General Characteristics (Metal, Turret Head, Types XCSA, XCSB, XCSC, XCSE, XCSL; Plastic, Double Insulated, Turret Head, Types XCSMP, XCSPA, XCSTA, XCSPL, XCSPR, XCSTL, XCSTR, and XCSTE) Complies with international and domestic safety standards. OSHA 1910, IEC/EN 60204-1, VDE 0660, ANSI B11.19, INRS (France), EN 1088, EN 292

Environment			
Safety Interlock Type		XCSA, XCSB, XCSC, XCSE, XCSL (metal)	XCSMP, XCSPA, XCSTA, XCSPL, XCSPR, XCSTL, XCSTR, XCSTE (plastic)
Conforming to standards	Products	EC/EN 60947-5-1, UL 508, CSA C22-2 N° 14	
	Machine assemblies	IEC/EN 60204-1, EN 1088, EN 292	
Product certifications		UL, CSA, BG, TUV	
Ambient air temperatures ▲		Operation: -13° F to 158° F (-25° C to 70° C), XCSE: -13 to 104 °F (-25 to 40 °C), XCSTE: -13 to 140 °F (-25 to 60 °C); Storage -40 to 158 °F (-40 to 70 °C), XCSMP: -13 to 176 °F (-25 to 80 °C)	
Vibration resistance		5 gn (10 to 500 Hz) conforming to IEC 60068-2-6, XCSMP: 6 gn (10 to 55 Hz)	
Shock resistance		10 gn (duration 11 ms) conforming to IEC 60068-2-27, XCSL: 20 gn conforming to IEC 600068-2-27, XCSMP: 50 gn (duration 11 ms)	
Electric shock protection		Class 1 conforming to IEC/EN 60536	Class 2 conforming to IEC/EN 60536
Degree of protection ■		IP 67 conforming to IEC/EN 60529 and IEC/EN 60947-5-1; Metal: Type 4, 4X, 12; Plastic: Type 4 and 4X Indoor, 12 XCSL: NEMA 1, 2, 3, 4, 12	
Conduit entry		1 entry with 1/2 in. NPT on XCSA, XCSB, XCSC, XCSL 2 entries with 1/2" NPT on XCSE	1 entry with 1/2 in. NPT on XCSPA, XCSPL, XCSPR 1 entry for 1/2 in. conduit adapter on XCSTE 2 entries for 1/2 in. conduit adapter on XCSTA, XCSTL, XCSTR Pre-wired with cable: XCSMP

■ The enclosure rating for these switches is for the protection of the live electrical components. During installation and operation, precautions must be taken to prevent any ingress of contaminants, particles, and corrosives, including liquids containing solids, from entering into the actuating key area. If precautions are not taken, switches may not perform to published specifications. Use in a salt atmosphere is not recommended.

▲ Minimum temperature: The minimum temperatures listed are based on the absence of freezing moisture or water. Care should be taken to avoid sub-freezing temperatures where dripping or splashing water is present and to avoid bringing a cold device into a humid atmosphere and then back into sub-freezing temperatures. The water or moisture may freeze around internal or external components and prevent it from performing as intended.

Electrical Characteristics Complete Switches

Electrical contact rating	XCSA, XCSB, XCSC, XCSL, XCSPA, XCSTA, XCSPL, XCSPR, XCSTL, XCSTR: ~ AC-15, A300: Ue=240 V, Ie=3 A or Ue = 120 V, Ie = 6 A; XCSE, XCSTE: ~ AC-15, B300: Ue = 240 V, Ie = 1.5 A or Ue = 120 V, Ie = 3 A, XCSMP: ~ AC-15, C300: Ue = 240V, Ie = 0.75 A or Ue = 120 V, Ie = 1.5 A All models: = DC-13, Q300: Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A conforming to IEC/EN 60947-5-1
Rated thermal current in enclosure	XCSA, XCSB, XCSC, XCSL, XCSPA, XCSPL, XCSPR, XCSTA, XCSTL, XCSTR: Ithe = 10 A. XCSE, XCSTE: Ithe: 6 A, XCSMP: Ithe = 2.5 A
Rated insulation voltage	Ui = 500 V conforming to IEC/EN 60947-5-1 Ui = 300 V conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage	XCSA, XCSB, XCSC, XCSL, XCSPA, XCSTA, XCSPL, XCSPR, XCSTL, XCSTR: U imp = 6 kV conforming to IEC 60947-5-1; XCSE, XCSMP, XCSTE: U imp = 4 kV conforming to IEC 60947-5-1
Positive opening contacts	Positive opening N.C. contacts meets the IEC and EN requirements for positive opening contacts per IEC/EN 60947-5-1; and NEMA ICS-5, part 6 (direct opening action).
Resistance across terminals	≤30 mΩ conforming to IEC/EN 60947-5-4
Short-circuit protection	10 A Class CC fuse. Outside U.S. use cartridge fuse type gG (gl)
Wiring	Screw clamp terminals. Terminal capacity, min.: 1 #20 AWG (1 x 1.05 mm^2), max.: 2 #16 AWG (2 x 1.5 mm^2), XCSMP: prewired with 4 #20 AWG (4 x 0.5 mm^2), or 6 #20 AWG (6 x 0.5 mm^2)

AC Voltage and Current Ratings 50-60 Hz

Contact Rating Designation	Thermal Continuous Test Current, Amperes	Maximum Current, Amperes								Voltamperes	
		120 Volts		240 Volts		480 Volts		600 Volts			
		Make	Break	Make	Break	Make	Break	Make	Break	Make	Break
A300	10	60	6.00	30	3.00	. . .	. . .	. . .	. . .	7200	720
B300	5	30	3.00	15	1.50	. . .	. . .	. . .	. . .	3600	360
C300	2.5	15	1.5	7.5	0.75					1800	180

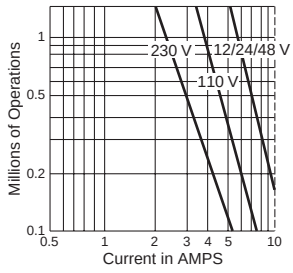
DC Voltage and Current Ratings

Contact Rating Designation	Thermal Continuous Test Current, Amperes	Maximum Make or Break Current, Amperes			Make or Break at 300 Volts or Less, Voltamperes
		125 Volts	250 Volts	301 to 600 Volts	
Q300	2.5	0.55	0.27	. . .	69

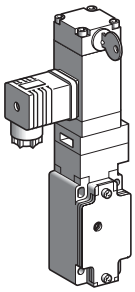
Electrical Life

Conforming to IEC 60947-5-1 Appendix C.Utilization categories AC-15 and DC-13.
Maximum operating rate: 3600 operating cycles per hour.Load factor: 0.5.

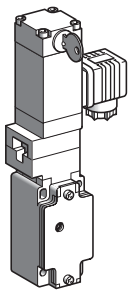
AC Supply	DC Supply			
50/60 Hz inductive circuit	Power broken in W for 1 million operating cycles			
	Voltage V	24	48	120
	Power W	13	9	7



The product life expressed is based on average usage and normal operating conditions. Actual operating life will vary with conditions. The above statements are not intended to nor shall they create any express or implied warranties as to product operation or life. For information on the limited warranty offered on this product please refer to the Square D terms and conditions of sale found in the Square D *Digest*.



XCSL764F3



XCSL766F3

Metal, Type XCSL, Conduit Entry Tapped 1/2 NPT - Locking Without Power

References of switches without actuating key (select actuating key from page 64)

Positive opening N.C. contacts meet the IEC and EN requirements for positive opening contacts per IEC/EN 60947-5-1; and NEMA ICS-5, part 6 (positive opening action).

Standard devices are shown on pages 60 and 61. If these devices do not meet your application requirements, refer to page 62 to build a part number.

Type of Switch		**With Interlocking, Locking by Electromagnet ●**					
Type of interlocking		**Locking Without Power.** Actuating key locks into switch when inserted. This is typically preferred as the door is secured regardless of electrical power availability or power failure. Applying power to the electromagnet will unlock actuating key and allow it to be removed from the switch. Applying power to the electromagnet will open the N.C. safety contacts as well.					
Position of Head (for actuating key)		To Right			To Left		
Position of Electromagnet Connector		To Left			To Right		
Position of Ronis key release lock		Front			Front		
LED indication		Orange LED: “guard open” signaling					
Supply voltage of electromagnet		24 Vdc	120 Vac or Vdc †	230 Vac or Vdc †	24 Vdc	120 Vac or Vdc †	230 Vac or Vdc †
N.C. + N.O. + N.O. (2 N.O. staggered) slow break ‡ ★		XCSL564B3 ⇨	XCSL564F3 ⇨	XCSL564M3 ⇨	XCSL566B3 ⇨	XCSL566F3 ⇨	XCSL566M3 ⇨
N.C. + N.C. + N.O. (N.O. staggered) slow break ‡ ★		XCSL764B3 ⇨	XCSL764F3 ⇨	XCSL764M3 ⇨	XCSL766B3 ⇨	XCSL766F3 ⇨	XCSL766M3 ⇨
Weight (oz.)		32 (0.920 kg)	32 (0.920 kg)	32 (0.920 kg)	32 (0.920 kg)	32 (0.920 kg)	32 (0.920 kg)

● A Ronis key operated lock allows the forced opening of the guard in an emergency situation. When the Ronis key is turned to the unlock position, the actuating key is unlocked and is free to be removed from the switch. The N.C. safety contacts will open when the Ronis key is turned to the unlock position as well.

† For use on 110/120 Vdc or 220/240 Vdc, remove the LED indicator module.

‡ Schematic diagrams shown represent the contact states while the actuating key is fully inserted and engaged in the head of the switch.

★ The N.O. contacts will close after the N.C. contacts open. They do not change state simultaneously.

Only the N.C. contacts should be used in the safety control circuit. The N.O. contacts are provided solely for signalling – NOT for safety functions.

Actuating head, solenoid and related components are NOT field convertible and should not be rotated or modified.

The only replacement parts or components available are covers and LED indicator modules. **These devices are not to be repaired or adjusted.** The complete switch should be replaced.

Complementary Characteristics (not shown under general characteristics)

Actuation speed	Maximum: 19.7 in/s (0.5 m/s), Minimum: 0.39 in/s (0.01 m/s)
Resistance to Forcible Key Withdrawal	XCSL: 337 lbs. (1500 N)
Maximum Operating Rate	For maximum life: 600 operating cycles per hour, i.e.: 10/min. (or once in 6 seconds)
Minimum Force for Positive Opening	4.5 lbs (20 N)
Conduit Entry	XCSL: 1 entry. Conduit entry tapped for 1/2 NPT

Electromagnet Characteristics

DC electromagnet is supplied on all XCSL models. For use with an AC power supply, a bridge rectifier is supplied in the connector on all AC devices.

Load Factor	100%		
Rated Operational Voltage	24 Vac or Vdc	110/120 Vac or Vdc	220/240 Vac or Vdc
Voltage Limits	-10%, +10% of the rated operational voltage (including ripple on) conforming to IEC 60947-1		
Consumption	Inrush: 10 VA. Sealed: 10 VA		

LED Indicator Characteristics

Rated Operational Voltage	24 Vac or Vdc	110 Vac	220 Vac
Rated Insulation Voltage	50 V conforming to IEC 60947-1	250 V conforming to IEC 60947-1	
Current Consumption	7 mA	2.5 mA	5 mA
Voltage Limits	20...30 Vac or Vdc (including ripple)	95...130 Vac (including ripple)	190...260 Vac (including ripple)
Protection Against Over voltages	Yes	Yes	

File E164353
CCN NKCR

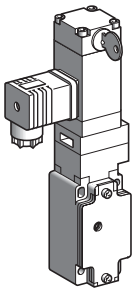
File LR44087
Class 3211 03

The devices above are available with metric conduit.

- To order devices tapped for 13mm cable gland, conforming to NF C 68-300 (DIN Pg 13.5): Change the last character in the part number to 1
  For example: XCSL764B3 is changed to XCSL764B1
- To order devices tapped for M20 x 1.5 for ISO cable gland: Change the last character in the part number to 2
  For example: XCSL764B3 is changed to XCSL764B2

When designing a door or gate guarding system, these guidelines must be followed:

- The actuating key alone must not be used as the sole means to hold the gate or guard closed. A separate locking or latching mechanism must be used to hold door closed.
- The safety interlock switch must not be used as a mechanical stop for the moving guard. A separate mechanical stop must be provided (EN 1088 - 1995: 5.2.2).
- The actuating key must not be used as a gate guiding device. Install a guide for the guard to ensure proper alignment.
- Actuating keys must be securely attached to gates, guards, and doors only. They should not be attached to cables, cords or chains.



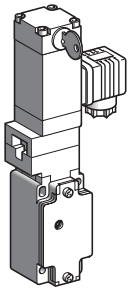
Metal, Type XCSL, Conduit Entry Tapped 1/2 NPT

References of switches without actuating key (select actuating key from page 64)

Positive opening N.C. contacts meets the IEC and EN requirements for positive opening contacts per IEC/EN 60947-5-1; and NEMA ICS-5, part 6 (positive opening action).

If the devices shown on pages 60 and 61 do not meet you application needs, use the table below to build a part number. A complete part number requires a code character from each of the following columns: Base Number, Ronis Key Position, Actuating Key and Connector, Electromagnet Voltage, and Conduit Connection. A code character column Connector is optional, and is only used if a connector is required for the application.

All devices have an Orange LED as standard.



		Base Number	Ronis Key Position	Actuating Key and Connector	Electromagnet Voltage	Conduit Connection	Connector (Optional)
Contact Arrangement							
N.C. + N.O. + N.O.		XCSL5					
N.C. + N.C. + N.O.		XCSL7					
Locking Without Power							
Ronis Key Position	Front		6				
	Right		2				
	Left		0				
	Back		4				
Locking With Power							
Note: A Ronis key lock is NOT provided on the Locking With Power devices.			8				
Actuating Key and Connector Position							
Actuating Key Position	Connector Position						
Front	Left			1			
	Right			2			
	Back			3			
Right	Left			4			
	Front			5			
Left	Right			6			
	Front			7			
Back	Left			8			
	Right			9			
	Front			0			
Electromagnet Supply Voltage							
24 Vdc					B		
110 Vac					F		
220 Vac					M		
Conduit Connection							
PG 13.5						1	
M20 x 1.5						2	
1/2 inch NPT						3	
Connector (optional)							
5 Pin Mini (LEDs not wired/powered)							CA
6 Pin Mini (use with LEDs)							DA

Type of Interlocking

Locking Without Power. Actuating key locks into switch when inserted. This is typically preferred as the door is secured regardless of electrical power availability or power failure. Applying power to the electromagnet will unlock actuating key and allow it to be removed from the switch. Applying power to the electromagnet will open the N.C. safety contacts as well.

Locking With Power. Actuating key locks into switch *only* when actuating key is inserted *and* power is applied to the electromagnet. Door or guard is not locked in the event of a power failure or when power is removed from the electromagnet. Removing power from the electromagnet will unlock actuating key and allow it to be removed from the switch. Removing power to the electromagnet will open the N.C. safety contacts as well.

Note: Locking with power devices do not meet European standards regarding the safety of machinery, especially EN 1088 regarding guard locking. European standards do not allow a "locking with power" function for gate or door guarding/locking. Locking without power devices meet European requirements, and should be used when machinery is to be shipped to Europe or where machinery must meet European standards.

File E164353
CCN NKCR

File LR44087
Class 3211 03

When designing a door or gate guarding system, these guidelines must be followed:

- The actuating key alone must not be used as the sole means to hold the gate or guard closed. A separate locking or latching mechanism must be used to hold door closed.
- The safety interlock switch must not be used as a mechanical stop for the moving guard. A separate mechanical stop must be provided (EN 1088 - 1995: 5.2.2).
- The actuating key must not be used as a gate guiding device. Install a guide for the guard to ensure proper alignment.
- Actuating keys must be securely attached to gates, guards, and doors only. They should not be attached to cables, cords or chains.