

# ARA automatic reclosers

For iC60 circuit breakers and iLD residual current circuit breakers



ARA iC60



ARA iLD

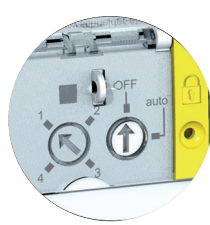
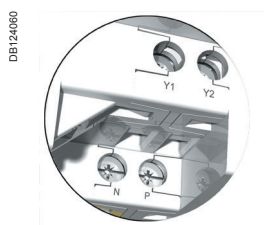
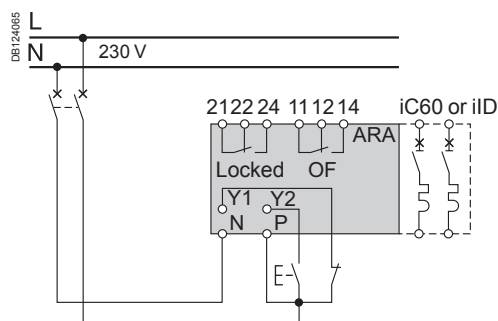
The ARA reclosing auxiliary can:

- 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                             | <b>A9C70132</b> | 7                     |
| 3P, 4P                               |                    |                                                |                 |                       |
|                                      | 4                  | 230 V AC, 50/60 Hz                             | <b>A9C70134</b> | 7                     |
| ARA iLD                              |                    |                                                |                 |                       |
| For residual current circuit breaker |                    |                                                |                 | Width in 9 mm modules |
| 2P                                   | Number of programs | Voltage                                        |                 |                       |
|                                      | 1                  | 230 V AC, 50/60 Hz                             | <b>A9C70342</b> | 7                     |
| 4P                                   |                    |                                                |                 |                       |
|                                      | 1                  | 230 V AC, 50/60 Hz                             | <b>A9C70344</b> | 7                     |
| Auxiliaries                          |                    | See module <b>CA907000</b> and <b>CA907002</b> |                 |                       |

## Diagram



ARA iC60



ARA iLD

| Legend         |                                            |                                                                                                                             |
|----------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Type           | Application                                |                                                                                                                             |
| 1 2<br>4 3     | Choice of program (ARA iC60)               |                                                                                                                             |
| Y1             | "Remote" inhibition of automatic reclosing |                                                                                                                             |
| Y2             | Remote control of final reclosing          |                                                                                                                             |
| N              | 230 V power supply                         |                                                                                                                             |
| P              |                                            |                                                                                                                             |
| Locked         | 21 22 24                                   | Automatic recloser inhibition indication contact                                                                            |
| OF             | 11 12 14                                   | 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 iLD 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).

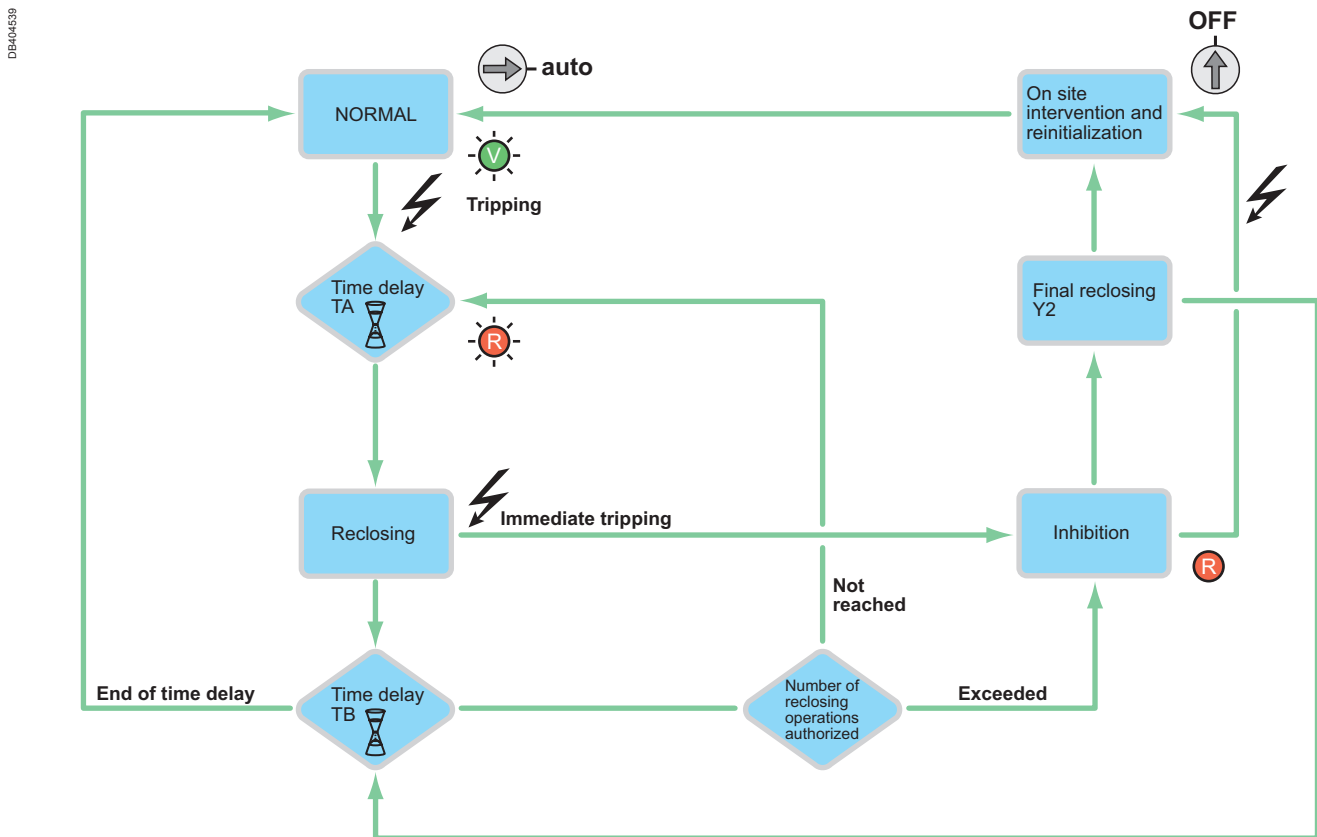
| ARA iC60       |            | Number of reclosing attempts | Delay before reclosing                       | Check time                                       | Final reclosing Y2    |
|----------------|------------|------------------------------|----------------------------------------------|--------------------------------------------------|-----------------------|
|                |            |                              | TA                                           | TB                                               |                       |
| <b>Program</b> |            |                              |                                              |                                                  |                       |
| DB124061       | 1 2<br>4 3 | 1                            | 10 s                                         | 6 min.                                           | Once after inhibition |
|                | 1 2<br>4 3 | 3                            | 10 s<br>1 min.<br>3 min.                     | 2 min.<br>6 min.<br>6 min.                       |                       |
| DB124062       | 1 2<br>4 3 | 5                            | 10 s<br>1 min.<br>3 min.<br>3 min.<br>3 min. | 2 min.<br>6 min.<br>6 min.<br>6 min.<br>6 min.   |                       |
|                | 1 2<br>4 3 | 5                            | 10 s<br>1 min.<br>3 min.<br>4 min.<br>5 min. | 2 min.<br>6 min.<br>8 min.<br>10 min.<br>12 min. |                       |

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

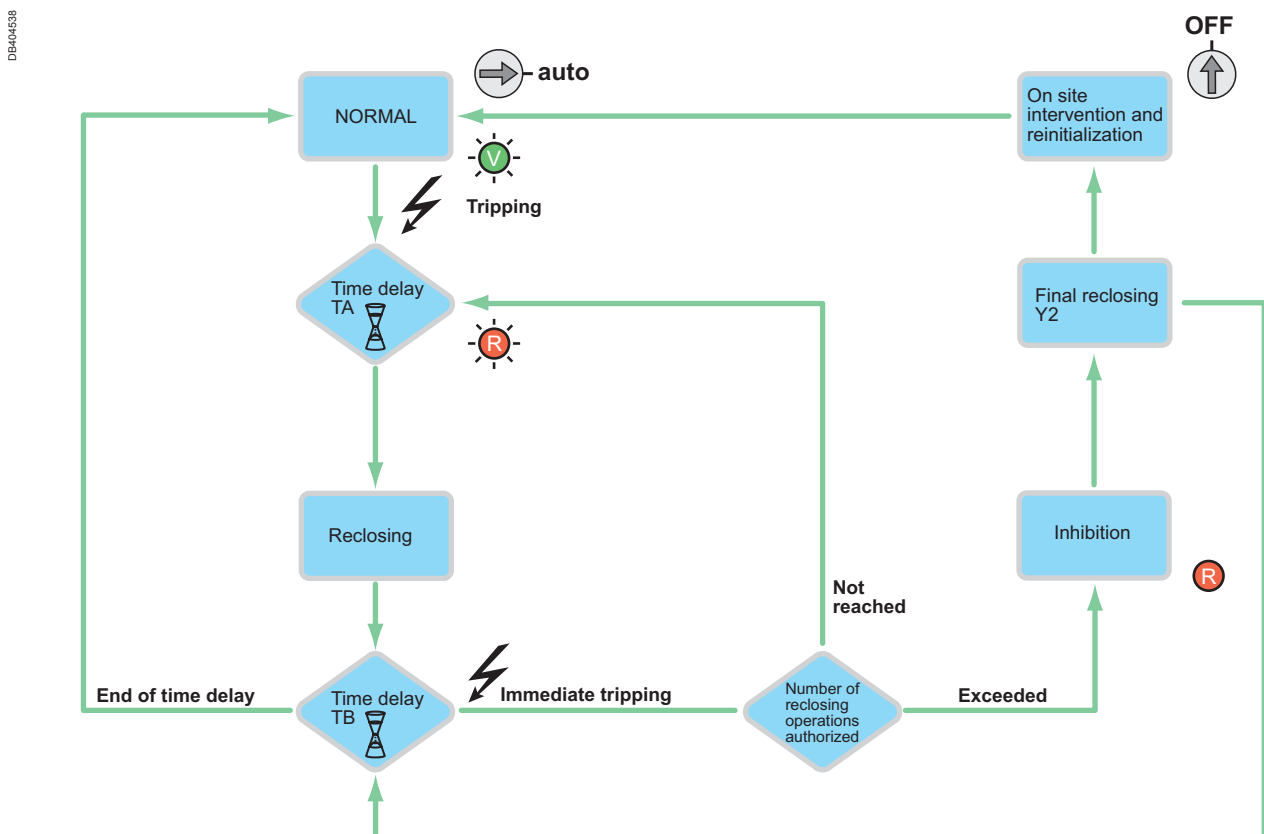
## ARA automatic reclosers (cont.)

For iC60 circuit breakers and iLD residual current circuit breakers

ARA iC60 operating diagram

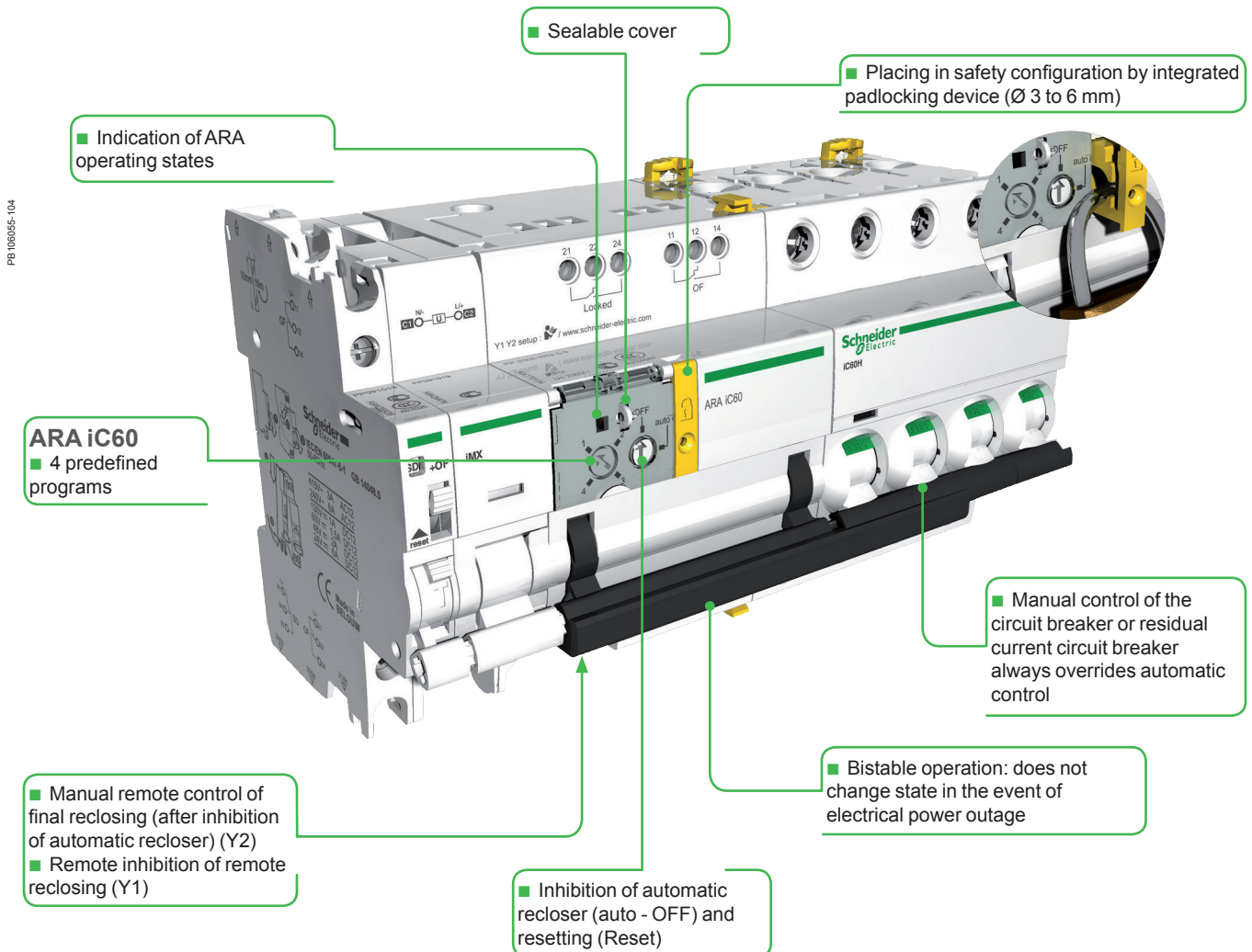


ARA iLD operating diagram



## ARA automatic reclosers (cont.)

For iC60 circuit breakers and iLD residual current circuit breakers



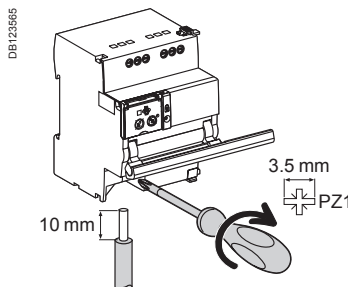
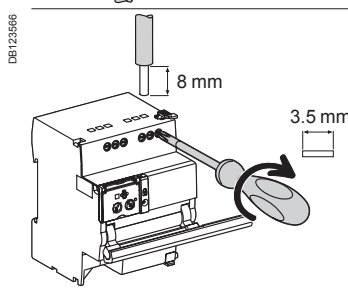
## Control

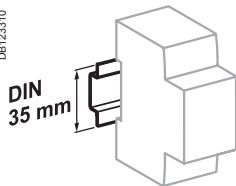
### Remote control

## ARA automatic reclosers (cont.)

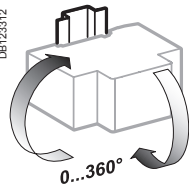
For iC60 circuit breakers and iLD residual current circuit breakers

### Connection

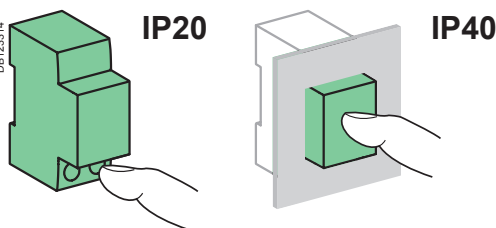
| Terminal                                                                                                                       | Tightening torque | Copper cables                                                                                                                                        |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



Clip on DIN rail 35 mm.



Indifferent position of installation.



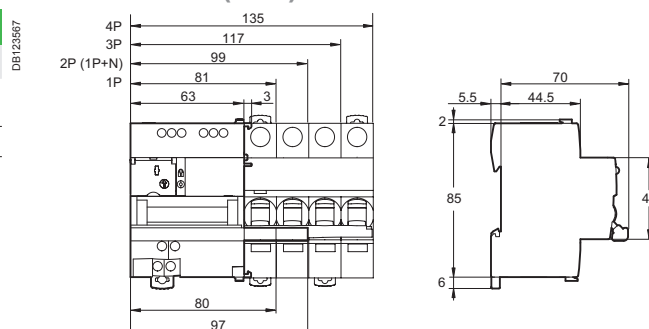
### Technical data

| 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 iLD residual current circuit breaker | 440 |
| For 3P, 4P circuit breakers                                               | 470 |

### Dimensions (mm)



## ARA automatic reclosers (cont.)

For iC60 circuit breakers and iLD residual current circuit breakers



| Indice | Date       | Modification                                                                                                                                | Name       |
|--------|------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------|
| 3.0    | 29/03/2017 | New charte                                                                                                                                  | Sonovision |
| 2.7    | 14/05/2014 | Changed TA time delays page 2                                                                                                               | Sedoc      |
| 2.6    | 30/05/2013 | Deleted Auxiliaries associated table page 4 and add text for auxiliaries modules CA907000 and CA907002 page 1<br>Add ARA 4P cat.no A9C70344 | Sedoc      |
| 2.5    | 11/03/2013 | Deleted ARA iLD cat. no. A9C70332 and A9C70334                                                                                              | Sedoc      |
| 2.4    | 20/09/2012 | Changed ARA frequency 50/60 Hz pages 1 and 5                                                                                                | Sedoc      |
| 2.3    | 7/09/2012  | Changed ARA frequency page 1                                                                                                                | Sedoc      |
| 2.2    | 19/04/2012 | Add Indicator lamp detail page 1 - Deleted line in Technical data page 4                                                                    | Sedoc      |
| 2.1    | 16/09/2011 | Add schema off ARA iLD and iC60                                                                                                             | Sedoc      |
| 2.0    | 19/05/2011 | InDesign CS5                                                                                                                                | Sedoc      |
| 1.0    | 22/11/2010 | Creation                                                                                                                                    | Sedoc      |