

Motorised changeover and
automatic transfer switches



«Smart solution on your *remote operated changeover* applications combining performant *switching* technology with *functional* installation requirements»



YSERIES Motorised switches



Gawe Y Series motorised changeover switches have been designed to perform distant changeover operations. They secure electromechanical reliability in all sort of applications: transfer supply-generator with or without break, main switch, reverse switch, by-pass,... Modern industrial and service companies require standby power systems in order to avoid high costs related to supply

breakdowns. An increasing number of countries are approving new legislation involving backup power sources on business and administration installations open to public service. Therefore an increasing number of installations demand source changeover products covering this function. Motorised changeover switches are an ideal response to the practical requirements of remote changeover operations.

Product overview

Standard Type

Easy connection with sources input on top and load output on bottom.



40-63A AC22



63-100-125A



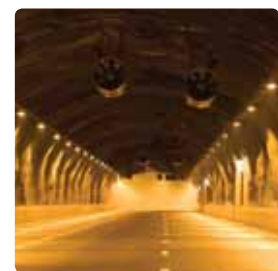
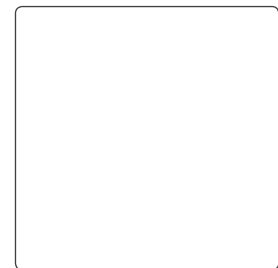
160-200-250A

Compact Type

Space limited installations can use compact type motorised changeover switches that offer up to 45% width reduction.



63-100-125A



Industrial and commercial low voltage distribution systems install motorised changeover switches that additional to remote changeover operation also offer local operation adding safety on the installation on emergency circumstances or maintenance conditions.

Applications

- Automatic transfer supplies
- System automation
- IT power supply systems
- Light control
- Emergency supplies
- Motor reversing
- Ventilation and heating systems

Y SERIES

Motorised switches



Gawe Y series motorised changeover switches have been designed to perform remote changeover operations.

According to standards

- IEC 60947-3
- IEC 61000

General characteristics

- Switch element:
 - Load break switch at 90°
 - Silver alloy contacts
 - Easy terminal accessibility
 - Connection on protected cable clamps
 - Body cells on self-extinguishing GRP
- Driving element:
 - Mechanical operation runned by electric motor
 - Motor operation electronically controlled.
- Control element:
 - Electronic control by magnetic recognition.
- High capacity microprocessor.
- Complete set:
 - Integrated auxiliary contacts, shaft linked to the changeover unit.
 - Internal common link integrated in contact chamber.
 - One input signal available for each changeover switch mechanical position.
 - Digital display allows reading out changeover position.
 - Signal connection on protected terminal block.
 - Power supplies 12, 24 and 48V DC, and 80 to 220V AC.
 - Compact dimensions
 - Rear panel fixing
 - Endurance: > 10.000 on load operations and 50.000 mechanical operations.
 - Manual operation overrides automatic operation

→ Changeover switching

Performant switching technology providing safety isolation, elevated electrical endurance and high make/break capacity. Built-in internal link integrates two circuits.

→ Installation

Easy cable connection on base mounted product. No installation difficulties as common link, mechanical and electrical interlock are internally built-in. Saving time and start-up problems.

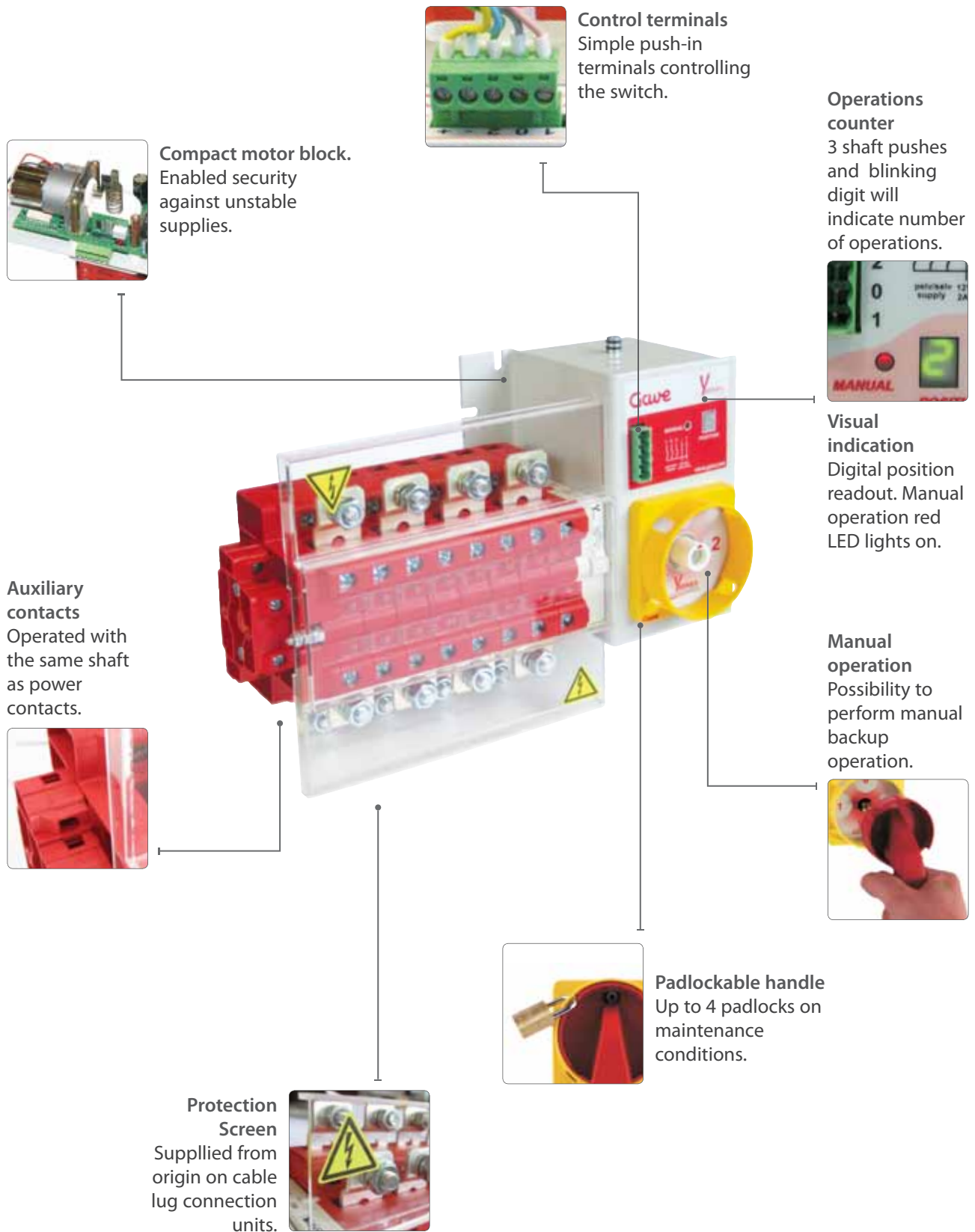
→ Control

Your equipment is run by electronic control that commands motorised operations and informs on operation mode and position status. Program based switching priorities are established in case of multiple orders.

→ Safety

Local operation guarantees safe disconnection under all circumstances.

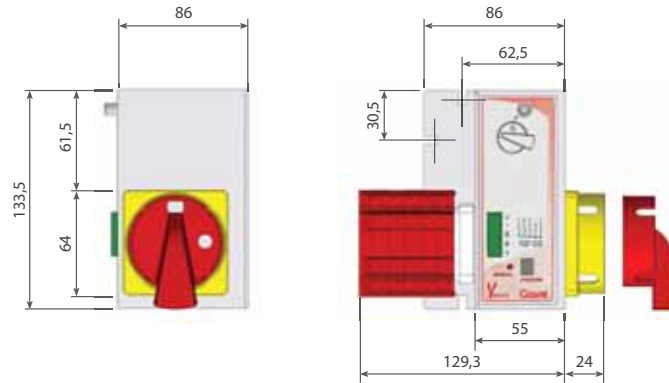
Characteristics



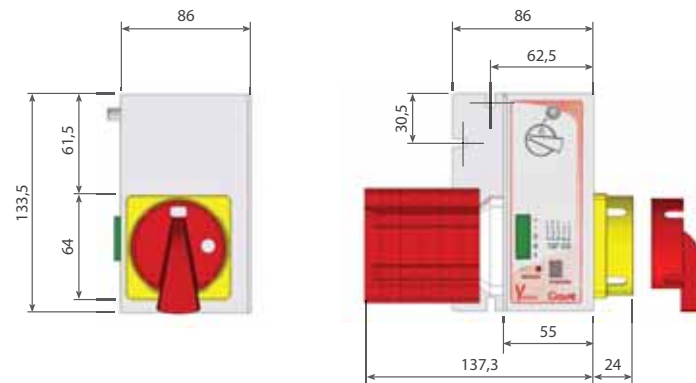
Dimensions

Changeover switches

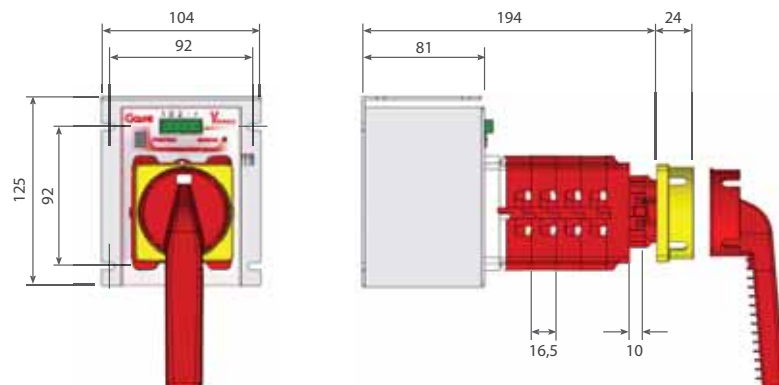
25A



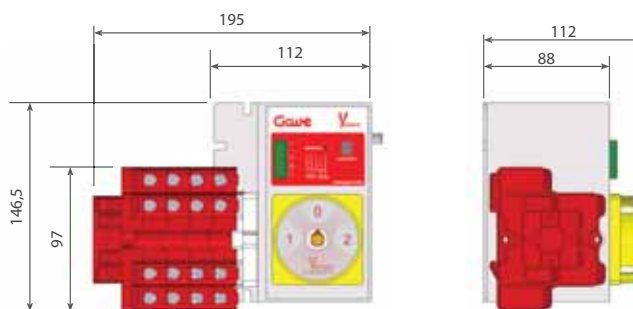
32A - 40A - 63A AC22



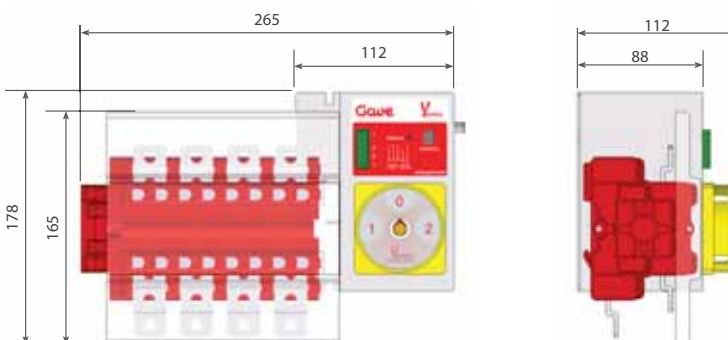
63A - 100A - 125A



63A - 100A - 125A

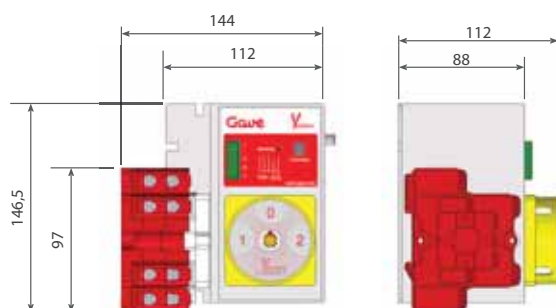


160A - 200A - 250A

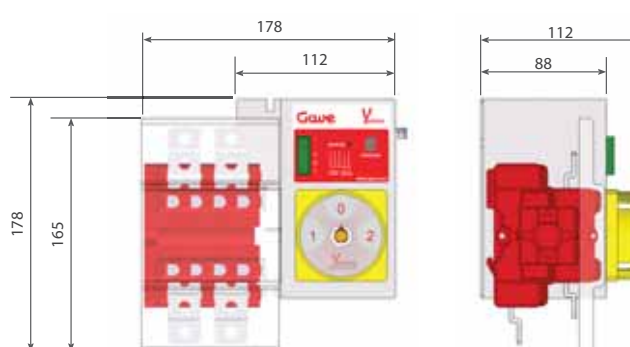


Switches

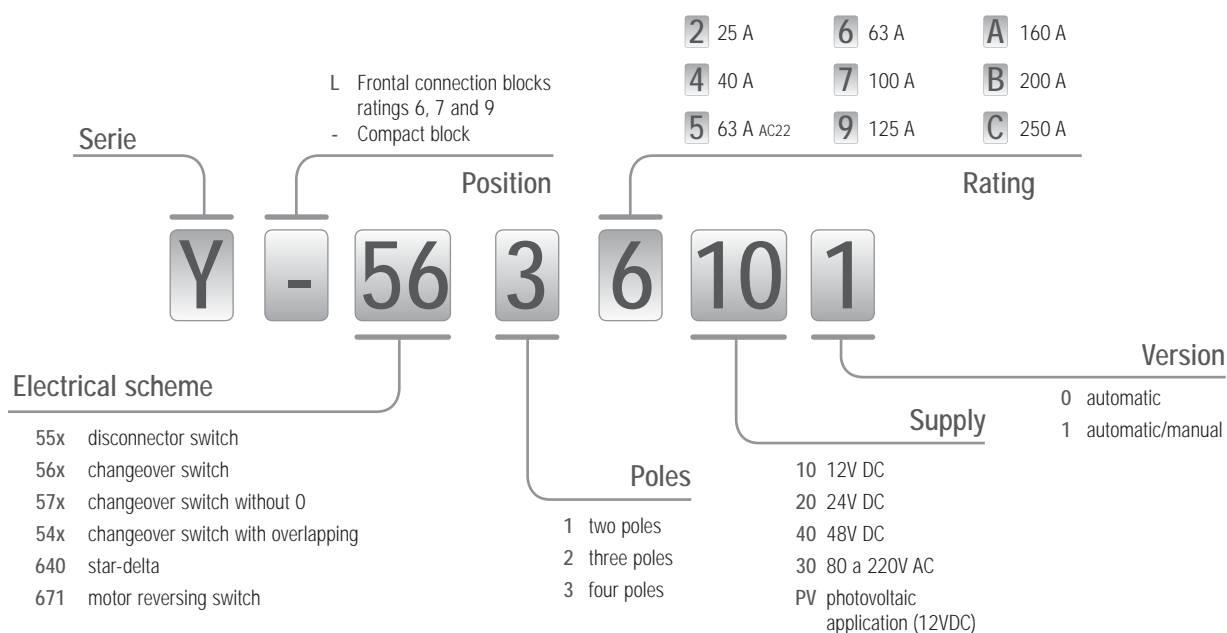
63A - 100A - 125A













160A - 200A - 250A











Reference system









Technical data

		25A	32A	40A	63A AC22	63A	100A	125A	160A	200A	250A
rated voltage/frequency	V/Hz	690V to 50 Hz									
thermal rating	I _{th} (A)	30	40	50	70	70	100	125	160	200	250
operational rating	I _e (A)	25	32	40	63	63	100	125	160	200	250
AC-21	400V AC kW	17	22	28	44	44	69	87	111	139	173
AC-22	400V AC kW	-	15	22	35	-	-	-	-	-	-
AC-23	400V AC kW	7,5	11	18,5	-	37	45	55	60	75	90
peak consumption	A	2	2	2	2	2,5	2,5	2,5	2,5	2,5	2,5
nominal consumption	mA	40	40	40	40	40	40	40	40	40	40
weight	gr	1.000	1.200	1.200	1.200	2.250	2.250	2.250	2.850	2.850	2.850
supply voltage	V DC	12V +15%									
wire section											
stranded	mm ²	2,5-6	10-25	10-25	10-25	16-50	16-50	16-50	70	95	120
flexible	mm ²	2,5-6	10-25	10-25	10-25	16-50	16-50	16-50	70	95	120
tightening torque	Nm	1,6	2	2	3,5	3,5	3,5	3,5	6	6	6
connection screws		M5	M5	M5	M8	M8	M8	M8	M8	M8	M8
terminal											

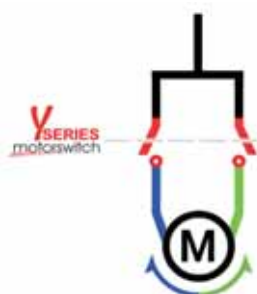
References

		3 pole		4 pole	
		12V DC	230V AC	12V DC	230V AC
					
Changeover switches 1-0-2					
40A	Y-5624101	Y-5624301	Y-5624101	Y-5624301	
63A AC22	Y-5625101	Y-5625301	Y-5625101	Y-5625301	
					
63A	Y-5626101	Y-5626301	Y-5626101	Y-5626301	
100	Y-5627101	Y-5627301	Y-5627101	Y-5627301	
125	Y-5629101	Y-5629301	Y-5629101	Y-5629301	
					
63A	YL5626101	YL5626301	YL5626101	YL5626301	
100	YL5627101	YL5627301	YL5627101	YL5627301	
125	YL5629101	Y-5629301	YL5629101	YL5629301	
					
160A	YL562A101	YL562A301	YL562A101	YL562A301	
200A	YL562B101	YL562B301	YL562B101	YL562B301	
250A	YL562C101	YL562C301	YL562C101	YL562C301	

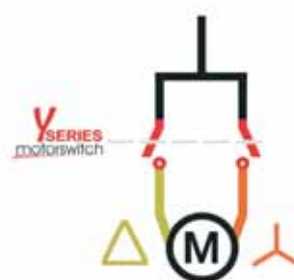
		3 pole		4 pole	
		12V DC	230V AC	12V DC	230V AC
					
Switches 0-1					
Y-5524101	Y-5524301	Y-5534101	Y-5534301		
Y-5525101	Y-5525301	Y-5535101	Y-5535301		
					
YL5526101	YL5526301	YL5536101	YL5536301		
YL5527101	YL5527301	YL5537101	YL5537301		
YL5529101	YL5529301	YL5539101	YL5539301		
					
YL552A101	YL552A301	YL553A101	YL553A301		
YL552B101	YL552B301	YL553B101	YL553B301		
YL552C101	YL552C301	YL553C101	YL553C301		

Special Applications

Cam technology provides great flexibility on special applications, we can add load break cells while keeping with an extremely compact unit. By-pass 3+6 or 4+8, motor starting, motor reversing are typical applications that can be conducted with motorised switches that will allways offer local manual operation when remote operation overriding is necessary.



Motor reversing



Motor starting

«A comprehensive range of power transfer units integrating *on load motorised changeover* and user friendly *control logic* reassuring your electrical needs.»



Y SERIES

Automatic transfer switch (ATS)

Gave Yseries motorised changeover switches have been designed to perform distant changeover operations.

They secure electromechanical reliability in all sort of applications: transfer supply-generator with or without break, main switch, reverse switch, by-pass,...

Strong competition has made industries, commercial and service companies increasingly dependent on power supply. Preventing consequences of power failure has become a critical element for customer service and business profitability. Generator and auxiliary power supply systems have become common place on modern

installations from small business to large scale facilities.

A comprehensive range of Automatic Transfer Switches has been developed by Gave based on his extensive experience on the field. Design has been done considering installation requirements and user real needs.

Product overview

Enclosed Automatic Transfer Switch Units



*ATS + Measuring
25-400A*



*ATS
25-3200A*



*ATS + Emergency
25-3200A*

Automatic Transfers Open Type

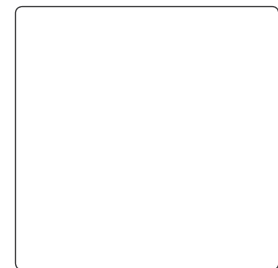


*Open Type
25-250A*

Special products



Special ATS



External large synoptic provides user friendly constant indication on system status. Large cable entrance is an installer requirement. Easy configuration is specially adequate for users on residential and commercial applications. The system is designed to offer easy access on local manual emergency/ maintenance operations.

Applications

- Residential transfers
- Commercial buildings
- Sport arenas
- Theatres and auditoriums
- IT power supply systems
- Emergency systems
- Ventilation and heating systems

ATS Automatic Transfer Switches

Gave Y Series motorised changeover switches have been designed to perform remote changeover operations.

According to standards

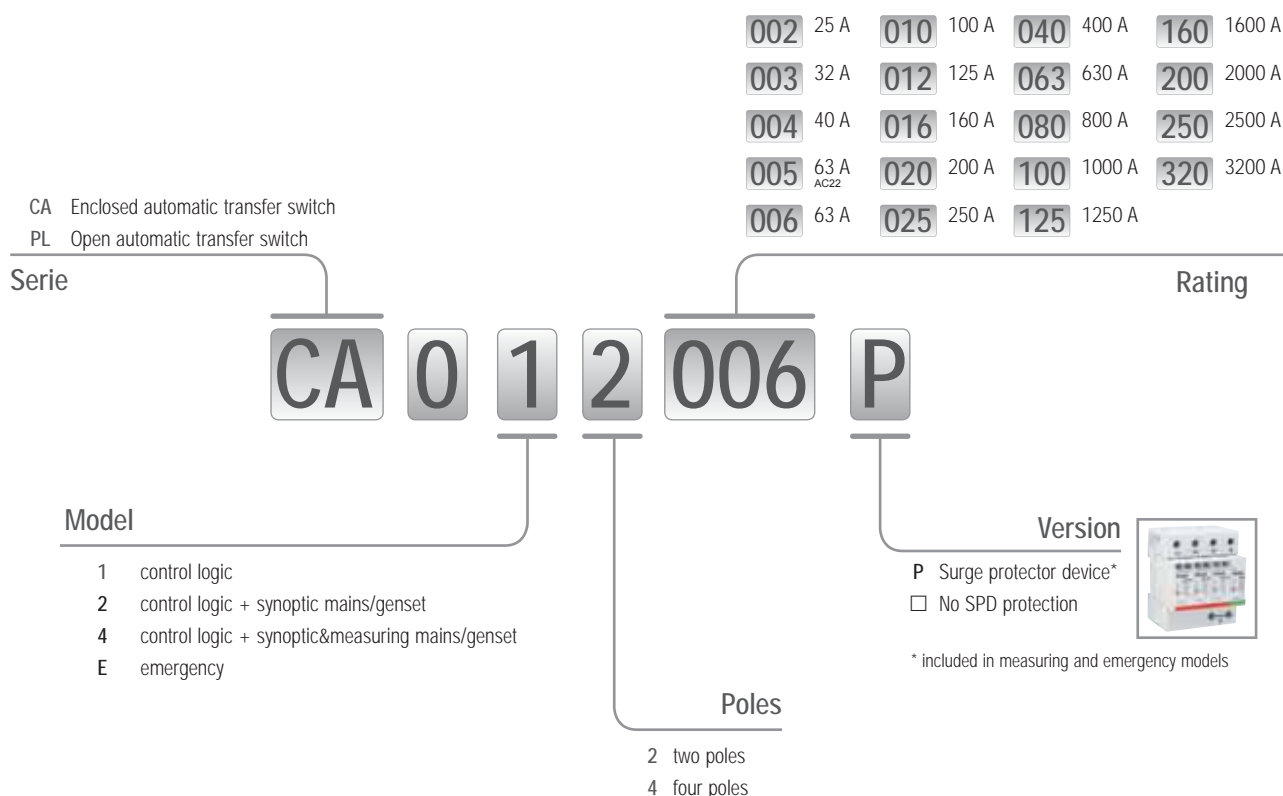
- IEC 60947-3
- IEC 61000

General characteristics

- Motorised changeover
 - 2 And 4 pole changeovers.
 - Ratings from 25A to 3200A.
 - Local manual emergency operation.

- Clutch mechanism detaches manual switching operation from motorised mechanism (Y Series 40 to 250A).
- Local padlockable handle for maintenance operations.
- Mechanical and electrical 0 position equipped from origin.
- Control element:
 - Phase presence and sequence control.
 - Voltage monitoring thresholds adjustable.
 - Control elements fuse protected.
- Control electronics protected against surge overvoltage (optional on basic models).
- Operating cycles timer programmable.
- High performance power supply protected against output shortcircuit.
- Changeover power relays with 3 pos. Manual button for test operations.
- Auxiliary contacts for external signalling and genset command.

System reference



Y SERIES

- Complete set:
 - Components integrated on metal steel enclosure IP55 with embedded cable entry plate with neoprene seal.
 - Foamed-in polyurethane gasket guarantees watertightness for years.
 - Fixing brackets, fastened with screws from the outside, can be placed horizontally or vertically.
 - Epoxy polyester texturised powder coating colour grey RAL-7035.
- Solid door fixed with two or three hinges.
- 3mm standard double bar lock. Wide variety of lock transformations available.
- Ventilation and thermal solutions available.
- Terminal connection with flexible cable up to 35mm² on transfers ratings up to 125A.
- Cable lug connection from 160A up to 250A.
- Busbar connection on 400A and above ratings.



→ *Functionality*

Simple "Plug&Play" transfer. Extensive range covering multiple function possibilities such as signalling, measuring, emergency,...

→ *Installation*

Wall mounting panels with large cable entries and straightforward terminal connection.

→ *Switching*

Well established changeover switching technology with excellent electrical and mechanical endurance characteristics.

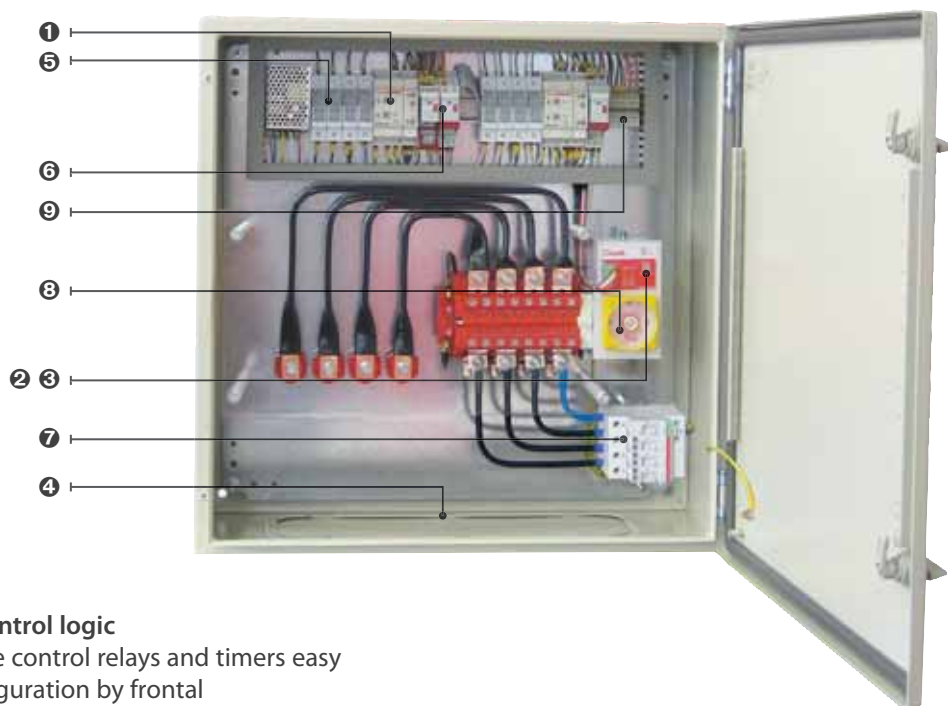
→ *Control*

User friendly logic control easy to program by adjusting analogic rotary selectors. Signalling leds inform about relays status.

→ *Reliability*

Local operation guarantees safe disconnection and transfer operation under all circumstances.

Characteristics



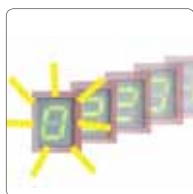
① Control logic

Phase control relays and timers easy configuration by frontal potentiometers. Leds indicate relay status.



② Changeover information

Quick readout on switch position and operation mode.



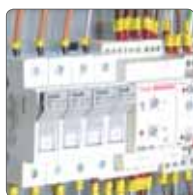
③ Operation counter

Three pushes on shaft and display blinks 5 numbers indicating number of operations.



④ Embedded bottom plate.

Removable entry plate provides large accessibility.



⑤ Fuse protection

Control logic fuse protected.



⑥ Miniature power relays

Space saving power relays with mechanical indication and test button.



⑦ Overvoltage surge protector.

Control logic protected against lightning disturbances.



⑧ Manual operation

Integrated handle for local backup operation. Padlockable for safety maintenance.



⑨ Auxiliary contacts.

External signalling and genset command.



¿Do you need expert support?

We are assisting a large number of specific demands covering multiple varieties on automatic transfer needs ranging from simple adaptations to complex system design.

¿Do you have special needs?

SP/TPN transfers

Changeover between two power supplies one single phase (two poles) and the other three phases (three or four poles)

Transfers with measuring

Automatic transfers with built in measuring function with external or internal display and possibility to integrate communication elements.

Transfers with specific supplies

Automatic transfers with specific power supplies for control logic including direct voltage and battery systems

Transfers with controllers

Automatic transfers with specific controllers integrating specific functions as genset start, control, monitoring,...

Hazardous environments

Automatic transfers with particular requirements for hazardous environments. Increased IP

protection, aluminium enclosures, unit thermal management,...

Transfers with Measuring and communication

Automatic transfer integrating communication on the output measuring functionality (RS485 JBUS/ MODBUS; RS485 PROFIBUS/DP; Ethernet)

Transfers with UPS By-Pass

UPS auxiliary supply load pass and insulation by using an integrated by-pass 4+8 pole load switch

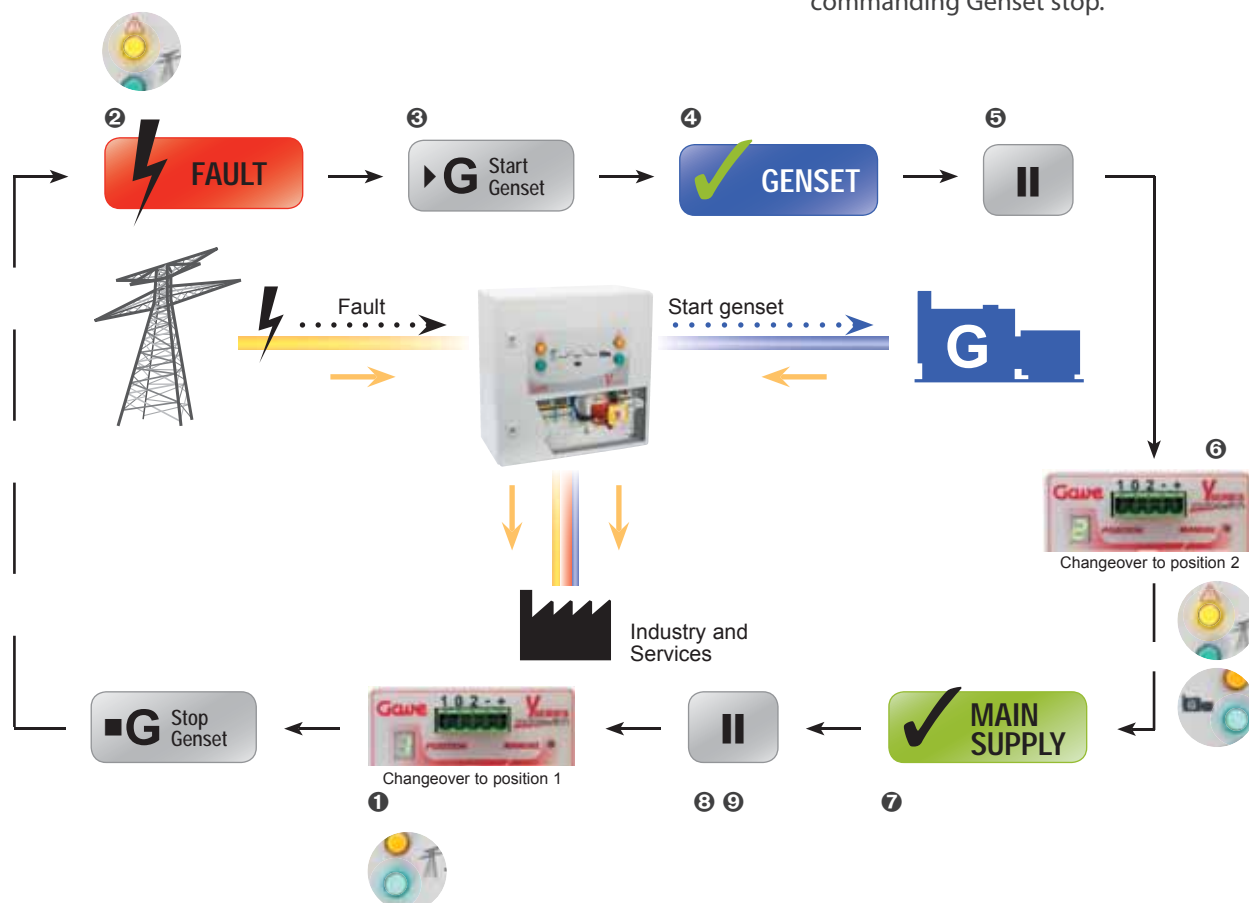
ATS with isolation By-Pass

Top and bottom ATS function isolation guaranteeing line continuity through a by-pass system. This operation is performed with a single manual handle operation providing ATS safe disconnection during maintenance operations. Single line and double line possibilities. Double line permits manual changeover supply selection during ATS isolation.

ATS with measuring and signalling System diagram



- ❶ Initial status. Mains supply OK.
- ❷ Phase control relay RF1 detects failure on Mains supply.
- ❸ Volt free output contact changes status commanding Generator start.
- ❹ Phase control relay RF2 detects Genset output is OK.
- ❺ Timer TM1 delays transfer to Genset.
- ❻ Transfer to Genset is operated.
- ❼ Failure on Mains supply is over.
- ❽ Timer TM2 counts return time before retransfer.
- ❾ Retransfer is operated and output contact returns to initial status commanding Genset stop.



ATS with signalling

Specific characteristics and applications

Automatic transfers 02 are the best choice on those applications where we need constant indication on supply status. A user friendly large size synoptic using easy to understand symbols and high luminosity led pilot lights guarantee that source condition is under control.

- Local emergency/ maintenance manual operation
- User friendly configuration
- Easy cable access "plug&play"
- Operation counter
- Control logic lightning overvoltage protected (optional)



up to 40 A

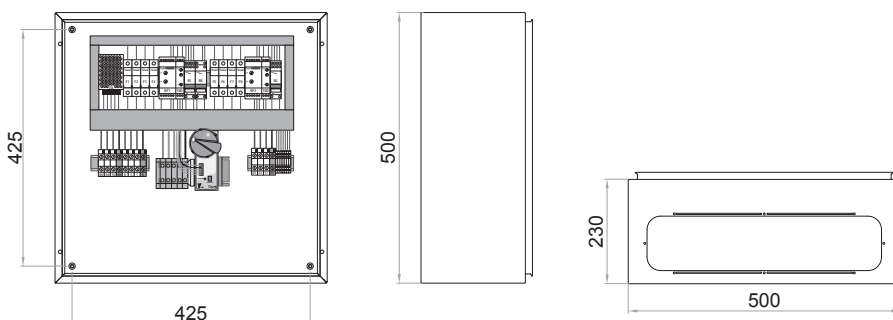
Description	A	2 poles	4 poles	Logic overvoltage protected	
				2 poles	4 poles
ATS synoptic	40	CA022004	CA024004	CA022004P	CA024004P



from 63 to 125 A

Description	A	2 poles	4 poles	Logic overvoltage protected	
				2 poles	4 poles
ATS synoptic	63	CA022006	CA024006	CA022006P	CA024006P
ATS synoptic	100	CA022010	CA024010	CA022010P	CA024010P
ATS synoptic	125	CA022012	CA024012	CA022012P	CA024012P

Dimensions



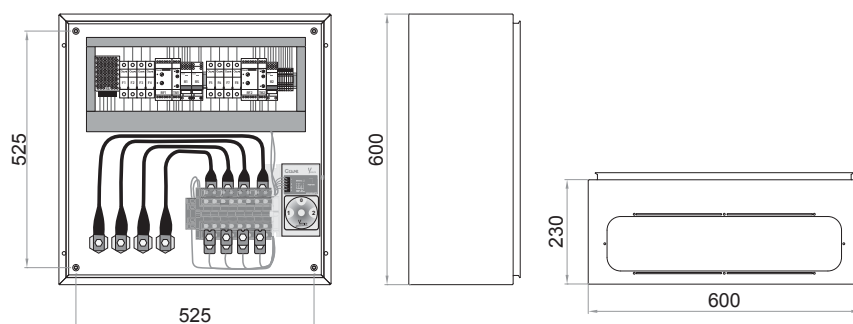
ATS with signalling



from 160 to 250 A

Description	A	4 poles	4 poles logic overvoltage protected
ATS synoptic	160	CA024016	CA024016P
ATS synoptic	200	CA024020	CA024020P
ATS synoptic	250	CA024025	CA024025P

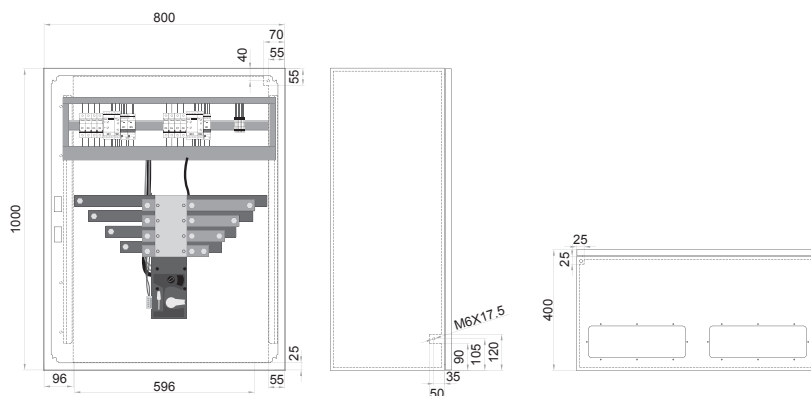
Dimensions



from 400 to 630 A

Description	A	4 poles logic overvoltage protected
ATS synoptic	400	CA024040P
ATS synoptic	630	CA024063P

Dimensions

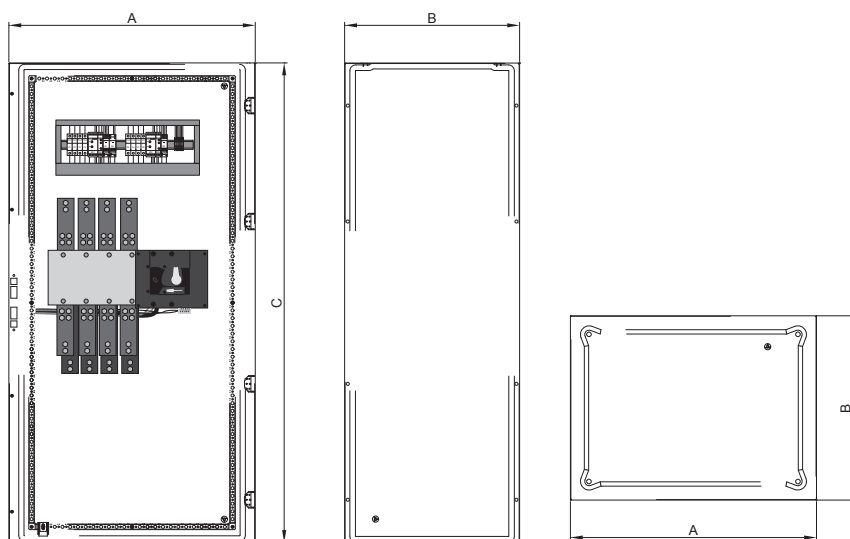




from 800 to 3200 A

Description		A	4 poles logic overvoltage protected
ATS synoptic	1700 x 800 x 600	800	CA024080P
ATS synoptic	1700 x 800 x 600	1000	CA024100P
ATS synoptic	1700 x 800 x 600	1250	CA024125P
ATS synoptic	1700 x 800 x 600	1600	CA024160P
ATS synoptic	1700 x 800 x 800	2000	CA024215P
ATS synoptic	1700 x 800 x 800	2500	CA024250P
ATS synoptic	1700 x 800 x 800	3200	CA024320P

Dimensions



In (A)	A	B	C
800-1600 A	800	600	1700
2000-3200 A	800	800	1700

ATS with measuring

Specific characteristics and applications

Automatic transfer switches integrating measuring functionality are specially adequate on those installations where electricity distribution needs to be monitored and energy management wants to be implemented independently from the supply source.

- Multimeasure on transfer output
- High accuracy 0,2% (TRMS measurement)
- Initial display current ratings
- Backlit high luminosity LCD display with easy readout
- User friendly synoptic panel informs on transfer status
- Control logic and measurement protected against lightning overvoltage



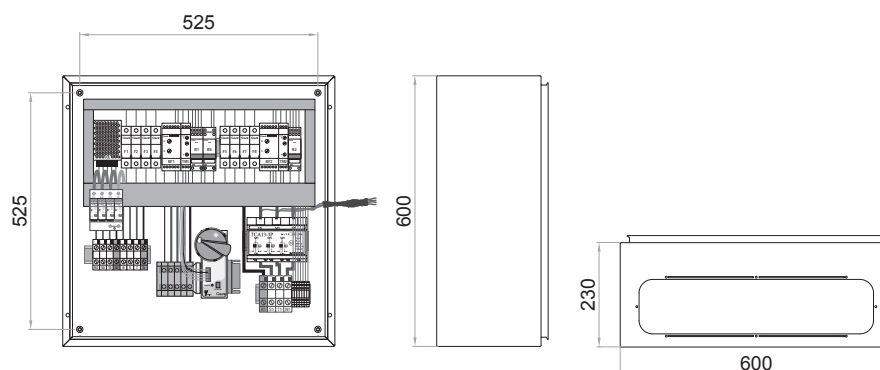
1. Backlit LCD display.
2. Direct access button for currents (instantaneous and max. values), current THD and set up wiring correction.
3. Direct access button for voltages and frequencies.
4. Direct access button for active, reactive and apparent power (instantaneous and max. values) and power factor.
5. Direct access button for energies.



up to 40 A

Description	A	2 poles	4 poles
ATS + Measuring	40	CA042004	CA044004

Dimensions

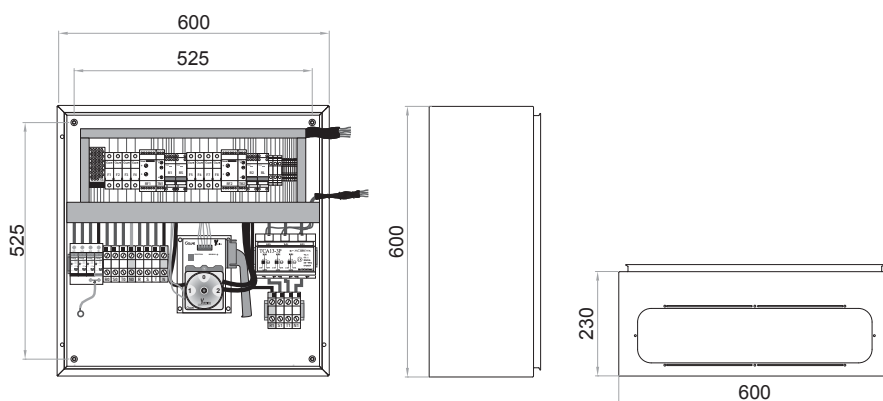




from 63 to 125 A

Description	A	2 poles	4 poles
ATS + Measuring	63	CA042006	CA044006
ATS + Measuring	100	CA042010	CA044010
ATS + Measuring	125	CA042012	CA044012

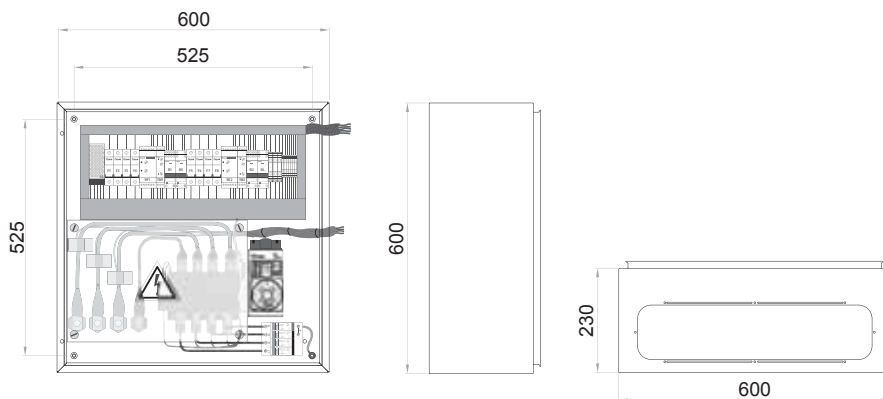
Dimensions



from 160A to 250 A

Description	A	4 poles logic protected
ATS + Measuring	160	CA044016
ATS + Measuring	200	CA044020
ATS + Measuring	250	CA044025

Dimensions



ATS with emergency function from 25 to 3200A



Automatic transfers with emergency function are specially adequate on industry and public buildings where a quick access to emergency supply stop is required. An internal battery system guarantees transfer system supply autonomy assuring automatic operation and effective emergency external stop.

Main characteristics

Plug and play solution



- Plug and play.
- Direct connection to terminal cable lugs or busbar.
- Mains - Genset inputs and Load output plus auxiliary contacts.

Emergency stop



- Emergency stop latching mushroom with trigger action according to EN 418
- Motorised changeover supply continuity secured with battery system.
- Synoptic signalling secured with battery supply.
- Built-in battery charger.

Signalling



Identify



- Instruction sheet attached with unit.
- Easy wiring recognition
- Product label with tracking system.

Control

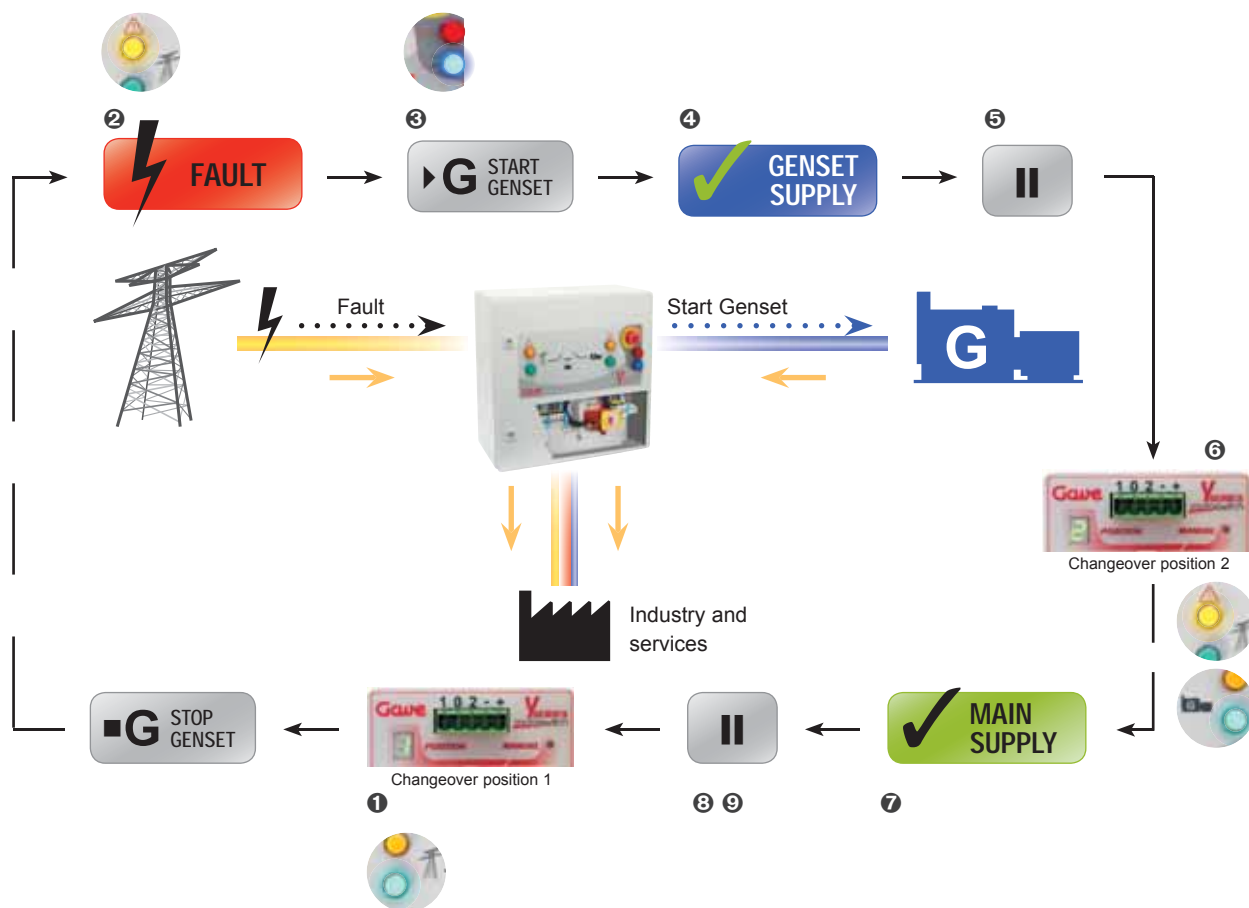


- RF02I: Phase control relay
- TM01: Timer
- 211: Fuse-holder disconnectors
- VCB: Power Supply + battery charger
- PST440: Surge protector device I_{max} 40kA

System diagram



- ❶ Initial status. Mains supply OK.
- ❷ Phase control relay RF1 detects failure on Mains supply. Yellow pilot lights on.
- ❸ Volt free output contact changes status commanding Generator start. Changeover switches to position 0. Blue pilot lights on.
- ❹ Phase control relay RF2 detects Genset output is OK.
- ❺ Timer TM1 delays transfer to Genset.
- ❻ Transfer to Genset is operated. Position 0 blue pilot lights off. Genset green pilot lights on.
- ❼ Failure on Mains supply is over.
- ❽ Timer TM2 counts return time before retransfer.
- ❾ Retransfer is operated and output contact returns to initial status commanding Genset stop.



Emergency stop



- ❶ Emergency stop. Push latching mushroom with trigger action according to EN 418. Changeover switches to position 0 with priority from its current position or logic. Blue pilot lights on indicating changeover switch on position 0 and red pilot lights on indicating emergency stop.
- ❷ Turn mushroom to release. Automatic transfer command return to logic control.

ATS with emergency function



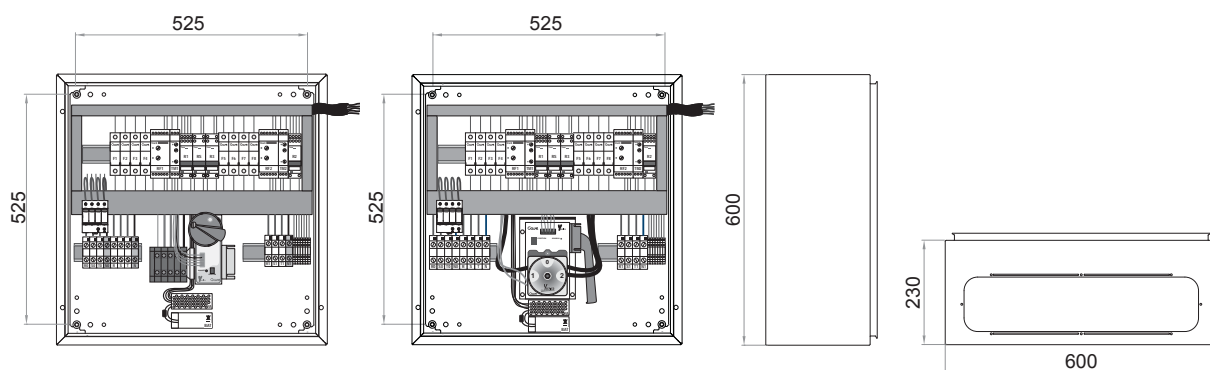
up to 40 A

Description	A	2 poles	4 poles
ATS + emergency	40	CA0E2004	CA0E4004

from 63 to 125 A

Description	A	2 poles	4 poles
ATS + emergency	63	CA0E2006	CA0E4006
ATS + emergency	100	CA0E2010	CA0E4010
ATS + emergency	125	CA0E2012	CA0E4012

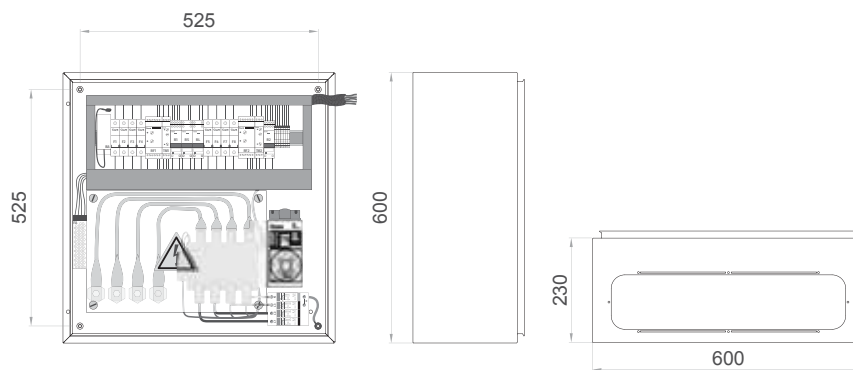
Dimensions



from 160 to 250 A

Description	A	4 poles
ATS + emergency	160	CA0E4016
ATS + emergency	200	CA0E4020
ATS + emergency	250	CA0E4025

Dimensions

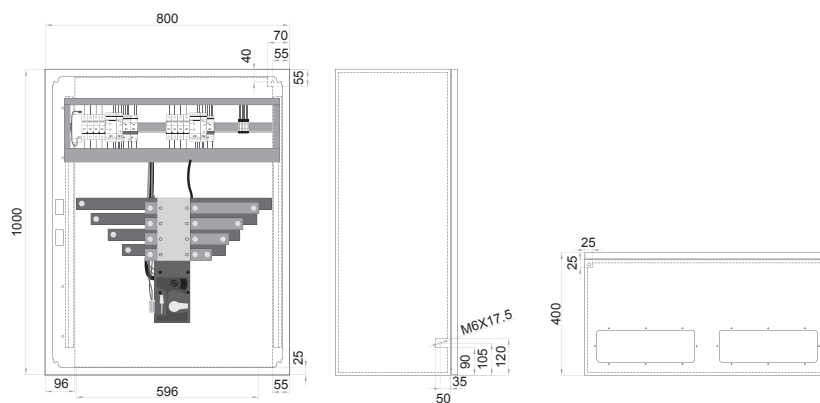




from 400 to 630 A

Description	A	4 poles
ATS + emergency	400	CA0E4040
ATS + emergency	630	CA0E4063

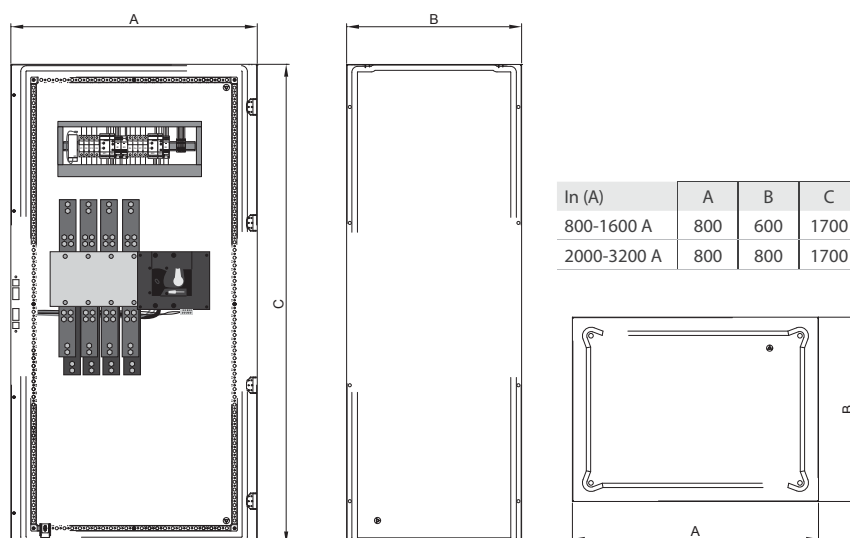
Dimensions



from 400 to 630 A

Description	dimensions	A	4 poles
ATS + emergency	1700 x 800 x 600	800	CA0E4080
ATS + emergency	1700 x 800 x 600	1000	CA0E4100
ATS + emergency	1700 x 800 x 600	1250	CA0E4125
ATS + emergency	1700 x 800 x 600	1600	CA0E4160
ATS + emergency	1700 x 800 x 800	2000	CA0E4120
ATS + emergency	1700 x 800 x 800	2500	CA0E4250
ATS + emergency	1700 x 800 x 800	3200	CA0E4320

Dimensions





«When ATS function on switchgear designs need to combine *user friendly logics* while keeping with *integration flexibility* an open type range of transfers is available»

ATS open type

ATS Open type adapt to your installation needs.

Switchgear system engineers integrate their automatic transfers into their system designs. Commercial and residential installation might often be operated by non specialist personnel, particularly when local

manual stand-by or emergency operation is required. In such a case a simple user friendly transfer should be considered as an ideal solution.

A range of open type transfer switches is available with three

different sizes ranging from 40A up to 250A. Control logic is based on easy to configure potentiometers. Led indication on control relays and transfer timers will permit an easy readout on the transfer status.



up to 40 A

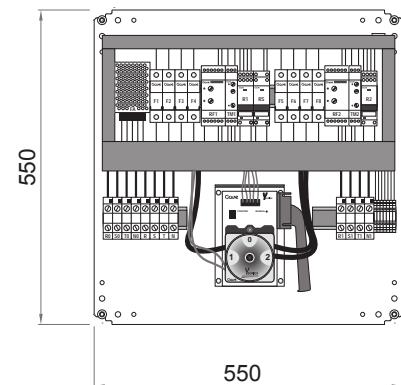
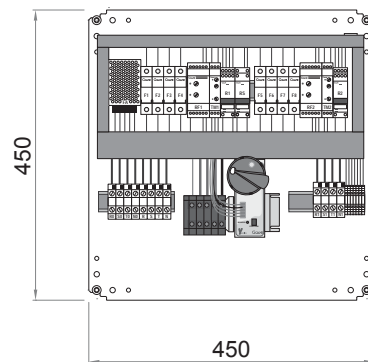
Description	A	2 poles	4 poles
Basic ATS Open Type	40	PL012004	PL014004



from 63 to 125 A

Description	A	2 poles	4 poles
Basic ATS Open Type	63	PL012006	PL014006
Basic ATS Open Type	100	PL012010	PL014010
Basic ATS Open Type	125	PL012012	PL014012

Dimensions



from 160 to 250 A

Description	A	4 poles
Basic ATS Open Type	160	PL014016
Basic ATS Open Type	200	PL014020
Basic ATS Open Type	250	PL014025

Dimensions

