

Atlas™ 5

Description

The Atlas 5 is a positive-mode, tongue-operated guard-locking interlock switch that locks a machine guard closed until power is isolated to ensure that it remains isolated while the guard is open. A heavy-duty switch, the Atlas 5 locking mechanism is designed to withstand forces up to 5000 N (1124 lb) and the die-cast alloy housing is ideal for use in harsh environments. A unique feature of the Atlas 5 is a patented self-aligning head that tolerates actuator or guard misalignment, making it particularly useful for heavy machine guards.

The Atlas 5 is designed for machines that do not stop immediately or where premature interruption of the machine could cause damage to tooling and components or cause an additional hazard. With 2 safety (N.C.) contacts and 2 auxiliary (N.O.) contact, Atlas 5 is ideal for PLC controlled machines.

Features

- Mechanical lock
- High locking force—5000 N (1124 lb)
- Heavy duty die-cast alloy housing ideal for harsh environments
- Patented self-aligning head tolerates actuator misalignment

Specifications



Safety Ratings			
Standards	EN954-1, ISO13849-1, IEC/EN60204-1, NFPA79, EN1088, ISO14119, IEC/EN60947-5-1, ANSI B11.19, AS4024.1		
Safety Classification	Cat. 1 Device per EN954-1 Dual channel interlocks suitable for Cat. 3 or 4 systems		
Functional Safety Data (related to Safety Contacts) *	B10d: > 2 x 10 ⁶ operations at min. load PFH _D : < 3 x 10 ⁻⁷ Note: For up-to-date information, visit http://www.ab.com/Safety/ MTTFd: > 385 years May be suitable for use in performance levels Pl _e or Pl _d systems (according to ISO 13849-1:2006) and for use in SIL2 or SIL3 systems (according to IEC 62061) depending on the architecture and application characteristics		
Certifications	CE Marked for all applicable directives, cULus, CSA, and TÜV		
Outputs			
Safety Contacts ‡	Atlas 5: 2 N.C. direct opening action; 1 N.O. direct opening action Atlas 5 trapped key (left hand): 2 N.C. direct opening action; 1 N.O. direct opening action		
Auxiliary Contacts	1 N.O.		
Thermal Current I _{th}	10 A		
Rated Insulation Voltage	(Ui) 500V		
Switching Current @ Voltage, Min.	3 mA @ 18V DC		
Utilization Category			
AC-15	(Ue)	240V	120V
	(Ie)	1.5 A	3 A
DC-13	(Ue)	24V	
	(Ie)	2 A	
Solenoid Characteristics			
Locking Type	Power to Release		
Holding Force, Max.	5000 N (1124 lbf)		
Power Supply	24V AC/DC or 110V AC or 230V AC (solenoid)		
Solenoid Power	13 W typical 100% ED		
Operating Characteristics			
Break Contact Force, Min.	12 N (2.7 lbf)		
Actuation Speed, Max.*	160 mm (6.29 in.)/s		
Actuation Frequency, Max.	2 cycles/s		
Operating Radius, Min	300 mm end entry, 800 mm entry front		
Mechanical Life	1,000,000 operations		
Environmental			
Enclosure Type Rating	IP65		
Operating Temperature [C (F)]	-10...+60° (+14...+140°)		
Physical Characteristics			
Housing Material	Die-cast alloy		
Actuator Material	Stainless Steel		
Weight [g (lb)]	1200 (2.65)		
Color	Red		

* Usable for ISO 13849-1:2006 and IEC 62061. Data is based on the B10d value given and:

- Usage rate of 1op/10mins., 24hrs/day, 360 days/year, representing

51840 operations per year

- Mission time/Proof test interval of 38 years

‡ The safety contacts are described as normally closed (N.C.) i.e., with the guard closed, actuator in place (where relevant) and the machine able to be started.

Product Selection

Module Type	Actuator Type	Contact		Solenoid Contacts	Solenoid Voltage	Cat. No.			
		Safety	Auxiliary			M20 Conduit		Connector♣	
						M20	1/2 inch NPT Adaptor	12-Pin M23	8-Pin Micro (M12)Δ
Standard	Standard	2 N.C.	1 N.O.	2 N.C. & 1 N.O.	24V AC/DC	440G-L07264	440G-L07258	440G-L07298	440G-L2NNSDH-3N
					110V AC/DC	440G-L07263	440G-L07257	–	–
					230V AC/DC	440G-L07262	440G-L07256	–	–
LH Key Lock					24V AC/DC	440G-L07255	440G-L07249	440G-L07301	440G-L2NNSDH-38
					110V AC/DC	440G-L07254	440G-L07248	–	–
					230V AC/DC	440G-L07253	440G-L07247	–	–

♣ For connector ratings, see Safety Switches and Connectors.

Δ With an 8-pin micro connector, not all contacts are connected. See Typical Wiring Diagrams for wiring details.

Recommended Logic Interfaces

Description	Safety Outputs	Auxiliary Outputs	Time Delay	Terminals	Reset Type	Power Supply	Cat. Page No.	Cat. No.
Single-Function Safety Relays								
MSR127RP	3 N.O.	1 N.C.	—	Removable (Screw)	Monitored Manual	24V AC/DC	MSR127RP/TP	440R-N23135
MSR127TP	3 N.O.	1 N.C.	—	Removable (Screw)	Auto./Manual	24V AC/DC	MSR127RP/TP	440R-N23132
MSR126T	2 N.O.	None	—	Fixed	Auto./Manual	24V AC/DC	MSR126R/T	440R-N23117
MSR30RT	2 N.O. Solid State	1 N.O. Solid State	—	Removable	Auto./Manual or Monitored Manual	24V DC	MSR30RT/RTP	440R-N23198
Specialty Safety Relays								
MSR178	3 N.O.	2 N.C.	0.5 s...30 min	Removable	Automatic	24V AC/DC, 115V AC or 230V AC	MSR178DP	440R-M23227
CU2	2 N.O.	1 N.C.	0.1 s...40 min	Fixed	—	24V AC/DC	CU2	440R-S07281
CU3	2 N.O.	1 N.C.	—	Fixed	Automatic/Manual	110V AC	CU3	440R-S35002
Modular Safety Relays								
MSR210P Base 2 N.C. only	2 N.O.	1 N.C. and 2 PNP Solid State	—	Removable	Auto./Manual or Monitored Manual	24V DC from the base unit	MSR210P	440R-H23176
MSR220P Input Module	—	—	—	Removable	—	24V DC	MSR220P	440R-H23178
MSR310P Base	MSR300 Series Output Modules	3 PNP Solid State	—	Removable	Auto./Manual Monitored Manual	24V DC	MSR310P	440R-W23219
MSR320P Input Module	—	2 PNP Solid State	—	Removable	—	24V DC from the base unit	MSR320P	440R-W23218

Note: For additional Safety Relays connectivity, see Safety Relays.
 For additional Safety I/O and Safety PLC connectivity, see Programmable Safety Solutions.
 For application and wiring diagrams, see Safety Applications and Wiring Diagrams.

Connection Systems

Description	8-Pin Micro (M12)	12-Pin M23
Cordset	889D-F8AB-*	889M-F12AH-*
Patchcord	889D-F8ABDM-‡	889M-F12AHMU-§

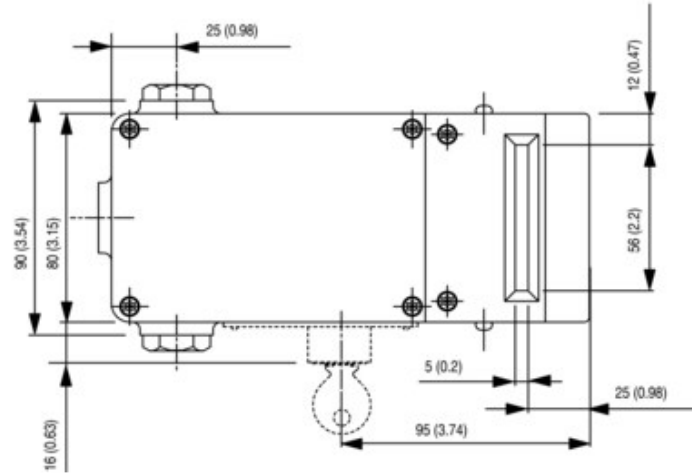
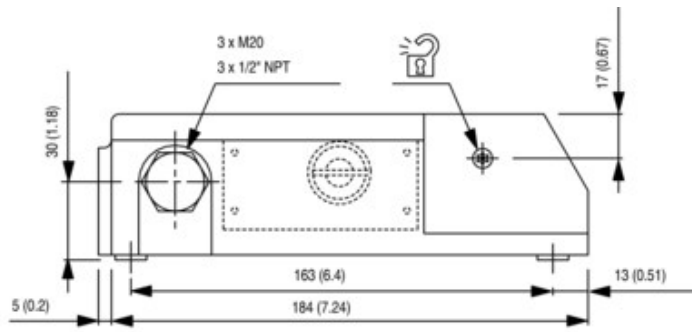
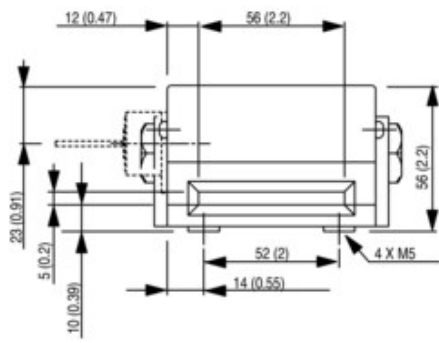
* Replace symbol with 2 (2 m), 5 (5 m), or 10 (10 m) for standard cable lengths.
 ‡ Replace symbol with 1 (1 m), 2 (2 m), 3 (3 m), 5 (5 m), or 10 (10 m) for standard cable lengths.
 § Replace symbol with 0M3, (0.3 m), 0M6 (0.6 m), 1 (1 m), 2 (2 m) or 3 (3 m) for standard lengths.
Note: For additional information, see Safety Connection Systems.

Accessories

Description	Dimensions	Cat. No.
 Standard actuator	Actuators*	440G-A07136
 Atlas Replacement End Cap	—	440G-A07180
 Fully flex actuator	Actuators*	440G-A07269
 Dust Cover	—	440K-A17181

Approximate Dimensions

Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.

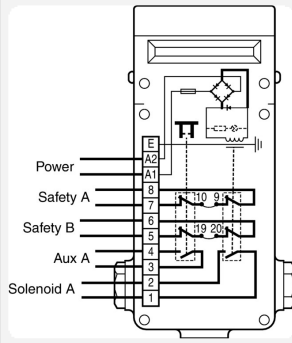


Note: 2D, 3D and electrical drawings are available on www.ab.com.

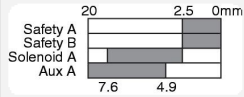
Typical Wiring Diagrams

Atlas 5

Contact Configuration



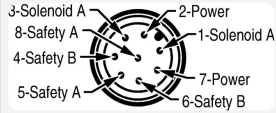
Contact Action



Open Closed

BBM

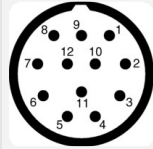
8-Pin Micro (M12)



Jumpers on 9-10 and 19-20.

12-Pin M23

1 and 3	Solenoid Power
4 and 6	Safety A
7 and 8	Safety B
2 and 5	Aux A
9 and 10	Solenoid A



Pin 11 not connected.

12	Ground
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8-Pin Cordset 889D-F8AB-*

Brown	Solenoid Power
Blue	Solenoid Power
Grey	Safety A
Red	Safety A
Yellow	Safety B
Pink	Safety B
White	Solenoid A
Green	Solenoid A

12-Pin Cordset 889M-F12AH-*

Brown	Solenoid Power
Grey	Solenoid Power
Pink	Safety A
Yellow	Safety A
White	Safety B
Red/Blue	Safety B
Blue	Aux A
Red	Aux A
Black	Solenoid A
Violet	Solenoid A
Green	Ground

* Replace symbol with 2 (2 m), 5 (5 m) or 10 (10 m) for standard cable lengths.