

ATyS

Automatic and remotely operated transfer switches from 125 to 3200 A



ATyS p
1-O-II 4P



ATyS d
1-O-II 4P

Function

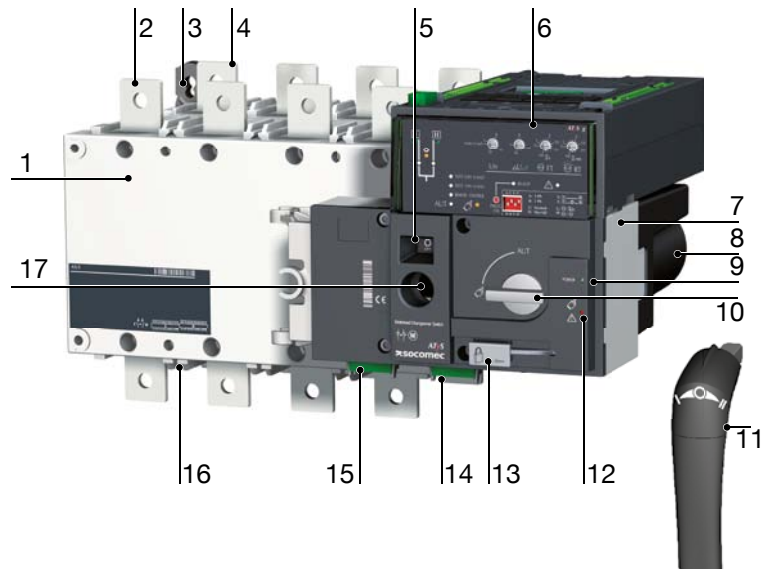
The **ATyS** are three-phase motorised transfer switches with positive break indication. They enable the on load transfer of two three-phase supplies via remote volt-free contacts, from either an external automatic controller, using pulse logic, or a switch for a very basic version. The most pronounced version in automatic mode enable the monitoring of, and the on load transfer switching between, two power supply sources, in accordance with the parameters configured via pushbuttons and an LCD screen.

They are intended for use in low voltage power systems where interruption of the load supply is acceptable during transfer.

Description

This quick-acting source transfer switch incorporates:

1. Power Section: transfer switch assembly with inherent mechanical interlock
2. Front: switch number 1 terminals (3 or 4 pole)
3. Back-plate mounting ATyS fixing lugs
4. Back: switch number 2 terminals (3 or 4 pole)
5. Switch position indication window: I (On) – O (Off) – II (On)
6. ATS control module with integrated dual power supply
7. Motorized Control Unit
8. Motor housing
9. Green LED Indication: power
10. Auto / Manual mode selector switch
11. Emergency manual operation "Direct Handle"
12. Red LED Indication: Product Unavailable / Manual Mode / Fault Condition
13. Padlocking facility (up to 3 padlocks of dia. 4 – 8mm) Facility for locking all controls in the zero position using a RONIS EL11AP Lock
14. Output contacts x 4 (position indication I-O-II and product availability outputs)
15. Input contacts
16. Sliders for terminal shields
17. Emergency manual operation shaft location (accessible only in manual mode)



References

Description	No. of poles	Part number	Aux. supply	Switch type	Application
ATyS r	3 P	9523 3***	230 VAC	Remote Transfer Switch (RTS)	Remote Transfer Switch Equipment
	4 P	9523 4***			Dual power supply
ATyS d	3 P	9533 3***		Automatic Transfer Switch (ATS)	Automatic controller to manage mains/ mains applications
	4 P	9533 4***			Automatic controller to manage mains/ genset applications
ATyS g	3 P	9553 3***		Automatic Transfer Switch (ATS)	Functions for energy management communication options
	4 P	9553 4***			
ATyS p	3 P	9573 3***			
	4 P	9573 4***			

** - stands for a two characters of a partnumber depending on the rating of the switch

Characteristics according to IEC 60947-3 and IEC 60947-6-1

125 to 630 A / B3 to B5

Thermal current I_{th} at 40°C	125 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A		
Frame size	B3	B3	B3	B4	B4	B4	B5	B5		
Rated insulation voltage U_i (V) (power circuit)	800	800	800	1000	1000	1000	1000	1000		
Rated impulse withstand voltage U_{imp} (kV) (power circuit)	8	8	8	12	12	12	12	12		
Rated insulation voltage U_i (V) (operation circuit)	300	300	300	300	300	300	300	300		
Rated impulse withstand voltage U_{imp} (kV) (operation circuit)	4	4	4	4	4	4	4	4		
Rated operational currents I_e (A) according to IEC 60947-6-1										
Rated voltage	Utilisation category		A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	
415 VAC	AC-31 B		125	160	200	250	315	400	500	630
415 VAC	AC-32 B					200	315	400	500	500
415 VAC	AC-33 B					200	200	200	400	400
Rated operational currents I_e (A) according to IEC 60947-3										
Rated voltage	Utilisation category		A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	
415 VAC	AC-20 A / AC-20 B		125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-21 A / AC-21 B		125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-22 A / AC-22 B		125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
415 VAC	AC-23 A / AC-23 B		125/125	160/160	200/200	200/200	315/315	400/400	500/500	630/630
500 VAC	AC-20 A / AC-20 B		125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
500 VAC	AC-21 A / AC-21 B		125/125	160/160	200/200	250/250	315/315	400/400	500/500	630/630
500 VAC	AC-22 A / AC-22 B		125/125	160/160	200/200	200/250	200/315	200/400	500/500	500/500
500 VAC	AC-23 A / AC-23 B		80/80	80/80	80/80	200/200	200/200	200/200	400/400	400/400
Fuse protected short-circuit withstand as per IEC 60947-3 at 690 VAC										
Prospective short-circuit current (kA rms)			100 ⁽²⁾	100 ⁽²⁾	50 ⁽²⁾	50	50	50	50	50
Associated fuse rating (A)			125	160	200	250	315	400	500	630
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s⁽⁴⁾										
Rated short-time withstand current 0.3s I_{ow} (kA rms)			12 ⁽²⁾	12 ⁽²⁾	12 ⁽²⁾	15	15	15	17	17
Rated short-circuit withstand without protection										
Rated short-time withstand current 60ms I_{ow} (kA rms) as per IEC 60947-6-1 at 415 VAC						10 ⁽³⁾	10 ⁽³⁾	10 ⁽³⁾	10	12.6
Rated short-time withstand current 1s I_{ow} (kA rms) as per IEC 60947-3 at 690 VAC			7 ⁽²⁾	7 ⁽²⁾	7 ⁽²⁾	8	8	8	10	10
Rated peak withstand current (kA peak) as per IEC 60947-3 at 690 VAC			20	20	20	30	30	30	45	45
Connection										
Maximum Cu cable cross-section (mm ²)			35	50	70	95	150	185	240	2 x 150
Minimum Cu busbar cross-section (mm ²)										2 x 30 x 5
Maximum Cu cable cross-section (mm ²)			50	95	120	150	240	240	2 x 185	2 x 300
Maximum Cu busbar width (mm)			25	25	25	32	32	32	50	50
Tightening torque mini / maxi (Nm)			9/13	9/13	9/13	20/26	20/26	20/26	20/26	20/26
Switching time (Standard setting)										
I - II or II - I (s)			0.75	0.75	0.75	1.3	1.3	1.3	1.3	1.3
I-0 or 0-II (s)			0.45	0.45	0.45	0.85	0.85	0.85	0.85	0.85
Duration of "electrical blackout" I - II (s)			0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.6
Power supply										
min / max (VAC)			166/332	166/332	166/332	166/332	166/332	166/332	166/332	166/332
Control supply power demand										
Power supply 230 VAC inrush / nominal (VA) - ATYS			184/92	184/92	184/92	276/115	276/115	276/115	276/150	276/150
Power supply 230 VAC inrush / nominal (VA) - ATYS d, t, g, p			206/114	206/114	206/114	298/137	298/137	298/137	298/172	298/172
Mechanical characteristics										
Durability (number of operating cycles)			10 000	10 000	10 000	8 000	8 000	8 000	5 000	5 000
Weight ATYS 3/4 P (kg)			5.7/6.9	5.7/6.9	5.7/6.9	6.6/7.4	6.7/7.8	6.7/7.8	11.4/13.3	11.9/14.0
Weight ATYS d 3/4 P (kg)			6.3/7.5	6.3/7.5	6.3/7.5	7.2/8.0	7.3/8.4	7.3/8.4	12.0/13.9	12.5/14.6
Weight ATYS r, t, g, p 3/4 P (kg)			6.8/8.0	6.8/8.0	6.8/8.0	7.7/8.5	7.8/8.9	7.8/8.9	12.5/14.4	13.0/15.1

(1) Category with index A = frequent operation - Category with index B = infrequent operation.

(2) At 415 VAC.

(3) At 30ms.

(4) Value for coordination with any circuit-breaker that ensures tripping in less than 0.3s.

For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

800 to 3200 A / B6 to B8

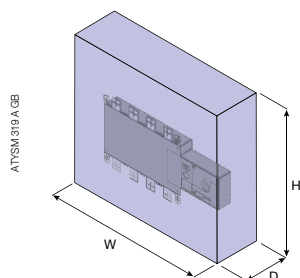
Thermal current I_{th} at 40°C	800 A	1000 A	1250 A	1600 A	2000 A	2500 A	3200 A
Frame size	B6	B6	B6	B7	B8	B8	B8
Rated insulation voltage U_i (V) (power circuit)	1000	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp} (kV) (power circuit)	12	12	12	12	12	12	12
Rated insulation voltage U_i (V) (operation circuit)	300	300	300	300	300	300	300
Rated impulse withstand voltage U_{imp} (kV) (operation circuit)	4	4	4	4	4	4	4
Rated operational currents I_e (A) according to IEC 60947-6-1							
Rated voltage	Utilisation category		A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾
415 VAC	AC-31 B		800	1000	1250	1600	2000
415 VAC	AC-32 B		800	1000	1250	1600	2000
415 VAC	AC-33 B		800	800	800	1000	1250
Rated operational currents I_e (A) according to IEC 60947-3							
Rated voltage	Utilisation category		A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾	A/B⁽¹⁾
415 VAC	AC-20 A / AC-20 B		800/800	1000/1000	1250/1250	1600/1600	2000/2000
415 VAC	AC-21 A / AC-21 B		800/800	1000/1000	1250/1250	1600/1600	-/2000
415 VAC	AC-22 A / AC-22 B		800/800	1000/1000	1250/1250	1600/1600	-/2500
415 VAC	AC-23 A / AC-23 B		800/800	1000/1000	1250/1250	1250/1250	-/1600
500 VAC	AC-20 A / AC-20 B		800/800	1000/1000	1250/1250	1600/1600	2000/2000
500 VAC	AC-21 A / AC-21 B		800/800	1000/1000	1250/1250	1600/1600	-/2500
500 VAC	AC-22 A / AC-22 B		630/630	800/800	1000/1000	1600/1600	-/1600
500 VAC	AC-23 A / AC-23 B		400/400	630/630	800/800	1000/1000	3200/3200
Fuse protected short-circuit withstand as per IEC 60947-3 at 415 VAC							
Prospective short-circuit current (kA rms)	50	100	100	100			
Associated fuse rating (A)	800	1000	1250	2 x 800			
Circuit breaker protected short-circuit withstand with any circuit breaker that ensures tripping in less than 0.3s⁽²⁾							
Rated short-time withstand current 0.3s I_{cw} (kA rms)	47	64	64	78	78	78	78
Rated short-circuit withstand without protection							
Rated short-time withstand current 60ms I_{cw} (kA rms) as per IEC 60947-6-1 at 415 VAC	16	20	25	32	40	50	50
Rated short-time withstand current 1s I_{cw} (kA rms) as per IEC 60947-3 at 415 VAC	26	35	35	50	50	50	50
Rated peak withstand current (kA peak) as per IEC 60947-3 at 415 VAC	55	55	80	110	120	120	120
Connection							
Maximum Cu cable cross-section (mm ²)	2 x 185	2 x 240					
Minimum Cu busbar cross-section (mm ²)	2 x 50 x 5	2 x 50 x 5	2 x 60 x 5	2 x 80 x 5	2 x 100 x 10	2 x 100 x 10	2 x 100 x 10
Maximum Cu cable cross-section (mm ²)	2 x 300	4 x 185	4 x 185	6 x 185			
Maximum Cu busbar width (mm)	63	63	63	100	100	100	100
Tightening torque mini / maxi (Nm)	20/26	20/26	20/26	40/45	40/45	40/45	40/45
Switching time (Standard setting)							
I - II or II - I (s)	2.6	2.6	2.6	2.6	2	2	2
I-0 or II-0 (s)	1.6	1.6	1.6	1.6	1	1	1
Duration of "electrical blackout" I - II (s)	1.5	1.5	1.5	1.6	1	1	1
Power supply							
min / max (VAC)	166/332	166/332	166/332	166/332	166/332	166/332	166/332
Control supply power demand							
Power supply 230 VAC inrush / nominal (VA) - ATYS	460/184	460/184	460/184	460/230	812/322	812/322	812/322
Power supply 230 VAC inrush / nominal (VA) - ATYS d, t, g, p	482/206	482/206	482/206	482/252	834/344	834/344	834/344
Mechanical characteristics							
Durability (number of operating cycles)	4 000	4 000	4 000	3 000	3 000	3 000	3 000
Weight ATYS 3/4 P (kg)	27.9/32.2	28.4/32.9	28.9/33.6	33.1/39.4	50.7/61.6	50.7/61.6	61.0/75.3
Weight ATYS d 3/4 P (kg)	28.5/32.8	29.0/33.5	29.5/34.2	33.7/40.0	51.3/62.2	51.3/62.2	61.6/75.9
Weight ATYS r, t, g, p 3/4 P (kg)	29.0/33.3	29.5/34.0	30.0/34.7	34.2/40.5	51.8/62.7	51.8/62.7	62.1/76.4

(1) Category with index A = frequent operation - Category with index B = infrequent operation.

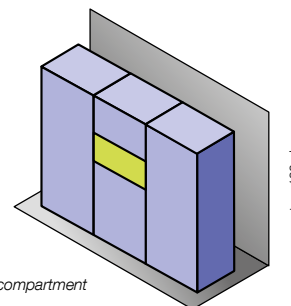
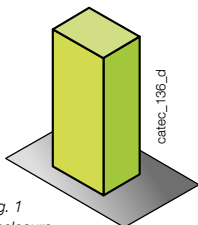
(2) Value for coordination with any circuit-breaker that ensures tripping in less than 0.3s.

For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please consult us.

Product integration data in compliance with IEC / EN 61439-1



Below listed data is applicable to :



Dimensions of the Functional Unit			Mounting		Max operational current, I _o (A)								
H (mm)	W (mm)	D (mm)	Enclosure	Orientation	125 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A	
400	500	320	Fig. 1/2	V ⁽²⁾	125	160	200	250	300	370			
			Fig. 1/2	H ⁽²⁾	125	150	180	250	290	330			
600	500	330	Fig. 1/2	V ⁽²⁾					315	400	470	500	
			Fig. 1/2	H ⁽²⁾					300	360	450	500	
800	600	400	Fig. 1	V ⁽²⁾							500	630	
					Min cross-section, mm ²								
Insulated flat copper braids (mm ²) P/N 4516 xxxx					25	25	50	50	120	120	240	240	
Cable (mm ²)					50	70	95	120	185	240	2 x 150	2 x 185	
Cu busbar (mm ²)											2 x 30 x 5	2 x 40 x 5	

Dimensions of the Functional Unit			Mounting		Max operational current, I _o (A)						
H (mm)	W (mm)	D (mm)	Enclosure	Orientation	800	1000	1250	1600	2000	2500	3200
1000	800	650	Fig. 1	V ⁽²⁾	800	1000	1000	1450	2000 ⁽¹⁾	2350 ⁽¹⁾	2750 ⁽¹⁾
			Fig. 1	H ⁽²⁾	750	900	950	1375	2000 ⁽¹⁾	2300 ⁽¹⁾	2550 ⁽¹⁾
800	800	600	Fig. 1/2	V ⁽²⁾	800	900	950	1375	2000 ⁽¹⁾	2250 ⁽¹⁾	2700 ⁽¹⁾
			Fig. 1/2	H ⁽²⁾	750	850	900	1300	2000 ⁽¹⁾	2200 ⁽¹⁾	2500 ⁽¹⁾
					Min cross-section, mm ²						
Cable (mm ²)					2 x 240	4 x 150	4 x 185	4 x 240	8 x 150	8 x 185	8 x 240
Cu busbar (mm ²)					2 x 50 x 5	2 x 60 x 5	2 x 80 x 5	2 x 100 x 5	2 x 100 x 10	2 x 100 x 10	3 x 100 x 10

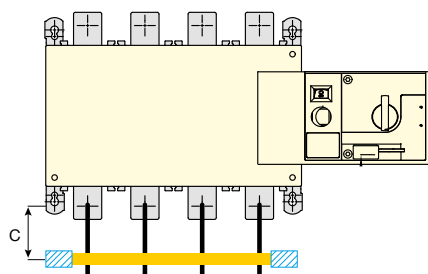
(1) Mounted with connection part 26191200

(2) V : vertical mounting; H: horizontal mounting

Heat dissipation								
Rating (A)	125	160	200	250	315	400	500	630
Switch heat dissipation W/pole	1.9	3.2	4.1	5.9	7.8	15.1	17	32.4

Maximum ambient temperature	
External	35°C
Internal	60°C

Heat dissipation								
Rating (A)	800	1000	1250	1600	1800	2000	2500	3200
Switch heat dissipation W/pole	41.7	46.9	80	122	153	178	255	330



Recommended tightening torque	Maximum tightening torque
M6: 4.5 N.m	M6: 5.4 N.m
M8: 8.3 N.m	M8: 13 N.m
M10: 20 N.m	M10: 26 N.m
M12: 40 N.m	M12: 45 N.m

C - Min power connections length	400 mm
C - Min distance to first cable fixing support	400 mm

Circuit breaker protected short-circuit withstand*

Serie	In	Icu	SIEMENS SENTRON VL 160X	SIEMENS SENTRON VL 160	SIEMENS SENTRON VL 250	SIEMENS SENTRON VL 400	SIEMENS SENTRON VL 630	SIEMENS SENTRON VL 800	SIEMENS SENTRON VL 1200	SIEMENS SENTRON VL 1600	SIEMENS SENTRON VF 1250	SIEMENS SENTRON VL 2500
			3VL1 70 kA	3VL2 100 kA	3VL3 100 kA	3VL4 100 kA	3VL5 100 kA	3VL6 100 kA	3VL7 100 kA	3VL8 100 kA	3VF7 68 kA	3VF8 64 kA
ATYS	125 A	27	25	-	-	-	-	-	-	-	-	-
	160 A	27	25	-	-	-	-	-	-	-	-	-
	200 A	27	25	-	-	-	-	-	-	-	-	-
	250 A	54	48	43	-	-	-	-	-	-	-	-
	315 A	T	T	T	26	23	21	-	-	-	-	-
	400 A	T	T	T	26	23	21	-	-	-	-	-
	500 A	T	T	T	53	46	40	-	-	-	-	-
	630 A	T	T	T	53	46	40	-	-	-	-	-
	800 A	T	T	T	80	70	63	27	27	-	-	-
	1000 A	T	T	T	T	T	T	47	47	44	40	40
	1250 A	T	T	T	T	T	T	47	47	44	40	40
	1600 A	T	T	T	T	T	T	T	75	T	64	64
	1800 A	T	T	T	T	T	T	T	T	T	64	64
	2000 A	T	T	T	T	T	T	T	T	T	T	T
2500 A	T	T	T	T	T	T	T	T	T	T	T	
3200 A	T	T	T	T	T	T	T	T	T	T	T	

Serie	In	Icu	SCHNEIDER NS & NSX 160/250						SCHNEIDER NS & NSX 400			SCHNEIDER NS & NSX 630 (+800L)			SCHNEIDER NS 1000	SCHNEIDER NS 800/1000/1250/1600		SCHNEIDER Masterpact NT	SCHNEIDER Masterpact NW	SCHNEIDER Masterpact NW
			E	NE	N	SX	H	L	N	H	L	N	H	L	L	N	H	L1	L1	H3
			16 kA	25 kA	36 kA	50 kA	70 kA	150 kA	45 kA	70 kA	150 kA	45 kA	70 kA	150 kA	150 kA	50 kA	70 kA	130 kA	150 kA	150 kA
ATYS	125 A	T	T	T	43	57	57	T	53	-	-	-	-	-	-	-	-	-	-	-
	160 A	T	T	T	43	57	57	T	53	-	-	-	-	-	-	-	-	-	-	-
	200 A	T	T	T	43	57	57	T	53	-	-	-	-	-	-	-	-	-	-	-
	250 A	T	T	T	T	T	T	T	53	53	-	-	-	-	-	-	-	-	-	-
	315 A	T	T	T	T	T	T	T	53	53	-	-	-	-	-	-	-	-	-	-
	400 A	T	T	T	T	T	T	T	53	53	37	37	37	-	-	-	-	-	-	-
	500 A	T	T	T	T	T	T	T	T	T	T	T	100	43	24	24	-	-	-	-
	630 A	T	T	T	T	T	T	T	T	T	T	T	100	43	24	24	-	-	-	-
	800 A	T	T	T	T	T	T	T	T	T	T	T	T	70	28	28	-	-	-	-
	1000 A	T	T	T	T	T	T	T	T	T	T	T	T	T	38	38	-	-	-	-
	1250 A	T	T	T	T	T	T	T	T	T	T	T	T	T	38	38	-	-	-	-
	1600 A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	53	T	60	52	52
	1800 A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	60	52	52
	2000 A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	70	57	57
2500 A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	70	57	57	
3200 A	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	70	57	57	

* - Subjected to MCCB's short circuit current limiting curves reading precision and data.

T- coordination possible up to the Max Icu value of the breaker

Values are based on characteristics published by breaker manufacturers at the time of the publication. Socomec cannot be held responsible for any modifications of those characteristics or for non-performance of circuit breakers

