

ARA automatic reclosers

For iC60 circuit breakers
and iID residual current circuit breakers



ARA iC60



ARA iID

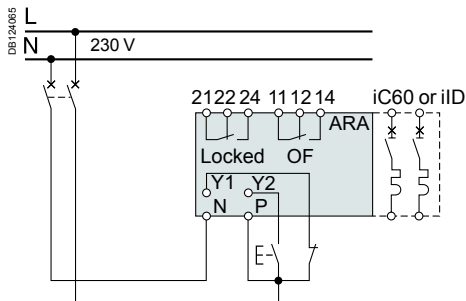
The ARA reclosing auxiliary can:

- Perform automatic reclosing of the associated protection device, after tripping.
- Increase the availability of installations without supervision, isolated, hard of access and demanding very great availability (mobile telephony systems, motorways, pumping stations, airports, railways, meteorological stations, service stations, automatic teller machines, public lighting, tunnels, etc.), by restoring them to operation without intervention by personnel in the event of a transient fault (atmospheric disturbances, industrial overvoltages, etc.).
- For the ARA iC60, the operator can choose predefined reclosing program which allows the safety and availability of facilities to be reconciled taking into account the facility's environment.
- The circuit is placed in safety configuration by the padlocking device.

Catalogue numbers

ARA iC60				
For circuit breaker				Width in 9 mm modules
1P, 1P+N, 2P	Number of programs	Voltage		
	4	230 V AC, 50/60 Hz	A9C70132	7
3P, 4P				
	4	230 V AC, 50/60 Hz	A9C70134	7
ARA iID				
For residual current circuit breaker				Width in 9 mm modules
2P	Number of programs	Voltage		
	1	230 V AC, 50/60 Hz	A9C70342	7
4P				
	1	230 V AC, 50/60 Hz	A9C70344	7
Auxiliaries			See module CA907000 and CA907002	

Diagram



Legend	
Type	Application
	Choice of program (ARA iC60)
Y1	"Remote" inhibition of automatic reclosing
Y2	Remote control of final reclosing
N	230 V power supply
P	
Locked	 Automatic recloser inhibition indication contact
OF	 Indicates the state of the circuit breaker or residual current circuit breaker (opened or closed)
Indicator lamp	Flashing green ARA automatic recloser operational
	Flashing red Reclosing cycle in progress
	Fixed red ARA automatic recloser locked at end of reclosing cycle: circuit breaker or residual current circuit breaker tripped (open)
	Flashing orange ARA automatic recloser not operational

ARA automatic reclosers (cont.)

For iC60 circuit breakers

and iID residual current circuit breakers





Operating principle

The ARA automatic recloser makes a number of attempts at reclosing depending on the program chosen by the user.

The program includes the following settings:

- A time delay before reclosing (TA).
- A reinitialization time delay (TB).
- A maximum number of reclosing attempts.

If, following these attempts, the fault is still present, the device places itself in waiting for manual reclosing, or final remote reclosing (Y2).

ARA iC60		Number of reclosing attempts	Delay before reclosing	Check time	Final reclosing Y2
			TA	TB	
Program					
DB124001	1 2 	1	10 s	6 min.	Once after inhibition
	4 3				
DB124002	1 2 	3	10 s 1 min. 3 min.	2 min. 6 min. 6 min.	
	4 3				
DB124003	1 2 	5	10 s 1 min. 3 min. 3 min. 3 min.	2 min. 6 min. 6 min. 6 min. 6 min.	
	4 3				
DB124004	1 2 	5	10 s 1 min. 3 min. 4 min. 5 min.	2 min. 6 min. 8 min. 10 min. 12 min.	
	4 3				

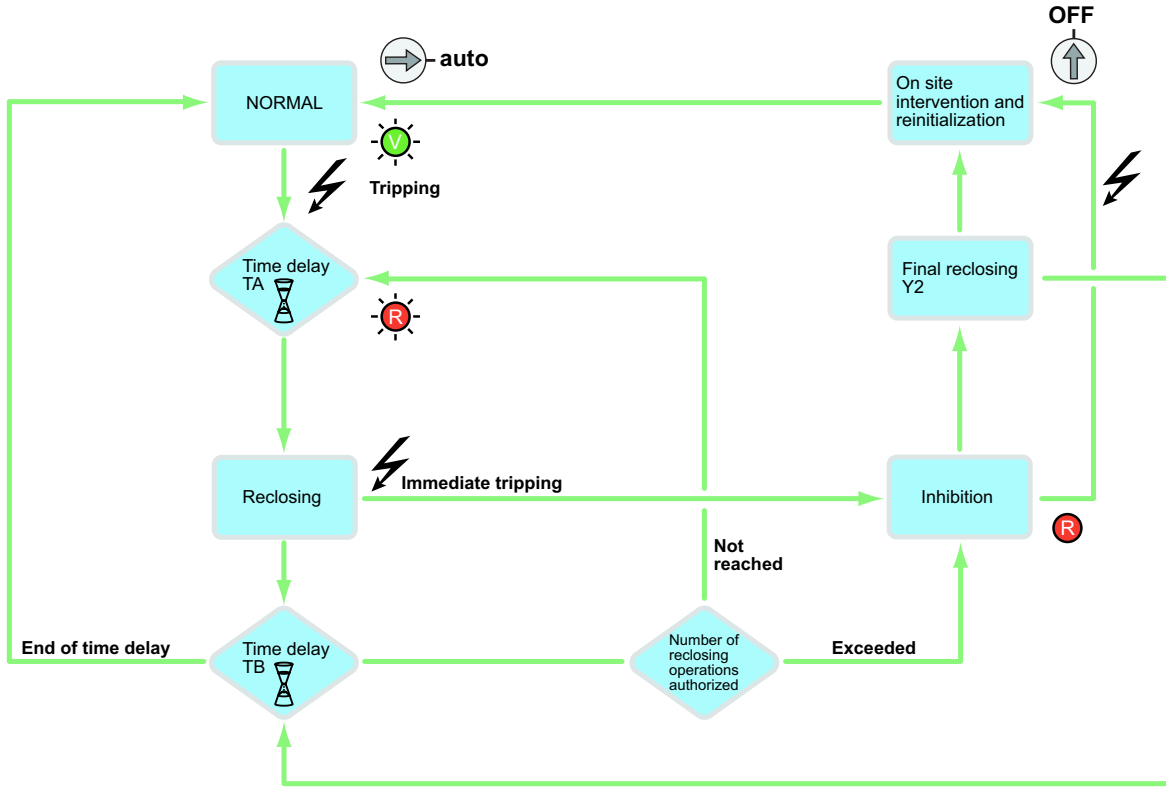
ARA iID		Number of reclosing attempts	Delay before reclosing	Check time	Final reclosing Y2
			TA	TB	
Only 1 program available		15	10 s 20 s 40 s 3 min. ...	30 min. 30 min. ...	Once per cycle

ARA automatic reclosers (cont.)

For iC60 circuit breakers
and iID residual current circuit breakers

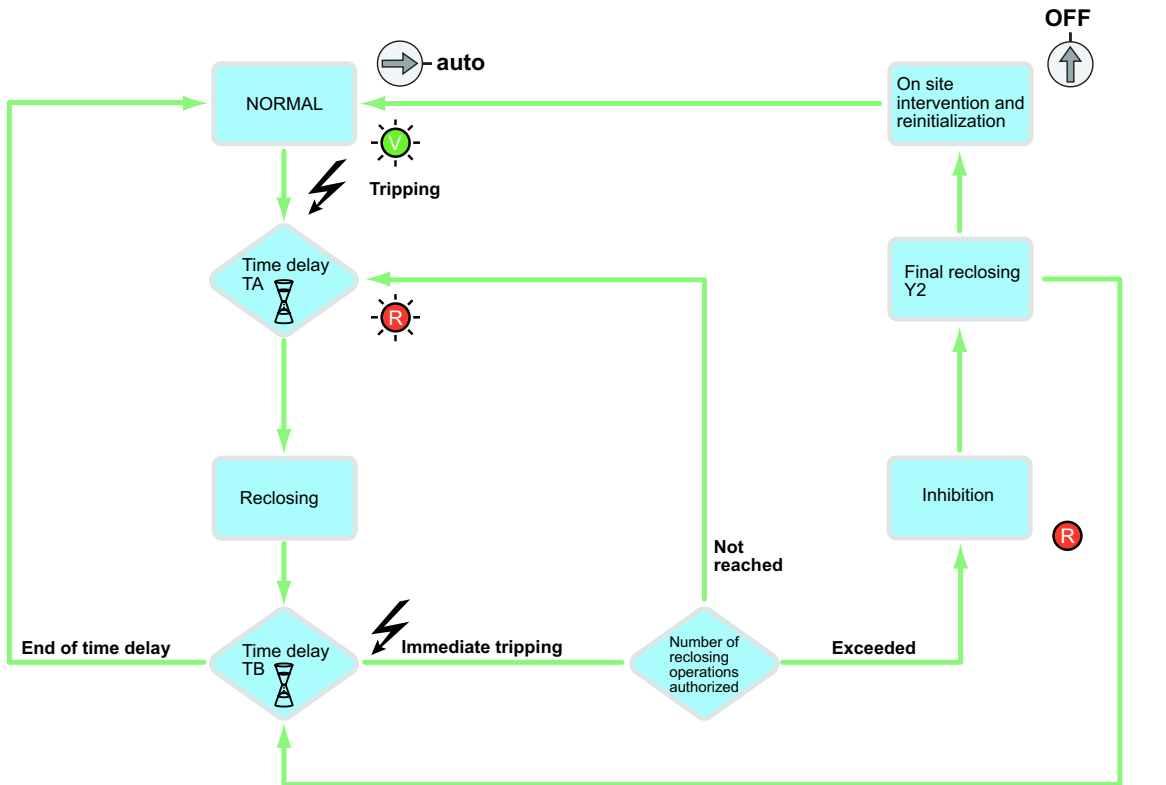
ARA iC60 operating diagram

D9404539



ARA iID operating diagram

D9404538

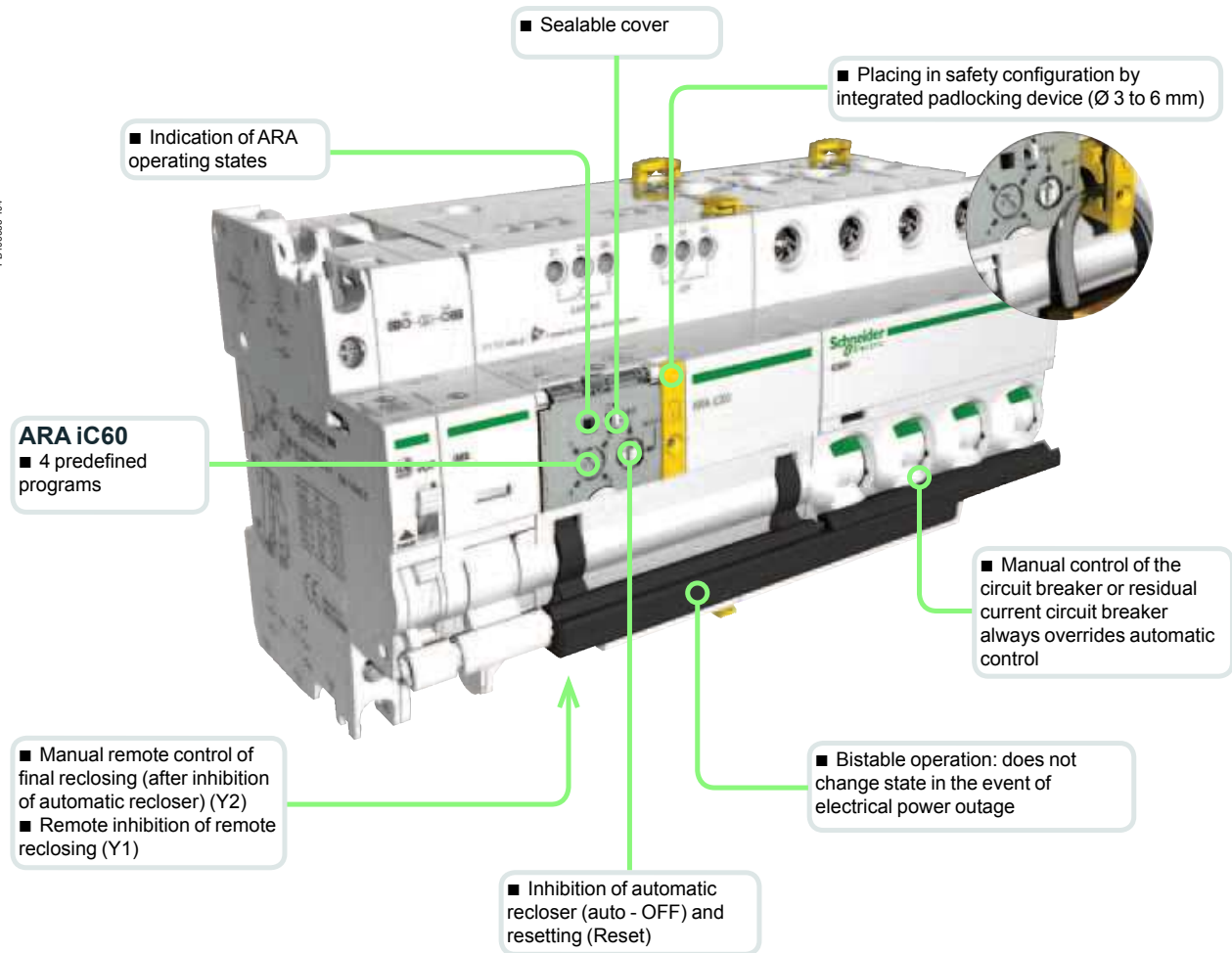


ARA automatic reclosers (cont.)

For iC60 circuit breakers

and iLD residual current circuit breakers

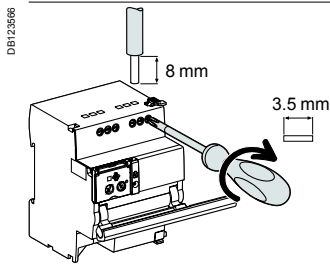
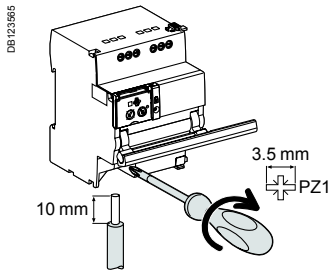
PF 00065-104



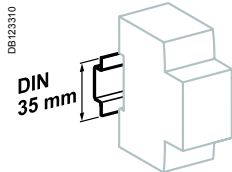
ARA automatic reclosers (cont.)

For iC60 circuit breakers
and iID residual current circuit breakers

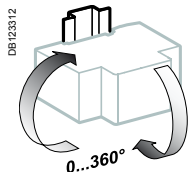
Connection



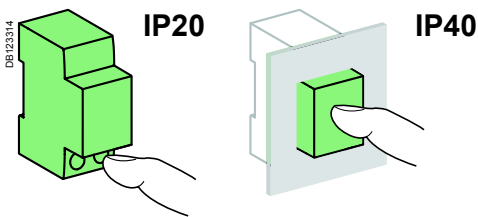
Terminal	Tightening torque	Copper cables		
		Rigid	Flexible	Flexible with ferrule
Power supply (N/P) Inputs (Y1/Y2)	1 N.m	0.5 to 10 mm ² 2 x 0.5 to 2 x 2.5 mm ²	0.5 to 6 mm ² 2 x 0.5 to 2 x 2.5 mm ²	0.5 to 4 mm ² 2 x 0.5 to 2 x 2.5 mm ²
Outputs (OF/Locked)	0.7 N.m	0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²	0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²	0.5 to 1.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²



Clip on DIN rail 35 mm.



Indifferent position of installation.



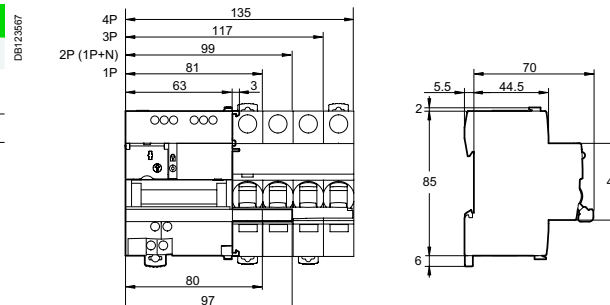
Technical data

Control circuit		
Supply voltage (Ue) (N/P)		230 V AC, 50/60 Hz
Control voltage (Uc)	Type 1 inputs (Y1/Y2)	230 V AC (as per IEC 61131-2)
Min. duration of control order (Y2)		≥ 200 ms
Response time (Y2)		< 500 ms
Consumption		< 2 W
Endurance (O-C) (ARA combined with a circuit breaker)		
Electrical		5000 cycles
Indication / Remote control		
Potential-free changeover contact output (OF/Locked)	Min.	24 V AC/DC, 10 mA
	Max.	230 V AC, 1 A
Input (Y1/Y2)	230 V AC	5 mA
Additional characteristics		
Degree of protection (IEC 60529)	Device only	IP20
	Device in a modular enclosure	IP40 Insulation class II
Insulation voltage (Ui)		400 V
Degree of pollution (IEC 60947)		3
Rated impulse withstand voltage (Uimp)		6 kV
Operating temperature		-25°C to +60°C
Storage temperature		-40°C to +70°C
Tropicalization		Treatment 2 (relative humidity of 93 % at +40°C)

Weight (g)

Automatic reclosers	
Type	ARA
For 1P, 1P+N, 2P circuit breakers or iID residual current circuit breaker	440
For 3P, 4P circuit breakers	470

Dimensions (mm)



IEC 60669-1 and IEC 60947-5-1

■ iPB pushbuttons are used to control electric circuits by means of pulses.

Catalogue numbers

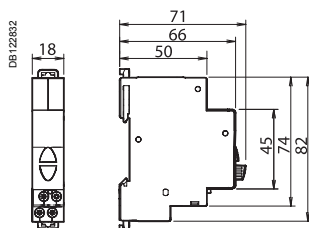
iPB pushbuttons																		
Type	Single				Double		Single + indicator light											
Diagram	1 NC 3 E-7 4		1 NO 1 E-7 2		1 NO + 1 NC 1 3 E-7 2 4		1 NO / 1 NC 1 3 E-7 E-7 2 4		1 NO / 1 NO 1 3 E-7 E-7 2 4		1 NO 1 X1 E-7 2 X2		1 NC 3 X1 E-7 4 X2		1 NO 1 X1- E-7 2 X2+		1 NC 3 X1- E-7 4 X2+	
Pushbutton Colour	Grey	Red	Grey	Grey	Green/red	Grey/grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey	Grey		
Indicator light Power supply Colour	-	-	-	-	-	-	110...230 V AC		12...48 V AC/DC		Green	Red	Green	Red				
Cat. no.	A9E18030	A9E18031	A9E18032	A9E18033	A9E18034	A9E18035	A9E18036	A9E18037	A9E18038	A9E18039								
Width in 9 mm modules	2				2		2											

Connection

	Tightening torque	Copper cables	
	1 N.m	Rigid	Flexible or with ferrule
		0.5 mm ² min. 2 x 2.5 mm ² max.	0.5 mm ² min. 2 x 2.5 mm ² max.

- Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
- Staggered terminals to simplify connection.

Dimensions (mm)





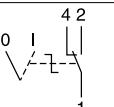
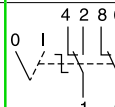
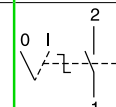
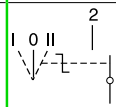
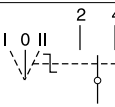
Technical data

Main characteristics	
Pollution degree	3
Power circuit	
Voltage rating (Ue)	250 V AC
Current rating (Ie)	20 A
Additional characteristics	
Endurance (O-C)	30,000 operations AC22 (cos φ = 0.8)
Operating temperature	-35°C... +70°C
Storage temperature	-40°C... +80°C
Tropicalization	Treatment 2 (relative humidity 95 % at 55°C)
LED indicator light	Consumption: 0.3 W Service life: 100,000 hours of constant lighting efficiency Maintenance-free indicator light (non-interchangeable LEDs)

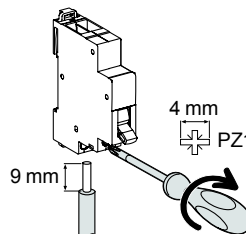


IEC 60669-1 and IEC 60947-5-1

■ iSSW linear switches are used for the manual control of electric circuits.

Catalogue numbers

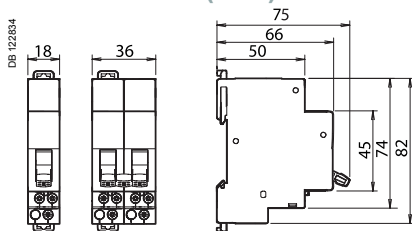
iSSW linear switches					
Type	2 positions			3 positions	
					
Contact	1 changeover switch	2 changeover switches	1 NO + 1NC	1 changeover switch	2 changeover switches
Diagram					
Cat. no.	A9E18070	A9E18071	A9E18072	A9E18073	A9E18074
Width in 9 mm modules	2	4	2	2	4

Connection

	Tightening torque		Copper cables	
	1 N.m		Rigid	Flexible or with ferrule
	DB1123105		DB1123106	
		0.5 mm ² min. 2 x 2.5 mm ² max.	0.5 mm ² min. 2 x 2.5 mm ² max.	

- Phase-separated wall that can be divided to allow the teeth of all types of comb busbar to pass through.
- Staggered terminals to simplify connection.

Dimensions (mm)



Technical data

Main characteristics	
Pollution degree	3
Power circuit	
Voltage rating (Ue)	250 V AC
Current rating (Ie)	20 A
Additional characteristics	
Endurance (O-C)	30,000 cycles AC22 (cos φ = 0.8)
Operating temperature	-20°C... +50°C
Storage temperature	-40°C... +70°C
Tropicalization	Treatment 2 (relative humidity 95 % at 55°C)

