ERTK - Electromechanical key switch

Part of the Sentric Group

The ERTK is an electromechanical key switch. The release (SP) or trapping (RP) of the key are electrically controlled. Any change in the key status is signalled by the switch connected to the lock. The ERTK is particularly suitable for automated systems in industry or railway equipment.

Trapped Key Interlocks

INDUSTRY

ENERGY

RAILWAY

USAGE

The ERTK electromechanical key switch is designed to be part of a safety system and is used to isolate the power supply to a dangerous machine through the use of electrical authorisation. The released key is then used to access a safe area.

The ERTK electromechanical key switch cannot be used as an access lock.

INSTALLATION

A safety lock must be fitted with appropriate fixings.

Important:

To prevent unauthorised removal, the lock must be fitted using rivets or M5 stainless steel security screws (washers, nuts and screws).

Installation must be carried out by a competent and qualified person.

MAINTENANCE

Periodic visual inspections should be carried out by the Facility Manager or Safety Manager to ensure that there is no distortion or corrosion/erosion/acid build-up and that the lock marking plate is clearly legible.

Do not lubricate the lock cylinder with oil or grease.

ERTK - Electromechanical key switch

Part of the Sentric Group

TECHNICAL DATA

Types of Mounting	Flush mounting or IP55 enclosure
Weight	Flush-mounted version: from 1.4 kg (for 1 key entry) Enclosure version: from 2.3 kg (for 1 key entry)
Material	- Sheet metal: 304 stainless steel - Cylinder: Nickel-plated brass - Mechanical: Brass - 304 stainless steel - Flip cap: 304 stainless steel - Marking plate: Aluminium - Glued plate (Acrylique - Loctite AA330) - Enclosure version: Polycarbonate enclosure
Product finishing	Flush-mounted version : Front panel in red polyester paint (RAL 3000)
Breaking capacity	20A/5,5kW (standard)
Operating voltage and power consumption	**Duty cycle 15%** **(max coil power supply 30s)** 24VAC/DC - 40W 48VAC/DC - 40W 110VAC/DC - 42W 230VAC/DC - 48W **Duty cycle 100% (without push button)** 24VAC/DC - 10W 48VAC/DC- 10W 110VAC/DC - 10W 230VAC/DC - 10W
Temperature rating	-35˚C / +120˚C for the lock -25˚C / +80˚C for the switch
Salt spray tolerance	240h
Watertightness	Flush-mounted version: IP2X Enclosure version: IP55
IK rating	IK10
Vibrations	0.7mm @10-55HZ 1 oct/min in 3 axes
Retentive strength	250N-cle
Lifespan	590000 cycles
B10d	118000 cycles
DC	90%
Compliance	- CE Marking Directive 2001/95/EC - Machinery Directive 2006/42/EC - Low Voltage Directive 2014/35/EU - EMC Directive 2014/30/EU
ROHS	Certificate available on our website, Resource Centre section
REACH	Certificate available on our website, Resource Centre section
Conflict Minerals Declaration	Certificate available on our website, Resource Centre section

OPTIONS

- 1 to 6 key entries
- Switch 2NC-2NO, 3NC-1NO or 3NC-3NO
- Mounting on plate, stainless steel or polycarbonate enclosure
- Without flip cap
- Without light
- ATEX explosive atmosphere (under feasibility study)

ERTK - Electromechanical key switch

Part of the Sentric Group

APPLICATION

The system includes an ERTK Electromechanical key swith to control machine control circuit and a NX access lock for entering the hazardous area. Under normal machine operation (motor powered), the power key A is trapped in the ERTK and the access doors to the hazardous area are closed and locked.

To access the hazardous area:

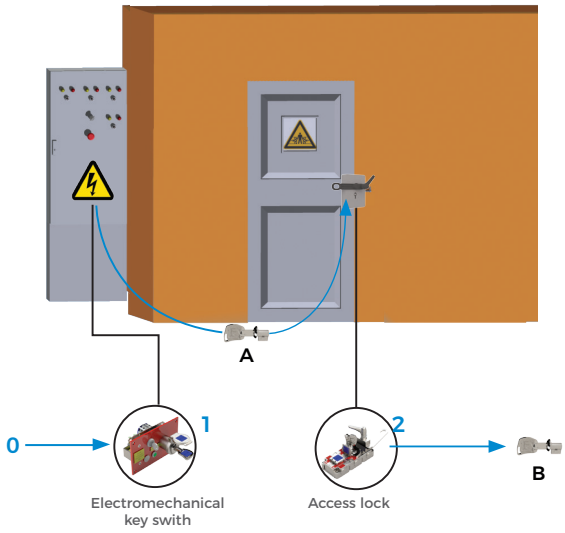
0. A key removal authorisation is sent to the ERTK by a PLC for example.

1. The operator releases the RTK's power key A, thus cutting off the machine's power.

2. The isolation key A is then trapped in the NX access lock thus releasing the lockout key B and the latch allowing access to the area.

The lockout key B is held by the operator during operation to protect against accidental lockout/tagout.

3. To put the machine back into services, the operator follows the same steps in reverse order.

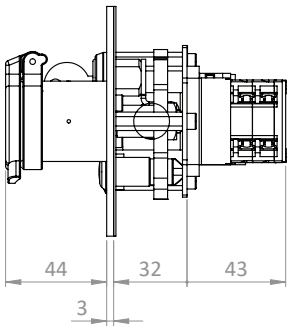


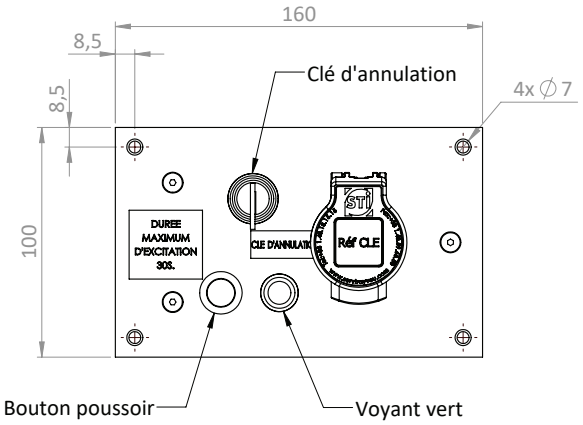
DRAWING

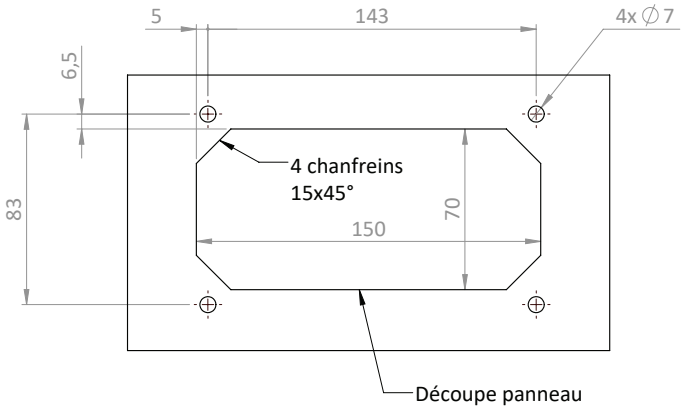
Dimensions: in mm

Note: For a safe mounting, use rivets or self-tapping screws.

ERTK one key entry flush mounted version







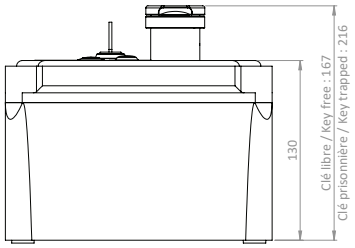
ERTK - Electromechanical key switch

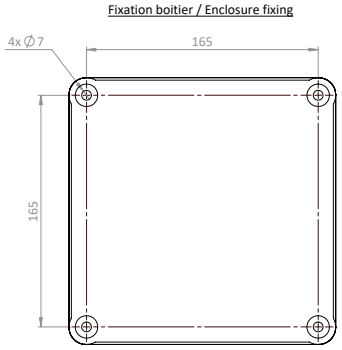
Part of the Sentric Group

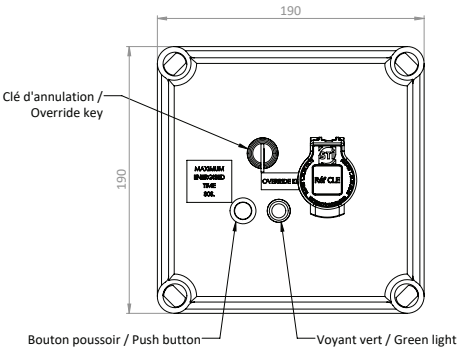
DRAWING

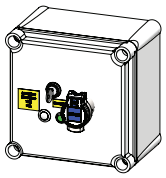
Dimensions: in mm

ERTK single entry IP55 enclosure version

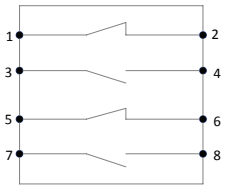




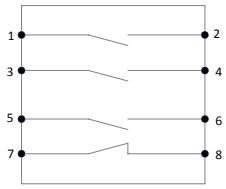




WIRING DIAGRAM



Switch 2NC2NO - 5,5 kW
(switches status when trapped key)



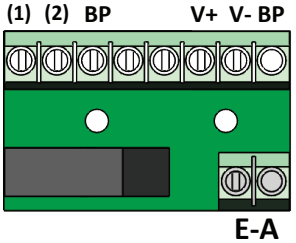
Switch 3NF1NO - 5,5 kW
(switches status when trapped key)

Designation	C6	C7
Switch	2NF-2NO	3NF-1NO
Power	5,5 kW	5,5 kW

Identification de câblage sur la carte STI:

(1) (2) : AC/DC Tension d'entrée

BP : Shunt (câblage STI)
V+ V- : Voyant (câblage STI)
E-A : Solenoïde (câblage STI)



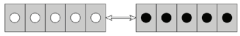
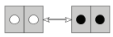
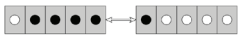
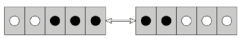
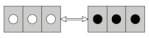
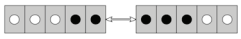
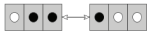
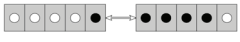
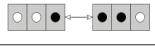
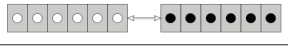
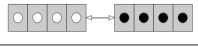
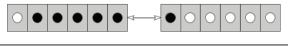
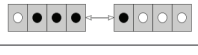
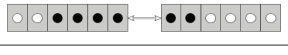
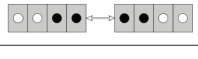
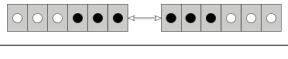
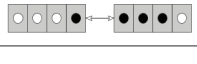
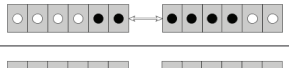
ERTK - Electromechanical key switch

Part of the Sentric Group

ORDER INFORMATION

	ERTK	Type	N° of entries	Electro function	Function	N° of switch	Switch	Language	Order no
Reference	ERTK								
Example	ERTK	E	1	SP	FS	1	C6	E	000

1	**Type**	E = ERTK flush mounting version (flush mount) B = ERTK enclosure version (IP55 polycarbonate enclosure)
2	**N° of entries**	1 to 6 key entries
3	**Electromechanical function**	SP = release by voltage emission RP = trapped key under voltage emission (free under both conditions)
4	**Function**	The function determines the key position (in or out). See FUNCTION table
5	**N° of switch**	From 0 to the number of entries
6	**Switch**	C6 = 2NC-2NO, 5.5kW, CA10 C7 = 3NC-1NO, 5.5kW, CA10F C9 = 3NC-3NO, 11kW, CA25 C11 = 3NC-3NO, 18.5kW, C42 DI = If other switch C0 = No switch
7	**Language**	A = Anglais (english) F = Français (french) E = Espagnol (spanish) G = Allemand (german)
8	**Order no.**	For specific applications. This number is assigned by STI for an adapted product

N° of entries	Function	Principle	N° of entries	Function	Principle
1	AA		5	AO	
2	AB		5	AP	
2	AC		5	AQ	
3	AD		5	AR	
3	AE		5	AS	
3	AG		6	AU	
4	AJ		6	AV	
4	AK		6	AW	
4	AL		6	AX	
4	AM		6	AY	
			6	AZ	

Legend		
	○	free key
	●	trapped key

CONTACTS

Serv Trayvou

1 ter rue du Marais, 93100 MONTREUIL, France

t: +33 (0)1 48 18 15 15 | f: +33 (0)1 48 59 68 50 | e: sales@servtrayvou.com