerous configurations of guard switches for machine guarding applications all within a width of just 40mm. The control elements of the Slimline *pro*Option Pod unit can be prewired with a common power supply to minimise external wiring or supplied with volt free contacts.

**Slimline *pro* Benefits**

- **Slim profile - ideal for narrow guarding at just 40mm wide.**
- **Sealed to IP65 & IP67**
- **Choice of actuators (handle or tongue)**
- **Internal release option**
- **Keyed override (in event of power failure)**

For more information on the **Slimline *pro*Option Pod** and **Slimline *pro*Lok** units visit our website www.fortressinterlocks.com or request our individual datasheets and installation instructions from your local Fortress rep

## Common Configurations

**SA4S6SKL21AKL21ZL411Y1EG10ND900**

**HS1S6ZL411D200**

**HS1S6ZL411Y1BW00ND600**

**HS1S6R2AKR11ZR411D200**

Fortress Interlocks

# amGard*pro* Component Range Card

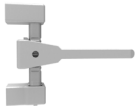
Protecting People, Protecting Productivity

## Actuators

### AM Handle

MA*
MI*

### AT Tongue



TA*
TK*
SA*

### Slidebar

TI* TF* SI* SF*
TS* TM* SS*
TN* TG* SN*

### Handle Actuator

SD2
SD4

### All in 1 Head & Handle Combination

EI2 EI4
I6 I7
A6 A7

### EN Handle

EN2
EN4

### EF Handle

EF2
EF4

### EH Handle

EH2
EH4

### Hinged Handle

Short Reach Long Reach

HS1 HL1

## Head Modules

### Cap

C6

### AM Head

M6
M7
M8

### AT Head

T6
T7
T8

### AT Slimline Head

S6

## Adaptors

### Extracted Key Adaptor

EK**

### Safety Key Adaptor

SK**

### Access Key Adaptor

AK**

### Internal Release

R1 R8
R2 R9
R3 RW
R4 RY
R6 RX
R7 RZ

## Electrical Switching / Locking

### Non Solenoid Switch Body

ST***

### Explosion Proof Safety Switch Body

EX***
UX***

### Solenoid Controlled Switch Body

SL***
SR***

### Extended Solenoid Controlled Switch Body

LL***
LR***

### Slimline Solenoid Controlled Switch Body

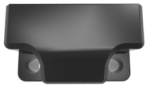
ZL***
ZR***

### Solenoid Controlled Switch Body with Internal Release

SE***

LE***

### Foot



FT0

## Option Pods

### RFID Pod

B*****T
B*****S

### Key Switch Pod

BK**

### Pushbutton / Lamp Pod

B0*****
B1*****
B2*****
B5*****
B6*****
B7*****

### Slimline Pushbutton / Lamp Pod

Y0***0N
Y1***0N
W0***0N
W1***0N

### *pro*Net Option Pod

N0****NPF**
N2****NPF**
N3****NPF**
N5****NPF**

## Accessories

### AM Lock-Out Clip

AML

### AM Lock-Out Clip

ATL

### Drop Down Lock-Out

DD7

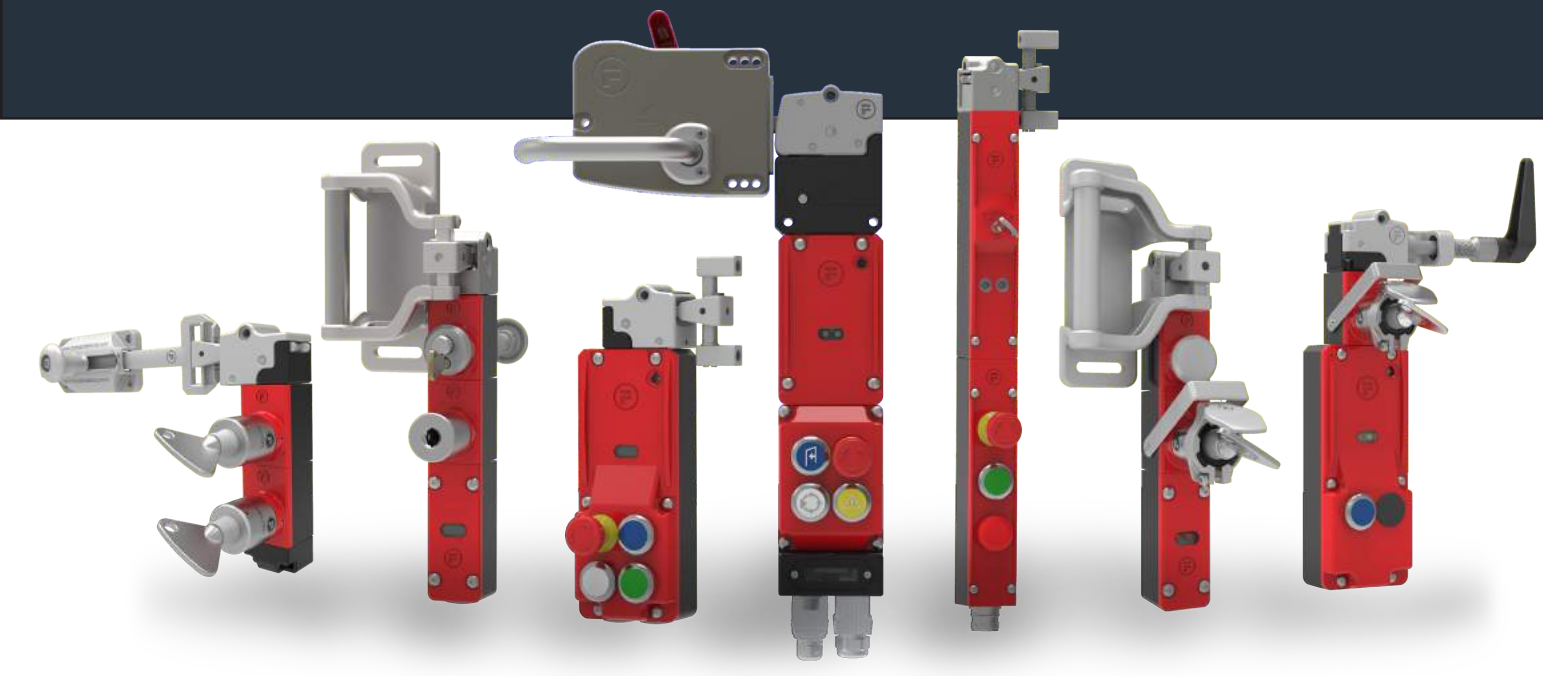
### Mounting Plates

....MPB1

Fortress Interlocks

amGard pro

# amGard*pro* Configuration Tool



amGard pro

Also available on our website www.fortressinterlocks.com
as an online configurator

LEARN MORE

# Step 1a: Choose the Actuator

Actuators

## For use with 'M' Heads

### *pro*AM Handle

| Part No. | Description |
|---|---|
| MA | AM Handle |

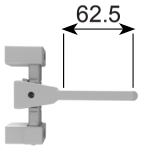
Turning motion holds door closed. Ideal for non locking set ups (i.e. *pro*STOP devices)

| Part No. | Description |
|---|---|
| MI | AM Handle with Internal Release |

Turning motion holds door closed. Internal handle allows user to open door from inside (pushIR may be required depending on application)

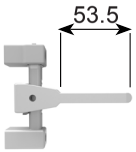
## For use with 'T' Heads

### *pro*AT Tongue




| Part No. | Description |
|---|---|
| TA | AT Tongue |

High strength and ease of opening makes this the most popular actuator in the amGard*pro* range.




| Part No. | Description |
|---|---|
| TK | Short AT Tongue (allows padlocks through the tongue to work as a lock out tag out, but reduces over travel). |

Allows padlocks through the tongue to work as a lock out tag out, but reduces over travel

### *pro*Slidebar Options

| Part No. | Description |
|---|---|
| TN | Slidebar without a spring |

Sliding motion holds door closed. With no return spring unit remains in the position it is left in

| Part No. | Description |
|---|---|
| TS | Slidebar with a return spring |

Sliding motion holds door closed. Return spring pulls the slidebar open, preventing clashes with the head (but requires the slide-bar to be held forward whilst locking)

| Part No. | Description |
|---|---|
| TI | Slidebar with Internal handle but no return spring |

Sliding motion holds door closed. Same as a TN but IR knob allows door to be opened (but not closed) from the inside when main unit is unlocked

| Part No. | Description |
|---|---|
| TM | Slidebar with Internal handle c/w TK Short Tongue |

Sliding motion holds door closed. Short TK tongue allows padlock through tongue to act as a lock out. Additional lock out space at rear of slidebar

| Part No. | Description |
|---|---|
| TG | Slidebar with Internal handle for GM |

Sliding motion holds door closed. Short TK tongue allows padlock through tongue to act as a lock out.
No additional lock out space at rear of slidebar

| Part No. | Description |
|---|---|
| TF | Slidebar with Internal handle c/w spacer behind the knob |

Same as a TN but IR knob allows door to be opened and closed from the inside when main unit is locked

### *pro*Handle Options

| Part No. | Description |
|---|---|
| EN | *pro*Handle, no Internal Release |

Handle motion holds door closed, but no method to open door from inside

| Part No. | Description |
|---|---|
| EF | *pro*Handle, with Internal Access Handle |

Handle motion holds door closed. Internal access handle allows door to be opened and closed from the inside

| Part No. | Description |
|---|---|
| EH | *pro*Handle (the red internal release handle only works with units with no locking (i.e. stops) or in conjunction with a Push IR unit). |

The red internal release handle only works with units with no locking (i.e. Stops) or in conjunction with a pushIR unit

## For use with 'I' or 'A' Heads

### *pro*Release IR Handle

| Part No. | Description |
|---|---|
| EI | *pro*IR Handle to allow emergency release (only to be used with I6 or I7 head). |

Handle motion holds door closed.
Red handle overrides all locking mechanisms and opens safety contacts to allow escape release

**pro i**

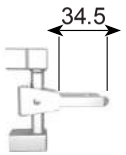
**MI, TI, TM, TG, TF and EH work well with a Push IR unit (see step 4)**

# Step 1b: Choose the Actuator

Actuators

**For use with 'S' Heads**

## *pro* Slimline Tongue




| Part No. | Description |
|---|---|
| *SA | Slimline Tongue |

High strength, but suitable for all Slimline configurations

pro i

"If you select an SA, SI, SN, SF, SS, SD, HS, HL you must then select Slimline Head S6 only"

## *pro*Slidebar - Short Tongue Options

| Part No. | Description |
|---|---|
| SN | Slimline Tongue Slidebar without a spring |

Sliding motion holds door closed. With no return spring unit remains in the position it is left in

| Part No. | Description |
|---|---|
| SS | Slimline Tongue Slidebar with a return spring |

Sliding motion holds door closed. Return spring pulls the slidebar open, preventing clashes with the head (but requires the slidebar to be held forward whilst locking)

| Part No. | Description |
|---|---|
| SI | Slimline Tongue Slidebar with Internal handle but no return spring |

Sliding motion holds door closed. Same as a SN but IR knob allows door to be opened (but not closed) from the inside when main unit is unlocked

| Part No. | Description |
|---|---|
| SF | Slimline Tongue Slidebar with Internal handle c/w spacer behind the knob |

Same as a SN but IR knob allows door to be opened and closed from the inside when main unit is locked

## *pro* Hand Operated Actuator

| Part No. | Description |
|---|---|
| SD | Hand Operated Sprung Actuator with Slimline tongue |

## *pro*Hinged Handle Options

| Part No. | Description |
|---|---|
| HS1 | *pro*Hinged Handle - Short Reach for use with *pro*Stop units (40mm wide) |

Particularly useful for applications using small radius hinged doors (250mm min)

| Part No. | Description |
|---|---|
| HL1 | *pro*Hinged Handle - Long Reach for use with *pro*Lok units (80mm wide) |

Particularly useful for applications using small radius hinged doors (250mm min)

## NO Actuator Required

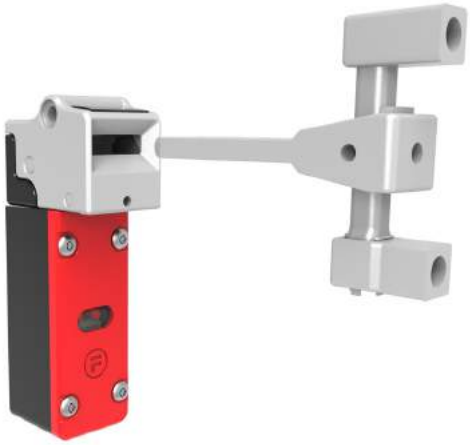
X

| Part No. | Description |
|---|---|
| NO | No Actuator required |

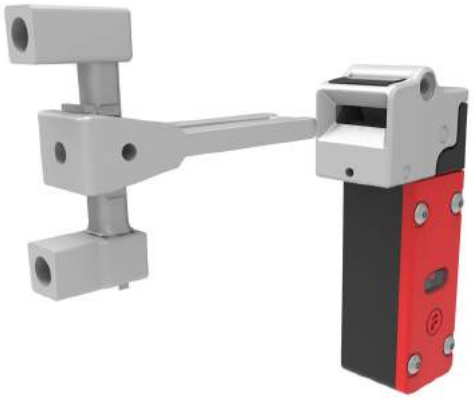
Select this when you wish to specify head direction (Handing) but are not purchasing an actuator

pro i

"If no Actuator is required go to Step 3, where you can select a Head or Cap (C6)"

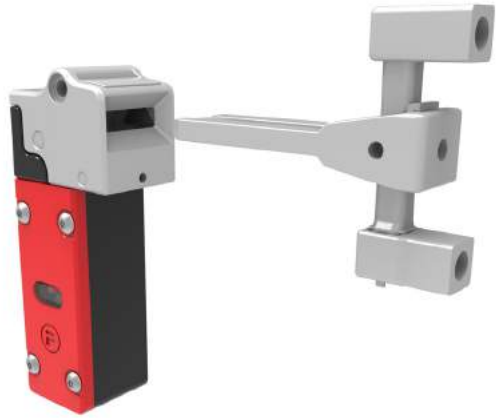


| Part No. | Handing Description |
|---|---|
| 1 | Front Facing |



| Part No. | Handing Description |
|---|---|
| 2 | Left Hand |

| Part No. | Handing Description |
|---|---|
| 3 | Rear Facing |



| Part No. | Handing Description |
|---|---|
| 4 | Right Hand |

pro i

Even if you have not chosen an actuator from Step 1 you can still choose handing for the head module

pro i

If you chosen an EI Actuator from Step 1, Front Facing,1 and Rear Facing, 3 Handing options are not allowed

HS1S6ST401

pro i

If you choose a HS/HL Handle & an S6 Head it is recommended you choose a Front Facing configuration

# Step 3: Choose the Head Module

Head Modules

## *pro*Cap Options

| Part No. | Description |
|---|---|
| C6 | To terminate assemblies without heads |

Terminates assemblies without heads

## *pro*AM Head Options

For use with actuators:
MA
MI

| Part No. | Description |
|---|---|
| M6 | *pro*AM Head |

Turning motion holds door closed. Ideal for non locking set ups (i.e. *pro*STOP devices)

For use with actuators:
MA
MI

| Part No. | Description |
|---|---|
| M7 | *pro*AM Head c/w Drop Down Lockout |

M6 head with drop down lockout. This lockout features slides into place every time actuator is removed. Ideal for applications where lockout is to be used on every entry

For use with actuators:
MA
MI

| Part No. | Description |
|---|---|
| M8 | *pro*AM Head c/w Lock-Out Clip |

M6 head with drop down clip. Ideal for applications where lockout is not to be used on every entry

## *pro*AT Head Options

For use with actuators:

| | |
|---|---|
| TA | TS |
| TK | TM |
| TI | TG |
| TN | TF |
| EH | EN |

| Part No. | Description |
|---|---|
| T6 | *pro*AT Head |

High strength and ease of opening makes this the most popular head in the amGard*pro* range

For use with actuators:

| | |
|---|---|
| TA | TS |
| TK | TM |
| TI | TG |
| TN | TF |
| EH | EN |

| Part No. | Description |
|---|---|
| T7 | *pro*AT Head c/w Drop Down Lockout |

T6 head with drop down lockout. This lockout features slides into place every time actuator is removed. Ideal for applications where lockout is to be used on every entry

For use with actuators:

| | |
|---|---|
| TA | TS |
| TK | TM |
| TI | TG |
| TN | TF |
| EH | EN |

| Part No. | Description |
|---|---|
| T8 | *pro*AT Head c/w ATL Lock-Out Clip |

T6 head with drop down clip. Ideal for applications where lockout is not to be used on every entry

## *pro*AT Slimline Head Options

For use with actuators:

| | |
|---|---|
| SA | SF |
| SI | SD |
| SS | HS |
| SN | HL |

| Part No. | Description |
|---|---|
| S6 | *pro*AT Slimline Head |

S6 Head with the HL1 for the Lok must be forward facing only.

S6 Head with the HS1 for the Stop / Safety Key must be forward facing only.

S6 Head with the SA* Tongue for the Lok / Safety Key can be any facing.

pro i

**An S6 head works especially well with a slimline *pro*Lok to give a final product that is only 40mm wide**

pro i

**If a head module is not required, leave the part number blank and continue to Step 4**

pro i

**Ensure the head module you have selected works with the actuator you have selected in Step 1**

## *pro*Release IR Handle Options

For use with actuators:
EI

| Part No. | Description |
|---|---|
| I6 | *pro*IR Head (only works in conjunction with EI handle) |
| A6 | Auto reset all in one head (only works in conjunction with EI handle) |

Handle motion holds door closed. Red handle overrides all locking mechanisms and opens safety contacts to allow escape release

For use with actuators:
EI

| Part No. | Description |
|---|---|
| I7 | *pro*IR Head c/w drop down lockout (only works in conjunction with EI handle) |
| A7 | Auto reset all in one head c/w drop down lockout (only works in conjunction with EI handle) |

I6 / A6 head with drop down lockout. This lockout features slides into place every time actuator is removed. Ideal for applications where lockout is to be used on every entry

Adaptors

A Push IR will allow Internal Escape Release even if unit is locked by keys and or solenoid. A Push IR is **not** needed if an EI Handle and I6 / I7 or A6 / A7 Head have already been specified. (note, a pull reset (R6, R7, R8 & R9) reduces the safety of the system).

| Part No. | Push IR Description |
|---|---|
| R1 | Key Reset (up to 40mm panel thickness) |

Same as RW but key reset to ensure all incidents are reported

| Part No. | Push IR Description |
|---|---|
| R2 | Key Reset (up to 60mm panel thickness) |

Same as RX but key reset to ensure all incidents are reported

| Part No. | Push IR Description |
|---|---|
| R3 | Key Reset (up to 80mm panel thickness) |

Same as RY but key reset to ensure all incidents are reported

| Part No. | Push IR Description |
|---|---|
| R4 | Key Reset (variable length - for panel thickness over 80mm and up to 1m) |

Same as RZ but key reset to ensure all incidents are reported

| Part No. | Push IR Description |
|---|---|
| R6 | Pull Reset (up to 40mm panel thickness) |

Same as RW but pull reset allows door to be relocked from the inside (requires careful risk assessment to ensure this is acceptable)

| Part No. | Push IR Description |
|---|---|
| R7 | Pull Reset (up to 60mm panel thickness) |

Same as RX but pull reset allows door to be relocked from the inside (requires careful risk assessment to ensure this is acceptable)

| Part No. | Push IR Description |
|---|---|
| R8 | Pull Reset (up to 80mm panel thickness) |

Same as RY but pull reset allows door to be relocked from the inside (requires careful risk assessment to ensure this is acceptable)

| Part No. | Push IR Description |
|---|---|
| R9 | Pull Reset (variable length for panel thickness over 80mm and up to 1m) |

Same as RZ but pull reset allows door to be relocked from the inside (requires careful risk assessment to ensure this is acceptable)

pro i

If a Push IR is not required leave part number blank and go to Step 5

| Part No. | Push IR Description |
|---|---|
| RW | Front Reset no key (up to 40mm panel thickness) |

Overrides all locking mechanisms and opens safety contacts to allow escape release. Simple push reset allows quick restart. Suitable for panels up to 40mm thick

| Part No. | Push IR Description |
|---|---|
| RX | Front Reset no key (up to 60mm panel thickness) |

Overrides all locking mechanisms and opens safety contacts to allow escape release. Simple push reset allows quick restart. Suitable for panels up to 60mm thick

| Part No. | Push IR Description |
|---|---|
| RY | Front Reset no key (up to 80mm panel thickness) |

Overrides all locking mechanisms and opens safety contacts to allow escape release. Simple push reset allows quick restart. Suitable for panels up to 80mm thick

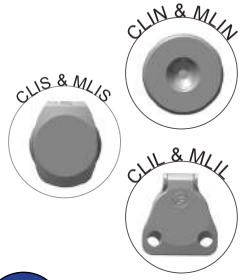
| Part No. | Push IR Description |
|---|---|
| RZ | Front Reset no key (variable length for panel thickness over 80mm up to 1m) |

Overrides all locking mechanisms and open safety contacts to allow escape release. Simple push reset allows quick restart. Suitable for panels up to 300mm thick

Adaptors

| Part No. | E | K | | |
|---|---|---|---|---|

| Description | Part No. |
|---|---|
| Standard Lock | L |
| Releasing Lock (must be used if a Push IR or EI Handle and Head used). | R |




| Description | Information | | Part No. |
|---|---|---|---|
| Standard Lock no dustcover | Removed key ensures door cannot be locked until operator returns from cell with the key. Extracted version will not open door until key is removed | CLIN | 1 |
| Standard Lock with dustcover | Same as EK_1 but with dustcover for dusty environments | CLIS | 2 |
| Standard Lock with padlockable dustcover | Same as EK_1 but padlockable dustcover allows lockout feature | CLIL | 3 |
| Masterable Lock no dustcover | Same as EK_1 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIN | 6 |
| Masterable Lock with dustcover | Same as EK_2 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIS | 7 |
| Masterable Lock with padlockable dustcover | Same as EK_3 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIL | 8 |

**or**

If you've selected an I6/I7 or A6/A7 then select a releasing lock.

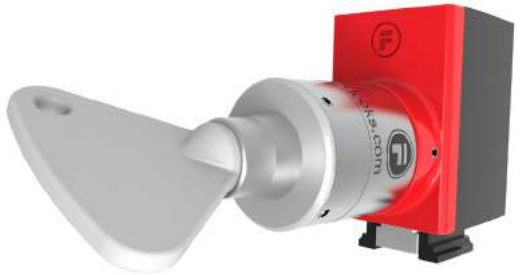
If you've selected a Push IR adaptor then select a releasing lock.

pro i

**If an Extracted Key Adaptor is not required leave part number blank and go to Step 6**

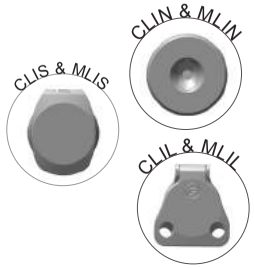
# Step 6: Choose a Safety Key Adaptor

Adaptors



**Part No.** | S | K | | | |

| Description | Part No. |
|---|---|
| Standard Lock | L |
| Releasing Lock (must be used if a Push IR or EI Handle and Head used). | R |




| Description | Information | | Part No. |
|---|---|---|---|
| Standard Lock no dustcover | Removed key ensures door cannot be locked until operator returns from cell with the key | CLIN | 1 |
| Standard Lock with dustcover | Same as SK_1 but with dustcover for dusty environments | CLIS | 2 |
| Standard Lock with padlockable dustcover | Same as SK_1 but padlockable dustcover allows lockout feature | CLIL | 3 |
| Masterable Lock no dustcover | Same as SK_1 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIN | 6 |
| Masterable Lock with dustcover | Same as SK_2 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIS | 7 |
| Masterable Lock with padlockable dustcover | Same as SK_3 but master lock allows a single key to override all locks (master key mst be carefully controlled on site) | MLIL | 8 |

| Description | Part No. |
|---|---|
| No. of Safety Key Adaptors required | 1 - 9 |

**or**

If you've selected an I6/I7 or A6/A7 then select a releasing lock.

If you've selected a Push IR adaptor then select a releasing lock.

**pro i**

**If a Safety Key Adaptor is not required leave part number blank and go to Step 7**

**pro i**

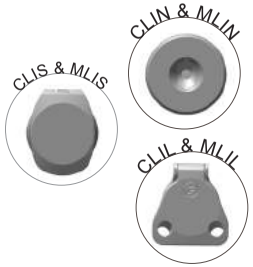
**Total Extracted, Safety & Access Locks in one configuration is Max 9**

# Step 7: Choose an Access Key Adaptor

Adaptors

| Part No. | A | K | | | |
|---|---|---|---|---|---|

| Description | Part No. |
|---|---|
| Standard Lock | L |
| Releasing Lock (must be used if a Push IR or EI Handle and Head used). | R |




| Description | Information | | Part No. |
|---|---|---|---|
| Standard Lock no dustcover | Ensures door cannot be opened without access key. Access key could be held by authorised individuals (e.g. maintenance) or it could have been released by a seperate unit | CLIN | 1 |
| Standard Lock with dustcover | Same as AK_1 but with dustcover for dusty environments | CLIS | 2 |
| Standard Lock with padlockable dustcover | Same as AK_1 but padlockable dustcover allows lockout feature | CLIL | 3 |
| Masterable Lock no dustcover | Same as AK_1 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIN | 6 |
| Masterable Lock with dustcover | Same as AK_2 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIS | 7 |
| Masterable Lock with padlockable dustcover | Same as AK_3 but master lock allows a single key to override all locks (master key must be carefully controlled on site) | MLIL | 8 |

pro i

Total Extracted, Safety & Access Locks in one configuration is Max 9

| Description | Part No. |
|---|---|
| No. of Access Key Adaptors required | 1 - 9 |

pro i

If an Access Key Adaptor is not required leave part number blank and go to Step 8

**or**

If you've selected an I6/I7 or A6/A7 then select a releasing lock.

If you've selected a Push IR adaptor then select a releasing lock.

# Step 8: Choose an Electrical Switching / Locking Body

Electrical Switching / Locking

## *pro*LOK Body

SL

SE

| Part No. | Description | Information |
|---|---|---|
| SL | Short LOK Body | Solenoid controlled safety switch. Holds door locked until signal sent to unlock. No provision for control buttons |
| SR | Short LOK Body - Releasing (must be used if a Push IR or EI handle and head used). | Same as SL but allows Push IR or EI handle to override it |
| SE | Short LOK Body - Integrated Escape Release | Same as SL but it's integrated escape release button overrides locking mechanism and opens safety contacts (Does not work with key adaptors, EI or Push IR) |

or

If you've selected an I6/I7 or A6/A7 then select a releasing lock.

If you've selected a Push IR adaptor then select a releasing lock.

## *pro*LOK+ Body

LL

LE

| Part No. | Description | Information |
|---|---|---|
| LL | Long LOK Body | Solenoid controlled safety switch. Holds door locked until signal sent to unlock. With space for control buttons |
| LR | Long LOK Body - Releasing (must be used if a Push IR or EI handle and head used). | Same as LL but allows Push IR or EI handle to override it |
| LE | Long LOK Body - Integrated Escape Release | Same as LL but it's integrated escape release button overrides locking mechanism and opens safety contacts (Does not work with key adaptors, EI or Push IR) |

## Slimline *pro*Lok Body

| Part No. | Description | Information |
|---|---|---|
| ZL | Slimline LOK Body | Solenoid controlled safety switch. Holds door locked until signal sent to unlock. No provision for control buttons. Only 40mm wide |
| ZR | Slimline LOK Body - Releasing (must be used if a Push IR or EI handle and head used). | Same as ZL but allows Push IR or EI handle to override it. Only 40mm wide |

pro i

For *pro*Net configurations *pro*LOK+ body is only needed if 5 - 8 pushbutton / lamp options are required

pro i

A Slimline *pro*LOK works best with an S6 head to give a final product that is only 40mm wide

## *pro*Stop Body

| Part No. | Description | Information |
|---|---|---|
| ST | Stop Body | Safety switch |

## *pro*Stop EX/UX Body

| Part No. | Description | Information |
|---|---|---|
| EX | EU Explosion Stop Body | Safety switches suitable for explosive environments with EU certification |
| UX | US Explosion Stop Body | Safety switches suitable for explosive environments with US certification |

## *pro*Stop Foot

| Part No. | Description | Information |
|---|---|---|
| FT | To Terminate non-switch configurations | Terminates non-switch configurations (not suitable for units with Push IR or EI handle) |

pro i

If an Electrical Switching / Locking Body is not required leave part number blank and continue to Step 10

# Step 9: Choose Electrical Switching / Locking Body Options

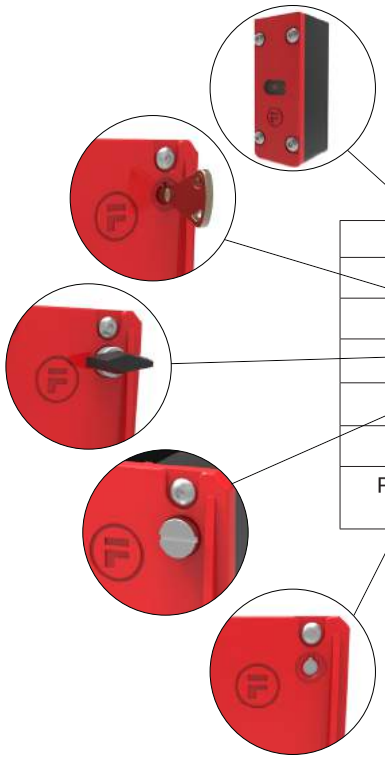
**IMPORTANT NOTE:**
- For all *pro*LOK *pro*Net configurations go to step 10b.
- For all *pro*LOK+ *pro*Net configurations first go to step 10a then 10b.

**Part No.** | | | |

pro i

Slimline *pro*LOK can only be configured in 24v

| Voltage Options | Part No. |
|---|---|
| No Voltage (eg Foot) | 0 |
| 110v | 1 |
| 230v | 2 |
| 24v | 4 |
| 100v | 5 |
| 48v | 7 |
| Asi | 8 |
| 110v Solenoid / 24v Control (LOK only) | S |
| 110v Control / 24v Solenoid (LOK only) | C |
| *pro*Net Connection (Not available for Slimline *pro*LOK) | P |



| Override Options | Part No. |
|---|---|
| Stop/EXP/UXP | 0 |
| PTU - Key Override | 1 |
| PTU - Knob Override | 2 |
| PTU - Screwdriver Override | 3 |
| PTL (24v, 110v & ASi only) | 6 |
| PTL with fully monitored solenoid (ZL / ZR only) | 7 |

pro i

Not available for ZL or ZR

| Other PCB Options | *pro*Body Types | Part No. |
|---|---|---|
| Std & Sourcing | ALL | 1 |
| Std & Sinking | ST Only | 2 |
| Std & Sourcing (3 x NC) | ST Only | 3 |
| Std & Sourcing (Y&G LEDS) | SL, SR, LL & LR Only | 4 |
| Un-Monitored Sol & Sourcing | SL, SR, LL, ZL & LR, ZR Only | 6 |
| Un-Monitored Sol & Sourcing (Y&G LEDS) | SL, SR, LL & LR Only | 7 |
| Individual Safety Control for Sol & Actuator | SL, SR, LL, LR, SE & LE Only | 8 |

pro i

This is ordered by 99% of our customers

# Step 10a: Choose options for Separate Option Pod or *pro*LOK+ Body

Option Pods

Separate Option Pod with 4 hole positions


Separate Option Pod with 2 hole positions


*pro*LOK+ Body with 2 hole positions


*pro*LOK+ Body with 4 hole positions


**pro i**

**If you order just one or two pushbuttons we will retain the order but position them top left and top right**

**Part No.**

| Top Left | Top Right | Bottom Left | Bottom Right |
|---|---|---|---|
| | | | |

| Select Unit | Pod Type | Terminals OR QD | AS-i |
|---|---|---|---|
| Stand alone Pod with No holes on top of pod case (stand alone unit) | B | 0 | 5 |
| Pod with one hole on top of pod case for fitting to *pro*Stop Body | B | 1 | 6 |
| Pod with two holes on top of pod case for fitting to *pro*LOK Body | B | 2 | 7 |
| *pro*LOK+ Body switch information | L | 0 | 5 |

| Part No. | Pushbutton / Lamp Options - 24v only |
|---|---|
| 0 | Blank |
| 1 | Red Lamp |
| 2 | Yellow Lamp |
| 3 | Green Lamp |
| 6 | Blue Lamp |
| 7 | White Lamp |
| E | E-Stop (twist reset) |
| H | E-Stop (with additional monitoring contacts, twist reset) |
| P | E-Stop (pull reset) |
| U | E-Stop (illuminated twist reset) |
| L* | Latching selector switch (illuminated) |
| M* | Momentary selector switch (illuminated) |
| A* | Latching key switch (90 degree) |
| R | Red illuminated pushbutton non latching |
| Y | Yellow illuminated pushbutton non latching |
| G | Green illuminated pushbutton non latching |
| B | Blue illuminated pushbutton non latching |
| W | White illuminated pushbutton non latching |
| K | Black non illuminated pushbutton non latching |

| Part No. | Sensors - 24v only |
|---|---|
| N | No additional switch required |
| C | Coded Magnet - Left Hand (see step 2 for handing) |
| D | Coded Magnet - Right Hand (see step 2 for handing) |
| S | RFID - Left Hand (see step 2 for handing) |
| T | RFID - Right Hand (see step 2 for handing) |

**pro i**

**L, M & A Options can only be fitted in top right or bottom left positions**

**pro i**

**If an Option Pod or Long LOK Body is not required leave part number blank and continue to Step 11**

# Step 10b: Choose options for *pro*Net Option Pod

Option Pods

If you order just one or two pushbuttons we will retain the order but position them top left and top right

| Part No. | | | Top Left | Top Right | Bottom Left | Bottom Right | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | | | | | | N | P | F | | |

| Select Unit | PROFINET | PROFINET MRP | Ethernet/IP |
|---|---|---|---|
| Stand alone *pro*Net Pod | 0 | 6 | 3 |
| *pro*Net Pod mounted below a *pro*LOK or *pro*LOK+ unit or *pro*Stop unit | 2 | 8 | 5 |

| Part No. | Pushbutton / Lamp Options - 24v only |
|---|---|
| 0 | Blank |
| 1 | Red Lamp |
| 2 | Yellow Lamp |
| 3 | Green Lamp |
| 6 | Blue Lamp |
| 7 | White Lamp |
| E | E-Stop (twist reset) |
| H | E-Stop (with additional monitoring contacts, twist reset) |
| P | E-Stop (pull reset) |
| U | E-Stop (illuminated twist reset) |
| L* | Latching selector switch (illuminated) |
| M* | Momentary selector switch (illuminated) |
| A* | Latching key switch (90 degree) |
| R | Red illuminated pushbutton non-latching |
| Y | Yellow illuminated pushbutton non-latching |
| G | Green illuminated pushbutton non-latching |
| B | Blue illuminated pushbutton non-latching |
| W | White illuminated pushbutton non-latching |
| K | Black non illuminated pushbutton non-latching |

| Connection Options | | |
|---|---|---|
| AIDA with 'B coded' external safety switch | 0 | 4 |
| AIDA with 'A coded' external safety switch | 0 | 5 |
| AIDA connectors | 0 | 6 |
| 3 M12 QD set - 1 Power 2 Data | 0 | 7 |
| 4 M12 QD set - 1 Power 1 External Safety Switch 2 Data | 0 | 9 |
| 4 M12 QD set - 2 Power 2 Data | 1 | 0 |
| 4 QD set - 2 Power (7/8s) 2 Data (M12) | 1 | 1 |
| AIDA connectors with 'A coded' external double safety switch | 1 | 5 |

L, M & A Options can only be fitted in top right or bottom left positions

Pushbutton / Lamp positions for up to 4 selections


Pushbutton / Lamp positions for up to 2 selections


**IMPORTANT NOTE:**

- If you have selected a *pro*Net option pod then your amGard*pro* configuration process has now finished. There are no further steps required.
- If you don't require a *pro*Net option pod then proceed to Steps 10c, 11 or 12.

# Step 10c: Choose options for Slimline Option Pod

Option Pods

| Part No. | | | Top Position | Middle Position | Bottom Position | | |
|---|---|---|---|---|---|---|---|
| | | | | | | 0 | N |


**Ordering Sequence**
1 - Top Position
2 - Middle Position
3 - Bottom Position

| Select Unit | Wiring Type | Pod Type |
|---|---|---|
| Stand alone Slimline Pod with common power supply | Y | 0 |
| Slimline Pod to be fitted below *pro*Stop or Slimline *pro*LOK unit with com-mon power supply | Y | 1 |
| Stand alone Slimline Pod (with power supply wired individually volt-free contacts) | W | 0 |
| Slimline Pod to be fitted below *pro*Stop or Slimline *pro*LOK unit (with power supply wired individually volt-free contacts) | W | 1 |

**pro i**

**Majority of customers prefer common power supply due to the reduced wiring complexity**

| Part No. | Pushbutton / Lamp Options - 24v only |
|---|---|
| 0 | Blank |
| 1 | Red Lamp |
| 2 | Yellow Lamp |
| 3 | Green Lamp |
| 6 | Blue Lamp |
| 7 | White Lamp |
| E | E-Stop (twist reset) |
| H | E-Stop (with additional monitoring contacts, twist reset) |
| P | E-Stop (pull reset) |
| U | E-Stop (illuminated twist reset) |
| L | Latching selector switch (illuminated) |
| M | Momentary selector switch (illuminated) |
| A | Latching key switch (90 degree) |
| R | Red illuminated pushbutton non-latching |
| Y | Yellow illuminated pushbutton non-latching |
| G | Green illuminated pushbutton non-latching |
| B | Blue illuminated pushbutton non-latching |
| W | White illuminated pushbutton non-latching |
| K | Black non illuminated pushbutton non-latching |

**pro i**

**If an Option Pod or Long LOK Body is not required leave part number blank and continue to Step 11**

# Step 11: Do you want a Key Switch Option Pod?

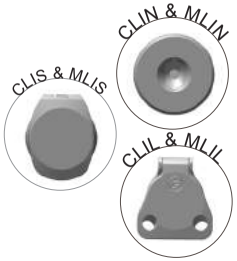
Option Pods

| Part No. | B | K | | |
|---|---|---|---|---|

pro i

Removal of the key operates a set of safety rated switches. Common uses are: request machine stop, enable teach mode and prevent inadvertent re-start

| Select Unit | Part No. | |
|---|---|---|
| Stand alone Pod with No holes on top of pod case (stand alone unit) | 0 |  |
| Pod with one hole on top of pod case for fitting to *pro*Stop Body | 1 |  |
| Pod with two holes on top of pod case for fitting to *pro*LOK Body | 2 |  |




| Description | | Part No. |
|---|---|---|
| Standard Lock no dustcover | CLIN | 1 |
| Standard Lock with dustcover | CLIS | 2 |
| Standard Lock with padlockable dustcover | CLIL | 3 |
| Masterable Lock no dustcover | MLIN | 6 |
| Masterable Lock with dustcover | MLIS | 7 |
| Masterable Lock with padlockable dustcover | MLIL | 8 |

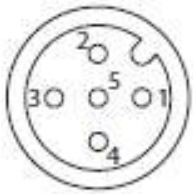
pro i

If a Key Switch Option Pod is not required leave part number blank and continue to Step 12

# Step 12a: Quick Disconnect Connector Options

## Quick Disconnect Connector Options

### D1



| No. Pins | 5 |
|---|---|
| Max Voltage | 300v |
| Connector | M12 |

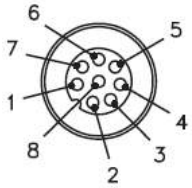
| | | |
|---|---|---|
| 1 | Brown | |
| 2 | White | |
| 3 | Blue | |
| 4 | Black | |
| 5 | Grey | |

### D2

| No. Pins | 12 |
|---|---|
| Max Voltage | 300v |
| Connector | UN2 |

| | | |
|---|---|---|
| 1 | Orange | |
| 2 | Blue | |
| 3 | White/Black | |
| 4 | Red/Black | |
| 5 | Green/Black | |
| 6 | Orange/Black | |
| 7 | Blue/Black | |
| 8 | Black/White | |
| 9 | Green/Yellow | |
| 10 | Red | |
| 11 | White | |
| 12 | Black | |

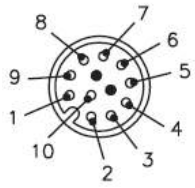
### D3



| No. Pins | 8 |
|---|---|
| Max Voltage | 60v |
| Connector | M12 |

| | | |
|---|---|---|
| 1 | White | |
| 2 | Brown | |
| 3 | Green | |
| 4 | Yellow | |
| 5 | Grey | |
| 6 | Pink | |
| 7 | Blue | |
| 8 | Red | |

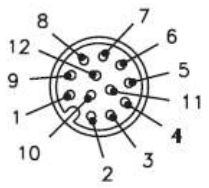
### D7



| No. Pins | 10 |
|---|---|
| Max Voltage | 60v |
| Connector | M12 |

| | | |
|---|---|---|
| 1 | White | |
| 2 | Brown | |
| 3 | Green | |
| 4 | Yellow | |
| 5 | Grey | |
| 6 | Pink | |
| 7 | Blue | |
| 8 | Red | |
| 9 | Orange | |
| 10 | Tan | |

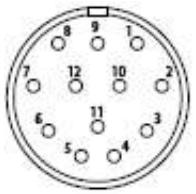
### D8



| No. Pins | 12 |
|---|---|
| Max Voltage | 60v |
| Connector | M12 |

| | | |
|---|---|---|
| 1 | White | |
| 2 | Brown | |
| 3 | Green | |
| 4 | Yellow | |
| 5 | Grey | |
| 6 | Pink | |
| 7 | Blue | |
| 8 | Red | |
| 9 | Orange | |
| 10 | Tan | |
| 11 | Black | |
| 12 | Violet | |

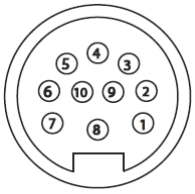
### D9



| No. Pins | 12 |
|---|---|
| Max Voltage | 300v |
| Connector | M23 |

| | | |
|---|---|---|
| 1 | Brown | |
| 2 | Brown/White | |
| 3 | Blue | |
| 4 | White | |
| 5 | Green | |
| 6 | Yellow | |
| 7 | Grey | |
| 8 | Pink | |
| 9 | Red | |
| 10 | Black | |
| 11 | Violet | |
| 12 | Green/Yellow | |

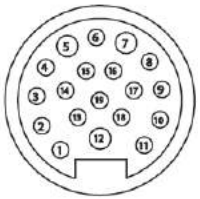
### E3



| No. Pins | 10 |
|---|---|
| Max Voltage | 300v |
| Connector | UN2 |

| | | |
|---|---|---|
| 1 | Orange | |
| 2 | Blue | |
| 3 | White/Black | |
| 4 | Red/Black | |
| 5 | Green/Black | |
| 6 | Orange/Black | |
| 7 | Red | |
| 8 | Green/Yellow | |
| 9 | Black | |
| 10 | White | |

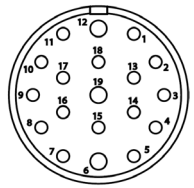
### E4



| No. Pins | 19 |
|---|---|
| Max Voltage | 300v |
| Connector | UN2 |

| | | |
|---|---|---|
| 1 | Violet | |
| 2 | Red | |
| 3 | Grey | |
| 4 | Red/Blue | |
| 5 | Blue | |
| 6 | Green | |
| 7 | Brown | |
| 8 | White/Green | |
| 9 | White/Yellow | |
| 10 | White/Grey | |
| 11 | Black | |
| 12 | Green/Yellow | |
| 13 | Yellow/Brown | |
| 14 | Brown/Green | |
| 15 | White | |
| 16 | Yellow | |
| 17 | Pink | |
| 18 | Grey/Brown | |
| 19 | Grey/Pink | |

### F2



| No. Pins | 19 |
|---|---|
| Max Voltage | 300v |
| Connector | M23 |

| | | |
|---|---|---|
| 1 | Violet | |
| 2 | Red | |
| 3 | Grey | |
| 4 | Red/Blue | |
| 5 | Green | |
| 6 | Blue | |
| 7 | Grey/Pink | |
| 8 | White/Green | |
| 9 | White/Yellow | |
| 10 | White/Grey | |
| 11 | Black | |
| 12 | Green/Yellow | |
| 13 | Yellow/Brown | |
| 14 | Brown/Green | |
| 15 | White | |
| 16 | Yellow | |
| 17 | Pink | |
| 18 | Grey/Brown | |
| 19 | Brown | |

# Step 12b: Quick Disconnect Connector Options

| | T Wiring | | | | | | Left Hand QD | | Right Hand QD | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Part No.** | T | # | # | # | # | # | | | | |

Contact Fortress engineering to be assigned T Wiring number

| | | No. Pins | Connector |
|---|---|---|---|
| 0 | 0 | | |
| D | 1 | 5 | M12 |
| D | 2 | 12 | UN2 |
| D | 3 | 8 | M12 |
| D | 7 | 10 | M12 |
| D | 8 | 12 | M12 |
| D | 9 | 12 | M23 |
| E | 3 | 10 | UN2 |
| E | 4 | 19 | UN2 |
| F | 2 | 19 | M23 |

Left Hand QD

Right Hand QD

Image showing no connectors - 0 0

*pro*Stop, Slimline *pro*Lok and Slimline *pro*Option Pods can only be configured with 1 connector

# Protecting People, Protecting Productivity

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V1.1 April 2018