



Protecting People, Industry and Productivity





Stainless Steel Modular Gate Switches

LEARN MORE





amGardS40 Sta

Stainless Steel Modular Gate Switches

amGard*S40* is the latest range of safety interlock switches from Fortress Interlocks. Manufactured in 316 stainless steel, the range is modular in design, allowing a wide range of safety interlock switches to be configured to suit many industrial applications. The choice of configurations include:

- Solenoid Locking Safety Switches
- Solenoid Locking Safety Switches with internal release
- · Solenoid Locking Safety Switches with "safety keys" (for personnel protection)
- Solenoid Locking Safety Switches with machine control
- Non Solenoid Tongue Switches
- Non Solenoid Tongue Switches with machine control
- Mechanical Trapped Key Interlocks
- Machine Control Stations

The range is supplied in enclosures sealed to IP69K making it suitable to be pressure washed at high temperatures and has a retention force of 10,000N (greatest on the market) so it is ideal for ensuring guard doors are held closed until machines and/or processes are in a safe condition. Each module has a slim body design of 40mm so that it can be easily fitted to 50mm guarding sections or areas where space is limited.

The rugged design and strength capability makes the *S40* range an ideal choice for applications in the Food & Beverage, Pharmaceutical, Chemical, and Construction Materials industries.

The graphic below shows the modules currently available in the range.

amGard <i>S40</i> Range						
	S40 Slidebar	S40 Hinged Handle	S40 Tongue Actuator		S40 Cap	S40 Slimline Head
Actuators	and the second s			Head Modules		
	S40 IR Adaptor	S40 E Adaptor	S40 Lock Adaptor			
Adaptors						
	S40 Stop	S40 Lok	S40 Foot			
Electrical Switching / Locking			6 5			
	S40 Option Pod		•	-		
Option Pod						•





amGardS40 Product Data



The following information pages outline some typical amGard*S40* interlock configurations and the individual amGard*S40* component data.

Also available soon on our website **www.fortressinterlocks.com** an online amGard*S40* configurator







amGardS40

Stainless Steel Modular Gate Switches - Configuration Examples







Actuators



S40 Hinged Handle Options & Ordering Information		
Part Number	Description	
S40HS1	Hinged Handle - Short Reach	

Safety Functions - <i>S40</i> Hinged Handle		Part No
Safety Function 1	Provides link from interlock to door	S40HS1

Actuators





<i>S40</i> Slidebar Options & Ordering Information					
Part Number	Description	Spring	Int. Handle	Int. Handle allows locking on inside	Handing
S40SI2	Slidebar		~		Left
S40SI4	Slidebar		~		Right
S40SN2	Slidebar				Left
S40SN4	Slidebar				Right
S40SS2	Slidebar	~			Left
S40SS4	Slidebar	~			Right
S40SF2	Slidebar			~	Left
S40SF4	Slidebar			~	Right

S40 Hinged Handle

- S40HS1 Hinged Handle Short Reach.
- Used in conjunction with the S40 Head. · Particularly useful for applications using small radius hinged doors (250mm min).
- · Stainless steel casing.
- Mis-alignment of ± 12mm.

S40 Hinged Handle Technical Specification		
Housing Materials	Stainless Steel to BS3146	
Retention Force (locked)	10,000N	
Mechanical Life	>1,000,000 Switching Cycles	
Performance Level	PLe	
B10d	5,000,000	
Ambient Temperature	-5°C to 80°C (23°F to 176°F)	
Environment	Indoor & Outdoor	





S40 Slidebar

- Used in conjunction with the "S40AT Head" · Particularly useful for application using radius hinged doors
- Stainless steel casting

Safety Functions -

Provides link from

interlock to door

Internal handle

allows escape

S40Slidebar Safety

Function 1

Safetv Function 2

Built in lock-out facility to accommodate maximum of 4 padlocks with up to 8mm shackles

S40SI / S40SF

using small		mall	Housing Materials	Stainless Steel to BS3146
nodate a o 8mm diameter Part No			Colour	Stainless Steel
			Operating Force (spring loaded)	12N
			Retention Force (locked)	10,000N
			Mechanical Life	>1,000,000 Switching Cycles
			Performance Level	PLe
	S40SN	S40SS	B10d	5,000,000
			Ambient Temperature	-5°C to 80°C (23°F to 176°F)
			Environment	Indoor & Outdoor

S40 Slidebar Technical Specification







Head Modules

S40 Cap

To terminate assemblies without heads, for example solenoid controlled key release.

• Removeable to allow for modification.

S40 Cap Technical Specification			
Materials		Stainless Steel to BS3146	
Colour		Stainless Steel	
Ambient Temperature		-5°C to 80°C (23°F to 176°F)	
Environment		Indoor & Outdoor	
S40 Cap Ordering Information			
Part No.	Description		
S40C6	Сар		



Head Modules

S40 AT Slimline Head & Tongue Actuator

- Full Stainless Steel Construction
- Heavy duty tongue unit.
- · Ideal for fast, frequent access.
- 4 position fixing at 90° increments allowing on site handing change.
- Misalignment tolerance of +/- 12mm.
- 6mm Overtravel allowance.
- Retention force 10,000N when top fixing is used.
 Mounted upside down it is self cleaning, ideal for dusty environments.
- 40mm width.
- · 250mm door radius.

S40 AT Slimline Head & Tongue Technical Specification	
Housing Material	Stainless Steel to BS3146
Colour	Stainless Steel
Retention Force (locked)	10,000N
Mechanical Life	>5,000,000 Switching Cycles
Performance Level	PLe
B10d	5,000,000
Ambient Temperature	-5°C to 80°C (23°F to 176°F)
Environment	Indoor & Outdoor











Adaptors

S40 Lock - Adaptor for Safety

This unit ensures that the door cannot be opened until the key has been turned, and the machine/process cannot be

Provides a unique link to the mGard range. Up to 3 key adaptors in one configuration.
 Key sequence - releases all keys at once (runner bar)

guarded area.

S40 Safety & Access Lock Adaptors

S40 Lock Adaptor module is used to add to an amGardS40 unit, to include the provision of key control functionality. They can be used to provide the function of an access lock, or alternatively provide a safety key function. The releasing versions of the lock adaptors are the type that MUST be used in internal release fu

MUST be used in conjunction with any type of	B10d
internal release function (push IR).	Ambient Temperature
S40 Lock - Adaptor for Access	Environment
Ideally suited for authorised access only, or linked access to other machinery. Ensures a specific sequence of operation and can be stacked or combined with other adaptors.	Safety Functions - S40 Lock - Safety

Housing Materials

Internals

restarted without returning the key(s). It can furthermore stacked or combined with prevent personnel being accidentally locked inside a Provides a unique link to the mGard range.

Up to 3 key adaptors in one configuration.

	Mechanical Life		>1,000,000		
	Performance	Performance Level		PLe	
	B10d		5,000,000		
	Ambient Temperature		-5°C to 80	0°C (23°F to 176°F)	
]	Environment		Indoor & (Dutdoor	
	Safety Functions - S40 Lock - Safety			Part No	
	Safety Function 1	Door cannot be opened unless safety key inserted in lock		S40SKL/R	
	Safety Functions - S40 Lock - Access			Part No	
	Safety Function 1 Door cannot be opened unless access key inserted in lock			S40AKL/R	
	Safety Function 2	2 Breaks safety contacts 2 when access key inserted in lock			

S40 Lock Adaptor Technical Specification

Stainless Steel

All Stainless Steel

Version	Lock Type	Lock Description	Access Lock Part No.	Safety Lock Part No.
Standard	CLSS	Standard CL Lock with stainless steel dustcover	S40AKL2	S40SKL2
Standard	CLSL	Standard CL Lock with stainless steel padlockable dustcover	S40AKL3	S40SKL3
Standard	MLSS	Masterable ML Lock with stainless steel dustcover	S40AKL7	S40SKL7
Standard	MLSL	Masterable ML Lock with stainless steel padlockable dustcover	S40AKL8	S40SKL8
Releasing	CLSS	Standard CL Lock with stainless steel dustcover	S40AKR2	S40SKR2
Releasing	CLSL	Standard CL Lock with stainless steel padlockable dustcover	S40AKR3	S40SKR3
Releasing	MLSS	Masterable ML Lock with stainless steel dustcover	S40AKR7	S40SKR7
Releasing	MLSL	Masterable ML Lock with stainless steel padlockable dustcover	S40AKR8	S40SKR8







Adaptors



S40 E - Extracted Key Adaptor

S40E Extracted Key Lock Adaptor is used to add to an amGard*S40* unit, to include the provision of key control functionality. It can be used to provide an enhanced safety key function, where the door cannot be opened until the key has been removed from the lock. The releasing version of the extracted key adaptor is the type that **MUST** be used if used in conjunction with any type of internal release function (push IR) or all in one head module with IR Handle.

S40 E Technical Specification		
Housing Materials	Stainless Steel to BS3146	
Colour	Stainless Steel	
Internals	All Stainless Steel	
Mechanical Life	>1,000,000 Switching Cycles	
Performance Level	PLe	
B10d	5,000,000	
Ambient Temperature	-5°C to 80°C (23°F to 176°F)	
Environment	Indoor & Outdoor	

S40 E - Extracted Key Lock Adaptor

This unit ensures that the door cannot be opened until the key has been removed from the lock, and the machine/ process cannot be restarted without returning the key(s). It can furthermore prevent personnel being accidentally locked inside a guarded area

Provides unique link to mGard range.
Only 1 Extracted key adaptor can be fitted in a configuration.

Safety Fun	Part No	
Safety Function 1	Does not allow safety contacts to be made unless safety key inserted in lock	S40EKL/R

S40 E Ordering Information								
Lock Type	Lock Description	Part No.	Lock Type	Lock Description	Part No.			
Standard	Standard CL Lock with stainless steel dustcover	EKL2	Releasing	Standard CL Lock with stainless steel dustcover	EKR2			
Standard	Standard CL Lock with stainless steel padlockable dustcover	EKL3	Releasing	Standard CL Lock with stainless steel padlockable dustcover	EKR3			
Standard	Masterable CL Lock with stainless steel dustcover	EKL7	Releasing	Masterable CL Lock with stainless steel dustcover	EKR7			
Standard	Masterable CL Lock with stainless steel padlockable dustcover	EKL8	Releasing	Masterable CL Lock with stainless steel padlockable dustcover	EKR8			







S40 IR - Escape Release Adaptor



Adaptors

S40 IR Escape Release Adaptor module is used in conjunction with a releasing amGardS40 unit, to provide an escape function from an interlocked hazardous area. There are three versions, one with a key reset, one with a push button reset and one with a simple pull reset. The other option is the length of plunger needed to clear the door post thickness. This unit must always be mounted as the first module under the head.

	S40 IR Technical Specification							
	Housing Materials	Stainless Steel						
	Internals	All Stainless Steel						
	Mechanical Life	>1,000.000						
	Performance Level	PLe						
•	B10d	5,000,000						
	Ambient Temperature	-5°C to 80°C (23°F to 176°F)						
	Environment	Indoor & Outdoor						

S40 IR Ord	oring Infor	mation							Safety Fun	ction
Version	Post Thickness	Part No.	Version	Post Thickness	Part No.	Version	Post Thickness	Part No.	Safety	Tra mo loc
Key Reset	60mm	S40R2	Pull Reset	60mm	S40R7	Front Reset (no key)	60mm	S40RX	Function 1	bre
Key Reset	80mm	S40R3	Pull Reset	80mm	S40R8	Front Reset (no key)	80mm	S40RY	Safety	Un
Key Reset	Variable	S40R4	Pull Reset	Variable	S40R9	Front Reset (no key)	Variable	S40RZ	Function 2	trai to s

Safety Fund	tions - S40 IR	Part No				
Safety Function 1	Transmit movement (for locking & contact break purposes) when escape not used					
Safety Function 2	Unlocks during escape release & transmits motion to safety contacts	S40R2/3/4	S40R7/8/9	S40RX- /Y/Z		







Electrical Switching / Locking S40 Stop - Stainless Steel Non Solenoid Switch Body - Standard

Safety switch interlock for use in S40 range.

· LED status indication.

Stainless steel construction

• PLe

• IP69K

· Dual force break normally closed safety circuits. • Single normally open monitor contact.









	-			
S40	Ston -	Standard	Ordering	Information

S40 Stop	- Standard	Ordering Infor	mation			
Version	No.					
Standard	24V AC/ DC	S40ST401				
Safety F	unctions - S	340 Stop	Part No			
Safety Function 1	Turns mechani of head / lock ii safety contacts	S40ST				

NOTICE! If, as a result of risk assessment, it cannot be discounted that persons can be enclosed within a danger zone, then guard locks with additional removable keys (safety keys) must be used or comparable measures must be taken - GS ET 19.

╡	S40 Stop Technical Sp	ecification
	Housing Materials	Stainless Steel
	Ingress Protection	IP69K
	Mechanical Life	>1,000,000 Switching Cycles
	Performance Level	PLe
	B10d	5,000,000
	Ambient Temperature	-5°C to + 60°C (23°F to 140°F)
	Maximum Frequency of Ops	7,200 per hour
	Connector Type	Spring Activated Vibration Proof Block
	Switches Conformance	DIN VDE 0060 Part 206 & IEC 947-5-1
	Switching Contact Element	2NC and 1NO
	Safety Circuit Switching Principal	Positive Break (2N/C) Dual Channel
	Maximum Switch Current	3A
	Minimum Switch Current	1mA at 5VDC
	Maximum Switching Voltage	230V AC Max
	Utilisation Category	AC 15 or DC 13
	Control Voltages	24V ac/dc, 110V ac, 230V ac
	Insulating Voltage	2500V AC
	Insulating Resistance	20M Ohm
	Cable Size	28 - 24 AWG
	B10d	5,000,000
	DC	99%
	λ _d	10%
	Diagnostic Coverage	Position Monitoring
	Environment	Indoor & Outdoor





S40SR

Electrical Switching /

LED indicators for status identification.

• To be used with safety relay and/or safety PLC control systems.



IIICEIIOCKS					
Electrical Switching / Locking	S40 Lok - Stainless Steel Slimline	Solenoid	Controlled Bo	ody	
	S40 Lok Solenoid Controlled Body is used to		S40 Lok - Standa	ırd	
	 Store Lok Solehold Controlled Body is used to manage activities by means of a solehold control element. The case is stainless steel with an IP69 rating for use in full wash down areas. NOTE! There are 2 derivatives, normal and releasing. The releasing version is the type that MUST be used if used in conjunction with any type of internal release function (push I/R). 	This is the recc applications. A to unlock the u Standard and I • LED indicator • Ideal for mac • Split voltage • To be used w	ower to the solenoid the unit ommended set up for most m special key driven override nit in the event of a power fa Releasing Versions. 's for status identification. nines with run-down cycles available on request. th safety relay and/or ontrol systems.	achine guar facility is incl	rding luded
S40 Lok - Power to Lock	S40 Lok - Un-Monitored Solenoid	Safety Fur	nctions - S40 Lok	Par	t No
On supplying power to the solenoid the unit becomes locked. This is not the recommended set up for most machine guarding applications. However, it allows faster	On supplying power to the solenoid the unit becomes unlocked, however only a single monitoring contact is closed. This is a popular configuration for where the solenoid performs a process	Safety Function 1	Turns mechanical movement of head / lock into operation of safety contacts	0.4001	
access and exit in the event of a power failure. Available in Standard and Releasing Versions.	control rather than safety function. A special key driven override facility is included to unlock the unit in the event of a power failure. Available in Standard and Releasing Versions.	Safety Function 2	Solenoid mechanism holds door locked	S40SL	64005

· LED indicators for status identification.

 Split voltage available on request. • To be used with safety relay and/or safety PLC control

systems.

S40 Lok Monitored Solenoid Wiring Diagram

RD

⁶12

YL

Ъ

гZh

S40 Lok Un-Monitored Solenoid Wiring Diagram

Tľ,

14

SC2

SC1



S40 Lok Techni	cal Specification	Standard S40 Lok	Power to Lock S40 Lok	Un-Monitored Solenoid S40 Lok
Housing Materials Stainless Steel		•	•	•
Ingress Protection	IP69	•	•	•
Mechanical Life	>1,000,000 Switching Cycles	•	•	•
Performance Level		PLe	PLe	PLc to PLe*
Ambient Temperature	-5°C to + 60°C	•	•	•
Switches Conformance	DIN VDE 0060 Part 206 & IEC 947-5-1	•	•	•
Actuator Contact		2NC 1NO	2NC 1NO	2NC 1NO
Solenoid Contacts		2NC 1NO	2NC 1NO	1NO
Safety Circuit Switching Principal	Positive Break Dual Channel	•	•	•
Maximum Switch Current	DC13: Le=0.5A, Ue=24V DC AC15: Le=1A, Ue=24V AC	•	•	•
Minimum Switch Current	1mA at 5 VDC	•	•	•
Control Voltages	24V ac/dc	•	•	•
Solenoid Power Rating	350mA max @ 24V DC	•	•	•
Solenoid Rating (Duty Cycle)	100%	•	•	•
Solenoid Voltage	24V ac/dc	•	•	•
Solenoid Voltage Tolerance	90% to 110% of nominal	•	•	•
Cable Size	26 - 14 AWG	•	•	•
B10d	5,000,000	•	•	•
DC	99%	•	•	•
λ _d	10%	•	•	•
Diagnostic Coverage	Position Monitoring	•	•	•
Quick Disconnects	Various Options	•	•	•
Environment	Indoor & Outdoor	•	•	•

Safety Function 3

IR or 16/7

Solenoid overridden and

safety contact activated on operation of an push

NOTICE!

If, as a result of risk assessment, it cannot be discounted that persons can be enclosed within a danger zone, the guard locks with additional removable keys (safety keys) must be used or comparable measures must be taken - GS ET 19.





Electrical Switching / Locking S40 Lok - Stainless Steel Slimline Solenoid Controlled Body

S40 Lok Orde	ering Information							
Push IR Compatible	Solenoid Locking	Solenoid Switches	Part No.	Push IR Compatible	Solenoid Locking	Solenoid Switches	Part No.	
х	Power to Unlock	Safety (2NC & 1NO)	S40SL411	~	Power to Unlock	Safety (2NC & 1NO)	S40SR411	
х	Power to Unlock	Monitor Only (1NO)	S40SL416	\checkmark	Power to Unlock	Monitor Only (1NO)	S40SR416	
х	Power to Lock	Safety (2NC & 1NO)	S40SL471	√	Power to Lock	Safety (2NC & 1NO)	S40SR471	
х	Power to Lock	Monitor Only (1NO)	S40SL461	1	Power to Lock	Monitor Only (1NO)	S40SR461	







	To terminate non-switch configurations	S40Foot Technical Specification				
	· Secures unit firmly to mounting surface	Materials		Stainless Steel to BS3146		
	 Secures unit firmly to mounting surface. Removable to allow for modification. 	Colour		Stainless Steel		
	 For use in trapped key solutions. 	Ambient Ter	mperature	-5°C to 80°C (23	°F to 176°F)	
6 6	 Seals from dust ingress. 	Environmer	t	Indoor & Outdoor	r	
		Safety F	unctions - S	S40Foot	Part No	
		Safety Function 1 Retain produc		ns lower end of ct	S40FT	
		S40Foot Ordering Information				
		Version	Part No.			
		Foot S40FT0				
40 5 5 5 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7	5.5 ROM FRONT)		•	2 HOLES M (ACCESS FI		

Option Pod



S40 Option Pods - Lamps, Pushbuttons, Key Selector Switch & Emergency Stop

S40Option Pod module is used to either to add to an amGardS40 unit, or use as a standalone product. It may be used to include the use of pushbuttons, selector switches, lamps, and/or E-Stops within one IP69K enclosure.

Control elements can be pre wired with a common power supply to minimise external wiring or supplied with volt free contacts.

	0	
	Lamp Option Pod is an Ideal complimentary module where multiple interlocks are used to enhanced identification of status. Pushbutton Option Pod is ideal for use as an	S40 Opti
	emergency stop or request to start/stop.	Housing Mat
	Lamps • Easy, clear identification of machine status. • Can be configured up to three lamps / pushbuttons.	Ingress Prot
		Operating Fo
		Ambient Ten
	Pushbuttons • Request start/stop at the gate. • Can be configured up to three pushbuttons. • Illuminated pushbuttons.	Cable Size
		Connector T
		Control Volta
	Emergency Stop	Lamp Life
	•2 NC Safety contacts •Pull	Switches Co
	•Illuminated option for pull	
	Selector Switch	Switching Co
	•2 Position •Illuminated - Latching	
	•Illuminated - Momentary	EStop Switc
	Key Selector Switch •2 Position Common power supply on individually wired options.	Maximum S
		Maximum S
		Utilisation C
		Environment
		L

ion Pod Technical Specification

Housing Materials	Stainless Steel to BS3146
Ingress Protection	ІРб9К
Operating Force	0.5Nm
Ambient Temperature	-5°C to + 80°C (23°F to 176°F)
Cable Size	26-14 AWG
Connector Type	Spring Activated Vibration Proof Block
Control Voltages	24V DC
Lamp Life	100,000 hrs on time
Switches Conformance	DIN VDE 0060 Part 206 & IEC 947-5-1
Switching Contact Element	Emergency Stop - 2NC
	Pushbutton - 1NO
	Keyswitch - 2NC/2NO
EStop Switching Principal	Positive Break
Maximum Switch Current	0.1A
Maximum Switching Voltage	230V ac
Utilisation Category	AC 15 or DC 13
Environment	Indoor & Outdoor
	÷





Part No.

S40P1 S40P2 S40P3 S40P6 S40P7 S40EI S40PB

S40EP S40LR S40LY S40LG S40LB S40LW

S402E

S402F S40K5

Momentary

Option Pod

1. Select S40 Option Pod			
Pushbutton / Lamp / Sensor proOption Pod Version	Wiring	Part No.	
Stand Alone Pod	Common Power Supply	В0	
To suit S40Stop or S40Lok Body		B1	
Stand Alone Pod	Individually Wired (volt free contacts)	C0	
To suit S40Stop or S40Lok Body		C1	

S40 Option Pods - Lamps, Pushbuttons, Key Selector Switch & Emergency Stop

2. Select S40 Option Body Buttons/Lamps	Button Type	Colour / Option
	Illuminated Buttons	Red
		Yellow
		Green
		Blue
		White
	E-Stop Illuminated	
	Non-illuminated Buttons	Black
	Non-illuminated E-Stop	E-Stop (pull)
	Lamps	Red
		Yellow
		Green
		Blue
		White
	Illuminated Selector Switch	2 Position - Latching
		2 Position - Momentar
	Key Selector Switch	2 Position







Protecting People, Industry and Productivity

A HALMA COMPANY



Official Distributor

Fortress Interlocks Ltd +44 (0)1902 349000

- +44 (0)1902 349090
- sales@fortressinterlocks.com

Fortress Interlocks Europe

- +31 (0)10 7536060
- +31 (0)10 7536050
- europe@fortressinterlocks.com

Fortress Interlocks USA

- +1 (859) 578 2390
- +1 (859) 341 2302
- us@fortressinterlocks.com

Fortress Interlocks Pty Ltd

- +61 (0)3 9771 5350
- +61 (0)3 9771 5360
- australia@fortressinterlocks.com

Fortress Interlocks China

+86 (021) 6016 7611

China@fortressinterlocks.com

www.fortressinterlocks.com