



# Helioprotection

## Program

Solar solutions designed by Ferraz Shawmut

issue / 5

[www.helioprotection.com](http://www.helioprotection.com)

Transportation



Power conversion



Power generation  
& distribution



Industrial  
controls



Power  
quality



# Systems made to measure for your solar application

(grid-connected)

Specialist in interruption of electrical current for a long time, Ferraz Shawmut has designed a wide offering of protections dedicated to solar photovoltaic application market: solar farm, installation for residential, commercial and industrial buildings.

## Be your own designer of system

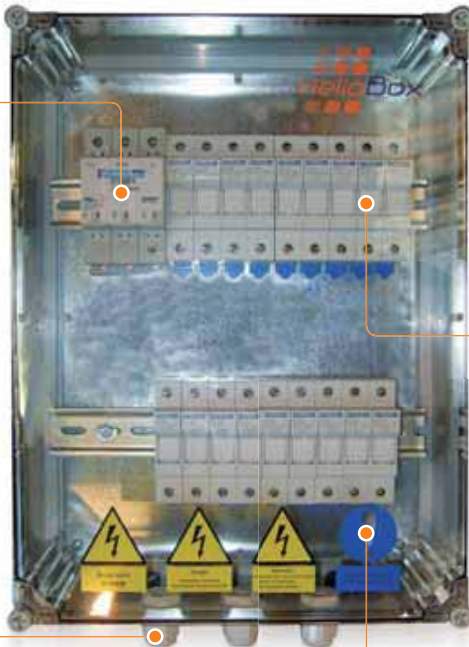


Ferraz Shawmut's product offering is based on meeting three vital functions: **clipping**, **switching/disconnecting**, and **isolating/protecting**.



### Clipping

with our fail-safe Surge-Trap SPD's with the patented TPMOV technology inside. These AC or DC devices comply with the IEC 61643-1 standard



### Isolating/Protecting

the photovoltaic chains with our HelioFuse designed to this need and tested on our test platforms.



### Switching/Disconnecting

with our HelioSwitch range especially designed for the DC conditions of the PV application.

### Connecting



**We market a standard offering of HelioBox. When the volume is enough high we are able to design HelioBox systems as per your specifications.**

These functional solutions enable to package systems totally fitted to your installation: in our HelioBox program encompassing junction box (on DC side), main box (on DC side), surge protection box (on DC side) and AC box (on AC side). The photovoltaic application requires DC protection components especially designed and tested. To benefit from a full protection of your installation, we strongly recommend to use our HelioFuses which have been especially designed to meet the very demanding requirements of this specific application.

# Product offering



# HelioSwitch

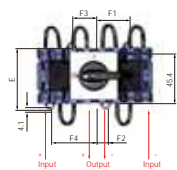


These disconnect switches comply with IEC 60947-3 and VDE 0660 part 107 standards.

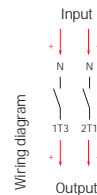
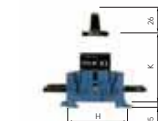
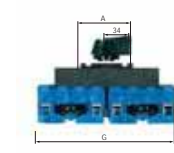
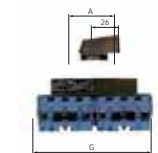
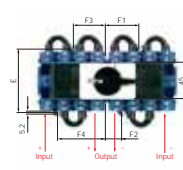
- > These are real d.c. switches, specially designed for PV applications.
- > The rated insulating voltage of our HelioSwitches is 1000VDC as per IEC 60367-7-712 published in 2002 and UTE Technical Guidelines C15-712.
- > Their category of use is DC-2xA type as per IEC standard 60947-3.  
So they have to do 1,500 cycle tests (versus 300 for DC-2xB type products) at 1.5 In for DC21A and 4 In for DC22A switches. UTE C15-712 guidelines recommend DC22A category of use models, because of the inductive load effects of PV inverters.
- > Helio Switches are complete compact products, and are delivered already assembled with their shunts (so there's only one catalog number for the whole unit!).
- > Connections are IP20 rated finger safe. Helio Switches are fitted to be mounted directly on a DIN rail.
- > They must be installed and tested by qualified personnel with thorough knowledge of the rules governing installation in PV applications.

Category of use	Uoc - Maximum open circuit voltage	520V	575V	750V	920V	Insulation voltage
		Un – Nominal Voltage				
	Catalog Number		Rated current (A)			
DC21A	IT20HEL10CCF				20	1000VDC
	IT32HEL10CCF				32	
	IT40HEL10CCF				40	
	IT70HEL10CCF			90	70	
	IT20HEL6CCF			20		
	IT32HEL6CCF			32		
	IT40HEL6CCF			40		
DC22A	IT70HEL6CCF		90	80		
	IT20HEL10CCF			20	16	
	IT32HEL10CCF			32	25	
	IT40HEL10CCF			40	32	
	IT70HEL10CCF		90	80	64	
	IT20HEL6CCF		20	16	12	
	IT32HEL6CCF		32	25		
	IT40HEL6CCF		40	32		
	IT70HEL6CCF			70		

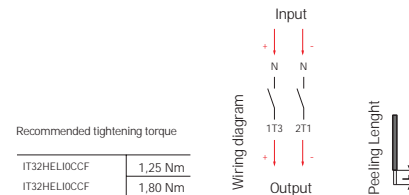
IT20HEL10CCF  
IT32HEL10CCF  
IT40HEL10CCF



IT70HEL10CCF



	IT20HEL10CCF IT32HEL10CCF	IT40HEL10CCF	IT70HEL10CCF
A	43,7	105,4	70
E	60	70	90
F1	32	37,5	47,5
F2	10	12,5	22,5
F3	23,5	28,5	44,5
F4	45,5	53,5	69,5
G	111	132	184
H	54	64	80
K	64	62,5	76,2
L	9	10	14



## Maximum cable cross section (copper wires)

	IT25HEL10CCF	IT32HEL10CCF	IT40HEL10CCF	IT70HEL10CCF
Single-core or stranded wire	6mm <sup>2</sup>	6mm <sup>2</sup>	16mm <sup>2</sup>	50mm <sup>2</sup>
Flexible wire	4mm <sup>2</sup>	4mm <sup>2</sup>	10mm <sup>2</sup>	35mm <sup>2</sup>
Recommended torque values	1.25 Nm	1.25 Nm	1.8 Nm	3 Nm

To contact us  
visit "Countries" at [www.ferrazshawmut.com](http://www.ferrazshawmut.com)

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on our HelioProtection Program  
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