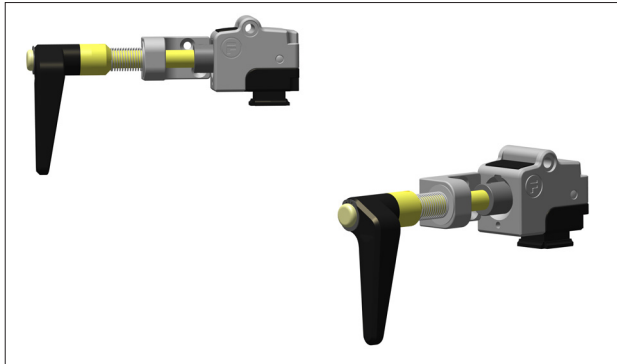


Head Modules

proAM Head & Handle Actuator



Images above show a MA2M6 (left handed)

proAM Head & Handle Actuator

- Heavy duty handle unit.
- Operating handle can be rotated in 45° increments.
- 4 position fixing at 90° increments allowing on site handing change.
- Allows for guard misalignment.
- Turning motion holds door closed preventing nuisance trips.
- Extremely high retention force when used in locking applications - 10,000N.
- Can be fitted with lock-out devices for additional safety.

**proAM Head & Handle
Technical Specification**

Housing Materials	Zinc Alloy to BSEN12844 Stainless Steel to BS3146
Paint Finish	Gloss powder coat on passivated zinc alloy
Colour	Black and Stainless Steel
Operating Force	0.5Nm
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

proAM Head Options & Ordering Information

Part Number	Item No.	Description
M6	ITM-00038832	proAM Head
M7	ITM-00038835	proAM Head c/w Drop Down Lockout
M8	ITM-00038837	proAM Head c/w AML Lock-Out Clip

* The Item No. or Part No. can be quoted for quotation and ordering purposes

**Safety Functions -
proAM Head**

Safety Function	Retain actuator	Part No
Safety Function 1	Retain actuator	M6
Safety Function 2	Transfer motion of actuator removal into breaking of safety contacts	M7
Safety Function 3	Prevents insertion of actuator when "locked out"	M8

proAM Handle Options & Ordering Information

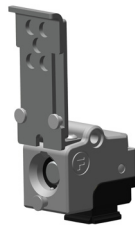
Part No.	Item No.	Item No.
MA1	AM Handle Front Handing	ITM-00038861
MA2	AM Handle Left Handing	ITM-00038814
MA3	AM Handle Back Handing	ITM-00038862
MA4	AM Handle Right Handing	ITM-00038859
MI2	AM Internal Release Handle - Left Handing	ITM-00038815
MI4	Am Internal Release Handle - Right Handing	ITM-00039565

* The Item No. or Part No. can be quoted for quotation and ordering purposes

Safety Functions - proAM Handle

Safety Function	Part No
Safety Function 1	Provides link from interlock to door
Safety Function 2	Internal handle allows escape

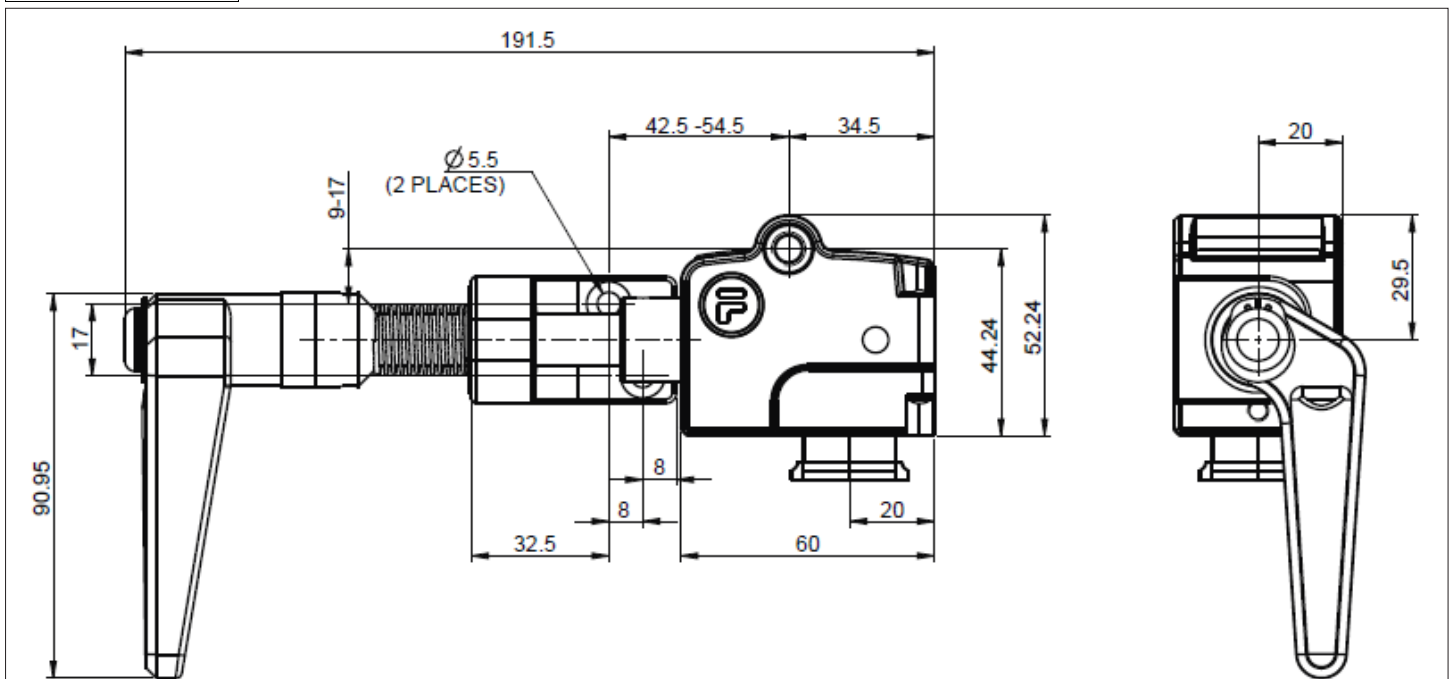
proAM Head
c/w Drop Down
Lockout



AML Lock-Out Clip



Dimensional Drawing



Electrical Switching / Locking
proLok - Solenoid Controlled Body - Standard, Power to Lock and ASi




proLok Solenoid Controlled Body is used to manage activities by means of a solenoid control element. There are five basic types, Standard, Power to Lock, ASi, Un-Monitored and Individual Safety Circuits.

NOTE! Standard, Power to Lock and ASi body types have 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) or all in one head module with IR Handle.

proLok - Standard	proLok - Power to Lock	proLok - AS-interface	proLok - Un-Monitored Solenoid
<p>On supplying power to the solenoid the unit becomes unlocked. This is the recommended set up for most machine guarding applications. 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.</p> <ul style="list-style-type: none"> • LED indicators for status identification. • Ideal for machines with run-down cycles • Split voltage available on request. • To be used with safety relay and/or safety PLC control systems. 	<p>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 access and exit in the event of a power failure. Available in Standard and Releasing Versions.</p> <ul style="list-style-type: none"> • LED indicators for status identification. • Split voltage available on request. • To be used with safety relay and/or safety PLC control systems. 	<p>On supplying power to the solenoid the unit becomes unlocked. This is the recommended set up for most machine guarding applications. 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.</p> <ul style="list-style-type: none"> • Ideal for machines with run-down cycles • LED indicators for status identification • To be used with safety relay and/or safety PLC control systems. • For use in AS-i Safe environments 	<p>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 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.</p> <ul style="list-style-type: none"> • LED indicators for status identification. • To be used with safety relay and/or safety PLC control systems.

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 removeable keys (safety keys) must be used or comparable measures must be taken - GS ET 19.

proLok - Individual							
<p>On supplying power to the solenoid the unit becomes unlocked. This is the recommended set up for most machine guarding applications. A special key driven override facility is included to unlock the unit in the event of a power failure.</p> <ul style="list-style-type: none">• Ideal for machines with run-down cycles• LED indicators for status identification• To be used with safety relay and/or safety PLC control systems.• On activation of escape release the safety contacts are broken.• Solenoid monitored by 1 x NC volt free contact and 1 x NO contact (input shared with head).• Head monitored by 1 x NC volt free contact and 1 x NO contact (input shared with solenoid).							
<div><div>Approvals</div><div></div></div>							
Safety Functions - proLok		Part No					
Safety Function 1	Turns mechanical movement of head / lock into operation of safety contacts	SL	SR				
Safety Function 2	Solenoid mechanism holds door locked						
Safety Function 3	Solenoid override and safety contact activated on operation of an push IR or I6/7						
proLok Technical Specification		Standard proLok		Power to Lock proLok	ASi proLok	Un-Monitored Solenoid proLok	Individual Safety Circuits proLok
Housing Materials	Zinc Alloy to BSEN12844	•		•	•	•	•
Paint Finishes	Gloss Powder Coat on Passivated Base Material	•	•	•	•	•	
Ingress Protection	IP67	•	•	•	•	•	
Mechanical Life	>1,000,000 Switching Cycles	•	•	•	•	•	
Performance Level		PLe	PLc to PLe*	PLe	PLc to PLe*	PLe	
Ambient Temperature	-5°C to + 40°C (23°F to 104°F)	•**	•	•**	•**	•**	
Switches Conformance	DIN VDE 0060 Part 206 & IEC 947-5-1	•	•	•	•	•	
Actuator Contact		2NC 1NO	2NC 1NO	2NC 1NO	2NC 1NO	1NC 1NO	
Solenoid Contacts		2NC 1NO	1NO	2NC 1NO	1NO	1NC 1NO	
Safety Circuit Switching Principal	Positive Break Dual Channel	•	•	•	•	•	
Maximum Switch Current	3A	•	•		•	•	
Minimum Switch Current	1mA at 5 VDC	•	•		•	•	
Maximum Switching Voltage	230V AC Max	•	•		•	•	
Control Voltages	24V ac/dc, 110V ac, 230V ac	•	•		•	•	
Solenoid Power Rating	12W (Solenoid current at Nominal 24V dc = 500mA. Quasient current = 350mA).	•	•	•	•	•	
Solenoid Rating (Duty Cycle)	100%	•	•	•		•	
Solenoid Voltage	24V ac/dc, 110V ac, 230V ac	•	•		•	•	
Solenoid Voltage Tolerance	90% to 110% of nominal	•	•	•	•	•	
Connector Type	M12 male			•			
Cable Size	28 - 24 AWG	•	•		•	•	
B10d	5,000,000	•	•	•	•	•	
DC	99%	•	•	•	•	•	
λs	10%	•	•	•	•	•	
Diagnostic Coverage	Position Monitoring	•	•	•	•	•	
Quick Disconnects*	Various Options	•	•		•	•	
Environment	Indoor & Outdoor	•	•	•	•	•	
* depending on application							
** unit can be used in +60°C environment if solenoid is wired in series with a momentary push button to ensure solenoid is not left energised for over 60 seconds							

Approvals


Safety Functions - proLok		Part No	
Safety Function 1	Turns mechanical movement of head / lock into operation of safety contacts	SL	SR
Safety Function 2	Solenoid mechanism holds door locked		
Safety Function 3	Solenoid overridden and safety contact activated on operation of an push IR or I6/7		

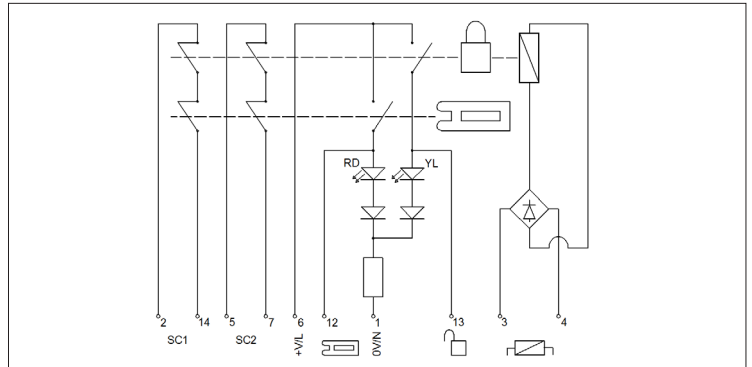
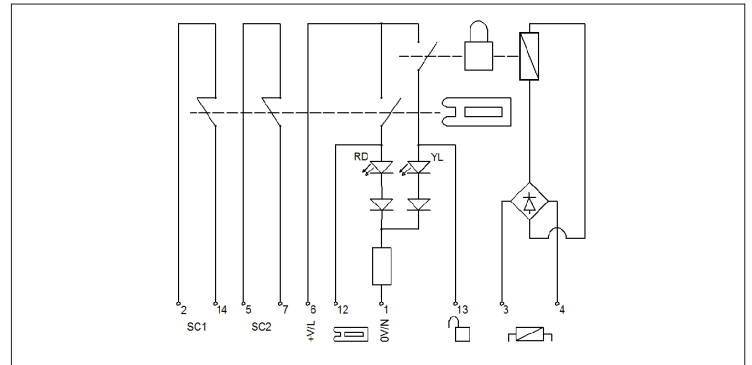
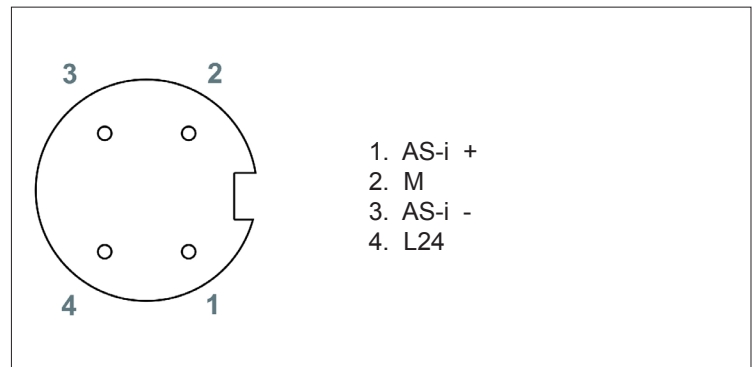
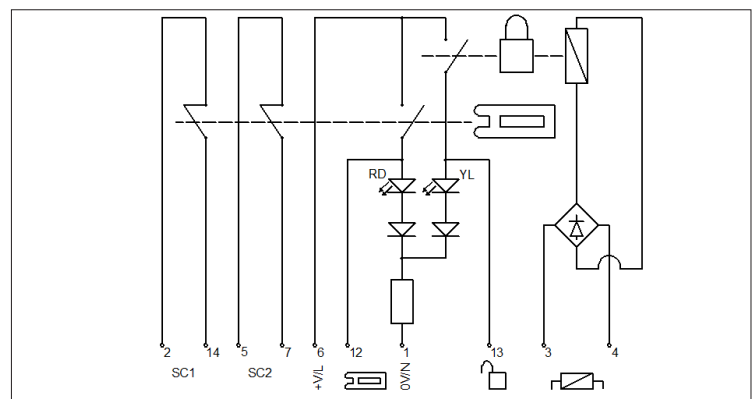
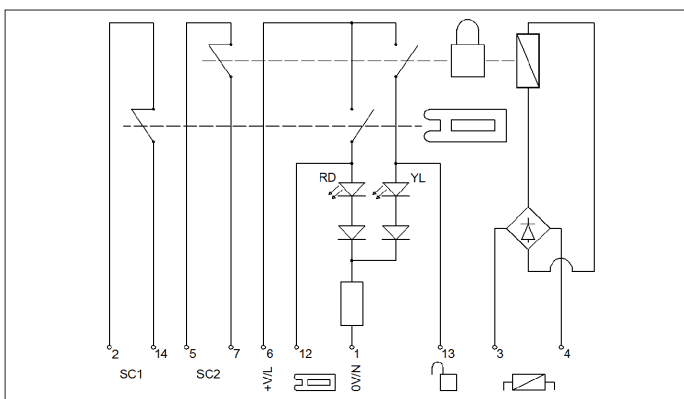


Electrical Switching / Locking

proLok - Solenoid Controlled Body - Standard, Power to Lock and ASi**proLok Ordering Information**

Version	Control Voltage	Solenoid Voltage	Sourcing [△]	Part No.
Standard	24V AC/DC	24V AC/DC	✓	SL411
Standard	110V AC	110V AC	✓	SL111
Standard	230V AC	230V AC	✓	SL211
Standard Releasing	24V AC/DC	24V AC/DC	✓	SR411
Standard Releasing	110V AC	110V AC	✓	SR111
Standard Releasing	230V AC	230V AC	✓	SR211
Power to Lock	24V AC/DC	24V AC/DC	✓	SL461
Power to Lock	110V AC	110V AC	✓	SL161
Power to Lock Releasing	24V AC/DC	24V AC/DC	✓	SR461
Power to Lock Releasing	110V AC	110V AC	✓	SR161
ASi	24V AC/DC	24V AC/DC	N/A	SL811
ASi Releasing	24V AC/DC	24V AC/C	N/A	SR811
Un-Monitored Solenoid	24V AC/DC	24V AC/DC	✓	SL416
Un-Monitored Solenoid	110V AC	110V AC	✓	SL116
Un-Monitored Solenoid	230V AC	230V AC	✓	SL216
Individual Releasing	24V AC/DC	24V AC/DC	✓	SR468
Individual Releasing	110V AC	110V AC	✓	SR168
Individual Power to Lock	24V AC/DC	24V AC/DC	✓	SL468
Individual Power to Lock	110V AC	110V AC	✓	SL168
Individual Releasing	24V	24V	✓	SR418
Individual Safety	24V	24V	✓	SL418

[△]Sourcing output supplied as standard, Sinking option available on request

proLok Standard Wiring Diagram**proLok Power to Lock Wiring Diagram****proLok ASi Wiring Diagram****proLok Individual Safety Circuits Wiring Diagram (Option 8) proLok Un-Monitored Solenoid Wiring Diagram**



Electrical Switching / Locking

proLok - Solenoid Controlled Body - Standard, Power to Lock and ASi

Dimensional Drawing

