ATyS a M

Preset Automatic Transfer Switching Equipment

From 25 to 160A

ATyS aM
frame M0

ATyS aM
frame M1

The solution for

- Building
- Industry

Strong points

- Quick & easy commissioning
- Proven reliability
- Space saving

Conformity to standards

- IEC 60947-6-1
- GB/T 14048.11

Certifications

- CE, RoHS, WEEE, REACH
- CCC, RoHS China
- IECEE CB Scheme
- Cyber Resilience Act (CRA)

Function

ATyS a M supports the automatic transfer between two power supply sources - and safe isolation - for any low voltage installation. The product includes an integrated pre-set controller which automatically transfers the power supply between the normal source (main transformer) and the emergency source (generating set or main transformer).
They are intended for on-load operations, where a brief interruption of the load supply is acceptable during transition between sources (I-0-II).

Advantages

Quick & easy commissioning
With an integrated and preset controller, configuration time is reduced to zero and the potential for human error is eliminated – making the commissioning process straightforward. ATyS a M timers and thresholds are defined for the most relevant Main/Main and Main/GenSet applications, which means that source transfer is managed automatically.

Proven reliability
ATyS a M has been designed and tested according to IEC 60947-6-1 and GB/T 14048.11, achieving performance of PC class – the most robust and reliable class, intended to preserve the transfer function for increased reliability and an improved return on investment.
The AC-33B utilisation category confirms that the system is suitable for any type of load, including inductive loads such as motors.

Space saving
ATyS a M offers unrivalled flexibility for a seamless integration process, even in the most constrained enclosures and panels. Thanks to its modular design, mounting and cabling spaces are optimised to allow the use of more compact panels – which in turn reduces the total cost of ownership.

References

Rating (A)	Frame	No. of poles	ATyS a M	Bridging bars	Terminal shrouds	Auxiliary contacts	Handle extension
25A	M0	4 (1)	9335 **4002**	9324 **0001**	9324 **0002** (2)	1 unit, NO/NC Separate common points: 1309 **1001** (3) Linked common point: 1309 **1011** (3)	9324 **0006**
32A			9335 **4003**				
40A			9335 **4004**				
63A			9335 **4006**				
80A	M1		9335 **4008**	9324 **0003**	9324 **0004** (2)		
100A			9335 **4010**				
125A			9335 **4012**				
160A			9335 **4016**	9324 **0005**			

(1) Can be set for single phase network.
(2) For complete upstream and downstream protection please order 2 shrouds. If Socomec bridging bars are used only one shroud is necessary.
(3) 1 NO/NC contact block for each positions I, 0 and II. Two auxiliary contacts blocks can be mounted on one ATyS a M.

Option modules	References
RS485 Modbus module	93350**0001**
Fire input module 24Vdc	93350**0002**
Genset output module	93350**0003**

Native input & output

- **Input 1**: Force to position 0 (without GenSet module) / Test on-load (with GenSet module)
- **Input 2**: Change source priority (S1 or S2)
- **Input 3**: Retransfer mode selector (automatic or manual)
- **Input 4**: Inhibition
- **Output**: Production operational (PoP) watchdog

Preset parameters

ATyS a M will automatically detect the presence of optional modules and set relevant timers according to the table below (e.g. auto-configuration of the cooling down timer -2CT- with GenSet module).

- **Nominal voltage**: 400 Vac
- **Source voltage threshold** +/- 20%
- **Source voltage hysteresis** +/- 15%
- **Source frequency threshold** +/- 10%
- **Sources phases rotation check**: ON

Timer mnemonic	Timer name	Timer description	Timer factory setting	Range
1RT	Source I return timer	When source 1 returns inside the limits, 1RT is started. At the end of 1RT, source 1 is then considered to be available. Should source 1 unavailable before the end of 1RT, the changeover will not be carried out.	2sec	0-9999sec
1FT	Source I failure timer	When source 1 is considered unavailable, 1FT is started. If source 1 is considered restored (available again) before the end of 1FT, the changeover sequence will not be engaged.	2sec	0-6500sec
2RT/2AT	Source II return timer / Source II Availability timer	When source 2 returns inside the limits, 2RT is started. At the end of 2RT, source 2 is then considered to be available. Should source 2 unavailable before the end of 2RT, the changeover will not be carried out.	2sec	0-9999sec
2FT	Source II failure timer	When source 2 is considered unavailable, 2FT is started. If source 2 is considered restored (available again) before the end of 2FT, the changeover sequence will not be engaged.	2sec	0-6500sec
0DT	0 dead timer	Minimum load downtime possibility with stop in position 0; to enable residual voltage generated by the load to dissapear.	0sec	0-6500sec
DRT	Dynamic return timer	This timer is used to replace the return timer of the prioritary source in case of a retransfer back to main source, if we lost the backup source while the return timer is counting.	3sec	0-3600sec
2CT	Genset cooldown timer	In Main-GenSet application, following a return to the priority source (when it is closed), the genset is kept running for the 2CT timer duration. This timer is intented to cool down the genset (off load) before switching it off.	180sec	0-9999sec
2ST	Genset start timeout timer	In Main-GenSet application, this timer is used to know if genset has started and turned available (end of 2AT) fast enough. Timer start as soon as the genset start order has been given. If 2AT has not been satisfied before the end of this timer, an error will be raised (Genset failed to start). In AUTO mode this timer does not affect the genset start request. During a test sequence, the test will be cancelled and the genset turned OFF.	30sec	1-600sec

Technical characteristics

- Automatic and manual operations
- 4 poles devices
- 3-phases or single-phase applications
- Self-powered from both sources
- Optional Modbus communication
- Compatible with Easy Config Software

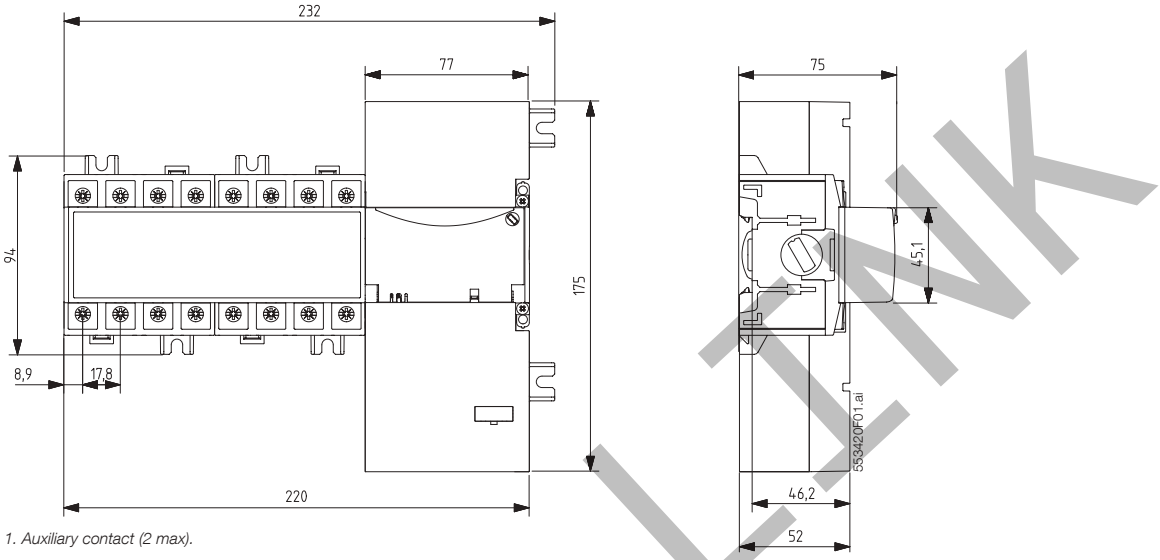
	ATyS a M							
	Frame M0				Frame M1			
Characteristics								
Rated current In (A)	25	32	40	63	80	100	125	160
Rated insulation voltage Ui power circuit (V)	800	800	800	800	800	800	800	800
Rated insulation voltage Ui control circuit (V)	450	450	450	450	450	450	450	450
Rated impulse withstand voltage Uimp (kV)	6	6	6	6	6	6	6	6
Rated operational currents Ie (A) at 415Vac								
AC-31B	25	32	40	63	80	100	125	160
AC-32B	25	32	40	63	80	100	125	160
AC-33iB	25	32	40	63	80	100	125	160
AC-33B	25	32	40	63	80	100	125	160
Current rated as conditional short-circuit with fuse gG								
Conditional short-circuit current (kA rms)	50	50	50	50	50	50	50	50
Associated fuse rating (A)	25	32	40	63	80	100	125	160
Current rated as conditional short-circuit that ensures tripping in less than 30ms (1)								
Rated short-time withstand current Icw 30ms (kA rms)	5	5	5	5	10 (60ms)	10 (60ms)	10 (60ms)	10 (60ms)
Short-circuit operation								
Rated peak withstand current Ip (kA peak)	7,1	7,1	7,1	7,1	16	16	16	16
Switching time								
I - 0 or II - 0, following a command (ms)	80	80	80	80	80	80	80	80
Transfer time I - II or II - I, following a command (ms)	220	220	220	220	220	220	220	220
I-II or II-I transfer time, after outage (s), timers set to 0								
Contact transfer time (“black-out”) I-II min. (ms)	140	140	140	140	145	145	145	145
Power supply								
Min./max. power suply Ph-N (VAC)	176-264	176-265	176-266	176-267	176-276	176-276	176-276	176-276
Control supply power demand								
Rated power (VA)	2	2	2	2	15	15	15	15
Max. intensity at 230 VAC (A)	17,7	17,7	17,7	17,7	25	25	25	25
Connection								
Miminum Cu cable cross-section (mm2)	2,5	2,5	2,5	2,5	25	25	25	25
Maximum Cu cable cross-section (mm2)	35	35	35	35	70	70	70	70
Tightenning torque (Nm)	2,5	2,5	2,5	2,5	5	5	5	5
Mechanical characteristics								
Durability (number of operating cycles)	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
Weight - non-packaged (kg)	1,8	1,8	1,8	1,8	3,7	3,7	3,7	3,7
Weight - including packaging (kg)	2,3	2,3	2,3	2,3	4,4	4,4	4,4	4,4

(1) Value for coordination with any circuit breaker that ensures tripping in less than 30ms.
For coordination with specific circuit-breaker references, higher short-circuit current values are available. Please contact us.

Dimensions

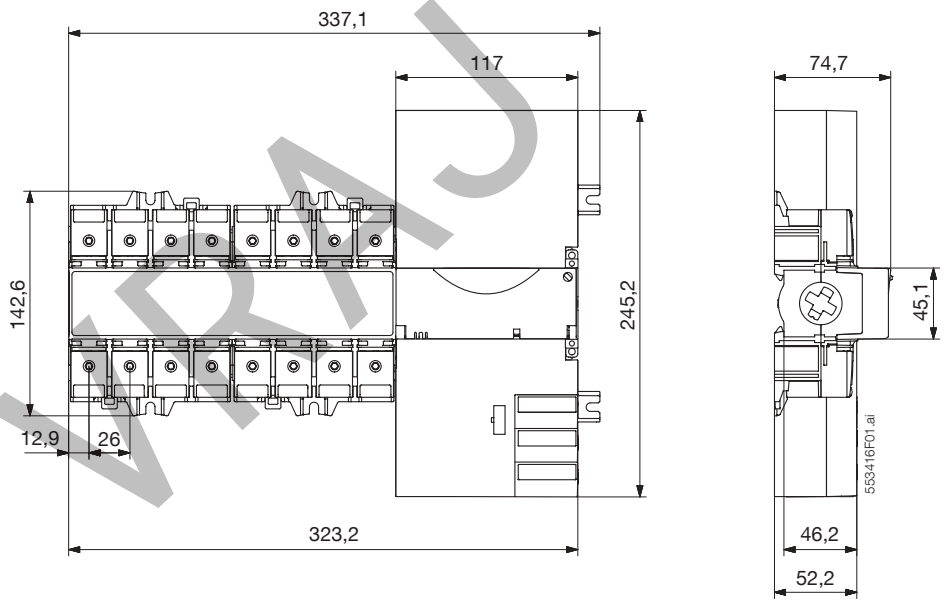
ATyS a M is a true modular device, compatible with modular enclosures with standard mounting plates or shields.

ATyS a M from 25 to 63A (Frame M0)



1. Auxiliary contact (2 max).

ATyS a M from 80 to 160A (Frame M1)



ATyS a M can be mounted in all orientation, to adapt sources and load incoming positions, without any product modification, including markings:

Recommended orientation