

## TLS-GD2

### 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 EN 954-1 dual channel interlocks suitable for Cat. 3 or 4 systems				
Functional Safety Data (related to Safety Contacts) *	B10d: > 2 x 10 <sup>6</sup> operations at min. load PFHD: < 3 x10 <sup>-7</sup> MTTFd: > 385 years May be suitable for use in performance levels Plc or Pld 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				
Note: For up-to-date information, visit <a href="http://www.ab.com/Safety/">http://www.ab.com/Safety/</a>					
Certifications	CE Marked for all applicable directives, cULus, TÜV, and CCC				
Outputs					
Safety Contacts ‡	(TLS-1 & -2) 3 N.C. direct opening action (TLS-3) 4 N.C. direct opening action				
Auxiliary Contacts	(TLS-1 & -2) 2 N.O. (1 solenoid monitoring) (TLS-3 1 N.O.)				
Thermal Current $I_{th}$	10 A				
Rated Insulation Voltage	(Ui) 500V				
Switching Current @ Voltage, Min.	3 mA @ 18V DC				
Utilization Category					
A600/AC-15	(Ue)	600V	500V	240V	120V
	(Ie)	1.2 A	1.4 A	3.0 A	6.0 A
DC-13	(Ue)	24V			
	(Ie)	2 A			
Solenoid Characteristics					
Locking Type	TLS-1 & -3 Power-to-Release TLS-2 Power-to-Lock				
Holding Force, Max.	2000 N (450 lbf)				
Releasable Load, Max.	50 N (11.24 lbf)				
Power Supply	24V AC/DC or 110V AC or 230V AC (solenoid)				
Solenoid Power	Typically 7 W 100% ED				
Escape Release Button	Force max.: 50 N (11.25 lbs)				
Operating Characteristics					
Break Contact Force, Min.	20 N (4.5 lbf)				
Actuation Speed, Max.	160 mm (6.29 in.)/s				
Actuation Frequency, Max.	1 cycle/s				
Operating Radius, Min.	160 mm (6.3 in.) [80 mm (3.15 in.) with flexible actuator]				
Mechanical Life	1,000,000 operations				
Environmental					
Enclosure Type Rating	IP66, IP67 and IP69K				
Operating Temperature [C (F)]	-20...+60° (-4...+140°)				
Physical Characteristics					
Housing Material	UL Approved glass-filled PBT				
Actuator Material	Stainless Steel				
Weight [g (lb)]	400 (0.88)				
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.