

# IDEM Non-Contact RFID Locking Safety Switches

## MGL Series – Die Cast Metal Housing



- Heavy duty or medium duty holding force models available
- Master coded or uniquely coded actuation
- RFID provides a high degree of anti-tamper, virtually impossible to override
- Flexible actuator for a high degree of misalignment tolerance.
- Able to connect to most popular safety relays to achieve up to PLe and Cat.4 for ISO3849-1
- Ability to connect up to 20 switches and E-stops in series
- Choice of 8-wire cable or M12 quick connect (purchase cables separately for the M12 QC)
- Remanence magnetization acts as a light magnetic latch after unlocking.
- (2) N.C. (door closed - lock energized) Safety outputs, overload protected
- (1) N.O. Auxiliary output for indication of door open
- Includes both switch and actuator



IDEM Non-Contact RFID Locking Switch Sets - Die Cast Metal										
Part Number	Price	Body Material	Weight (lbs)	Holding Force	Operating Voltage	Operating Current	Coding	Connection Type	Dimensions	
<b>Heavy Duty Holding Force</b>										
MGL-1M-U-464001	\$362.00	Die cast metal	4.68	1500N (337.2 lbf)	24VDC ± 10%	Nominal ≈ 50mA	Uniquely Coded	5-meter (16.48 ft.) cable	Figure 3	
MGL-1M-U-464002	\$374.00		5.27					10-meter (32.8 ft.) cable		
MGL-1M-U-464003	\$379.00		4.17					8-pin M12 quick-disconnect		
MGL-1M-M-464004	\$362.00		4.68					Master Coded		5-meter (16.48 ft.) cable
MGL-1M-M-464005	\$374.00		5.27							10-meter (32.8 ft.) cable
MGL-1M-M-464006	\$379.00		4.17							8-pin M12 quick-disconnect
<b>Medium Duty Holding Force</b>										
MGL-2M-U-465001	\$297.00	Die cast metal	3.06	1000N (224.8 lbf)	24VDC ± 10%	Nominal ≈ 50mA	Uniquely Coded	5-meter (16.48 ft.) cable	Figure 4	
MGL-2M-U-465002	\$308.00		3.65					10-meter (32.8 ft.) cable		
MGL-2M-U-465003	\$313.00		2.54					8-pin M12 quick-disconnect		
MGL-2M-M-465004	\$297.00		3.06					Master Coded		5-meter (16.48 ft.) cable
MGL-2M-M-465005	\$308.00		3.65							10-meter (32.8 ft.) cable
MGL-2M-M-465006	\$313.00		2.54							8-pin M12 quick-disconnect

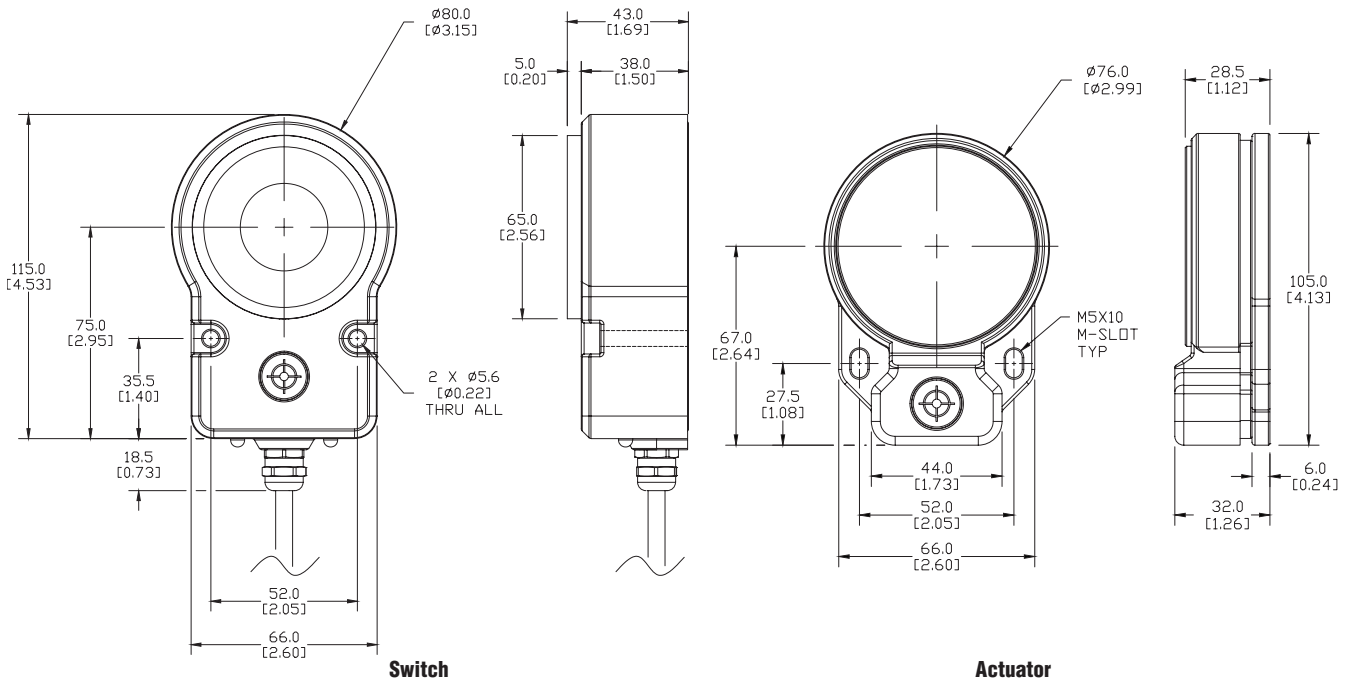
IDEM Non-Contact RFID Locking Switches Replacement Actuators - Die Cast Metal						
Part Number	Price	Body Material	Weight (lbs)	Holding Force	Coding	Dimensions
MGL-1M-M-464102*	\$74.00	Die cast metal	1.54	1500N (337.2 lbf) - Heavy Duty	Master Coded	Figure 3
MGL-2M-M-465102*	\$62.00		0.99	1000N (224.8 lbf) - Medium Duty		Figure 4

\* For use with Die Cast Metal Master Coded models only

# IDEM Non-Contact RFID Locking Safety Switches

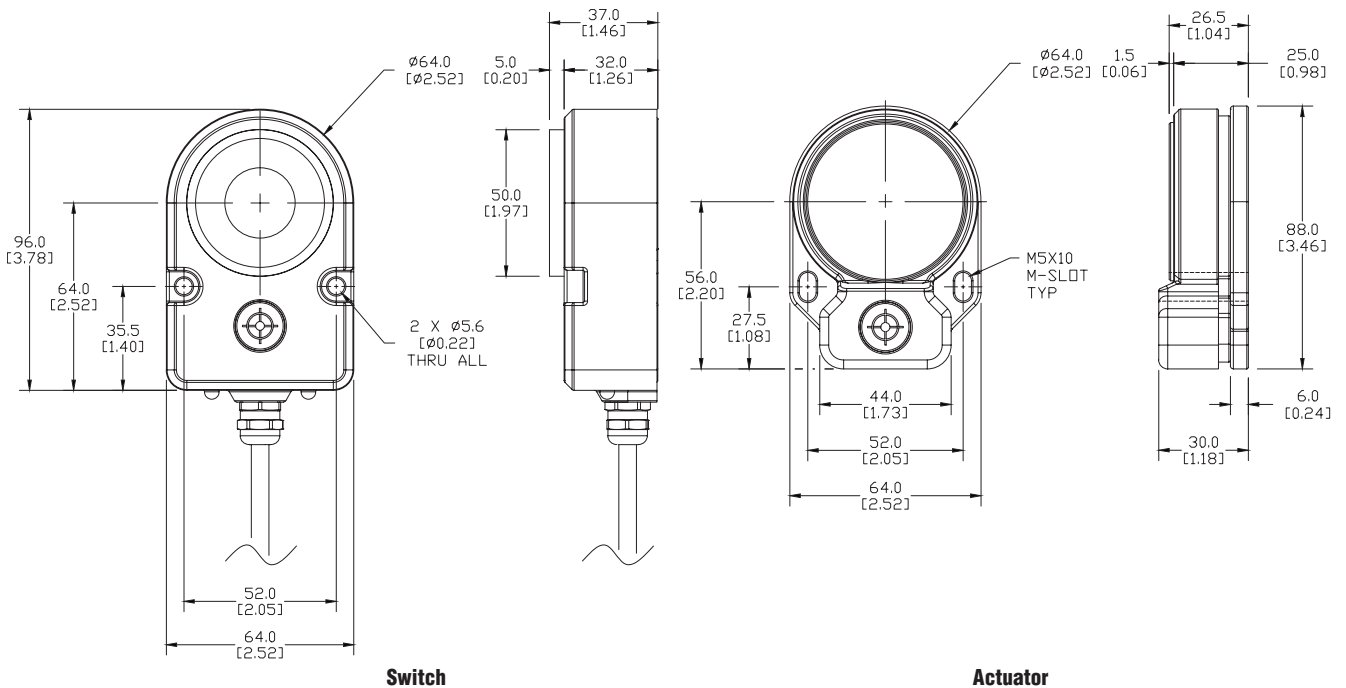
Dimensions mm[in]

Figure 3



MGL-1M

Figure 4



MGL-2M

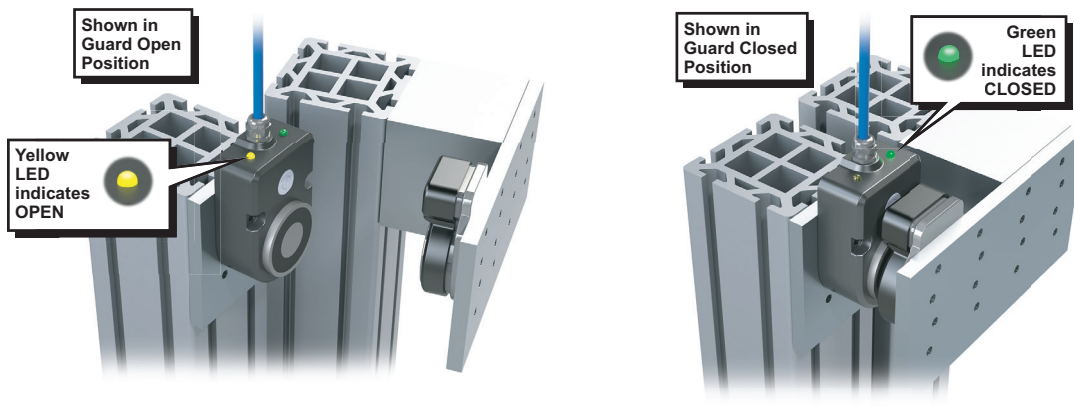
# IDEM Non-Contact RFID Locking Safety Switches Specifications

IDEM Non-Contact RFID Locking Switches Specifications			
	<i>MGL-1SS / MGL-2SS</i>	<i>MGL-1M / MGL-2M</i>	<i>MGL-1P / MGL-2P</i>
<b>Body Material</b>	316 Stainless Steel	Die Cast Metal	High Specification Polyester Plastic
<b>Safety Classification and Reliability Data</b>			
<b>Minimum Switched Current</b>	1mA @ 10VDC		
<b>Dielectric Withstand</b>	250VAC		
<b>Insulation Resistance</b>	100 Mohms		
<b>Switching Distance</b>	Sao (Sensing Assured Operating) – 1mm close Sar (Sensing Assured Release) – 10mm open		
<b>Tolerance to Misalignment</b>	5mm in any direction from 5mm setting gap		
<b>Switching Frequency</b>	1.0 Hz maximum		
<b>Approach speed</b>	200 mm/s to 1000 mm/s		
<b>Temperature Range</b>	-25°C to 40°C (-13°F to 104°F)		
<b>Enclosure Protection</b>	IP69K	IP67	
<b>Cable Type</b>	PVC, 8-wire, 6mm OD		
<b>Mounting Screws</b>	2 x M5 – Tightening torque 1Nm (0.74 lb-ft)		
<b>Mounting Position</b>	Any		
<b>Characteristic Data According to IEC62061 (used as a sub system)</b>			
<b>Safety Integrity Level</b>	SIL3		
<b>PFH (1/h)</b>	4.77E-10 Corresponds to 4.8% of SIL3		
<b>PFD</b>	4.18E-05 Corresponds to 4.2% of SIL3		
<b>Proof Test Interval T<sub>1</sub></b>	20 years		
<b>Characteristic Data according to EN ISO13849-1*</b>			
<b>Performance Level</b>	<b>e</b> If both channels are used in combination with a SIL3/PLe control device		
<b>Category</b>	Cat4		
<b>MTTF<sub>d</sub></b>	1100 years		
<b>Diagnostic Coverage DC</b>	99% (high)		
<b>Number of operating days per year</b>	d <sub>op</sub> = 365d		
<b>Number of operating hours per day</b>	h <sub>op</sub> = 24h		
<b>B10d</b>	not mechanical parts implemented		
<b>*Note: When the product is used differently from these assumptions (different load, operating frequency, etc.) the values must be adjusted accordingly.</b>			

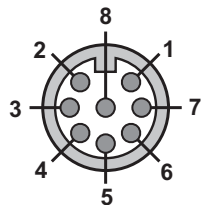
# IDEM Non-Contact RFID Locking Safety Switches

The MGL series RFID locking switches use two LEDs to indicate all the possible switch states. The LEDs are in a clearly visible location on either side of the cable exit point.

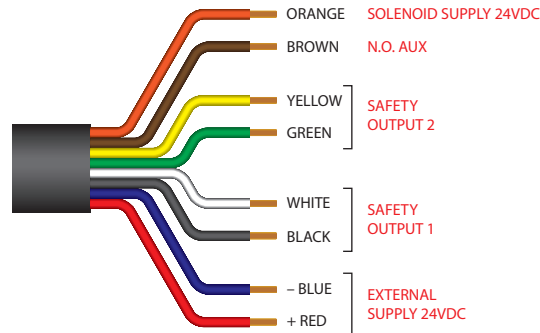
IDEM Non-Contact RFID Locking Switches LED Operation and Switch Status Indication			
Switch Status	Guard	Green LED	Yellow LED
<b>Locked</b>	Closed	Steady	Off
<b>Solenoid Power OFF (Unlocked)</b>	Closed	Flashing	Off
<b>Guard Open</b>	Open	Off	Steady
<b>Door Forced Open</b>	Open	Off	Flashing
<b>Wrong Actuator Code</b>	Closed	Flashing	Flashing



### Connection Colors



Pin View from Switch



IDEM Non-Contact RFID Locking Switches Wiring Diagram			
Quick Connect (QC) M12 8-way male plug	Conductor Colors	Function	Power Rating
8	Orange	Lock Applied (24VDC ± 10%)	500mA Max.
5	Brown	Auxiliary Signal	+24VDC
4	Yellow	Safety Output 2	200mA Max.
6	Green	Safety Output 2	
1	White	Safety Output 1	200mA Max.
7	Black	Safety Output 1	
3	Blue	0VDC	50mA Max.
2	Red	+ 24VDC ± 10%	

**Note: For M12 Quick Connect switches, color code may vary depending on the cable used. Please verify before installation.**