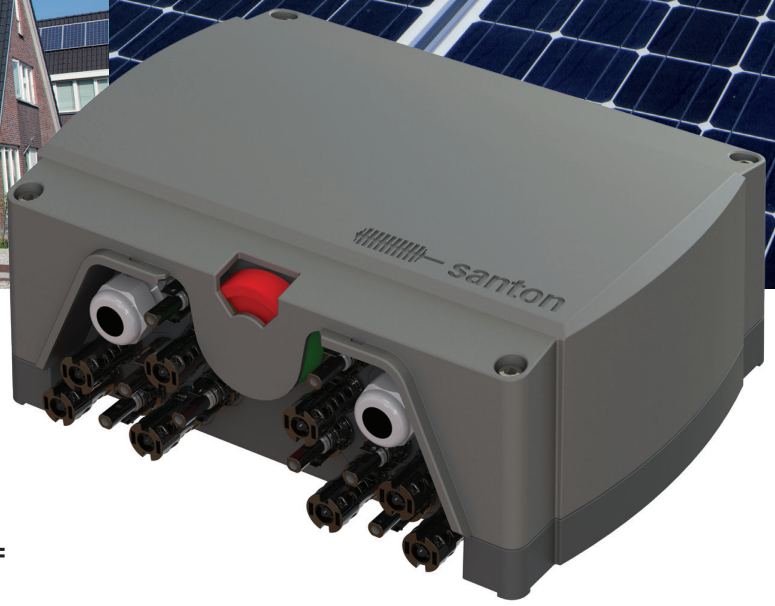
PFS
NEW

THE SANTON PROFESSIONAL AND DOMESTIC FIREFIGHTER SAFETY SWITCH

FOR COMMERCIAL AND RESIDENTIAL SYSTEMS



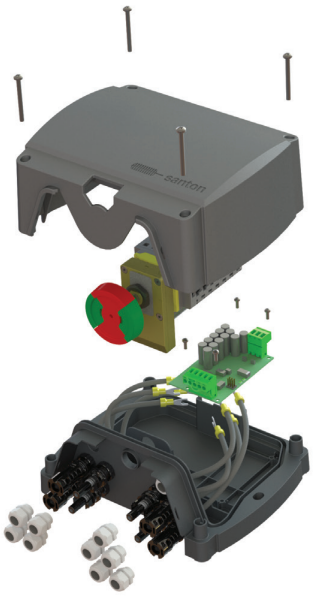


- AC power shut down = automatic DC power shut down
- Auto reset when AC power is back = DC power is back
- Easy to install for small to large, existing and new installations
- Based on the world's most used DC switch from Santon

santon
superior switch solutions

THE SUN PROVIDES YOUR ENERGY, SANTON PROVIDES YOUR SAFETY

In most photovoltaic systems, the DC isolator is integrated into the DC/AC power inverter. After switching off the dc isolator, the cables between the DC solar modules and DC/AC power inverter running through the building are still subject to up to 1000 V DC. in the event of a fire, firefighters are exposed to a very serious source of potential danger. The Santon firefighter safety switch (DFS/PFS) provides the solution. It directly disconnects the DC current in close proximity to the solar modules and creates a safer situation for firefighters.



6 REASONS TO CHOOSE THE SANTON FIREFIGHTER SAFETY SWITCH

1. GAIN VALUABLE TIME IN CASE OF A FIRE

The DFS/PFS works according to standard international firefighter routines, resulting in valuable time when AC power is shut down, the DFS/PFS will automatically switch off and isolate DC cables running between the PV modules and the inverter. Firefighters only have to follow their regular routine and do not have to waste valuable time eliminating the risk of DC power still present at these cables. In case the AC power is not shut down and the temperature 100˚C inside the DFS/PFS unit it will automatically shut down the DC power as extra safety system.

2. COMPLETELY ISOLATE PV MODULES

The DFS/PFS is powered by a motorized X-type switch and can therefore be located directly at the PV modules. This minimizes the amount of cabling with dangerous high voltage and leads to a completely powerless situation in the house, maximizing safety when needed.

3. AUTO RESET

A power down situation can occur at any time and for many reasons. The DFS/PFS has an auto reset function. The DFS/PFS automatically switches off if the regular AC power is down for more than 5 sec and automatically switches on when the regular AC power is on again. No manual reset is necessary every time the power has been down! After check of the safety situation and when the AC main power is reconnected automatically the Santon Firefighter safety switch will switch on the DC power.

4. FOR USE IN INDUSTRIAL AND RESIDENTIAL PHOTOVOLTAIC INSTALLATIONS

By using this standard concept unit for either 1 or 2 strings it is possible to combine unlimited number of units to fix every size of installation. As option it is possible to connect all units to the same AC source in order to create a separate DC on- off operation by switching this specific AC source on – off that will operate all units at the same time. Again reset is done automatically AC on = DC on AC off = DC off.

These units can be easily retrofitted to existing or new installations

5. CONTAINS THE WORLD'S MOST POPULAR DC SWITCH

The DFS/PFS is equipped with the Santon X-type switch, which is the most popular DC switch for PV applications. The Santon 'snap-action' spring mechanism, with its response time of only 3 milliseconds, reduces the electric arc. In combination with the self-cleaning contacts, this increases durability and safety. Therefore the Santon X-type switch has been selected by many inverter manufacturers as their no. 1 DC switch.

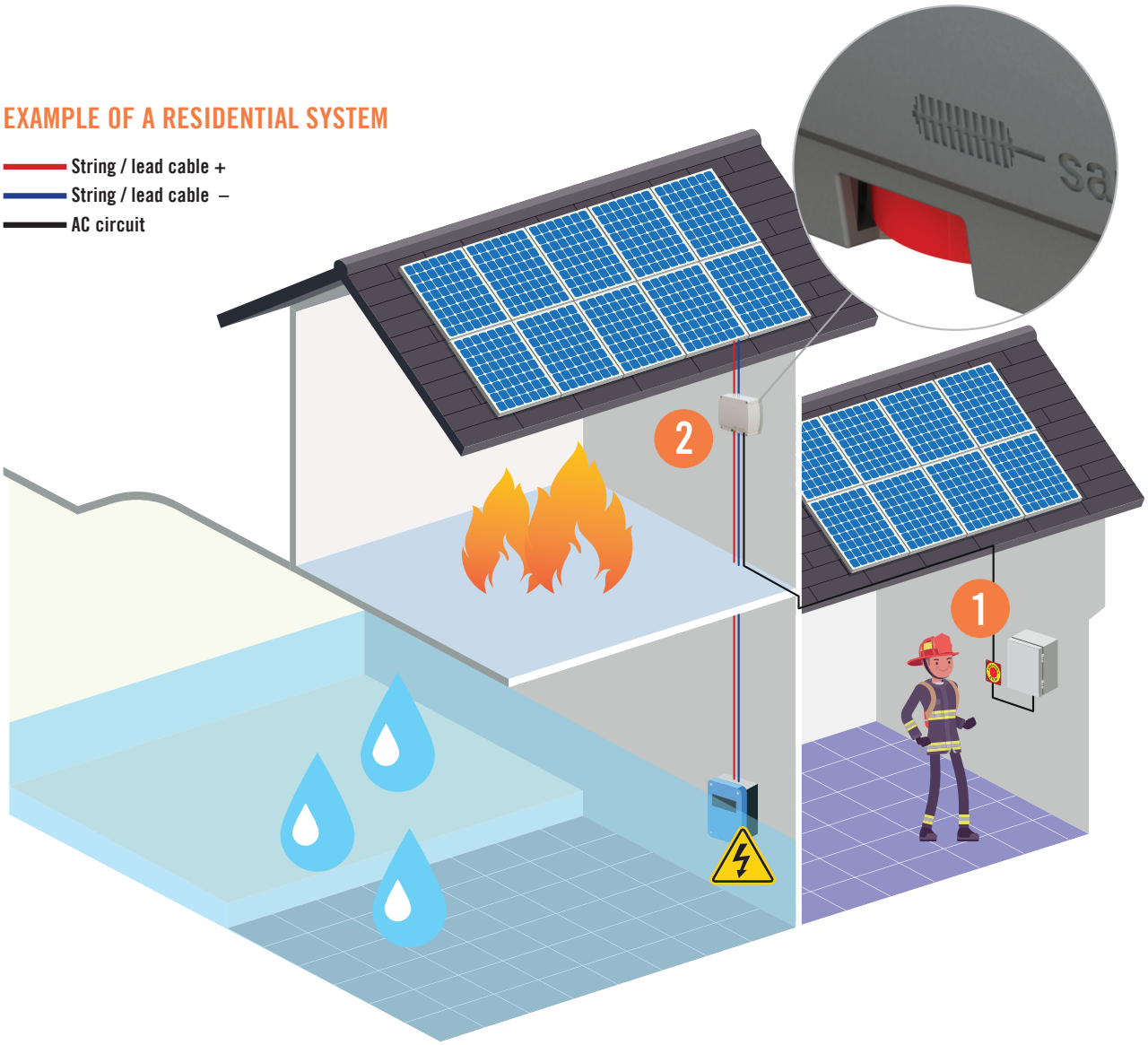
6. CHOOSE THE WORLD'S LEADING DC SWITCHGEAR COMPANY

With over 100 years of experience in developing DC switchgear for many different companies in many different and heavy industries all over the world, Santon has proven itself to be a leading DC switchgear company. With the Santon Firefighter safety Switch, all knowledge and experience come together for you to keep your home, or industrial building with people and valuables safe. Choose the best firefighter switch available - the Santon Firefighter safety Switch.

AC POWER SHUT DOWN = DC POWER SHUT DOWN

EXAMPLE OF A RESIDENTIAL SYSTEM

String / lead cable +
String / lead cable –
AC circuit



1. MANUAL AC POWER SHUT DOWN

The first step for any firefighter in fighting a fire is to shut down the main AC power circuit. This makes it possible to start extinguishing the actual fire without the risk of electrocution. Santon developed the Firefighter safety Switch according to this standard international safety routine. This prevents firefighters from having to take any extra action in case of a fire, maximizing their and your safety in the event of a fire.

2. AUTOMATIC DC POWER SHUT DOWN

As soon as a firefighter shuts down the main AC circuit, the DFS/PFS will detect this. If this power down situation lasts longer than 5 seconds, the DFS/PFS will automatically switch to the OFF position. Since the DFS/PFS is located close to the PV modules, the high voltage DC current from the PV modules will be completely isolated, which leaves a safe situation for the firefighters when fighting a fire in the commercial or residential building.

DFS-Types		Number of strings		Number of poles		DC-Ratings							Auxiliary contact
Article number	Specifications	2	4	4	8	650V 32A	800V 25A	850V 20A	1000V 16A	1000V 40A	1000V 45A	1500V 20A	Feedback contact NO DC 24V 300mA
DFS-14	Unit with knock outs	X		X		X	X	X	X				X
DFS-14-W	Unit with cable glands 9 x M12	X		X		X	X	X	X				X
DFS-14-MC4	Unit pre-wired with 8 x MC4 (Stäubli) connectors and 1 x M12 cable gland for AC voltage supply line	X		X		X	X	X	X				X
DFSHP-14-MC4	Unit pre-wired with 8 x MC4 (Stäubli) connectors and 1 x M12 cable gland for AC voltage supply line	X		X						X			X
DFSHP-154-MC4 (Evo2)	Unit pre-wired with 8 x MC4(Evo2) (Stäubli) connectors and 1 x M12 cable gland for AC voltage supply line	X		X							X	X	X
Ratings according to IEC: EN60947-3A1:2012/C1:2013/A2:2015 Cat PV-1 based on switching both the + and the - Pole													

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PFS-Types		Number of strings		Number of poles		DC-Ratings							Auxiliary contact
Article number	Specifications	2	4	4	8	650V 32A	800V 25A	850V 20A	1000V 16A	1000V 40A	1000V 45A	1500V 20A	Changeover 240V 1A AC-13
PFSHP-18-MC4	Unit pre-wired with 16 x MC4 (Stäubli) connectors and 1 x M20 cable gland for AC voltage supply line		X		X					X			
PFSHP-18S-MC4	Unit pre-wired with 16 x MC4 (Stäubli) connectors and 1 x M20 cable gland for AC voltage supply line		X		X					X			X
PFSHP-158-MC4(Evo2)	Unit pre-wired with 16 x MC4(Evo2) (Stäubli) connectors and 1 x M20 cable gland for AC voltage supply line		X		X						X	X	
PFSHP-158S-MC4(Evo2)	Unit pre-wired with 16 x MC4(Evo2) (Stäubli) connectors and 1 x M20 cable gland for AC voltage supply line		X		X						X	X	X
Ratings according to IEC: EN60947-3A1:2012/C1:2013/A2:2015 Cat PV-1 based on switching both the + and the - Pole													

Article: 90A1393.00-A 11-2021

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