



telergon
gorlan team

Renewable energy
Photovoltaics



gorlan
team

Company presentation

Telergon is a leading company in the field of the switchgear engineering.

Telergon designs and manufactures components and solutions for a wide variety of low voltage AC & DC applications.

Telergon is present nowadays in many industrial and OEM sectors, being a worldwide resource in the field of DC switching technology for photo-voltaics.

This document introduces briefly the main standard products.

Telergon has the know-how and R+D resources to customize products in accordance to customer requirements.



Suitable for use in accordance
with NEC Art. 690

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S5000DC

DC Load break switches 1000 Vdc

According to IEC 60947-3
UL 98B & CAN/CSA C22.2 No 4-04

Size 0	100 A (600 Vdc) IEC marking only
Size 1	250 A
Size 2	400 A
Size 3	700 A
Size 4	1250 A



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DC Load break stacked switches. Multi-string 1000Vdc

According to IEC 60947-3
UL 98B & CAN/CSA C22.2 No 4-04

Size 1	250 A
Size 2	400 A
Size 3	700 A
Size 4	1250 A



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DC Load break switches 1500 Vdc

According to IEC 60947-3

Size 1	250 A
Size 2	400 A
Size 3	600 A
Size 4	800 A



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TFV

DC Load break compact switches 600/1000 Vdc

According to IEC 60947-3
UL in process

30A

→ S5000 DC Load break switches

For photovoltaic installations



The S5000 series of DC switches utilize a spring loaded switching mechanism that quickly makes and breaks electrical contact. It is this design that permits switching of DC circuits under load.



Applications:
Solar Inverters
Combiner boxes
Battery charges

A disconnecting device is required to be located at some point in the PV circuit. Load break switches are recommended for safety purposes, allowing personnel to work on the equipment without the risk of electrical shock. Switches also allow crews the ability to shut down zones/sections of the array for maintenance purposes, while leaving the rest of the field energize.

600 Vdc

SWITCH

Ie 100 A - 600 Vdc - DC21BAccording to
IEC 60947-3Code **S5-01604PB0**Size **0**Poles **4**Rated insulation
voltage Ui: **1000 Vdc**Torque: **35,4 lbf.in / 4 Nm**Connection: 

Approvals

IEC 60947-3


AIT
AUSTRIAN INSTITUTE
OF TECHNOLOGY
TOMORROW TODAY


IPH
BERLIN



UL 98B
CAN/CSA C22.2 NO.4-04


ETL
LISTED
Intertek

UL in process

DIRECT HANDLE (EI)

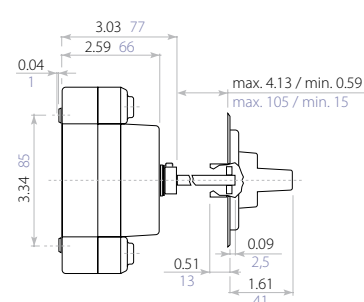
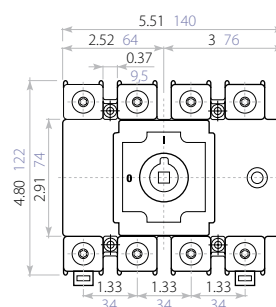
CODE **DS-EI01**

EXTERNAL HANDLE (E)

CODE **DS-EN01**BRIDGING LINKS
(2 PIECES)CODE **see page 12**Size **0**Interconnection 

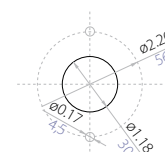
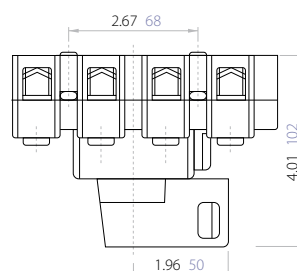
Front view

Side view



Top view

Panel drilling handle



dimensions: ■ inches ■ millimeters



According to
UL98B & CAN/CSA C22.2 No. 4-04
IEC 60947-3

Code	S5-02504PR00U
Size	1
Poles	4
Rated insulation voltage Ui:	1000 Vdc
Torque:	159 lbf.in / 18 Nm
Connection:	



According to
UL98B & CAN/CSA C22.2 No. 4-04
IEC 60947-3

Code	S5-06304PR00U
Size	2
Poles	4
Rated insulation voltage Ui:	1000 Vdc
Torque:	212 lbf.in / 24 Nm
Connection:	



CODE DS-EI11



CODE **DS-EN11**



CODE see page 12

Size	1
Interconnection	

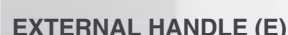


CODE see page 12

Size	1
Connection	Output or input



CODE DS-EI21



CODE DS-EN21



CODE see page 12

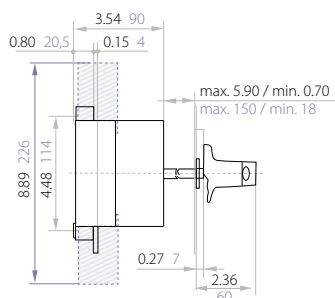
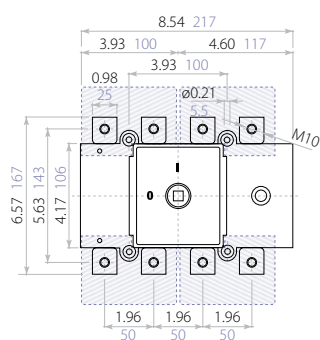
Size	2
Interconnection	



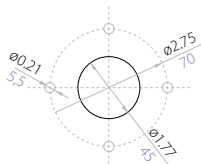
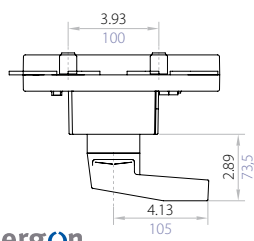
CODE see page 12

Size	2
Connection	Output or input

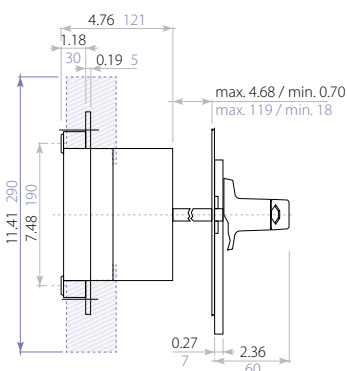
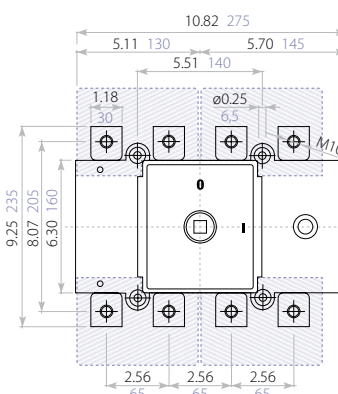
Side view



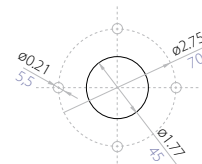
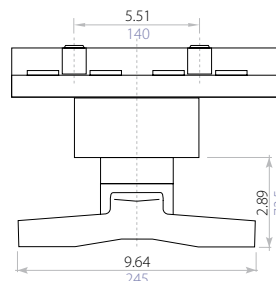
Panel drilling handle



Side view



Panel drilling handle



dimensions: inches millimeters

1000 Vdc



SWITCH

Ie 250 A - 1000 Vdc - DC21B

According to
IEC 60947-3

Code **S5M02508PR00U**

Size 1

Poles 8 *

Rated insulation
voltage Ui: 1000 Vdc

Torque: 159 lbf.in /
18 Nm

Connection:



DIRECT HANDLE (EI)

CODE **DS-EI12**


EXTERNAL HANDLE (E)

CODE **DS-EN12**

BRIDGING LINKS
(2+2 PIECES)

CODE **see page 12**

Size 1

Interconnection


TERMINAL SHROUDS
CODE **see page 12**

Size 1

Connection Output or input



SWITCH

Ie 400 A - 1000 Vdc - DC21B

According to
IEC 60947-3

Code **S5M06308PR00U**

Size 2

Poles 8 *

Rated insulation
voltage Ui: 1000 Vdc

Torque: 212 lbf.in /
24 Nm

Connection:



DIRECT HANDLE (EI)

CODE **DS-EI22**


EXTERNAL HANDLE (E)

CODE **DS-EN22**

BRIDGING LINKS
(2+2 PIECES)

CODE **see page 12**

Size 2

Interconnection


TERMINAL SHROUDS
CODE **see page 12**

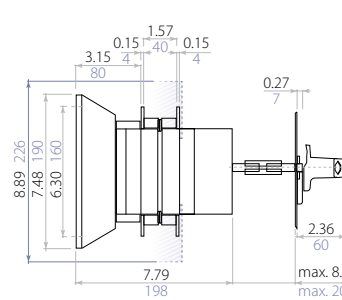
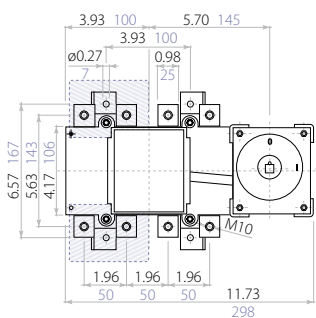
Size 2

Connection Output or input

* Also available versions for 3 and 4 strings

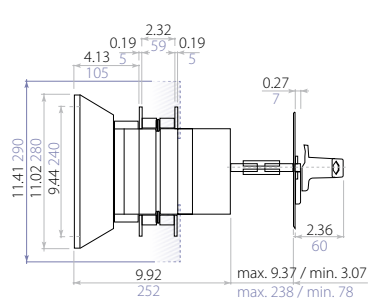
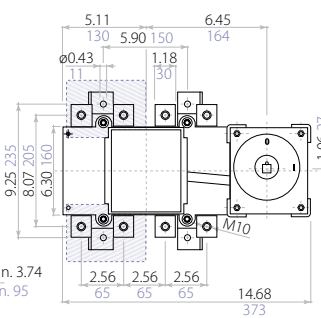
Front view

Side view



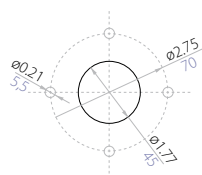
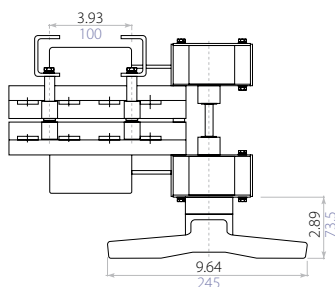
Front view

Side view



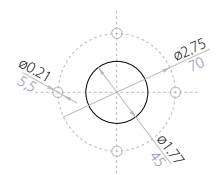
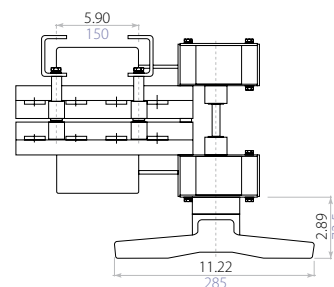
Top view

Panel drilling handle



Top view

Panel drilling handle

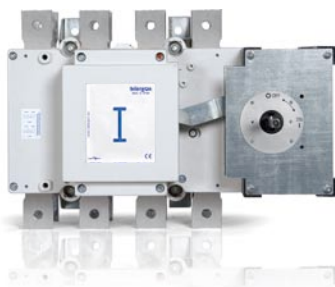


SWITCH

Ie 700 A - 1000 Vdc - DC21B

According to
IEC 60947-3

Code	S5M12508PC00U
Size	3
Poles	8 *
Rated insulation voltage Ui:	1000 Vdc
Torque:	398 lbf.in / 45 Nm
Connection:	



DIRECT HANDLE (EI)

CODE **DS-EI41**

EXTERNAL HANDLE (E)

CODE **DS-EN41**

BRIDGING LINKS (2+2 PIECES)

CODE **see page 12**

Size	3
Interconnection	

TERMINAL SHROUDS

CODE **see page 12**

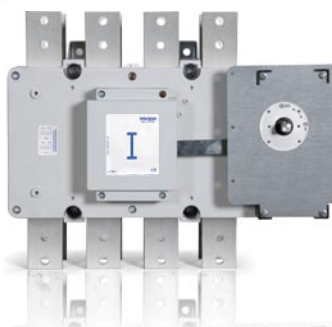
Size	3
Connection	Output or input

SWITCH

Ie 1250 A - 1000 Vdc - DC21B

According to
IEC 60947-3

Code	S5M18008PS00U
Size	4
Poles	8 *
Rated insulation voltage Ui:	1000 Vdc
Torque:	487 lbf.in / 55 Nm
Connection:	



DIRECT HANDLE (EI)

CODE **DS-EI41**

EXTERNAL HANDLE (E)

CODE **DS-EN41**

BRIDGING LINKS (2+2 PIECES)

CODE **see page 12**

Size	4
Interconnection	

TERMINAL SHROUDS

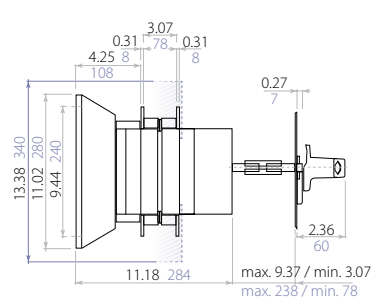
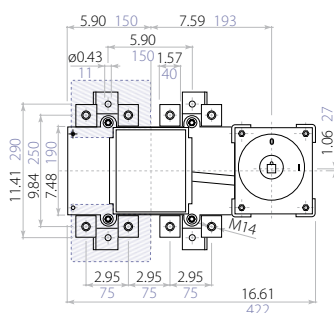
CODE **see page 12**

Size	4
Connection	Output or input

* Also available versions for 3 and 4 strings

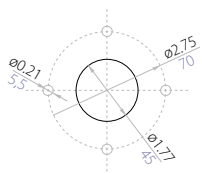
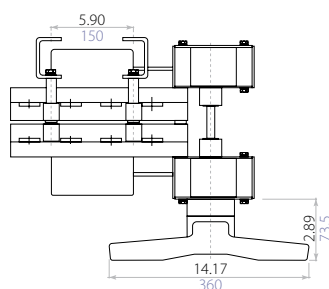
Front view

Side view



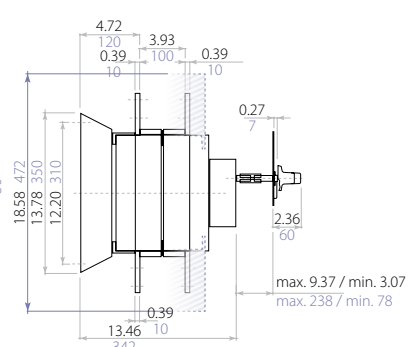
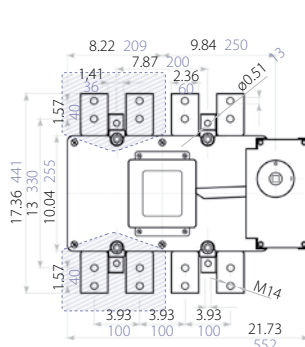
Top view

Panel drilling handle



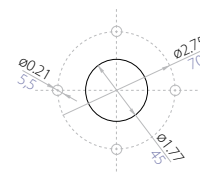
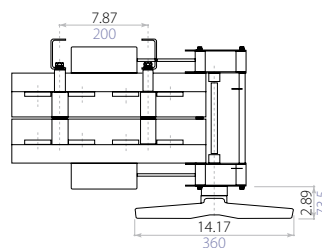
Front view

Side view



Top view

Panel drilling handle



Code **S5M031544R0**

Size 1

Poles	4+4
-------	-----

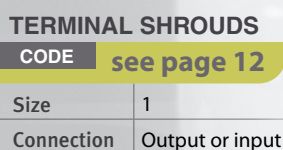
Rated insulation voltage U_i :	1500 Vdc
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Torque: 159 lbf.in /
18 Nm

Connection: 



Size	1
Interconnection	☒



Connection	Output or input
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Code **S5M063044R0**

Size 2

Poles	4+4
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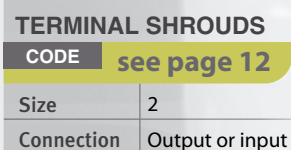
Rated insulation voltage U_i :	1500 Vdc
----------------------------------	----------

Torque: 212 lbf.in /
24 Nm

Connection: 



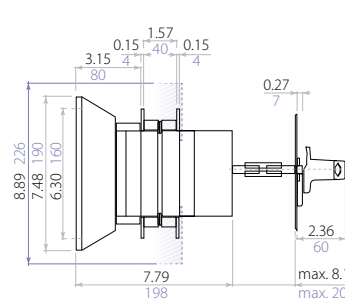
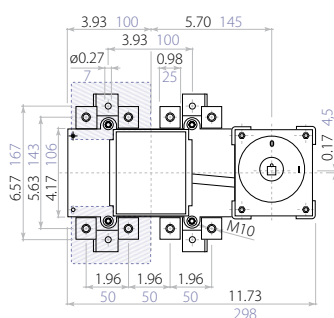
Size	2
Interconnection	☒



Connection	Output or input
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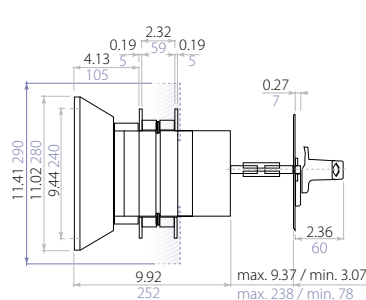
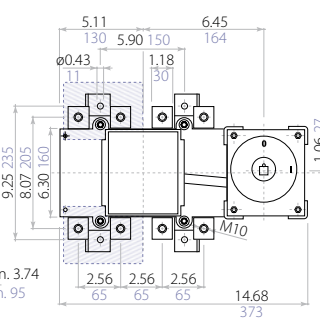
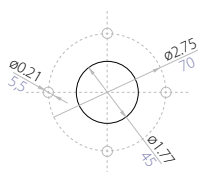
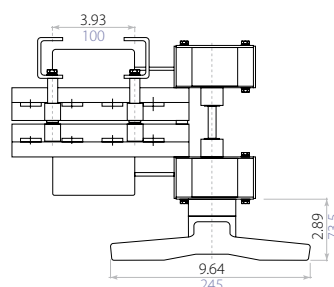
Front view

Side view



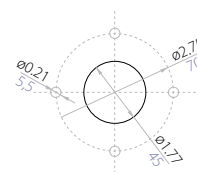
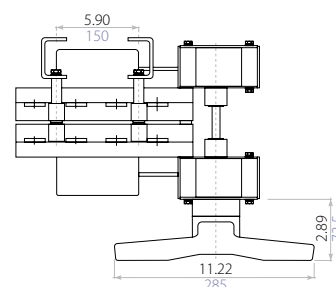
Top view

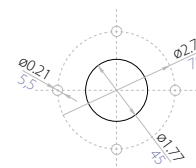
Panel drilling handle



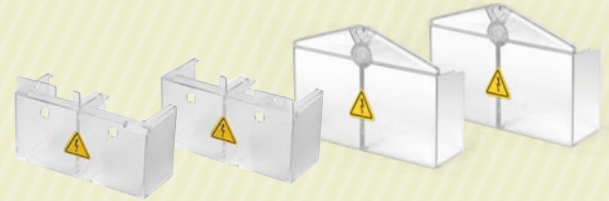
Top view

Panel drilling handle





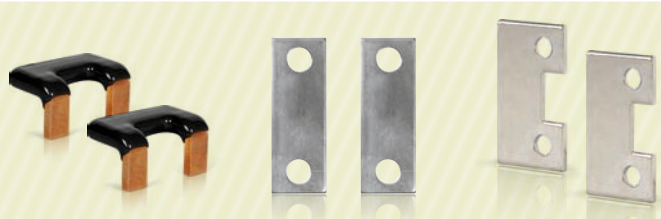
Accessories



Terminal shrouds (2 pieces) *

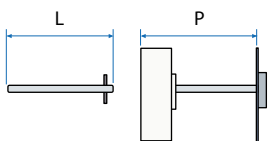
		Size 1		Size 2		Size 3		Size 4	
		Diagram		Diagram		Diagram		Diagram	
		A	B	A	B	A	B	A	B
Code	TOP	DS-CU180U	DS-CU100U	DS-CU280U	DS-CU200U	DS-CU380U	DS-CU300U	DS-CU480U	DS-CU400U
	BOTTOM	DS-CU190U	DS-CU11	DS-CU290U	DS-CU21	DS-CU390U	DS-CU31	DS-CU490U	DS-CU41
		Diagram		Diagram		Diagram		Diagram	
		C		C		C		C	
Code	TOP	DS-CU180U		DS-CU280U		DS-CU380U		DS-CU480U	
	BOTTOM	DS-CU100U		DS-CU200U		DS-CU300U		DS-CU400U	

* For the S5M series the shrouds can only be fitted in the frontal switch



Bridging links (2 / 3 pieces)

		Size 0	Size 1		Size 2		Size 3		Size 4	
		Diagram	Diagram		Diagram		Diagram		Diagram	
		A - B	A - B	C	A - B	C	A - B	C	A - B	C
S5	Code	DS-PI05	DS-PI120U	DS-PI130U	DS-PI220U	DS-PI230U	DS-PI320U	DS-PI330U	DS-PI420U	DS-PI430U
			Diagram		Diagram		Diagram		Diagram	
S5M8P	Code	TOP	A - B	C - D	A - B	C - D	A - B	C - D	A - B	C - D
			DS-PI120U	DS-PI130U	DS-PI220U	DS-PI230U	DS-PI320U	DS-PI330U	DS-PI420U	DS-PI430U
	Code	BOTTOM	DS-PI170U	DS-PI160U	DS-PI270U	DS-PI260U	DS-PI370U	DS-PI360U	DS-PI470U	DS-PI460U
			Diagram		Diagram		Diagram		Diagram	
S5M4+4	Code	TOP		DS-PI130U		DS-PI230U		DS-PI330U		DS-PI430U
				DS-PI160U		DS-PI260U		DS-PI360U		DS-PI460U



		Type 1					Type 2				
		Code					Code				
Shaft extensions		DS-EP01	DS-EP12	DS-EP22	DS-EP31	DS-EP41	DS-EP02	DS-EP11	DS-EP21	DS-EP21	DS-EP42
S5	Size	0	1	2	3	4	0	1	2	3	4
	(inches)	7.36	13.85	12.20	11.71	8.03	13.66	19.68	19.68	19.68	23.62
	(mm)	187	340	310	299	204	347	500	500	500	600
	(inches)	3.62... 9.44	4.25... 15.74	5.47... 15.74	5.90... 15.74	9.44... 17.32	3.62... 15.74	4.25... 22.04	5.47... 22.04	5.90... 23.62	9.44... 32.91
	(mm)	92... 240	108... 400	139... 400	150... 400	240... 440	92... 400	108... 560	139... 560	150... 600	240... 836



Auxiliary contacts *

		Code	Code
		D5LAU01	D5LAU02
S5	Size	1NA + 1NC	2NA + 2NC
		0 - 1 - 2 - 3 - 4	0 - 1 - 2 - 3 - 4

* 16 A / 250Vac (resistive load)

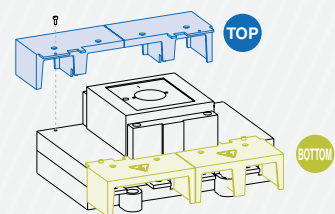
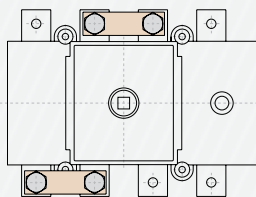
S5

CONNECTION DIAGRAM

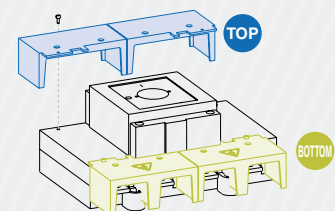
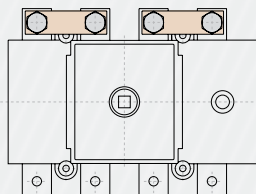
BRIDGING LINKS

TERMINAL SHROUDS

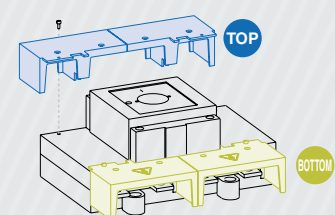
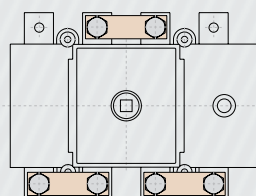
A



B



C



S5M8P multi-string

CONNECTION DIAGRAM

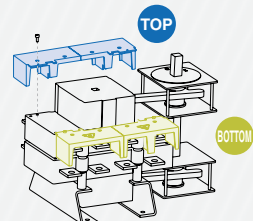
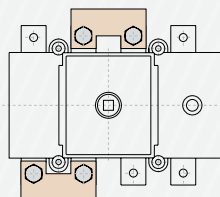
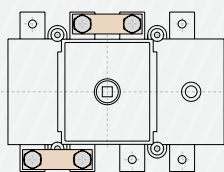
BRIDGING LINKS

TERMINAL SHROUDS
on frontal switch only

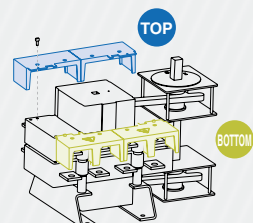
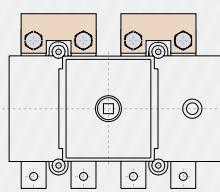
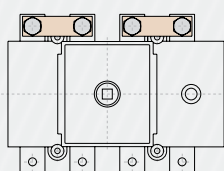
FRONTAL SWITCH

REAR SWITCH

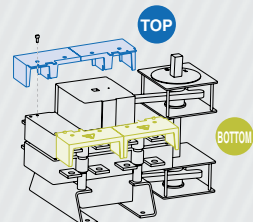
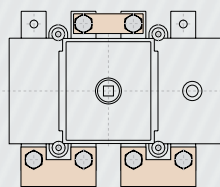
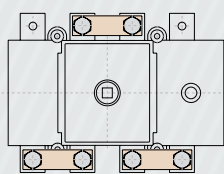
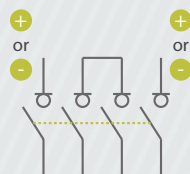
A



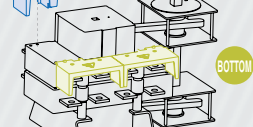
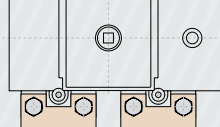
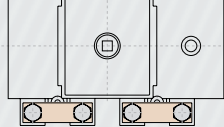
B



C



D



S5M 4+4

CONNECTION DIAGRAM

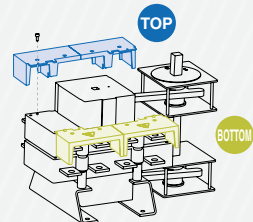
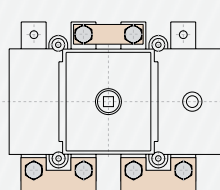
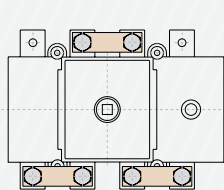
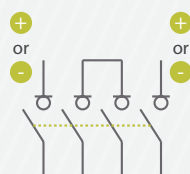
BRIDGING LINKS

TERMINAL SHROUDS
on frontal switch only

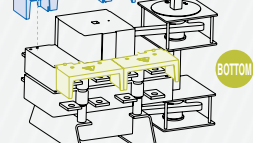
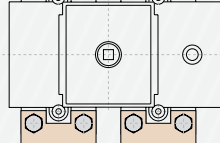
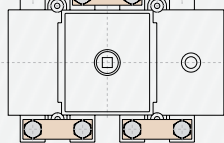
FRONTAL SWITCH

REAR SWITCH

C



D



→ TFCV DC Load break compact switches

For photovoltaic installations



The TFCV switch has knife-type contacts and very low resistive connections in order to achieve higher operational efficiency.



Applications:
Solar Inverters
Combiner boxes
Solar residential

Its reliable switching mechanism allows quick making and breaking operations which are necessary to extinguish the electric arc in DC applications.

Plastic components are halogen free and all TFCV parts comply with the RoHS Directive.

Thanks to its modular design, Telergon TFCV is suitable for multi-string (multi-MPP) switching including mixed AC/DC applications.

The TFCV compact switch is available in different options depending on mounting requirements. Its wide portfolio of accessories is compatible with other Telergon ranges.

Technical features			TFV
Ue max	V		1000
Ie max	A		50
Ui	V		1500
Short-circuit making capacity	Icm	A	1450
Rated short-time withstand current (1sec)	Icw	A	1000
Rated short-time withstand current (1 hour)		A	62,5
Number of mechanical operations			30000
Connection capacity			
Rigid copper cable	in ² / mm ²		2x0.009 / 2x6
Flexible copper cable	in ² / mm ²		2x0.009 / 2x6
Fork terminals 0.015 in ² / 10 mm ² (consult)	in ² / mm ²		1x0.015 / 1x10
Fork terminals 0.024 in ² / 16 mm ² (consult)	in ² / mm ²		1x0.024 / 1x16
Tightening torque (min-max)	lbf.in / N-m		13.27 - 17.7 / 1,5 - 2
Operation torque	lbf.in / N-m		17.7 / 2

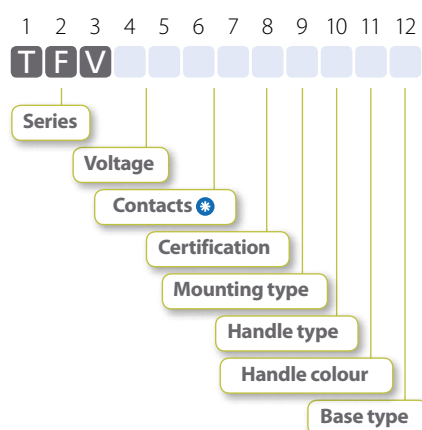
IEC 606947-3 tests performed at:



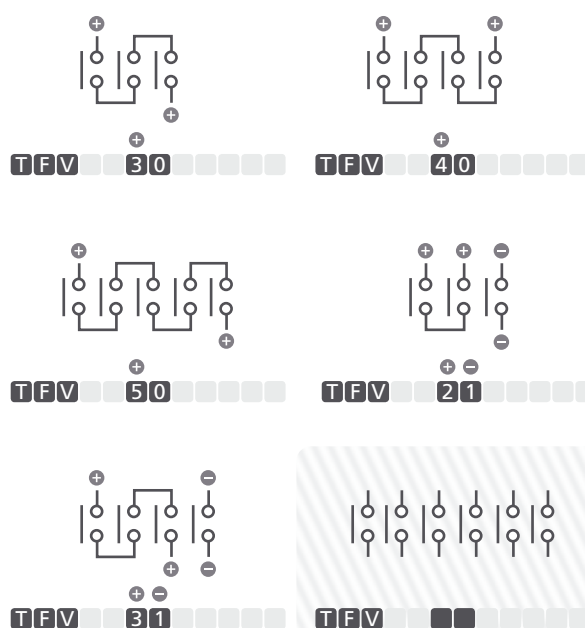
UL in process

Codification

Product codification



* Contacts (examples)



2 or 4 hole panel fixing
directly on the switch
External plate and
handle

**Rear
mounting
with screws**



SWITCH	
600 Vdc Ue	
1000 Vdc Ue	
Ie	30 A
Contacts	3+0 (600 Vdc) 5+0 (1000 Vdc)
Chambers	3 / 5



1.96 x 1.96 in
50 x 50 mm

**BLACK STANDARD
HANDLE C0**

600 Vdc	CODE	TFV0630UE1N1
		Black / grey
1000 Vdc	CODE	TFV1050UE1N1
		Black / grey



1.96 x 1.96 in
50 x 50 mm

**PADLOCKABLE
HANDLE D704 C0**

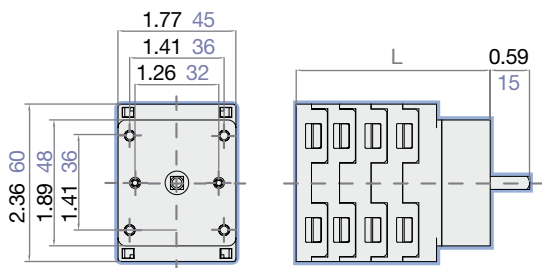
600 Vdc	CODE	TFV0630UE6N1
		Black / grey
	CODE	TFV0630UE6RD
		Red / yellow
1000 Vdc	CODE	TFV1050UE6N1
		Black / grey
	CODE	TFV1050UE6RD
		Red / yellow



2.42 x 2.42 in
61,5 x 61,5 mm

**PADLOCKABLE
HANDLE D704 C1**

600 Vdc	CODE	TFV0630UE7N0
		Black / grey
	CODE	TFV0630UE7R0
		Red / yellow
1000 Vdc	CODE	TFV1050UE7N0
		Black / grey
	CODE	TFV1050UE7R0
		Red / yellow



		Length	
Chambers		3	5
L	2.49	63,3	3,43 87,3

Diameter 22 hole
quick fixing
External plate and
handle

**Rear
mounting -
quick fixing**



SWITCH	
600 Vdc Ue	
1000 Vdc Ue	
Ie	30 A
Contacts	3+0 (600 Vdc) 5+0 (1000 Vdc)
Chambers	3 / 5



1.96 x 1.96 in
50 x 50 mm

**BLACK STANDARD
HANDLE C0**

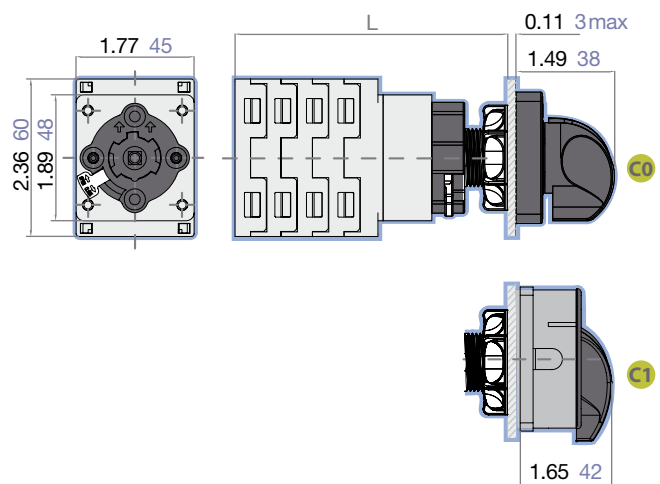
600 Vdc	CODE	TFV0630UC1N1
		Black / grey
1000 Vdc	CODE	TFV1050UC1N1
		Black / grey



2.42 x 2.42 in
61,5 x 61,5 mm

**PADLOCKABLE
HANDLE D704 C1**

600 Vdc	CODE	TFV0630UC7N0
		Black / grey
	CODE	TFV0630UC7R0
		Red / yellow
1000 Vdc	CODE	TFV1050UC7N0
		Black / grey
	CODE	TFV1050UC7R0
		Red / yellow



		Length	
Chambers		3	5
L	3.62	92,1	4,57 116,1

dimensions: ■ inches ■ millimeters

→ SWITCH DISCONNECTORS



Cam switches

- From 10 to 800A.
- Wide range of accessories and customized configurations.



Load break switches

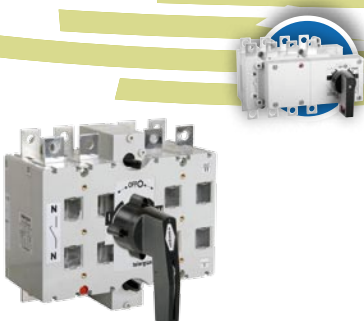
- From 40 to 6300A.
- 3P, 3P+N, 4P, 6P and 8P.



Fusible switches

- From 32 to 800A.
- Available for DIN, NFC and BS fuses.
- 2P, 3P, 3P+N and 4P.

→ CHANGEOVER SWITCHES



Changeover switches

- From 40 to 3150A.
- 3P, 3P+N and 4P.



Bypass switches

- From 250 to 1800A.
- 3P, 3P+N and 4P.
- Standard and customized solutions.
- Overlapped contacts also available.



Motorised kit

- For switches, changeover & by-pass switches.

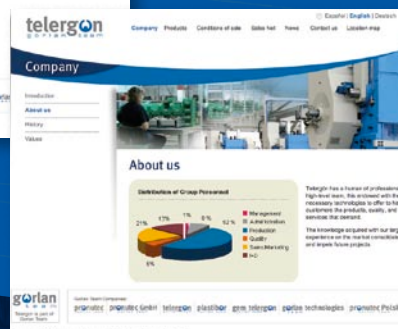
This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

All the products given by Telergón, are guaranteed for two years against all manufacturing defect, provided that such defect is notified within two months from the moment it is revealed. This guarantee does not include the undue or incorrect use by the user, according to the applicable regulations, nor their undue manipulation. This guarantee covers only and exclusively the replacement or repair of the faulty product.

October 2011



You will find our newsletter and information about our company and range of products. A form is available to send your inquiries or to contact us.



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