SWITCH DISCONNECTORS - 16A-160A

VERSIONS

Switch size Y1
Rear panel version (R)
Rear panel mounting screws fixing

Switch size Y2
Rear panel version (R)
Rear panel mounting screws fixing

Switch size Y1
Box version (B)
Base mounting DIN rail fixing

Switch size Y2
Box version (B)
Base mounting DIN rail fixing

Switch size Y3
Box version (B)
Base mounting DIN rail fixing
or screws fixing

Switch size Y4
Box version (B)
Base mounting DIN rail fixing
or screws fixing

Switch size Y5
Box version (B)
Base mounting DIN rail fixing
or screws fixing

REFERENCE STANDARDS

EN 60947-3
Low voltage switchgear and controlgear.
Part 3: switches, disconnectors, switch-disconnectors and fuse-combination unit.

UL 508
Industrial control equipement.

QUALITY MARKS

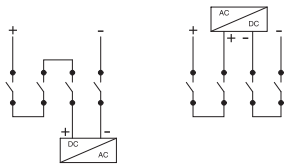
For specific quality marks please contact our technical service.

TECHNICAL CHARACTERISTICS

Polarity:	**2P - 3P- 3P+N - 4P - 6P - 8P**
Rated current:	**16A* - 20A - 25A* - 32A - 40A - 63A - 80A - 100A - 125A - 160A**
Rated voltage:	**0÷690Vac - 0-600Vdc**
Frequency:	**50-60Hz**
Insulating voltage:	**690Vac**
Protection degree:	**IP65 (front operator)**
Operating ambient temperature according to the reference standard:	**-25°C+40°C**
Max operating ambient temperature:	**60°C**
Glow wire test:	**850°C**
DIN rail fixing:	**Yes**
Front panel fixing:	**Yes (only 16A-20A-32A-40A-63A-80A)**
Connectable auxiliary contacts:	**Yes**

3P+N with late break early make neutral pole.
Front operators box version equipped with door locking in ON position.
Padlockable handle.
* Only for 6 and 8 poles.

4P SWITCH LINKING FOR DC APPLICATION



TECHNICAL CHARACTERISTICS 2P, 3P, 3P+N, 4P

Switch size				Y1				Y2		Y4	Y5	
Rated current In				16A	20A	32A	40A	63A	80A	100A	125A	160A
Rated insulation voltage	**Ui**		VAC	690	690	690	690	690	690	800	800	800
Rated impulse withstand voltage	**Uimp**		kV	4	4	4	4	4	4	8	8	8
Thermal current	**Ith/Ithe**		A	30	30	40	40	63	86	100	125	160
Rated operational current - Ie	**AC21A** Resistive loads, including moderate overloads	415V	A	16	20	32	40	63	80	100	125	160
		500V	A	16	20	32	32	63	80	100	125	160
		690V	A	16	20	32	32	63	80	100	125	160
	AC22A Mixed resistive and inductive loads, including moderate overloads	415V	A	16	20	32	40	63	80	100	125	160
		500V	A	16	20	32	32	63	80	100	125	160
		690V	A	16	20	32	32	63	80	-	125	160
	AC23A Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	415V	A	16	20	32	35	63	67	100	125	160
		500V	A	16	20	25	25	40	67	-	125	125
		690V	A	16	20	25	25	30	38	-	100	100
	AC23 Rated operational power (°)	415V	Kw	7.5	9	15	18.5	33	37	46	55	69
	AC3 Squirrel-cage motor: starting, switching off motor during running (3 phase / 3 pole)	415V	A	18	18	25	28.5	40	55	-	-	-
		690V	A	-	12	18	20	25	32	-	-	-
	DC22A Mixed resistive and inductive loads, including moderate overloads	250V	A	-	25(*)	32(*)	32(*)	-	-	-	-	-
		600V	A	-	10(*)	10(*)	10(*)	-	-	-	-	-
Rated short time withstand current	**Icw** (1s)		A	400	400	400	400	1500	1500	1500	3000	3000
Conditional short circuit current			KAeff	10	10	10	10	10	10	30	50	50
Associate fuse size for conditional short circuit current - Type gG			A	16	20	32	40	63	80	100	125	125
Flexible wire			mm²	1.5-10	1.5-10	1.5-10	1.5-10	10-35	10-35	10-50	10-70	10-70
Rigid wire			mm²	1.5-16	1.5-16	1.5-16	1.5-16	10-35	10-35	10-50	10-70	10-70

(*) Only 4P with 2+2 poles in series.
(°) This values are given for guidance and may vary according to the specifics provided by the motor manufacturer.

TECHNICAL CHARACTERISTICS 6P, 8P

Switch size				Y3				Y4			Y5	
Rated current In				16A	25A	32A	40A	63A	80A	100A	125A	160A
Rated insulation voltage	**Ui**		VAC	800	800	800	800	800	800	800	800	800
Rated impulse withstand voltage	**Uimp**		kV	8	8	8	8	8	8	8	8	8
Thermal current	**Ith/Ithe**		A	16	25	32	40	63	80	100	125	160
Rated operational current - Ie	**AC21A** Resistive loads, including moderate overloads	415V	A	16	25	32	40	63	80	100	125	160
		500V	A	16	25	32	40	63	160	80	125	160
		690V	A	16	25	32	40	63	160	80	125	160
	AC22A Mixed resistive and inductive loads, including moderate overloads	415V	A	16	25	32	40	63	160	80	125	160
		500V	A	16	25	32	40	63	160	80	125	160
		690V	A	16	25	32	40	40	40	40	125	160
	AC23A Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	415V	A	16	25	32	40	63	80	100	125	160
		500V	A	16	25	32	40	63	63	63	125	125
		690V	A	16	25	25	25	32	32	32	100	100
	AC23 Rated operational power (°)	415V	kW	7,5	11	15	18,5	35	37	46	55	69
Rated short time withstand current	**Icw** (1s)		A	1100	1100	1100	1100	1500	1500	1500	3000	3000
Conditional short circuit current			KAeff	50	50	50	50	50	50	30	50	50
Associate fuse size for conditional short circuit current - Type gG			A	16	25	32	40	63	80	100	125	125
Flexible wire			mm²	4-25	4-25	4-25	4-25	10-50	10-50	10-50	10-70	10-70
Rigid wire			mm²	4-25	4-25	4-25	4-25	10-50	10-50	10-50	10-70	10-70

(°) This values are given for guidance and may vary according to the specifics provided by the motor manufacturer.

HIGH RATING SWITCH DISCONNECTORS - 160A-1600A

REFERENCE STANDARDS

EN 60947-3
Low voltage switchgear and controlgear.
Part 3: switches, disconnectors, switch-disconnectors and fuse-combination unit.

VERSIONS


Switch size K2
Box version (B)
Base mounting screws fixing


Switch size K3
Box version (B)
Base mounting screws fixing


Switch size K4
Box version (B)
Base mounting screws fixing


Switch size K5
Box version (B)
Base mounting screws fixing


Switch size K6
Box version (B)
Base mounting screws fixing

TECHNICAL CHARACTERISTICS

Polarity:	**3P-3P+N**
Rated current:	**160A-200A-250A-315A-400A 500A-630A-800A-1000A 1250A-1600A (*)**
Protection degree:	**IP65 (front operator)**
Operating ambient temperature according to the reference standard:	**-25°C +40°C**
Max operating ambient temperature:	**+60°C**

3P+N with late break early make neutral pole.
Front operators box version equipped with door locking in ON position.
Padlockable handle.
Full current neutral pole up to 1250A.
(*) Neutral pole 1250A.
Full current neutral pole available on request.

TECHNICAL CHARACTERISTICS 3P, 3P+N

Switch size				K2			K3			K4	K5			K6
Rated current In				**160**	**200**	**250**	**315**	**400**	**500**	**630**	**800**	**1000**	**1250**	**1600 (*)**
Rated insulation voltage			(V)	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Impulse withstand voltage			(kV)	12	12	12	12	12	12	12	12	12	12	12
Rated thermal current			(A)	160	200	250	315	400	500	630	800	1000	1250	1600
Rated operational current - Ie	**AC21A** Resistive loads, including moderate overloads	415V	(A)	160	200	250	315	400	500	630	800	1000	1250	1600
		500V	(A)	160	200	250	315	400	500	630	800	1000	1250	1600
		690V	(A)	160	200	250	315	400	500	630	800	1000	1250	1250
	AC22A Mixed resistive and inductive loads, including moderate overloads	415V	(A)	160	200	250	315	400	500	630	800	1000	1250	1600
		500V	(A)	160	200	250	315	400	400	630	800	1000	1250	1250
		690V	(A)	160	200	250	315	400	400	630	800	1000	1250	400
	AC23A Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	415V	(A)	160	200	250	315	400	500	630	800	1000	1250	1250
		500V	(A)	125	160	200	250	315	315	500	800	800	800	800
		690V	(A)	100	125	160	200	250	250	400	400	400	400	400
	AC23A Rated operational power (°)	415V	kW	85	105	130	165	200	210	330	420	525	630	630
Rated making capacity		415V AC23	(A)	1600	2000	2500	3150	4000	4000	6300	6300	6300	6300	6300
Rated breaking capacit		415V AC23	(A)	1280	1600	2000	2520	3200	3200	5040	5040	5040	5040	5040
Short circuit withstand current 1sec			(kA)	8	8	8	13	13	13	26.5	35	35	35	60
Short circuit withstand current 0.25 sec			(kA)	16	16	16	26	26	26	53	70	70	70	120
Short circuit making capacity		415V	(kA)	13.5	13.5	13.5	26	26	26	30	73.5	73.5	73.5	105
Rated fuse short-circuit current	Back up fuse		(A)	160	200	250	315	400	400	630	800	1000	1000	-
	R.M.S value		(kA)	100	50	50	50	50	50	50	100	100	100	-
	Peak value		(kA)	16	20	25	25	30	30	40	70	90	100	-
Flexible wire			mm^2	120	120	120	185	2x150	2x150	2x185	2x240	-	-	-
Bars dimension			mm	20x5	20x5	20x5	2x (25x4)	2x (25x4)	2x (25x4)	2x (32x6)	2x (50x5)	2x (50x6)	2x (50x8)	2x (80x102)

(*) Neutral pole 1250A
Full current neutral pole available on request.
(°) This values are given for guidance and may vary according to the specifics provided by the motor manufacturer.

CHANGE-OVER SWITCHES I/O/II - 16A-160A

REFERENCE STANDARDS

EN 60947-3
Low voltage switchgear and controlgear.
Part 3: switches, disconnectors, switch-disconnectors and fuse-combination unit.

VERSIONS

Switch size Y3
Box version (B)
Base mounting DIN rail fixing or screws fixing

Switch size Y4
Box version (B)
Base mounting DIN rail fixing or screws fixing

Switch size Y5
Box version (B)
Base mounting DIN rail fixing or screws fixing

TECHNICAL CHARACTERISTICS

Polarity:	**3P-3P+N**
Rated current:	**16A-25A-32A-40A-63A 80A-100A-125A-160A**
Protection degree:	**IP65**
Operating ambient temperature according to the reference standard:	**-25°C +40°C**
Max operating ambient temperature:	**+60°C**

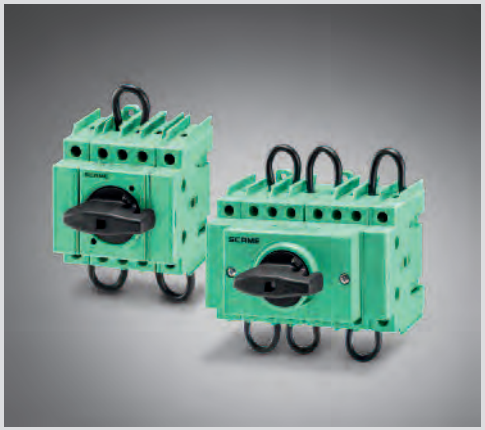
3P+N with late break early make neutral pole.
Front operators box version equipped with door locking in ON position.
Padlockable handle.

TECHNICAL CHARACTERISTICS 3P, 3P+N

Switch size				Y3				Y4			Y5	
Rated current In				16A	25A	32A	40A	63A	80A	100A	125A	160A
Rated insulation voltage	**Ui**		VAC	800	800	800	800	800	800	800	800	800
Rated impulse withstand voltage	**Uimp**		kV	8	8	8	8	8	8	8	8	8
Thermal current	**Ith/Ithe**		A	16	25	32	40	63	80	100	125	160
Rated operational current - Ie	**AC21A** Resistive loads, including moderate overloads	415V	A	16	25	32	40	63	80	100	125	160
		500V	A	16	25	32	40	63	160	80	125	160
		690V	A	16	25	32	40	63	160	80	125	160
	AC22A Mixed resistive and inductive loads, including moderate overloads	415V	A	16	25	32	40	63	160	80	125	160
		500V	A	16	25	32	40	63	160	80	125	160
		690V	A	16	25	32	40	40	40	40	125	160
	AC23A Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	415V	A	16	25	32	40	63	80	100	125	160
		500V	A	16	25	32	40	63	63	63	125	125
		690V	A	16	25	25	25	32	32	32	100	100
Rated short time withstand current	**Icw** (1s)		A	1100	1100	1100	1100	1500	1500	1500	3000	3000
Conditional short circuit current			KAeff	50	50	50	50	50	50	30	50	50
Associate fuse size for conditional short circuit current - Type gG			A	16	25	32	40	63	80	100	125	125
Flexible wire			mm²	4-25	4-25	4-25	4-25	10-50	10-50	10-50	10-70	10-70
Rigid wire			mm²	4-25	4-25	4-25	4-25	10-50	10-50	10-50	10-70	10-70

APPLICATION EXAMPLES

PHOTOVOLTAIC/DC SWITCH DISCONNECTORS - 450-800 DC



REFERENCE STANDARDS

EN 60947-3
Low voltage switchgear and controlgear.
Part 3: switches, disconnectors, switch-disconnectors and fuse-combination unit.

IEC 60364-7-712
Requirements for special installations or locations
Solar photovoltaic (RV) power supply systems.

VERSIONS

Switch size Y1
Box version (B)
Base mounting DIN rail fixing

Switch size Y3
Box version (B)
Base mounting DIN rail fixing
or screws fixing

Switch size Y5
Box version (B)
Base mounting DIN rail fixing
or screws fixing

TECHNICAL CHARACTERISTICS

Poles in series:	**4P-5P-6P-8P**
Rated current (800V):	**10A-15A-16A-20A-25A-30A-40A**
Protection degree:	**IP65 (front operator)**
Operating ambient temperature according to the reference standard:	**-25°C +40°C**
Max operating ambient temperature:	**+60°C**

Front operators box version equipped with door locking in ON position. Padlockable handle.

Scame embraces completely the renewable energy sources philosophy and the respect for the environment.
In our production plant and office building we have installed 250kWp of photovoltaic system. We follow up this field in several countries with a wide range of products.
From our experience is born the new range of DC Isolators specific for photovoltaic systems.
In according to the IEC 60364-7-712, in every photovoltaic installation it is necessary to isolate the photovoltaic panel from the rest of the system, DC Isolators must have a higher performance than the traditional AC Isolators because breaking direct current is more difficult than breaking alternating current, and furthermore in a photovoltaic system the voltage can reach even 800V.

The current and voltage values changes depending on the combination of the photovoltaic cells. DC Isolator range has been set up focusing on all of the main photovoltaic installations in order to get a range as essential as possible, simplify the choice of the customer and for have the maximum quality and technical characteristics. In the meantime we are improving and up grading constantly our products, following and anticipating the change that the market requires due to the incentives available. Scame ISOLATORS Series includes also a complete range of AC Isolators, essential to make a photovoltaic system in compliance with IEC 60364-7-712.
Finally in the photovoltaic range it is available a huge range of water tight cabinets and consumer unit suitable for make distribuition board & export control.

TECHNICAL CHARACTERISTICS 4P-5P-6P-8P

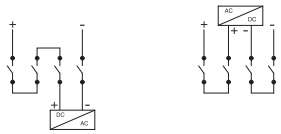
Switch size				Y1	Y3				Y5
Rated current In				16A	15A	20A	25A	30A	40A
Rated insulation voltage	**Ui**		VAC	690	1500	1500	1500	1500	1500
Rated impulse withstand voltage	**Uimp**		kV	4	8	8	8	8	8
Thermal current	**Ith/Ithe**		A	30	63	63	63	63	125
Number of poles in series				4	4	5	6	8	8
Rated operational current - Ie	**DC21A** Resistive loads, including moderate overloads	300V	A	32	-	-	-	-	-
		400V	A	-	30	35	40	60	80
		450V	A	16	-	-	-	-	-
		500V	A	-	30	35	40	45	65
		600V	A	-	20	25	40	40	60
		750V	A	-	15	20	25	30	40
		800V	A	-	15	20	25	30	40
Rated short time withstand current	**Icw** (1s)		A	400	1100	1100	1100	1100	3000
Flexible wire			mm^2	1.5-10	16	16	16	16	70
Rigid wire			mm^2	1.5-10	16	16	35	16	70

POSSIBLE CONTACT WIRINGS

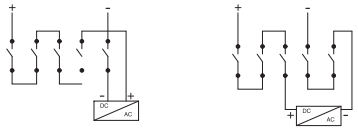
SWITCH LINKING

In order to make easier the work of the installer, it is possible to choose the manner of wiring of the poles in series. In this way the incoming and the outgoing can be varied both on the top side and on the bottom side. In the packaging jumpers are supplied to cover the chosen configuration.

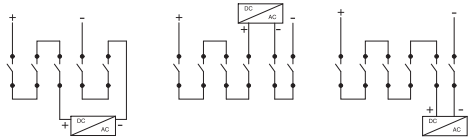
590.DC0815 - 590.DC0416 - (4 POLES IN SERIES) - 3 JUMPERS SUPPLIED



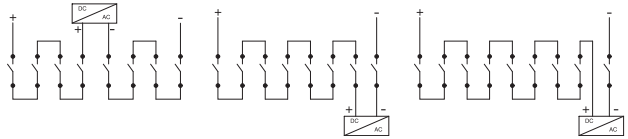
590.DC0820 - (5 POLES IN SERIES) - 4 JUMPERS SUPPLIED



590.DC0825 - (6 POLES IN SERIES) - 5 JUMPERS SUPPLIED



590.DC0830 - 590.DC0840 - (8 POLES IN SERIES) - 8 JUMPERS SUPPLIED



SWITCH DISCONNECTORS WITH FUSES - 16A-630A

REFERENCE STANDARDS

EN 60947-3
Low voltage switchgear and controlgear.
Part 3: switches, disconnectors, switch-disconnectors and fuse-combination unit.

VERSIONS


Switch size YF1
Box version (B)
Base mounting DIN rail fixing


Switch size KF1
Box version (B)
Base mounting screws fixing


Switch size KF2
Box version (B)
Base mounting screws fixing


Switch size KF3
Box version (B)
Base mounting screws fixing


Switch size KF4
Box version (B)
Base mounting screws fixing


Switch size KF5
Box version (B)
Base mounting screws fixing

TECHNICAL CHARACTERISTICS

Polarity:	**2P-3P-3P+N (16A-32A) 3P-3P+N (63A-100A-125A-160A-200A-250A-315A-400A-630A)**
Rated current:	**16A-32A-63A-100A-125A-160A-200A-250A-315A-400A-630A**
Protection degree:	**IP65 (front operator)**
Operating ambient temperature according to the reference standard:	**-25°C +40°C**
Max operating ambient temperature:	**+60°C**

3P+N with late break early make neutral pole.
Front operators box version equipped with door locking in ON position.
Padlockable handle.

TECHNICAL CHARACTERISTICS 2P,3P, 3P+N

Switch size				YF1		KF1		KF2			KF3		KF4		KF5
Rated current In				16A	32A	63A	80A	100A	125A	160A	200A	250A	315A	400A	630A
Rated insulation voltage	Ui		VAC	690	690	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
			VDC	400	400	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Rated impulse withstand voltage	Uimp		kV	4	4	8	8	12	12	12	12	12	12	12	12
Thermal current	Ith/Ithe		A	25	32	63	80	100	125	160	200	250	315	400	630
Rated operational current - Ie	**AC21A** Resistive loads, including moderate overloads	400V	A	-	-	63	80	100	125	160	200	250	315	400	630
		500V	A	-	-	63	80	100	125	160	200	250	315	400	630
		690V	A	25	32	63	80	100	125	160	200	250	315	400	630
	AC22A Mixed resistive and inductive loads, including moderate overloads	400V	A	-	-	63	80	100	125	160	200	250	315	400	630
		500V	A	-	-	63	80	100	125	160	200	250	315	400	630
		690V	A	30	32	63	80	100	125	160	200	250	315	400	630
	AC23A Switching of motor loads or other highly inductive loads (3 phase / 3 pole)	400V	A	-	-	63	80	100	125	160	200	250	315	400	630
		500V	A	-	-	45	63	80	100	125	160	200	250	315	500
		690V	A	16	25	32	45	63	80	100	125	160	200	250	400
	DC21A Resistive loads, including moderate overloads	220V	A	25	32	63	80	100	125	160	200	250	315	400	630
		400V	A	-	-	-	-	100	125	160	200	250	315	400	630
		600V	A	-	-	-	-	-	-	-	-	-	315	400	630
	DC22A Mixed resistive and inductive loads, including moderate overloads	220V	A	20	32	63	80	100	125	160	200	250	315	400	630
		400V	A	-	-	-	-	100	125	160	200	250	315	400	630
		600V	A	-	-	-	-	-	-	-	-	-	315	400	630
	DC23A Switching of highly inductive loads (e.g. series motors)	220V	A	-	-	50	50	100	125	160	160	160	250	250	400
		400V	A	-	-	-	-	100	125	160	-	-	-	-	-
Short circuit protection	Conditional short circuit current		KAeff	10	10	100	100	50	50	50	50	50	50	50	50
	Associate fuse size for conditional short circuit current		A	16	32	63	80	100	125	160	200	250	315	400	630
	Fuse type			gG	gG	DIN/BS	DIN/BS	DIN/BS	DIN/BS	DIN/BS	DIN/BS	DIN/BS	DIN/BS	DIN/BS	DIN/BS
Rated making capacity at 420V c.a. cos 0,35 (0,45°)			A	160	320	630	800	1000	1250	1600	2000	2500	3150	4000	6300
Rated making capacity at 420V c.a. cos 0,35 (0,45°)			A	-	-	504	640	800	1000	1280	1600	2000	2520	3200	5040
Flexible wire			mm²	1,5-10	1,5-10	25	25	70	70	70	120	120	240	240	2x185
			AWG	16-8	16-8										
Bars dimension			mm	-	-	12x3	12x3	16x4	16x4	16x4	25x4	25x4	32x5	32x5	2x40x6