

Citadel Series

Catalogue





Citadel industrial switches to work in the most severe circumstances; Robust, solid, impact-resistant, dust- and waterproof. Citadel enclosures are manufactured of first-class materials such as neoprene, polyester or noryl.

ROBUST INDUSTRIAL SWITCHGEAR

Santon Switchgear supplies Citadel switches: Plastic enclosures in which a reliable Santon switch is mounted, intended for the most diverse applications and circumstances. The Citadel switch isolators are in accordance with EN 60204, VDE 0113 and NEN 1010-5 article 537 and up to category of use AC 23A/DC 23 in accordance with IEC60497- 1 and 3. Every Citadel switch is a targeted combination of materials, enclosure construction and locking.

Completely attuned to the requirements you set. Resistant to chemically aggressive substances, dirt, dust, moisture, cold or heat. For inside or outside use. Stationary or on rolling material. In land installations or onboard of ships, also on deck. In installations with either AC or DC current.

These Citadel isolator switches can be used in all surroundings. From the tropics to the polar regions. In steel mills, sawmills, transshipment companies, electricity companies, waterworks, water purification plants, etc.

THE PLASTIC ENCLOSURES

The plastic enclosures type '0K' up to '8K' are manufactured of glass fibre filled noryl. The 9K enclosures are fabricated of glass fibre mat reinforced polyester. Both materials have excellent electricity insulating properties and are UV resistant.

They are resistant to great differences in temperature, are not hygroscopic, are not subject to aging, chemically practically inert, flame extinguishing and tropics-proof. The standard colour is grey.

The construction is robust with a wall thickness of 4 to 9 mm, in order to achieve a solid, impact-proof product. The lid bolts are made of stainless steel and the shaft through-put is made of nickel-plated brass. First-class neoprene has been utilised for both the lid seal and the seal in the shaft lead-through, with which in the standard version ensures a dust- and water tightness rating in accordance with IP 66. However, if desired, a rating of IP 67 (immersion) or IP 68 (pressure water tightness up to 1 atm.g.) can be achieved.





Citadel switches with Button and front plate.



Citadel switches with stainless steel padlock lockable in three building sites

THE WALL MOUNTING CITADEL SWITCHES

The Citadel range standard is supplied with a Santon industrial switch. It has a solid construction, electrically with large dimensions, shock and vibration-proof and features self-cleaning wiping contacts. The switches meet the requirements of IEC 947-3, VDE 0660, Lloyd's, Veritas and Germanischer Lloyd. There are 2 types of spring works:

- with a normal switch momentum, a semi-independent control, intended for alternating current: the switch then has one continuous steel axle, which forces a switch.

- with quick momentum, acts on pre-tensioned springs, with which the switch momentum when operated cannot be influenced manually. The switch is therefore more suited for direct current.

All Citadel switches of the standard series – with the exception of the types 14PA/9K and 64PA/9K – are suited for 500 V AC. Optionally 690 V AC versions are available.

Coding		Mechanism*)	Load Table			
3 poles	4 poles		Ue 440 V~ Ie (A) AC23	Ue 440 V~ Pe (kW) AC23	Ue 250 V= Ie (A) DC23	Ue 250 V= Pe (kW) DC23
01PA/ 1K6K	51PA/ 1K6K	AC	16	8,5	-	-
02PA/ 1K6K	52PA/ 1K6K	DC	16	8,5**	16	3
03PA/ 1K6K	53PA/ 1K6K	AC	25	14	-	-
04PA/ 1K6K	54PA/ 1K6K	DC	25	14**	25	5
05PA/ 5K6K	55PA/ 5K6K	AC	40	23,5	-	-
06PA/ 5K6K	56PA/ 5K6K	DC	40	23,5**	40	8,5
07PA/ 8K6K	57PA/ 8K6K	AC	63	37,5**	-	-
08PA/ 8K6K	58PA/ 8K6K	DC	63	37,5**	63	14(DC 22)
09PA/ 8K6K	61PA/ 9K6K	AC	100	61**	-	-
10PA/ 8K6K	62PA/ 9K6K	DC	100	61**	100	22,5
14PA/ 9K6K	64PA/ 9K6K	DC	175	108**	175(DC 21)	40(DC 21)
16PA/ 9K6K	66PA/ 9K6K	DC	300(AC 22) (415 V)	176(AC 22) (415 V)	200(DC 21)	47(DC 21)

The stated loads are based on an environmental temperature of 45°C. Brief environmental temperatures of up 85°C are permissible. In the case of sustained increased environmental temperatures, a load reduction is advisable.

Explanation of the coding

Example: 02 PA / 1 K 6 K

K = plastic padlock locking red / yellow
 KG = plastic padlock locking grey / grey
 R = stainless steel, lockable in two positions
 R1 = stainless steel, lockable in the 'OUT' position
 R2 = stainless steel, lockable in the 'IN' position
 6 = IP 66 (7 for IP 67, 8 for IP 68)

1K = enclosure size

02PA = code for the switch type inside

*) Mechanism: AC = normal switching speed
 DC = high switching speed

**) Terminal cover on the supply side

CUSTOMER-BUILT SOLUTIONS

Santon has been specialising on the manufacture of packet switches on an industrial quality level for many years. With the experience gathered, Santon can develop special versions for you. Bespoke work is the speciality of Santon.

THE LOCKING

Often a padlock locking is required. Santon's Citadel switches offer you the selection from the following:

- a robust version made of glass fibre filled noryl: a yellow ring with a red button, lockable with three padlocks
- the same version, however with a grey ring and a button (polyamide)
- a version with a simple, very effective and indestructible locking cap made of stainless steel, with space for three padlocks; manufactured according to specification with locking in the 'Out' position or in the 'In' position, or in both positions.

Where no locking is required, a version with a button and a position face is available.



Citadel switches with padlock lockable knob.



A few examples of Citadel switches with locking according to customer specification.



Left: Control case Citadel 9K Top right: Two lockable switches with an current meter in a case suitable for an ammonia environment. Bottom right: Direct current lifting magnet control in special colour.



Top right: Citadel '7K' case with directly engraved position indications.
Bottom left: Direct current emergency switch in special colour. Bottom centre: Push button in '1K' enclosure. Bottom right: Switch in '1K' enclosure with air relief valve.



Control knob operated motor circuit-breaker, in opened position.

LIGHT SWITCH

A two-pole switch, such as a light switch, in a noryl enclosure of a '0K' type.

Type	Ue	Ie AC22/DC 22	Cable
50GT/0K6	240 V	16 A	2,5 mm ²
51GT/0K6	240 V	25 A	4 mm ²

WALL SOCKET

A two-pole wall socket with safety ground, 16A-240V AC with a screw cap; the enclosure is also made of noryl. Both with a closed cover as well as with a connected plug with screw ring in the water tightness class IP 66.



From left to right: Wall socket with safety ground and screw cap IP 66, wall socket with plug and pressure ring IP 66, light switch in '0K' case IP 66.

SPECIAL VERSIONS

A small selection of the possibilities:

- *Internal heating element (to avoid condensation, as simply to the point)*
- *Waterproof push buttons*
- *Ampere meter behind window*
- *Waterproof signal fittings*
- *Special locking*
- *Removable button*
- *Robust key locking with brass locks*
- *Multiple switches in a single case (optionally interlocked)*
- *Simple key locking with cylinder lock*
- *Different colours by means of surface treatment*
- *Conducting coating on the inside of the case for creating a Faraday cage (EMC)*
- *Reduced surface resistance (increased safety class e)*
- *Other voltages, such as 690V AC, higher frequencies or direct current*
- *Use of other components*
- *Alternative switching programmes, such as leading auxiliary contacts, switchover, make-before break etc.*



Special version with "positive" flag indication.

CITADEL: ALSO FOR HIGHLY SPECIALISED APPLICATIONS

The Citadel range features several special switches. Just as extremely solid as the packet switches and just as maintenance free, but intended for specific applications. Primarily intended for the safety of your personnel and safeguarding your capital goods.

THE MISALIGNMENT SWITCH (SLS)

For securing conveyor belts, with warning and disconnection contacts. The enclosure of type '6K' is made of glass fibre filled noryl and is equipped with a built-in terminal strip. The shock and vibration resistant Santon switch with self-cleaning wiping contacts does not feature a mechanism, but is directly driven by the control arm. A stainless steel recoil spring holds the control arm and therefore also the switch in the desired position. The robust switch axle is double-mounted in bearings with self-lubricating plastic slide bearings. The control roller is made of wear-resistant plastic \varnothing 80 mm and turns on well-protected ball bearings. The arm is manufactured of stainless steel \sphericalangle / 20 mm.



Pull cord emergency switch type 2K.

OPERATION

Usually, the roller is approx. 20 mm away from the belt. A conveyor belt running with a slight misalignment (approx. 40 mm) triggers the signal contact. These impulses can be utilised to carry out a load correction. If the rate of the misalignment increases (approx. 120 mm), then the contact is interrupted: the belt must be stopped. Should the belt derail even further, then it will run over the arm and the roller.

Misalignment switch type '6K' for conveyor belt application.



SPECIFICATIONS	
Contacts	16 A, 250V, AC1
	1 make contact at 6° (approx. 40 mm misalignment)
	1 break contact at 30° (approx. 120 mm misalignment)
Environmental temp.	-40° to +45° C (briefly up to 85° C)
Connections to a max. of	4 mm ²
Protection class	IP 65

SPECIAL VERSIONS

- Different contact assignment
- Different switch angles
- Following potentiometer for measuring the misalignment for signalling or control
- Signal lamp etc.



Pull cord emergency switch.

THE PULL CORD EMERGENCY SWITCH (TKN)

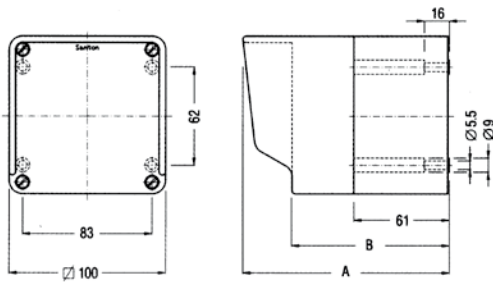
The case of type '6K' with a flat cover is made of glass fibre filled noryl. A built-in terminal strip simplifies the connection of the TKN. The control arm and the bearing housing are constructed in a very solid manner and manufactured of stainless steel; they are therefore suitable for the most severe circumstances. The shock and vibration resistant packet switch is equipped with 2 make and 2 break contacts; it is fitted with a double mechanism. This ensures a large switch momentum, providing a high degree of operational safety. A smaller version is available in the case type '2K', suitable for a one-sided cord. All Santon pull cord emergency switches are equipped with a wire break safety device.

SPECIFICATION	6K	2K
Switching capacity	16 A, 250 AC 1 2 make, 2 break	16 A, 250V AC 1 1 make, 2 break
Switching direction	2 x 50 m in both directions	25 m in one direction
Environmental temp.	-40° to +45° C (briefly up to 85° C)	-40° to +45° C (briefly up to 85° C)
Connections to a max. of	4 mm ²	4 mm ²
Protection class	IP 65	IP 67
Assembly	axle downwards	axle from left to right
Max. cord length	2 x 50 m	1 x 25 m
Other contact assignments	Max. 4 poles 16 A	Max. 5 poles 16 A

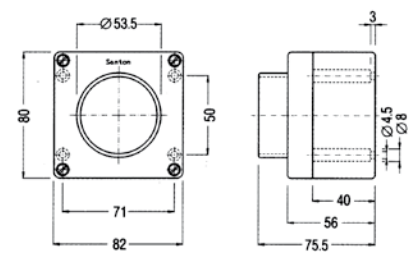
In those areas in which the conditions demand human protection, the Citadel enclosures are often of vital importance. This is not only if the weather conditions are unusual, but also in situations, in which extreme conditions cannot be avoided. Citadel enclosures are effective and very reliable.



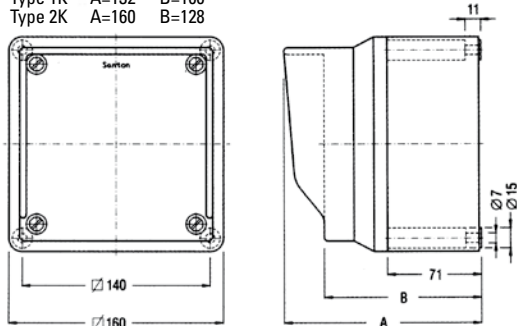
Type '7K' and '2K' in black version.



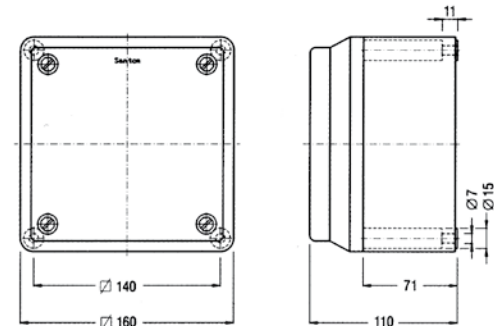
Type 1K A=132 B=100
Type 2K A=160 B=128



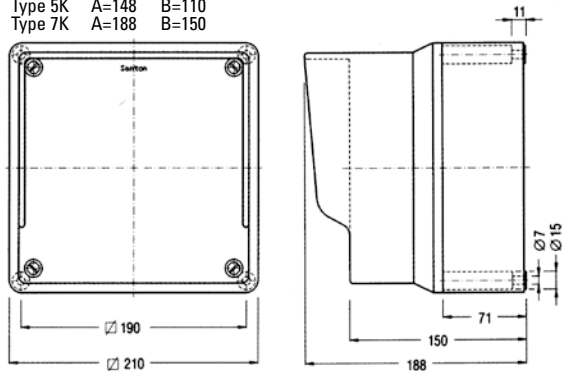
Type OK



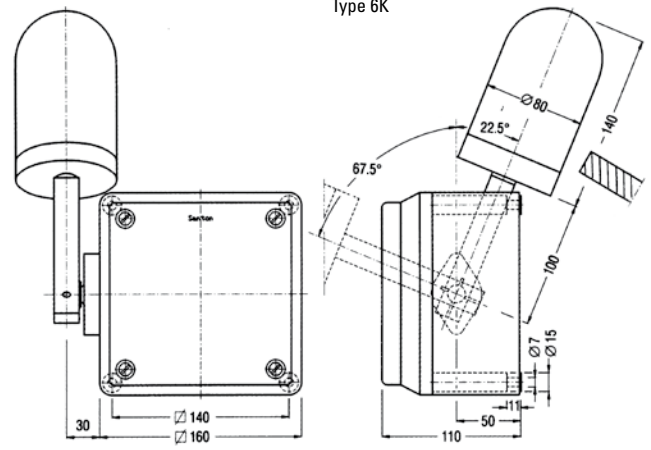
Type 5K A=148 B=110
Type 7K A=188 B=150



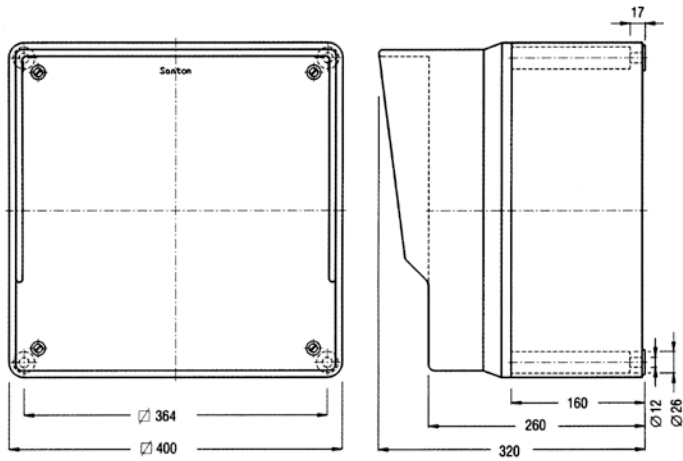
Type 6K



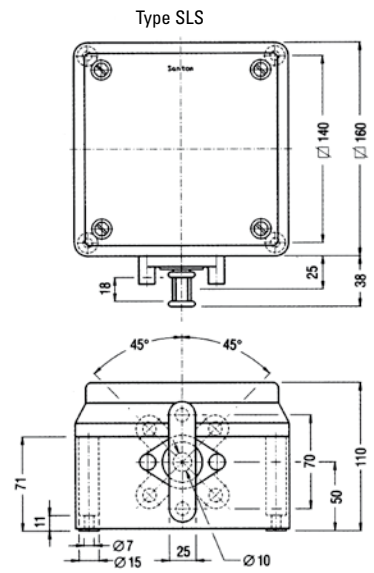
Type 8K



Type 6K



Type 9K



Type SLS

Type TKS



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